

Road and Trail Management Plan  
Final Tiered Program  
Environmental Impact Report  
November 2014  
SCH Number: 2011012080



*FINAL TIERED PROGRAM*  
**ENVIRONMENTAL IMPACT REPORT**  
**FOR THE**  
**ROAD AND TRAIL MANAGEMENT PLAN**

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**MARIN COUNTY OPEN SPACE DISTRICT**

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SCH # 2011012080

November 2014

## TABLE OF CONTENTS

<b>Chapter</b>		<b>Page</b>
1.0	Introduction .....	1-1
1.1	CEQA Process .....	1-1
1.2	Purpose of This Program Environmental Impact Report (PEIR) .....	1-2
1.3	Type of Environmental Impact Report .....	1-3
1.4	Mitigation Monitoring and Reporting Program .....	1-4
2.0	Executive Summary .....	2-1
2.1	Project Summary .....	2-1
2.2	Summary of Project Alternatives .....	2-1
2.3	Areas of Controversy/Issues to Be Resolved .....	2-3
2.4	Summary of Environmental Impacts and Mitigation Measures .....	2-3
3.0	Public Comment and Responses to Comment .....	3-1
3.1	Public Comments and Responses .....	3-1
4.0	Errata .....	4-1
4.1	Changes to the Text of the Environmental Impact Report .....	4-1
Appendix A	Draft Project Development Worksheet .....	Appendix A-1
Appendix C	Biological Resource Appendix .....	Appendix C-1

## LIST OF TABLES

<b>Table</b>		<b>Page</b>
Table 2-1	Summary of Impacts and Mitigation Measures .....	2-4



## 1.1 CEQA PROCESS

In preparing an Environmental Impact Report (EIR), the California Environmental Quality Act (CEQA) requires public agencies to circulate a Draft EIR (DEIR) for public and agency review and comment. The public agency then uses the comments obtained by this review to modify or correct the EIR for subsequent use in project review and consideration. The document containing the text of any comments received on the DEIR, responses of the lead agency to these comments, and any corrections or amendments to the EIR is termed the Final EIR (FEIR). The Marin County Open Space District is the Lead Agency for the project.

The Draft Tiered Programmatic EIR (Draft TPEIR) for the Road and Trail Management Plan (RTMP) project was circulated locally and with the State Clearinghouse from September 26, 2013 to December 2, 2013. The County accepted written comments on the TPEIR during this period. The MCOSD received and reviewed the several hundred comments that did not identify any specific environmental concerns requiring additional environmental analysis. None of the comment letters raised issues that required the addition of significant new information to the EIR. However, many of the public comment letters raised valid issues on the merits of the RTMP. Based on these comments, the MCOSD modified the Draft RTMP.

Because the modification of the RTMP revised the description of the project assessed in the Draft TPEIR, implementation of the revised RTMP could result in new potential environmental effects or an increase in previously identified impacts for all impact topics. Although Section 15088.5 of the State CEQA Guidelines requires recirculation of only the significant new information, because the proposed RTMP revisions could have resulted in the changes to the environmental conclusions regarding a broad range of impacts, the MCOSD decided to recirculate the entire Draft TPEIR for public review. The revised document was titled the Recirculated Draft TPEIR (RD TPEIR). The RD TPEIR circulated for a 45-day period from August 5, 2014 to September 22, 2014. During this time, comments were received on the RD TPEIR.

Although Section 15088 of the State CEQA Guidelines requires the MCOSD to evaluate and respond to all comments received on the Draft TPEIR, Section 15088.5 (f)(1) permits the MCOSD respond only to those comments received on the RD TPEIR. Section 15088.5 offers the following guidance:

- (f) The lead agency shall evaluate and respond to comments as provided in Section 15088. Recirculating an EIR can result in the lead agency receiving more than one set of comments from reviewers. The following are two ways in which the lead agency may identify the set of comments to which it will respond. This dual approach avoids confusion over whether the lead agency must respond to comments which are duplicates or which are no longer pertinent due to revisions to the EIR. In no case shall the lead agency fail to respond to pertinent comments on significant environmental issues.
  - (1) When an EIR is substantially revised and the entire document is recirculated, the lead agency may require reviewers to submit new comments and, in such cases, need not respond to those comments received during the earlier circulation period. The lead agency shall advise reviewers, either in the text of the revised EIR or by an attachment to the revised EIR, that although part

of the administrative record, the previous comments do not require a written response in the final EIR, and that new comments must be submitted for the revised EIR. The lead agency need only respond to those comments submitted in response to the recirculated revised EIR.

The MCOSD notified the public that it was recirculating the entire EIR, and that the public should resubmit pertinent and appropriate comments on the TPEIR (RD TPEIR, page 1-3). However, because of the high level of public interest expressed by the comments on the previous Draft TPEIR, the MCOSD summarily responded to the comments on the September 2013 Draft TPEIR in Appendix D, Summary Responses to Environmental Comments Submitted on the Draft TPEIR. For any new comments submitted on the RD TPEIR, all comments regarding environmental issues, and the MCOSD's responses to such comments are included in this Final TPEIR prepared for the RTMP.

Consistent with the requirements of Section 15132 of the CEQA Guidelines, this Final TPEIR consists of:

- The Draft TPEIR published on September 26, 2013 (incorporated by reference);
- The Recirculated Draft PEIR published on August 5, 2014 (incorporated by reference);
- A list of persons, organizations, and public agencies commenting on the RD TPEIR (Chapter 3);
- Comments received on the RD TPEIR (Chapter 3);
- The response of the Marin County Open Space District to significant environmental issues raised in the review and consultation process (Chapter 3); and,
- Modifications to the RD TPEIR arising from the MCOSD's response to comments received on the RD TPEIR (Chapter 4).

As indicated directly above, the Final TPEIR includes the information necessary to meet the specified requirements of the CEQA Guidelines. Copies of the Draft TPEIR and the RD TPEIR are available for review at the Marin County Open Space District, 3501 Civic Center Drive, Room 260, San Rafael, California, 94903-4157. Alternatively, these documents may be downloaded at:

<http://www.marincountyparks.org/depts/pk/our-work/os-main-projects/rtmp>

The Final TPEIR is an informational document that must be considered and certified by the MCOSD prior to considering approval of the RTMP project.

## **1.2 PURPOSE OF THIS PROGRAM ENVIRONMENTAL IMPACT REPORT**

CEQA requires the evaluation of government actions or private activities permitted by the government to determine their effects on the environment. When such an action could have a significant effect on the environment, the agency with primary responsibility over the approval of the project (the lead agency) is required to prepare an EIR. As stated in CEQA Guidelines Section 15121:

An EIR is an informational document which will inform public agency decision-makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR along with other information which may be presented to the agency.

The EIR must disclose: 1) significant adverse environmental impacts that cannot be avoided; 2) growth inducing impacts; 3) effects not found to be significant; and 4) significant cumulative impacts of all past, present, and reasonably foreseeable future projects.

This TPEIR is intended to provide information to the public and to decision makers regarding the potential environmental effects of adoption and implementation of the Marin County Open Space District's (MCOSD) Road and Trail Management Plan (RTMP), which consists of the following: 1) a process to designate the road and trail system; 2) an evaluation tool to direct the establishment of the road and trail system and the prioritization of future road and trail management and construction actions; 3) a description of other road and trail use and management policies, construction standards, and best management practices (BMP), and 4) a description of open space areas for the protection of resources. For purposes of this TPEIR, the project under review consists of the RTMP, including all of the foregoing components. Prior to considering adoption of the RTMP, the MCOSD, the lead agency for the project, must certify that the EIR is adequate under CEQA and that the MCOSD decision makers have considered the information herein. Upon making this finding, the MCOSD may then consider adoption of the RTMP further described in Chapter 3, Project Description of the RD TPEIR.

### 1.3 TYPE OF ENVIRONMENTAL IMPACT REPORT

This TPEIR is being prepared as a "Program" EIR pursuant to the State CEQA Guidelines Section 15168(a)(3) that states:

*A Program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related ... [i]n connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program.*

A Program EIR is an EIR that may be prepared on a large-scale planning document, such as the RTMP, that provides the framework for specific projects to be developed in accordance with identified land use patterns. Program EIRs are not project-specific and do not evaluate the potential impacts of specific development projects that may be allowed in the RTMP. This TPEIR will function as a second-tier<sup>1</sup> environmental document that assesses the broad environmental impacts of future road and trail management projects, with the understanding that subsequent environmental reviews would occur on a project-specific basis. As a second-tier document, this TPEIR is intended to streamline the review of projects consistent with the approved RTMP, and to allow the scope of review for future projects to be narrowed pursuant to the rules for the subsequent use of Program EIRs set forth in State CEQA Guidelines Section 15168. (For further discussion of this issue, see Section 3.11 in Chapter 3, *Project Description*, of the RD TPEIR.

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<sup>1</sup> In the case of the RTMP TPEIR, the Marin Countywide Plan EIR is considered to be the first tier EIR for the RTMP since the RTMP is consistent with, and implements the Countywide Plan's goals, policies, and programs for trails in Marin County. See Section 1.4.1 of the RD TPEIR for additional discussion of this issue.

## **1.4 PROJECT DEVELOPMENT WORKSHEET**

The RTMP TPEIR does not identify any significant impacts from the proposed project, and consequently sets forth no mitigation measures. Since the RTMP TPEIR contains no mitigation measures, and hence, does not require a mitigation and monitoring program (CEQA Guidelines Section 15097(a)), the MCOSED has proposed to develop a project development worksheet as a component of the RTMP to monitor and document an individual trail project's consistency with policy, design standards, and BMPs. In addition, the project development worksheet will document the application of the evaluation tool. See Appendix A of this Final TPEIR for a draft of this worksheet.

## 2 EXECUTIVE SUMMARY

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### 2.1 PROJECT SUMMARY

The project assessed in this Final Tiered Programmatic Environmental Impact Report (Final TPEIR) would include all actions necessary to adopt and implement the Marin County Open Space District's (MCOSD) Road and Trail management plan (RTMP), including the policies, procedures, standards, and best management practices (BMP) contained within the RTMP. The MCOSD's intent in drafting and considering the RTMP for approval is to:

- Establish and maintain a sustainable system of roads and trails that meet design and management standards
- Reduce the environmental impact of roads and trails on sensitive resources, habitats, riparian areas, native and special-status plant and animal species
- Improve the visitor experience and visitor safety

The RTMP would apply to all 34 MCOSD open space preserves, and is based on the results of a visitor use census and survey and an existing conditions assessment of all roads and trails within the MCOSD preserves. As proposed and assessed in this Final TPEIR, the RTMP includes:

- Visitor use management areas and policies to guide road and trail uses and locations
- System wide and trail policies to manage road and trail maintenance, construction, and operations, as well as user groups and uses
- Special use policies to manage utility access and use, and to maintain oversight for large group activities
- Procedures to designate system roads and trails, including consideration of environmental factors, long-term maintenance costs, and use
- Procedures to evaluate proposed maintenance and construction projects
- Construction and operational standards for roads and trails to reduce environmental damage and reduce long-term maintenance costs
- BMPs to reduce environmental damage to be followed during all maintenance, construction, and operational activities

### 2.2 SUMMARY OF PROJECT ALTERNATIVES

Section 15126.6 of the California Environmental Quality Act (CEQA) Guidelines requires that an Environmental Impact Report (EIR) describe and comparatively evaluate a range of reasonable alternatives to a project that would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project. Thus, the range of alternatives evaluated in the following analysis is dictated by the range of significant impacts identified in this TPEIR, and evaluated alternatives are limited to those that would reduce or eliminate identified environmental impacts. As discussed in this RD TPEIR (Chapter 15, *Alternatives Analysis*), there are no secondary or indirect impacts of implementing the RTMP that would lead to significant adverse and unavoidable impacts.

Because this Final TPEIR identifies no residual significant environmental impacts with full implementation of the RTMP, the analysis of alternatives focuses on an evaluation of alternatives to

the proposed RTMP that could further reduce the magnitude of the less-than-significant impacts of implementing the RTMP. Two action alternatives, in addition to the required No Project alternative, were formulated to illustrate the range of project alternatives that could be implemented in lieu of the proposed RTMP project. These additional alternatives include: Alternative 2, Required Roads Only in Sensitive Resource Areas; and Alternative 3, Pedestrians Only/No Dispersed Recreation in Sensitive Resource Areas.

As assessed in the RD TPEIR, the No Project Alternative is the least effective of the evaluated alternatives in reducing or avoiding the environmental effects of the RTMP. Rather, the No Project Alternative would result in substantially greater numbers of adverse effects and an increase in the severity of impacts compared to the proposed RTMP. Based on a comparative evaluation of all the alternatives, Alternative 2 (Required Roads Only in Sensitive Resource Areas) would reduce the magnitude of the most impacts as an action alternative. Alternative 2 would be the environmentally superior alternative.

### **2.3 AREAS OF CONTROVERSY/ISSUES TO BE RESOLVED**

The potential areas of controversy and issues to be resolved through this Final TPEIR process were identified in the Notice of Preparation (NOP) (See Appendix A, *Notice of Preparation*). These areas are summarized as follows:

<b>Environmental Topic</b>	<b>Draft TPEIR Chapter Where Evaluated</b>
• Aesthetics/Visual Resources .....	Chapter 14, Other Environmental Topics
• Air Quality .....	Chapter 5, Air Quality
• Biological Resources .....	Chapter 6, Biological Resources
• Cultural Resources .....	Chapter 7, Cultural and Historic Resources
• Geology, Soils, and Minerals .....	Chapter 8, Geology and Soils
• Global Climate Change .....	Chapter 9, Global Climate Change
• Fire Hazards .....	Chapter 10, Hazards and Hazardous Materials
• Hydrology and Water Resources.....	Chapter 11, Hydrology and Water Quality
• Land Use.....	Chapter 14, Other Environmental Topics
• Noise .....	Chapter 12, Noise
• Recreation .....	Chapter 14, Other Environmental Topics (including user conflicts and safety)
• Transportation/Circulation/Parking....	Chapter 13, Transportation and Traffic
• Project Alternatives.....	Chapter 15, Alternatives Analysis
• Cumulative Impacts .....	Chapter 16, Required CEQA Analyses

In addition, responses received from the public during circulation of the NOP (see Appendix B, *Comments on the Notice of Preparation*) raised the following major concerns regarding the content of the RTMP. Please refer to the RTMP for further information regarding the proposed policies and procedures with respect to these issues.

- User conflicts, especially those involving mountain bicyclists or off-leash dogs
- Neighbor conflicts, including those involving parking, trespass, littering, noise, graffiti, human, and dog waste
- Trail safety
- Access to preserves and facilities for mountain bicyclists
- Coordination with other MCOSD conservation activities, such as the Vegetation and Biodiversity Management Plan
- Criteria that would ensure the prevention of environmental harm to be used in the evaluation of MCOSD management actions

During circulation of the Draft TPEIR, the MCOSD received responses from the public (see RD TPEIR Appendix D, Summary Responses to Comments of Environmental Concern Received on the Draft TPEIR) raised the following environmental concerns. Most of the comments were on the proposed RTMP and its policies. Only those comments that questioned the environmental information and conclusions set forth in the Draft TPEIR are summarized below. For brief responses to these concerns and for directions to where each issue is addressed in the RD TPEIR, please refer to Table D-1 in Appendix D of the RD TPEIR.

- Impacts of recreational activities on wildlife and other biological resources; recreational uses specifically cited included mountain biking in general, and night-riding in particular, off-leash dogs, equestrians, intensified human activity overall, and the relative impacts of various recreation types on biological resources
- Impacts on the spread of sudden oak death
- Assumptions regarding the future extent and condition of MCOSD system roads and trails, and the intensity and location of recreation uses as applied in the TPEIR's analysis of potential effects
- Impacts of management activities and recreation on geological hazards, water quality, and stormwater runoff
- Impacts to user safety posed by various recreation uses
- Illegal or improper activities by users
- The definition and evaluation of alternatives to the proposed RTMP
- The goals and underlying purpose in preparing of the RTMP and cited in the TPEIR

## 2.4 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Table 2-1 presents a summary of project impacts. The Table indicates the level of significance for each environmental impact. For a detailed discussion of the impacts of the RTMP, see Chapters 5 through 16 of the RD TPEIR.

Table 2-1 Summary of Impacts and Mitigation Measures					
Environmental Impact	Level of Significance Before Mitigation		Mitigation Measure	Level of Significance After Mitigation	
	LS	PS		LS	SU
<b>Air Quality</b>					
<b>Impact AQ-1:</b> Conflict with or obstruct implementation of the applicable air quality plan.	LS		<b>Mitigation Measure AQ-1:</b> None required	LS	
<b>Impact AQ-2:</b> Violate any air quality standard or contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).	LS		<b>Mitigation Measure AQ-2:</b> None required	LS	
<b>Biological Resources</b>					
<b>Impact BIO-1:</b> Adverse effect on any candidate, sensitive, or special status species.	LS		<b>Mitigation Measure BIO-1:</b> None required	LS	
<b>Impact BIO-2:</b> Impacts to riparian habitat or other sensitive natural community.	LS		<b>Mitigation Measure BIO-2:</b> None required	LS	
<b>Impact BIO-3:</b> Substantial adverse effect on federally protected wetlands.	LS		<b>Mitigation Measure BIO-3:</b> None required	LS	
<b>Impact BIO-4:</b> Substantial adverse effect on the movement of native resident or migratory fish or wildlife species, native resident or migratory wildlife corridors, or native wildlife nursery sites.	LS		<b>Mitigation Measure BIO-4:</b> None required	LS	
<b>Impact BIO-5:</b> Conflict with any local policies or ordinances protecting biological resources.	LS		<b>Mitigation Measure BIO-5:</b> None required	LS	

Table 2-1 Summary of Impacts and Mitigation Measures

Environmental Impact	Level of Significance Before Mitigation		Mitigation Measure	Level of Significance After Mitigation	
	LS	PS		LS	SU
<b>Cultural and Historic Resources</b>					
<b>Impact CUL-1:</b> Cause a substantial adverse change in the significance of a historical or archaeological resource, or the degradation of human remains.	LS		<b>Mitigation Measure CUL-1a:</b> None required.	LS	
<b>Impact CUL-2:</b> Cause a substantial adverse change in the significance of paleontological resources, or unique geologic features.	LS		<b>Mitigation Measure CUL-2:</b> None required	LS	
<b>Geology, Soils, and Mineral Resources</b>					
<b>Impact GEO-1:</b> Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: Rupture of a known earthquake fault as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, strong seismic ground shaking, or seismic related ground failure, including liquefaction.	LS		<b>Mitigation Measure GEO-1:</b> None required	LS	
<b>Impact GEO-2:</b> Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: slope instability or landslides.	LS		<b>Mitigation Measure GEO-2:</b> None required	LS	
<b>Impact GEO-3:</b> Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: slope creep or subsidence.	LS		<b>Mitigation Measure GEO-3:</b> None required	LS	
<b>Impact GEO-4:</b> Substantial soil erosion or topsoil loss from additional exposure to wind or water erosion.	LS		<b>Mitigation Measure GEO-4:</b> None required	LS	

Table 2-1 Summary of Impacts and Mitigation Measures					
Environmental Impact	Level of Significance Before Mitigation		Mitigation Measure	Level of Significance After Mitigation	
	LS	PS		LS	SU
<b>Global Climate Change</b>					
<b>Impact GHG-1:</b> Direct and indirect greenhouse gas emissions from project construction and operation.	LS		<b>Mitigation Measure GHG-1:</b> None required	LS	
<b>Hazards and Hazardous Materials</b>					
<b>Impact HAZ-1:</b> Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable accident or upset condition.	LS		<b>Mitigation Measure HAZ-1:</b> None required	LS	
<b>Impact HAZ-2:</b> Emit hazardous emissions or handle hazardous materials, substances or waste within one-quarter mile of an existing or proposed school.	LS		<b>Mitigation Measure HAZ-2:</b> None required	LS	
<b>Impact HAZ-3:</b> Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LS		<b>Mitigation Measure HAZ-3:</b> None required	LS	
<b>Impact HAZ-4:</b> Expose people or structures to a significant risk of loss, injury, or death involving wildland fires.	LS		<b>Mitigation Measure HAZ-4:</b> None required	LS	
<b>Hydrology and Water Quality</b>					
<b>Impact HYD-1:</b> Violate water quality standards or waste discharge requirements, or otherwise substantially degrade water quality.	LS		<b>Mitigation Measure HYD-1:</b> None required.	LS	

Table 2-1 Summary of Impacts and Mitigation Measures

Environmental Impact	Level of Significance Before Mitigation		Mitigation Measure	Level of Significance After Mitigation	
	LS	PS		LS	SU
<b>Impact HYD-2:</b> Substantially alter existing drainage patterns within MCOSD lands or in areas downstream, including alteration of a stream course or river, or substantial erosion or siltation that may be carried to a receiving water body.	LS		<b>Mitigation Measure HYD-2:</b> None required	LS	
<b>Impact HYD-3:</b> Significantly increase the rate or amount of storm water runoff within MCOSD lands or in areas adjacent to those lands that would exceed the capacity of existing or planned storm water drainage systems or facilities, resulting in increased sources of polluted runoff or detrimental flooding to property or infrastructure.	LS		<b>Mitigation Measure HYD-3:</b> None required	LS	
<b>Impact HYD-4:</b> Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net reduction in aquifer volume, or a lowering of the local groundwater table level that would negatively impact existing users or habitat needs.	LS		<b>Mitigation Measure HYD-4:</b> None required.	LS	
<b>Impact HYD-5:</b> Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.	LS		<b>Mitigation Measure HYD-5:</b> None required	LS	
<b>Impact HYD-6:</b> Expose people or structures to a significant risk of loss, injury, or death due to inundation by seiche, tsunami, or mudflow.	LS		<b>Mitigation Measure HYD-6:</b> None required	LS	

Table 2-1 Summary of Impacts and Mitigation Measures					
Environmental Impact	Level of Significance Before Mitigation		Mitigation Measure	Level of Significance After Mitigation	
	LS	PS		LS	SU
<b>Noise</b>					
<b>Impact NSE-1:</b> Expose persons/generate noise levels in excess of standards, cause a significant permanent increase in noise levels, or result in a substantial temporary or permanent increase in ambient noise levels.	LS		<b>Mitigation Measure NSE-1:</b> None required	LS	
<b>Impact NSE-2:</b> Expose persons/generate excessive groundborne vibration or noise levels.	LS		<b>Mitigation Measure NSE-2:</b> None required	LS	
<b>Transportation and Traffic</b>					
<b>Impact TRF-1:</b> Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the transportation system.	LS		<b>Mitigation Measure TRF-1a:</b> None required	LS	
<b>Impact TRF-2:</b> Conflict with an applicable congestion management program.	LS		<b>Mitigation Measure TRF-2a:</b> None required	LS	
<b>Impact TRF-3:</b> Result in inadequate emergency access.	LS		<b>Mitigation Measure TRF-3a:</b> None required	LS	
<b>Impact TRF-4:</b> Conflict with adopted policies/plans/programs regarding public transit, bicycle, or pedestrian facilities.	LS		<b>Mitigation Measure TRF-4:</b> None required	LS	
<b>Cumulative Impacts</b>					
Land Use, Population, and Housing	LS		None required.	LS	
Transportation	LS		None required,	LS	
Air Quality/Global Climate Change	LS		None required.	LS	

Table 2-1 Summary of Impacts and Mitigation Measures

Environmental Impact	Level of Significance Before Mitigation		Mitigation Measure	Level of Significance After Mitigation	
	LS	PS		LS	SU
Noise	LS		None required.	LS	
Hydrology, Water Quality, and Flood Hazards	LS		None required.	LS	
Biological Resources	LS		None required	LS	
Geology	LS		None required	LS	
Agriculture	LS		None required	LS	
Water Supply and Demand	LS		None required	LS	
Hazardous Materials	LS		None required	LS	
Wastewater Management Services	LS		None required	LS	
Solid Waste Management	LS		None required	LS	
Fire Protection and Emergency Services	LS		None required	LS	
Criminal Justice Services	LS		None required	LS	
Public Education Services	LS		None required	LS	
Parks and Recreation Services	LS		None required	LS	
Cultural Resources	LS		None required	LS	
Visual Resources	LS		None required	LS	
<b>CEQA Required Topics</b>					
Growth Inducement	LS		None required	LS	
Energy Use	LS		None required	LS	
Irreversible Commitment of Resources	LS		None necessary in addition to those identified for resources in Chapters 5-15 of this Draft TPEIR.	LS	

Table 2-1 Summary of Impacts and Mitigation Measures					
Environmental Impact	Level of Significance Before Mitigation		Mitigation Measure	Level of Significance After Mitigation	
	LS	PS		LS	SU
Irreversible Environmental Changes	LS		None necessary in addition to those identified for resources in Chapters 5-15 of this Draft TPEIR.	LS	
Potential Environmental Damage from Accidents	LS		None required	LS	

LS=Less than significant

PS=Potentially Significant

SU=Significant and unavoidable

## **3 PUBLIC COMMENT AND RESPONSES TO COMMENT**

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### **3.1 PUBLIC COMMENTS AND RESPONSES**

The California Environmental Quality Act (CEQA) requires public disclosure in an Environmental Impact Report (EIR) of all project environmental effects and encourages public participation throughout the EIR process. As stated in CEQA Guidelines Section 15200, the purposes of review of environmental document are to:

- share expertise;
- disclose agency analyses;
- check for accuracy;
- detect omissions;
- discover public concerns; and,
- solicit counter-proposals.

CEQA Guidelines Section 15201 states “(p)ublic participation is an essential part of the CEQA process.” Under CEQA Guidelines Section 15105(a), if a state agency is a lead or responsible agency for the project, the public review period shall be at least 45 days. In the case of the Recirculated Draft TPEIR (RD TPEIR), a review period from August 5, 2014 to September 22, 2014 was established. During circulation of the RD TPEIR, the MCOSD received 132 comments on the RD TPEIR and RTMP.

For every written comment received from the public, agencies, and organizations, the MCOSD has provided a written response. The comments and responses to comments are included in the following pages. A list of commenters is provided below.

For comments advocating that MCOSD take a certain action, or where the comment has stated the belief or opinion of the author, the response to comment notes that the MCOSD will consider the views of the commenter in the District’s deliberation of the Road and Trail Management Plan. No other response to such a comment is provided in the TPEIR. This is not to diminish the importance of such comments, but rather to ensure that the substance of the comment is debated and considered by the decision-makers of the MCOSD and not the authors of the TPEIR.

Because of the number of comments received during the RD TPEIR circulation period that discussed changes to the RTMP, the MCOSD is preparing a companion document to this Final TPEIR, entitled *Analysis to Policy Related Comments* that will evaluate all policy and merit related comments. Although not a part of this Final PEIR, staff will include this document as an attachment to its letters to the Parks and Open Space Commission and the Marin County Open Space District Board of Directors.

An alphabetical listing of the commenters, together with a comment number identification as used in this Final TPEIR are set forth below.

**COMMENTER****COMMENT IDENTIFICATION***Federal Agency Comments*

None received

*State Agency Comments*

None received

*Local and Regional Agency Comments*

Marin County, Department of Public Works 1

*Public Utility and Service Provider Comments*

Marin County Fire Chiefs Association 2

North Marin Water District 3

*Citizen / Non-governmental Organizations Comments (Access4Bikes)*

Access 4 Bikes Form Letter

Andrew 4

Arnold, Peter 5

Aument, Todd 6

Ausman, James 7

Bateson, Tim 8

Bell, David 9

Billington, Pete 10

Biolatto, Anthony 11

Birkie, Wolfe 12

Borjian, Chris 13

Bottoms, Steve 14

Brouillet, Louis 15

Brown, Gabe 16

Cardoza, Brian 17

Christopherson, Tim 18

Church, Josh 19

Civiello, David 20

Deffner, Dan 21

Fogelquist, Taylor 22

Galbraith, E. Andrew 23

Ginsberg, Tracy 24

Hart, Jonathan 25

Herzog, Donald 26

Hildebrand, Alex 27

Hill, Michael 28

Hively, Peter 29

Huffman, Vernon 30

Hunt, Brad 31

Johnstone, James 32

Krtolica, Igor	33
Lazzarini, David	34
Leggett, Cameron	35
Lustgarten, Abraham	36
McDermott, Mike	37
Moritz, Jake	38
Mueller, Marcus	39
Parsley, Scott	40
Pope, Matthew	41
Preuss, Adam	42
Prouty, Devin	43
Ratcliffe, Jackson	44
Ratcliffe, Jackson	45
Roessingh, Toby	46
Schohn, Aaron	47
Schwartz, Ethan	48
Sievert, James	49
Slavich, Vanessa	50
Smith, Beau	51
Smith, Jeffrey	52
St. Clair, Luke	53
Spindel, Nathan	54
Spindell, Aaron	55
Stein, Chris	56
Upjohn, Chris	57
Wallace, Tammy	58
Wolden, David	59
Zylberberg, Bernard	60

*Citizen / Non-governmental Organizations Comments (Access4Bikes with other comments)*

Anderson, Craig	61
Badger, Peter	62
Brooke, Amie	63
Blanchard, Ross	64
Boeschen, John	65
Carbonell, David	66
Cavagnaro, Pippin	67
Cerick, M. Richard	68
Costello, Chris	69
De Carion, James	70
Eagleton, Justin	71
Floren, Joseph	72
Kelley, Michael	73
Kidder, Nat	74
Lawrence, Richard	75
Lillie, Theodore	76
Mejia, Michael	77

Mibach, Brian	78
O'Connell, Michael	79
O'Loughlin, James	80
Peterson, Ted	81
Popplewell, Brian	82
Rehder, Karen	83
Sanctuary, Gabe	84
Simon, David	85
Stewart, Cameron	86
Van Leuven, Alissa	87
Vendetti, Marc	88
Wilson, Mark	89

*Citizen / Non-governmental Organizations Comments*

Belknap, Lidia	90
Berensmeier, Jean (San Geronimo Valley Planning Group)	91
Berto, Connie	92
Bindloss, W. Jon	93
Bolt, Geoff	94
Boss, Tom (Marin County Bicycle Coalition)	95
Bull, Priscilla (Community Marin Action Committee)	96
Burggraf, Kim	97
Corwin, Lynn	98
Costello, Bryan	99
Davidson, Andrew	100
Dennis, Nona (Marin Conservation League)	101
Elam, Jon (Marin Conservation League)	102
Fottrell, Mike	103
Graf, Michael	104
Greenleaf, Lori	105
Gurung, Ram	106
Holmes, Jason	107
Houlette, Gerald	108
Karpa, Doug (Salmon Protection and Watershed Network)	109
Kellner, Clinton	110
Kenton, Christopher	111
Kim, Minna	112
Langhurst, Rebecca	113
Minot, Abby	114
Nakai, Nancy	115
Nigro, Larry	116
Novy, Linda	117
O'Day, Sean	118
Poggio, Denis	119
Reudy, Christopher	120
Rifkind, Leonard	121
Salzman, Barbara (Marin Audubon Society)	122

Schmidt, Ernst	123
Slate, Mark	124
Thelin, Andrew	125
Wajnowski, Gregory	126
Wardenburg, Mike	127
Watson, Donald	128
Weiss, Earl	129

*Citizen / Non-governmental Organizations Comments Received after the 9/22/14 Deadline*

De Groot, Suzanne	130
Gulldman, Sandra (Friends of Corte Madera Creek Watershed)	131
Meylan, Joe	132

Due Date: **Sept. 22, 2014 @ 4:30 P.M.**  
Reference: MCOSED. "RTMP TPEIR F." Aug 2014.

Summary of RTMP TPEIR

I. Traffic

a. 5.2.2 Analysis Methodology

i. RTMP involves activities that are not expected to generate a considerable number of new vehicle trips.

1-1

Comment [COM1]: p.119

Comment [COM2]: Activities that generate new vehicle trips may need be analyzed for potential impacts to LOS at close by intersections.

b. TR-1.3: Uphold Vehicle Level of Service Standards

c. MCOSED Policy Review Initiative

i. Policy P1-P5 is in regards to transportation and traffic issues.

d. The RTMP is a programmatic document that describes the types of activities to be undertaken, rather than specific projects, so a detailed traffic analysis is not possible but will be analyzed at the time of implementation at specific sites.

Comment [COM4]: p.463

e. "The RTMP involves activities that are not expected to generate substantial numbers of new vehicle trips, particularly in urbanized areas or during peak hours."

Comment [COM5]: p.463

Comment [COM6]: See comment 2 above.

f. Substantially increase hazards

Comment [COM7]: p.463

i. RTMP does not include any actions to redesign or modify any public roads or intersections and it would not change the use of any roadways by agricultural equipment.

II. Trips

a. the RTMP involves activities that are not expected to generate a considerable number of new vehicle trips

1-2

Comment [COM8]: p.119

Comment [COM9]: See comment 2 above

III. Disabled Access

a. TRL-2.5: Provide Access for Persons with Disabilities.

1-3

Comment [COM10]: p.66

i. Design and develop trails and trail programs to enhance accessibility by persons with disabilities.

b. TRL-2.6: Provide Multiple Access Points.

Comment [COM11]: p.66

i. Design trails with multiple access points to maximize accessibility and minimize concentrating access.

c. TRL-2.h: Identify Access Opportunities for Persons with Disabilities.

Comment [COM12]: p.66

i. Review existing access opportunities for persons with disabilities. Identify and pursue new opportunities.

IV. Flood

a. Crossings with existing infrastructure may also need upgrades in order to convey the 50-year design flow without flooding or eroding streambed and banks.

1-4

Comment [COM13]: p.343

Comment [COM14]: Why not the 100 year storm consistent with MCC 24.04.520 (c) ?

b. Policy SW.31: Floodplain Policy for New and Improved Roads and Trails

Comment [COM15]: p.425/426

i. In cases where a flood risk is identified, proposed facilities shall either be relocated outside of the flood prone area or designed and constructed in a manner to protect public safety and not increase base flood elevations. Accordance with MCC 23.09 Floodplain Management and FEMA regulations.

## Response to Letter 1

**Commenter** Marin County, Department of Public Works  
September 22, 2014

Note: Page numbers cited in this comment (e.g., p. 119) refer to the approximate location in the PDF file of the RD TPEIR where the identified information may be found. The page numbers refer to thumbnails in the PDF file, and not the actual page numbering of the RD TPEIR itself. Because the cited page numbers do not themselves raise any questions regarding the environmental information or conclusions presented in the RD TPEIR, they are not identified as comments, and no further response is necessary.

1-1 *The comment notes locations in the RD TPEIR where traffic resulting from implementation of the RTMP is discussed in Chapter 5, Air Quality, and Chapter 13, Transportation and Traffic. The comment states that activities undertaken pursuant to the RTMP that would generate new vehicle trips may need to be analyzed for potential impacts at nearby intersections.*

As set forth in Chapter 3, *Project Description*, the RTMP identifies project types that may be implemented pursuant to the RTMP. These project types range from responses to emergencies, to routine maintenance, to road and trail modification and construction. CEQA requires that all projects (State CEQA Guidelines Section [SCG] 15378) be subject to preliminary environmental review (SCG 15060). Except for emergency projects, which are exempt from CEQA (SCG 15269), all other actions undertaken by the MCOSD in implementation of the RTMP are subject to environmental review. During preliminary environmental review, the MCOSD will screen each project proposed by the agency for potential environmental effects and to determine the appropriate type of CEQA document in which to evaluate effects and report the agency's environmental conclusions. In many cases, this screening evaluation will involve the preparation of an Initial Study (SCG 15002 [k], and 15063). In preparing Initial Studies, the MCOSD uses Appendix G of the State CEQA Guidelines as a model. Appendix G consists of a series of questions regarding potential environmental effects arranged by environmental topic. For traffic, two questions (a and b) within the current version of Section XVI of Appendix G pertain to the potential traffic effects cited in the comment. (See the significance criteria on RD TPEIR page 13-13 for the full text of these two questions.) Thus, in implementing CEQA for subsequent RTMP implementation actions, the MCOSD necessarily would evaluate the potential for increased traffic at local intersections.

For the RD TPEIR, traffic effects are evaluated in Impacts TRF-1 and TRF-2 in Chapter 13, *Transportation and Traffic*. The evaluation contained in Impact TRF-1 cites Marin County, MCOSD, and RTMP policies that would act to reduce the potential for traffic effects. Implementation of these policies, as well as future compliance with CEQA, would require that the MCOSD evaluate potential local traffic effects as suggested in the comment.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed

project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 1-2 *The comment notes locations in the RD TPEIR where vehicle trips resulting from implementation of the RTMP are discussed in Chapter 5, Air Quality. The comment states that activities undertaken pursuant to the RTMP that would generate new vehicle trips may need to be analyzed for potential impacts at nearby intersections.*

See response to comment 1-1.

- 1-3 *The comment notes locations in the RD TPEIR where access to MCOSED facilities for those with disabilities is discussed. The comment does not question the environmental evaluation or conclusions of the RD TPEIR.*

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 1-4 *The comment notes locations in the RD TPEIR where the effect of implementing the RTMP on flood flows and safety are discussed in Chapter 3, Project Description, and Chapter 11, Hydrology and Water Quality. The comment questions why one of the criteria (Stream Intersections) used in the Road and Trail Decision tool references a 50-year design flow rather than a 100-year design flow as set forth in Marin County Code Section 24.04.520 (c). The comment additionally requests that proposed RTMP Policy SW.31 be modified to reference the requirements of Marin County Code Section 23.09.*

Upon receipt of this comment, the MCOSED has consulted with the Marin County Public Works Department regarding County capacity requirements for culverts and other types of stream crossings. According to the Department of Public Works (Personal communication 2014), because the great majority of MCOSED facilities are not located within urban areas of the County, rigid adherence with the drainage capacity design standards of the County Code by the MCOSED is not necessary. Rather, the MCOSED could design such facilities to a lesser standard such as that set forth in the RTMP upon submitting a demonstration of the appropriateness of the revised design standard pursuant to Marin County Code Section 24.04.520.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

# Marin County Fire Chiefs Association



**Christopher Gray, President**

1039 C Street  
San Rafael, CA 94901  
(415) 485-3307

September 19, 2014

James Raives  
Marin County Open Space District  
3501 Civic Center Drive, Suite 260  
San Rafael, CA 94903-4157

**RE: Marin County Fire Chiefs Association collective response to RECIRCULATED DRAFT TIERED PROGRAM ENVIRONMENTAL IMPACT REPORT (RD TPEIR) for the Road and Trail Management Plan (RTMP)**

Dear Mr. Raives:

The Marin County Fire Chiefs Association is a representative body of the following fire agencies: Novato Fire District, Marinwood, San Rafael, Ross Valley, Kentfield, Larkspur, Corte Madera, Mill Valley, Tiburon, Southern Marin, Marin County Fire, Muir Beach, Bolinas, Stinson Beach, Inverness and Nicasio.

2-1

We would like to take this opportunity to respond to your recently released RD TPEIR for the Road and Trail Management Plan (RTMP).

First and foremost, thank you for the opportunity to comment on the RD TPEIR. We certainly appreciate the and value the input to the Open Space planning process that has occurred over the past several years and greatly respect the long standing partnership between the MCOSD and Marin Fire Agencies that recognizes the critical balance of environmental preservation and community safety.

The Fire Chiefs and supporting staff have reviewed the RD TPEIR and would like to formalize our mutually agreed upon position regarding ingress and egress to the many preserves and watershed areas where we provide Rescue, Emergency Medical and Fire Response either on or around.

2-2

1. Before trails or fire roads are decommissioned/closed or abandoned; the affected fire agencies will have input into the decision and the effects on public safety.
2. Existing fire roads will be maintained to accommodate response to emergencies in partnership with the affected fire agencies.

Thank you for your consideration. We look forward to a continued partnership protecting our residents and visitors.

Sincerely,

A handwritten signature in black ink that reads "Christopher Gray".

Christopher Gray  
President, MCFCA

## Response to Letter 2

**Commenter** Marin County Fire Chiefs Association  
September 19, 2014

---

2-1 *The comment provides introductory information regarding the nature and membership of the County Fire Chiefs Association, and conveys appreciation for the MCOSD's recognition of issues of concern to the Association.*

The MCOSD acknowledges the mission of Marin County fire agencies in protecting the public and natural resources adjacent to and within MCOSD Open Space Preserves, and the need for the MCOSD to provide continued access for fire fighting. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

2-2 *The comment states the mutually agreed upon position between the MCOSD and the Association regarding continued access, and MCOSD consultation with affected fire districts prior to taking action to modify or decommission emergency access routes or facilities.*

The substance of this comment has been incorporated into the policies of the RTMP, specifically policies SW.19, SW-21, SW.21, and SW.26. For details of these policies, please refer to Chapter 4, *Road and Trail Use Policies*, of the RTMP. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.



September 18, 2014

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415.897.4133

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James Raives, Sr. Open Space Planner  
Marin County Parks  
3501 Civic Center Drive, Suite 260  
San Rafael, CA 94903

Re: Notice of Availability of Re-circulated Draft Tiered Program Environmental Impact Report for the Marin County Open Space District's Revised Road and Trail Management Plan

Dear Mr. Raives:

Thank you for the opportunity to comment on the subject Road and Trail Management Plan and the Draft Tiered Program EIR.

North Marin Water District has reviewed the Plan and DEIR. We are happy to see the special use policies included especially Policy SP-1: Lease/License/Other Form of Approval Required for Land Management or Utility Activities, on page 4-18 of the Draft Road and Trail Management Plan. We understand this policy is consistent with the proposed Non-Conforming Use Policy previously discussed with MCOSD staff and documented by the June 4, 2013 letter from Ron Miska, Deputy Director. That letter referenced two proposed NMWD pipeline projects that would affect property owned by MCOSD. One within the Mt. Burdell Open Space Preserve and another across the Indian Valley Open Space Preserve. These two pipeline projects continue to be included in the NMWD Water System Master Plan. The permitting phase for the pipeline project located in the Mt. Burdell Open Space Preserve is scheduled to begin this winter with construction currently scheduled in FY2015/16. The pipeline project in the Indian Valley Open Space Preserve would be constructed subsequent to the Mt. Burdell pipeline. **3-1**

NMWD and MCOSD have a long history of cooperation including the 1971 Agreement for Development, Maintenance and Operation of Stafford Lake Park and the 1996 Joint Powers Agreement for MCOSD Management of Public Access on NMWD Watershed Lands. This cooperative arrangement has been beneficial both to the public for use of these publicly owned lands and economically for MCOSD and NMWD. **3-2**

NMWD has existing facilities and facility/access easements in the Ignacio Valley, Pacheco Valley, Loma Verde (Region 3); and Mount Burdell and Verissimo Hills (Region 4) Open Space Preserves. We welcome the opportunity to participate in the Road and Trail Decision Making Process for these areas to insure NMWD water service facilities remain reliably maintained in those vicinities while accommodating public access.

Sincerely,

Chris DeGabriele  
General Manager

CD/kly  
t:\gm\2014 misc\mcosd ltr 91814.doc

### Response to Letter 3

**Commenter** North Marin Water District  
September 18, 2014

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3-1 *The comment states that the Water District has reviewed the RTMP and the RD TPEIR, and appreciates the Special Use policies of the RTMP that permit continued use of Open Space Preserve lands for utility uses where appropriate and permitted by MCOSED. The comment describes two pipeline projects planned by the Water District that would cross MCOSED preserves.*

The MCOSED acknowledges continued and future use of MCOSED lands by utilities subject to the MCOSED's special use policies, and RTMP Policy SP-1, *Lease/License/Other Forms of Approval Required for Land Management or Utility Activities*. The MCOSED appreciates the Water District's notification of the planned pipeline projects, and looks forward to working with the Water District in the review and permitting of these projects on lands owned and managed by the MCOSED. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

3-2 *The comment describes the long history of cooperation between the MCOSED and the Water District, and describes existing Water District facilities within MCOSED preserves.*

See response to comment 3-1.

# Access4Bikes



## RTMP RD TPEIR – Draft Letter

---

Dear Mountain Biker,

Just copy and paste the text below into an email message, and make the appropriate edits.

**MR-1**

Then send the email to [jraives@marincounty.org](mailto:jraives@marincounty.org)

September 20, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and FILL IN WHY YOU CARE HERE

I am submitting the following comments:

1. **If you care about safety, copy paste some of our key safety point.**
2. **If your focus is environmental issues, copy paste some of our environmental points.**
3. Pick another talking point or use one of your own. Write your own. is good too.

Thank you again for the opportunity to comment.

Sincerely,

your name here

your address here

your signature here unless emailing

# Access4Bikes



## RTMP RD TPEIR – Safety Issues

---

### Scientific Basis and Data for Safety Issues

**MR-2**

RTMP policy SW.13, “Prohibition on Dangerous Mountain Biking”, explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

### A – Provide Empirical Data on Safety or State There is No Data

**MR-3**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

### B – No Reference to California State Parks Trail Use Conflict Study

**MR-4**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

**C – The Significant Research Findings of the California State Parks Trail Use Conflict Study****MR-4.  
cont.**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

- 
- *Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available. Complaints and controversy about other trail users are common.*
- *Actual incidents, including those involving accidents, between trail users are relatively rare. Design of trails to accommodate multiple use helps to avoid or reduce conflict. User education and outreach are key methods to avoid or reduce conflict.*

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

**Marin County Code Regulates Safety and Speed on Public Trails****MR-5**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

# Access4Bikes



## RTMP RD TPEIR – Environmental Issues

---

### Erosion and Trail Impact Studies and Conclusions MR-6

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers detailing the impact of various trail uses, we believe that these references, as well as the incorporation into the PEIR of conclusions and recommendations from these references are inadequate.

### **A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”** MR-7

In 2006, the National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” (subsequently referred to as the “Interior Department Report”). This report included a literature review considerably more extensive than the two listed in table 6-2. The Interior Department Report also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the direct applicability of the literature review as well as the scientific study and fact based approach required by the National Park Service and the United States Department of the Interior, the PEIR should include the Interior Department Report in table 6-2.

### **B – Review and Summary of Findings of The Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Interior Department Report that we believe should be incorporated into the PEIR. Specifically, some of the more relevant findings in the Interior Department Report's literature review are repeated here:

**MR-7,  
cont.**

- Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).
- Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The Interior Department Report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

- Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34).
- Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)
- Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The review and conclusions of trail impact by user groups in the current draft of the PEIR is inadequate and should include the findings from the Interior Department Report.

## **C – Recommendations from the Department of the Interior Report MR-8** **“Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key recommendations from the Interior Department Report that that we believe should be incorporated into the PEIR.

- Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)
- Regulations restricting horse and ATV uses to designated trails are recommended.
- Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.
- Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the Interior Department Report, and the summary of findings from the Interior Department Report, the PEIR should incorporate these recommendations as well.

## D - No Integration of International Mountain Biking Association Data for Best Management Practices

MR-9

One of the purposes of the Environmental Impact Report is to provide “a description of other road and trail use and management policies, construction standards, and best management practices (BMP)” ( PEIR page 1-1). The International Mountain Biking Association (IMBA) is the world’s definitive leader and expert on the impacts of mountain biking and the best management practices for mountain biking. IMBA’s scientific and reasonable approach is so well respected that the Sierra Club, in conjunction with IMBA, modified their policies and now “recognizes that bicyclists can be legitimate users of many non-Wilderness backcountry trails and supports responsible off-road bicycling.” (Sierra Club Off Road use of Bicycles Policy). Although the PEIR includes a reference to an IMBA study in table 6-2, the only reference to that article is in the section regarding Mountain Biking and Night Lighting, and there are no references to the various best management practices that IMBA has available.

Some of the specific best management practices that IMBA recommends to reduce vegetation impacts are:

- Design trails that provide the experience that trail users seek to reduce their desire to venture off-trail.
- Locate trails away from rare plants and animals and from sensitive or critical habitats of other species. Involve resource professionals in designing and approving new trail alignments.
- Keep trails narrow to reduce the total area of intensive tread disturbance, slow trail users, and minimize vegetation and soil impacts.
- Limit vegetation disturbance outside the corridor when constructing trails. Hand construction is least disruptive; mechanized construction with small equipment is less disruptive than full-sized equipment; skilled operators do less damage than those with limited experience.
- Locate trails on side-hills where possible. Constructing a side-hill trail requires greater initial vegetation and soil disturbance but sloping topography above and below the trail bench will clearly define the tread and concentrate traffic on it. Trails in flatter terrain or along the fall line may involve less initial disturbance but allow excessive future tread widening and off-tread trampling, which favor non-native plants.
- Use construction techniques that save and redistribute topsoil and excavated plants.

Some of the specific best management practices that IMBA recommends for avoiding the worst soil-related impacts to trails:

- Discourage or prohibit off-trail travel. Informal trails created by off-trail travel frequently have steep grades and fall-line alignments that quickly erode, particularly in the absence of tread maintenance. Exceptions include areas of solid rock or non-vegetated cobble.
- Design trails with sustainable grades and avoid fall-line alignments. (See p. 112 for more)
- When possible, build trails in dry, cohesive soils that easily compact and contain a larger percentage of coarse material or rocks. These soils better resist erosion by wind and water or displacement by feet, hooves and tires.
- Minimize tread muddiness by avoiding flat terrain, wet soils, and drainage-bottom locations.
- Use grade reversals to remove water from trail treads. Grade reversals are permanent and sustainable – when designed into a trail’s alignment they remain 100 percent effective and rarely require maintenance.

One of the goals of an EIR is to provide best management practices and the current EIR's research, review, and integration of best management practices is inadequate and should leverage the techniques and experience that IMBA can provide.

**MR-9,  
cont.**

## **E – Literature Review – Horseback Riding**

**MR-10**

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, sub section ‘Horseback Riding’, on page 6-34, the PEIR makes two conclusions:

Many types of impacts from horses are similar to those from hiking.

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the Interior Department Report which concluded:

1. Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.
2. Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.
3. Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.

Additionally, it appears that the conclusions in the PEIR do not match those of Pickering. The current PEIR concludes:

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified. ( page 3-34 )

Whereas the conclusion of the Pickering study actually states:

There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. (page 557)

With regards to literature review of Horseback Riding, the research sources for the current draft of the PEIR are inadequate and additional sources should include the Interior Department Report.

Additionally, the PEIR conclusion on horseback riding incorrectly quotes one of the references cited. This incorrect citation makes the conclusion inadequate and should be remedied.

## F – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING –Environmental Impacts

MR-11

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then cites Pickering when concluding “there is little consensus in the literature as to whether any one particular use is more damaging than another (Pickering et al 2008)”. In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are: Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with **horse riding appearing to have greater impacts per user than hiking**. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organizations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out. (emphasis added)”

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

## G – Different Rules In Spite of Similar Impact

MR-12

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

## Master Response to Letter MR (Form Letter)

**Commenter** Access4Bikes  
September 20, 2014

Eighty-six letters submitted to the MCOSED in response to circulation of the RD TPEIR were based on a form letter provided by the Access4Bikes organization. The first part of the letter provided instructions to those wishing to submit a comment; the second part detailed several safety-related talking points, and the third part detailed several environmental and trail user concerns. Because many of these letters include some or all of the points raised in the form letter without modification, the MCOSED has prepared this master response to all such letters. Other than this Master Response, no other responses will be made to such letters. However, some of the comments raise concerns about policies, best management practices (BMP), design standards, and the evaluation tool described in the RTMP. Staff addresses these issues in a separate document titled *Analysis of Policy-Related Comments*. This system of response applies to the 57 letters listed in the *Citizen / Non-governmental Organizations Comments (A4B)* category above.

A subset of letters contain some or all of the form letter points, but additionally include further information for consideration by the MCOSED. For these letters, the response to all form letter points will be a reference to the associated Master Response. For the additional information included in such letters, the MCOSED will respond to each additional point. This system of response applies to the 29 letters listed in the *Citizen / Non-governmental Organizations Comments (A4B Plus)* category above.

MR-1 *The comment establishes the preferred introductory text to be used by letter writers and directs them to a series of points to include in a comment letter under the topics of RD TPEIR – Safety Issues, and RD TPEIR – Environmental Issues.*

The comment provides only introductory text and directions to individual letter authors. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

MR-2 *The comment states disagreement with Policy SW.13, Prohibition on Dangerous Mountain Biking, of the RTMP, and requests that the MCOSED provide evidence of increased safety risks caused by bikes to support this policy. The comment states that the RD TPEIR is inadequate because it does not contain such evidence.*

The comment misconstrues the relationship between the RTMP and the RD TPEIR both in time and in content. The RTMP consists of proposed policies, road and trail design and construction standards, and best management practices, together with a decision making process. In total, these components constitute the proposed project that is assessed in the RD TPEIR. The sole role of the RD TPEIR is to evaluate the potential environmental effects of the proposed project on the physical environment, and identify mitigation measures and alternatives that could avoid or reduce any adverse effects (State CEQA

Guidelines Section 15002). The EIR is not an appropriate vehicle in which to debate or establish the overall strategy or individual policies of the RTMP. Rather, these considerations would most appropriately be considered by the staff of the MCOSD, the Parks and Open Space Commission, and the MCOSD Board of Directors in their consideration of the RTMP for approval.

The range of topics assessed in an EIR is established in part by the State CEQA Guidelines. Section 15131(a) of the Guideline states that the "... social effects of a project shall not be treated as significant effects on the environment." That trail user safety is a social effect is validated in part in comment MR-3 that states "much of the rhetoric (*regarding trail user safety*) is derived from a perception of conflict and unsubstantiated qualitative stories." Thus, safety is not a physical effect, but rather a psychological effect. As cited by many commenters on the RD TPEIR, many of the safety issues raised pertain to existing conditions, and not the future impacts of implanting the RTMP. Please refer to the responses to comments 96-1 and 96-3 for the requirement that an EIR evaluate existing conditions. Additionally, the Marin County Code addresses bicycle use, speed limits, and rights-of-way (MCC Sections 02.04.020/040/050).

Because the safety of users of the road and trail system is a social effect within the meaning of Section 15131(a), it is not within the purview of CEQA. Section 15131(b) permits social or economic effects to be used to determine the significance of physical changes caused by the project. The TPEIR has incorporated this concept into its evaluation of environmental topics that could vary in their significance depending upon the location or intensity of an activity or use. See, for example, RD TPEIR Chapter 12, *Noise*.

As set forth above, because user safety is not an appropriate CEQA topic, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

MR-3 *The comment states that trail safety concerns are important, and suggests several management techniques that could improve trail safety. The comment states disagreement with Policy SW.13, and suggests that user safety data is available, and that the TPEIR errs in not reporting this information.*

Existing and proposed Marin County and MCOSD policies encourage and allow the trail construction and management techniques suggested by the comment, including Countywide Plan policies and implementation measures TRL-2.3, TRL-2.8, TRL-2e TRL-2g, and

TRL-2p. Existing MCOSD policies regarding user safety that respond to the comment's suggested management techniques include: T1e, T2c, and VA2. (For the text of these policies, please refer to Table 4.1 of the RTMP.) Additionally, the design and engineering specifications of Los Angeles County, the Mid-peninsula Regional Open Space District, and the U.S. Forest Service as incorporated by reference in Chapter 6 of the RTMP all permit the construction measures advocated in the comment.

Regarding the need for the EIR to provide user safety information by user group, or identify management techniques and construction standards that could increase safety, please see the response to comment MR-2. Because user safety is not an appropriate topic for review in a CEQA document, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- MR-4 *The comment states that the RD PEIR should have included a document entitled "California State Parks Road and Trail Change-in-Use Evaluation Process Program EIR" in RD TPEIR Table 6-2, Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces, in Chapter 6, Biological Resources. The comment additionally lists selected findings from the State Parks EIR, and alleges that the RD PEIR was inadequate because this information was not included in the document. The comment concludes that since the State Parks information is not included in the RD TPEIR, all statements regarding the relative safety of mountain biking should be removed from the RD TPEIR.*

For information regarding the differing roles of the RTMP and the RD TPEIR that assesses the proposed Plan, and the requirement to assess safety impacts in an EIR, please see the response to comment MR-2. Regarding RD TPEIR Table 6-2, this Table and its underlying literature review are intended to report only on the potential effects of recreational uses of open space and parklands on biological resources. The Table is not designed to be an encyclopedic literature review of all potential social effects that could arise from the use of parklands and open space by various user groups. The comment advocates that Table 6-2 include information regarding user safety in a Table designed to summarize potential effects to biological resources. Including safety information at this location in the RD TPEIR would likely confuse reviewers and would be inappropriate.

Because user safety is not an appropriate CEQA topic, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD

TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- MR-5 *The comment states that the current Marin County Code addresses bicycle use, speed limits, and rights-of-way, and that additional regulation through the policies of the RTMP as described in the RD TPEIR is unnecessary. The comment requests that the RD TPEIR remove all such policies.*

For information regarding the differing roles of the RTMP and the RD TPEIR that assesses the proposed Plan, and the requirement to assess safety impacts in an EIR, please see the response to comment MR-2. Because user safety is not an appropriate CEQA topic, The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- MR-6 *The comment states that trail use and trail impact are the most critical environmental impacts that should be evaluated in the TPEIR. The comment additionally states that RD TPEIR Table 6-2 (that summarizes the results of a literature review of studies assessing the effects of trail and open space use on biological resources) is incomplete and inaccurate.*

The comment introduces the theme of this portion of the comment letter regarding the relative impacts of various types of trail users. For responses to the detailed points of this letter, please refer to responses to comments MR-7 through MR-12.

- MR-7 *The comment states that RD TPEIR Table 6-2 (that summarizes the results of a literature review of studies assessing the effects of trail and open space use on biological resources) is incomplete because it does not include the findings of a study completed by the National Park Service entitled "Assessing and Understanding Trail Degradation: Results from Big South Fork River and Recreational Area," published February 2006. The comment quotes selected findings from the study regarding the relative contributions of differing use types to*

*trail degradation, including bikers, horses, off road vehicles, and bikes. The comment states that the RD PEIR is inadequate because it does not include this information in Table 6-2.*

**Report Summary.** The study referred to in the comment, hereinafter identified as the Big South Fork report, was completed by the National Park Service to evaluate the use, environmental, and management factors that could influence road and trail conditions. The report does not directly address or evaluate potential effects to biological resources from recreation uses.

The Big South Fork report provides a comprehensive assessment of resource conditions on a large (24%) sample of the trail system within Big South Fork National River and Recreational Area (BSF) located in Kentucky and Tennessee. The Big South Fork study “identified a trail system with some substantial degradation, particularly soil erosion, which additionally threatened water quality in areas adjacent to streams and rivers. Factors that contribute to or influence these problems are analyzed and described. Principal among these are trail design factors (trail topographic position, soil texture, grade and slope alignment angle), use-related factors (type and amount of use), and maintenance factors (water drainage).” (NPS 2006, p ii)

The existing (2006) trail system of the Big South Fork Recreation Area consisted of 227 miles of single and multi-use primitive roads and trails. The study evaluated a subset of these roads and trails consisting of 78.5 miles. “Estimates of amount of use (low, intermediate, high) were assigned to each surveyed segment by a long-time knowledgeable park trail manager. Given the multi-use character of many of the trails, use percentages were also assigned for each segment. Segments receiving 75% or more of any one use type were categorized as representative of that type for use type analyses; remaining segments were categorized as “mixed use”. Amount of use estimates were also assigned by this staff member using broad high, moderate, and low use categories. Use type categories are approximate; most trails are multi-use and fall into more than one category.” Mountain biking was identified as the primary use on 2.4% of the sampled roads and trails. (NPS 2006, pps. 11-12) Remaining trails were combined into a mixed use category. Mean use estimates for these mixed use trails are as follows: horse (33%), hiker (30%), bike (18%), ATV (12%), wagon (5%), and vehicle (2%). Thus, mixed use trails are mostly used by horses and hikers, though bike and ATV use also occurs on some. (NPS 2006, p. 20)

The Big South Fork study evaluated for each road and trail segment in the 78.5-mile sample: trail grade, slope alignment, drainage management, water drainage, topographic position, soil texture, and use type and intensity. Though mountain biking was identified as the predominant activity on 2.4 percent of the sampled roads and trails, the level of use was determined to be low; no sample point reported medium or high levels of use by mountain bikes. In contrast, 28% to 33% of sample points reported high levels of use by hikers and/or horse riders. (NPS 2006, pps. 16-17)

The study identified and assessed the following impact indicators: number of informal trails, number of secondary trails, tread width, maximum incision, cross sectional area, and muddiness/standing water. Additionally, the Big South Fork Study evaluated the influence of use-related factors on trail conditions. The study found no relationship between use level and trail muddiness, a weak relationship with erosion, and a significant relationship with

tread width. (NPS 2006, p. 20). However, use type did show a significant relationship with these variables, with hikers and bikers showing the lowest impacts, and horses and ATVs showing the highest impacts. The report cautions that “(t)hese data are not presented to apportion blame to specific use types, rather to emphasize that managers seeking to accommodate horse and ATV uses should acknowledge their higher potential for eroding soil and incorporate improved trail design, construction, maintenance and visitor use management practices to ensure that such uses are sustainable.” (NPS 2006, p. 22)

The Big South Fork study concluded that “(t)rail position, trail alignment, grade, water drainage, and type of use are all significantly influential variables in the best trail degradation model. According to this model, trail erosion can be most effectively minimized by: avoiding use on steep trails with direct ascent alignments; avoiding valley trails; by installing tread drainage features; and by reducing horse and ATV use or restricting (*these users*) to well-designed and maintained alignments. ... (T)he use/impact relationships (*found in the study*) suggested that reducing use is often an ineffective management practice. Thus an emphasis on proper trail design, construction and maintenance should be emphasized, though high levels of use when trail surfaces are wet should be avoided.” (NPS 2006, p. 36)

**Response.** The MCOSD acknowledges that the Big South Fork report provides a contribution to the literature regarding the sources and relative importance of sources of trail degradation, including trail position, trail alignment, grade, water drainage, and type of use. However, the basic premise underlying the comment is a disagreement between the commenter and the MCOSD regarding the management of various user groups on the MCOSD preserve system. As stated in response to comment MR-2, the TPEIR is not the appropriate vehicle in which to provide information and argument regarding the strategy and policy of the RTMP and the MCOSD. For this reason, and the fact that the purpose of Table 6-2 is to provide a summary discussion of the effects of road and trail use on biological resources, inclusion of the Big South Fork report would be inappropriate and unnecessary. While some aspects of trail degradation could indirectly affect biological resources (e.g., sedimentation, loss or degradation of vegetation), these potential sources of impact have been evaluated in Impacts BIO-1 through BIO-4 in Chapter 6, *Biological Resources*, of the RD TPEIR. Since the Big South Fork report does not evaluate the effects of trail use on biological resources, no information set forth in the report would alter the environmental conclusions set forth in the RD TPEIR.

Regarding trail degradation by erosion, rutting, muddiness, and other factors, the MCOSD has cataloged the condition of the majority of the MCOSD’s road and trail system in a report entitled, “Road and Trail Assessment” prepared by Timothy Best (MCOSD 2011b), and summarized in Chapter 3, *Project Description*, of the RD TPEIR. As set forth in Chapter 3, the road and trail assessment provides detailed information about the condition of MCOSD roads and trails, and identifies known problem areas such as wet areas, and locations with erosion and drainage issues, steep grades, or rough tread, among many other factors. Thus, similar information to that assessed in the Big South Fork report was developed for the MCOSD road and trail system and used in the development of the RTMP.

Similarly, the MCOSD recognizes the importance of underlying geologic and topographic influences and design factors in the susceptibility of roads and trails to degradation. Based on this recognition, one of the primary goals of the MCOSD in the development of the

RTMP is to maintain, modify where necessary, or decommission roads and trails to reduce the adverse effects of degraded facilities, including achieving significant reductions in erosion and sedimentation. To achieve this goal, the RTMP includes policies, facility design and construction standards, and best management practices as summarized in Chapter 3 of the RD TPEIR and set forth in detail in Chapters 4, 5, and 6 of the RTMP. The RD TPEIR has evaluated the potential effects of implementing the RTMP on soil erosion, sedimentation, and other geologic and hydrologic factors in Chapters 8, *Geology and Soils*, and 11, *Hydrology and Water Quality* in Impacts GEO-4, HYD-1, and HYD-2. All of these impact statements conclude that the potential effects would be less than significant with implementation of the policies, design, and construction standards, and best management practices of the RTMP, as well as local, state, and federal requirements. Nothing cited in the Big South Fork report or in the comment would alter these environmental conclusions.

The MCOSED will not modify the TPEIR as requested by the comment for the following reasons:

1. The comment encourages the MCOSED to modify the proposed policies of the RTMP rather than commenting on the environmental analysis or conclusions of the RD TPEIR;
2. Inclusion of information contained in the Big South Fork report in RD TPEIR Table 6-2 would be inappropriate since Table 6-2 is a summary of the effects of recreational use in general on biological resources in park and open space settings;
3. Inclusion of the Big South Fork report in Table 6-2 would not alter any of the environmental conclusions set forth in the TPEIR;
4. The MCOSED has developed MCOSED preserve-specific information similar to that set forth in the Big South Fork report that was used in the development of the RTMP and reported in Chapter 3 of the RD TPEIR; and,
5. The comment provides no specific information regarding why the TPEIR would be inadequate in the absence of the information included in the Big South Fork report.

In conclusion, The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSED Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

MR-8 *The comment identifies several management recommendations from the Big South Fork report that, according to the comment, should be incorporated into the TPEIR, including restrictions on horse and ATV use, restrictions on use during periods of wet weather, and the implementation of design and construction standards to minimize trail erosion.*

As set forth in Tables 3-2 and 3-3 of the RD TPEIR, the RTMP identifies existing policies and proposes a number of new policies that would implement the suggested management recommendations. Existing policies include those from the Marin Countywide Plan (BIO-4.14, BIO-5.f, BIO-4k, TRL-2.7, and TRL-2b), and from the MCOSD Policy Review Initiative (T1c, T1eT1g, T2a). Proposed RTMP policies include SW.16 and SW.19. Please refer to Tables 3-2 and 3-3 in Chapter 3, *Project Description*, of the RD TPEIR or Chapter 4 of the RTMP for the details of these policies.

Section 3.9 in Chapter 3 of the RD TPEIR summarizes the road and trail standards and Best Management Practices proposed by the RTMP. (These standards and best management practices are set forth in detail in Chapter 6 of the RTMP.) Many of the design standards would reduce erosion, including standards for:

- Road and trail cross sections
- Dips and water bars
- Road or trail surface treatment or delineation
- Runoff conveyances
- Ditch relief culverts and outlets
- Conveyance flow attenuation
- Drainage, wetland, or stream crossings
- Slope stability
- Trail buttressing
- Catchment basins

Best Management practices summarized in Section 3.9.2 of the RD TPEIR that would reduce erosion include practices for General Requirements, Hydrology and Water Quality, and Geological Hazards. See Chapter 6 of the RTMP for the details of these best management practices.

Additionally, Section 02.04.010 of the Marin County Code prohibits the use of motor vehicles, including off road vehicles, on MCOSD open space preserves.

As summarized in the RD TPEIR, the requested management recommendations are included in existing County and MCOSD regulations and policies, or are proposed in the RTMP.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

MR-9 *The comment states that the RD TPEIR is inadequate because it does not detail the Best Management Practices recommended by the International Mountain Biking Association. The comment states that an EIR is required to provide best management practices, and that the RD TPEIR's review and integration of best management practices is inadequate.*

The majority of the BMPs identified in the comment are already incorporated into the policies, design and construction standards, and BMPs summarized in Chapter 3, *Project Description*, of the RD TPEIR (Sections 3.7 and 3.9), and set forth in detail in Chapters 4 and 6 of the RTMP. Policies, standards, and best management practices that incorporate the IMBA recommended practices include:

<b>BMP Suggested in Comment</b>	<b>Location in Proposed RTMP Where Suggested BMP is Addressed</b>
Locate trails away from rare plants and animals and from sensitive or critical habitats of other species. Involve resource professionals in designing and approving new trail alignments.	RTMP Policies SW.22, SW. 23, SW.24; and BMP Road and Trail Construction, General, Impact Area Planning
Keep trails narrow to reduce the total area of intensive tread disturbance, slow trail users, and minimize vegetation and soil impacts.	RTMP Policies SW.4, SW.20; BMP Road and Trail Construction, General, Impact Area Planning
Limit vegetation disturbance outside the corridor when constructing trails. Hand construction is least disruptive; mechanized construction with small equipment is less disruptive than full- sized equipment; skilled operators do less damage than those with limited experience.	BMP General-1, General-2, General-3, General-5, General-7, Sensitive Natural Resources-1, Special Status Species-2 to -7, Special Status Plants-2, Special Status Plants-4 to -5, Special Status Plants-12, Invasive Plants-4 and -6, and Construction Contracts-1
Locate trails on side-hills where possible. Constructing a side-hill trail requires greater initial vegetation and soil disturbance but sloping topography above and below the trail bench will clearly define the tread and concentrate traffic on it. Trails in flatter terrain or along the fall line may involve less initial disturbance but allow excessive future tread widening and off-tread trampling, which favor non-native plants.	Design and Engineering Specifications (RTMP Ch. 6): <i>Los Angeles County Trail Manual, Midpeninsula Regional OSD Road and Trail Design Specifications, Medocino RCD Handbook for Forest and Ranch Roads, and U.S. Forest Service Trail Construction and Maintenance Handbook</i>
Use construction techniques that save and redistribute topsoil and excavated plants.	Special Status Plants-4, -6, -7, and -9
Discourage or prohibit off-trail travel. Informal trails created by off-trail travel frequently have steep grades and fall-line alignments that quickly erode, particularly in the absence of tread maintenance. Exceptions include areas of solid rock or non-vegetated cobble.	RTMP Policies SW.5, SW.6, SW.7, SW.8, and SW.18

<b>BMP Suggested in Comment</b>	<b>Location in Proposed RTMP Where Suggested BMP is Addressed</b>
Design trails with sustainable grades and avoid fall-line alignments.	Design and Engineering Specifications (RTMP Ch. 6): <i>Los Angeles County Trail Manual, Midpeninsula Regional OSD Road and Trail Design Specifications, Medocino RCD Handbook for Forest and Ranch Roads, and U.S. Forest Service Trail Construction and Maintenance Handbook</i>
When possible, build trails in dry, cohesive soils that easily compact and contain a larger percentage of coarse material or rocks. These soils better resist erosion by wind and water or displacement by feet, hooves and tires. Minimize tread muddiness by avoiding flat terrain, wet soils, and drainage-bottom locations.	BMP Geologic Hazards-1 to -4 Design and Engineering Specifications (RTMP Ch. 6): <i>Los Angeles County Trail Manual, Midpeninsula Regional OSD Road and Trail Design Specifications, Medocino RCD Handbook for Forest and Ranch Roads, and U.S. Forest Service Trail Construction and Maintenance Handbook</i>
Use grade reversals to remove water from trail treads. Grade reversals are permanent and sustainable – when designed into a trail’s alignment they remain 100 percent effective and rarely require maintenance.	Design and Engineering Specifications (RTMP Ch. 6): <i>Los Angeles County Trail Manual, Midpeninsula Regional OSD Road and Trail Design Specifications, Medocino RCD Handbook for Forest and Ranch Roads, and U.S. Forest Service Trail Construction and Maintenance Handbook</i>

Thus, rather than ignoring the suggested BMPs, the RTMP includes the recommendations of the comment in policies, design standards, and BMPs as summarized in Chapter 3 of the RD TPEIR and set forth in detail in Chapters 4 and 6 of the RTMP. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

MR-10 *The comment states that the RD TPEIR mischaracterizes the adverse effects of horseback riding on wildlife and other biological resources, and that the findings of the Big South Fork study be included in Table 6-2 of the RD TPEIR.*

See response to comment MR-6.

MR-11 *The comment states that the RD TPEIR mischaracterizes the relative environmental effects of equestrians and cyclists, and that the findings of the Big South Fork study be included in Table 6-2 of the RD TPEIR.*

In response to the comment, Paragraph 2 on page 6-36 in the environmental setting section of Chapter 6, *Biological Resources*, of the RD TPEIR, is hereby modified. This change is made in Chapter 4, *Errata*, of this FEIR. This modification would only make the discussion more clear, and would not lead to any change in the determination of level of significance for Impacts BIO-1 through BIO-5 or any other environmental conclusions within the EIR.

Additionally, in developing background information for use in drafting the RTMP, the MCOSD conducted a user census to determine user and use patterns within MCOSD preserves (MCOSD 2011). The results of this census are summarized in Chapter 3, *Project Description*, of the RD TPEIR. As determined by this census, 23 percent of users of the surveyed MCOSD preserves were bicyclists; only 0.4 percent were equestrians. Thus, even if individual equestrians were to result in greater trail impacts than individual pedestrians or cyclists, the significantly fewer number of equestrians than other users would likely result in substantially fewer aggregate effects for the entire user group than those generated by pedestrians or cyclists.

Regarding the contents of Table 6-2 in Chapter 6, *Biological Resources*, of the RD TPEIR, please refer to the response to comment MR-4.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

MR-12 *The comment states that the RD TPEIR demonstrates that horseback riding has significantly greater environmental effects on trails than mountain biking. Based on this understanding, the comment further states that cyclists should have equal access to all trails within MCOSD preserves. The comment cites policy SW.3, Social Trails, as an example of discrimination against cyclists in favor of hikers.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

From: [Andrew](#)  
To: [Raives, James](#)  
Subject: RTMP Draft TPEIR  
Date: Thursday, September 18, 2014 11:10:05 AM

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September 18, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and FILL IN WHY YOU CARE HERE

I am submitting the following comments:

### **Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

#### **A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

#### **B – No Reference to California State Parks Trail Use Conflict Study**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as

such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

### **C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.

Complaints and controversy about other trail users are common.

Actual incidents, including those involving accidents, between trail users are relatively rare.

Design of trails to accommodate multiple use helps to avoid or reduce conflict.

User education and outreach are key methods to avoid or reduce conflict.

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

### **Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way.

There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

### **Erosion and Trail Impact Studies and Conclusions**

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers on the impact of various trail use, we believe that the research references as well as the incorporation of conclusions and recommendations from these research in the PEIR are inadequate.

### **A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

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There are some key findings from the Department of the Interior Report that we believe should be incorporated into the PEIR. Some of the more relevant findings in the report’s literature review are repeated here:

Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34). Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)

Even well-designed trails could sustain only low levels of horse use without gravel. (page 35). The current PEIR’s review and conclusions of trail impact by user groups is inadequate and should include the findings from the 2006 Department of the Interior Report.

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There are some key recommendations from the Department of the Interior Report that we believe should be incorporated into the PEIR.

Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)

Regulations restricting horse and ATV uses to designated trails are recommended.

Restricting higher impact uses to graveled trails during wet seasons is also recommended.

Trail use when soils are wet is considerably more damaging than when soils are dry.

Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the 2006 Department of the Interior Report, and the summary of findings from this report, the PEIR should incorporate the recommendations as well.

## **D – Literature Review – Horseback Riding**

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, ‘Horseback Riding’ on page 6-34, the PEIR makes two conclusions:

Many types of impacts from horses are similar to those from hiking.

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the 2006 Department of the Interior Report which concluded:

Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.

Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.”

Nor do these conclusions match that of Pickering:

“with horse riding appearing to have greater impacts per user than hiking.”

The PEIR should properly include more research sources, including one funded by the Department of the Interior, and appropriately update the conclusions on what activities are more destructive to the environment than others.

## **E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then states “there is little consensus in the literature as to whether any one particular use is more damaging than another” (Pickering et al 2008). In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organisations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that

most current studies do show that equestrians have greater impacts than hiking.

**E – Different Rules In Spite of Similar Impact**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

**From:** [Peter Arnold](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP  
**Date:** Monday, September 22, 2014 4:24:26 PM

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Hi James,

Thanks for all of your hard work on this.

I am a hiker, runner and mountain biker that uses both the watershed and open space at least 3x per week from my house in Fairfax.

I am going suggest that "mountain biking" be removed from policy SW.13: Prohibition on Dangerous Mountain Biking, to address all dangerous activities or that policies be added to address the safety expectations of equestrians and pedestrians as well.

I would also like to see that Parks reference 'California State Parks Appendix C - Trail Use Conflict Study' in the PEIR when addressing safety and user conflict.

Again, thanks for the bike friendly revisions and the opportunity to make comments.

Peter Arnold  
38 Meadow Way  
Fairfax, CA 94930

**From:** [toddaument@gmail.com](mailto:toddaument@gmail.com) on behalf of [Todd Aument](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR  
**Date:** Thursday, September 18, 2014 4:16:25 PM

---

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in San Francisco and enjoy both hiking and biking in the open spaces of Marin.

I am submitting the following comments:

### **Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

#### **A – Provide Empirical Data on Safety or State There is No Data**

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Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

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In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, ‘Horseback Riding’ on page 6-34, the PEIR makes two conclusions:

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In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

Best regards,  
Todd

**From:** [James Ausman](#)  
**To:** [Raives, James](#)  
**Subject:** SUBJECT: RTMP Draft TPEIR  
**Date:** Thursday, September 18, 2014 4:02:42 PM

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Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in San Francisco and am an avid user of the trails in Marin County as a hiker and bicyclist.

I am submitting the following comments:

### **Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

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The PEIR should properly include more research sources, including one funded by the Department of the Interior, and appropriately update the conclusions on what activities are more destructive to the environment than others.

#### **E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then states “there is little consensus in the literature as to whether any one particular use is more damaging than another” (Pickering et al 2008). In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organisations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

**E – Different Rules In Spite of Similar Impact**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

From: [phorest bateson](#)  
To: [Raives, James](#)  
Subject: RTMP Draft TPEIR  
Date: Sunday, September 21, 2014 11:05:06 AM

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Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and FILL IN WHY YOU CARE HERE

I am submitting the following comments:

**1. Include the Significant Research Findings of the California State Parks "Trail Use Conflict" Study.**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

*Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available. Complaints and controversy about other trail users are common. Actual incidents, including those involving accidents, between trail users are relatively rare. Design of trails to accommodate multiple use helps to avoid or reduce conflict. User education and outreach are key methods to avoid or reduce future conflict.*

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

**2. The 2006 United States Department of the Interior “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area” report need to be included or referenced.**

In 2006, the National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” (subsequently referred to as the “Interior Department Report”). This report included a literature review considerably more extensive than the two listed in table 6-2. The Interior Department Report also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the direct applicability of the literature review as well as the scientific study and fact based approach required by the National Park Service and the United States Department of the Interior, the PEIR should include the Interior Department Report in table 6-2.

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different

regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code

There are some key findings from the Interior Department Report that we believe should be incorporated into the PEIR. Specifically, some of the more relevant findings in the Interior Department Report’s literature review are repeated here:

Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the /belief/ that mountain biking has led to trail degradation problems (page 5). Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994) (page 5).

The Interior Department Report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34). Several trail design-related factors were found to have substantial influence on levels of trail degradation (page 35). Even well-designed trails could sustain only low levels of horse use without gravel (page 35).

The review and conclusions of trail impact by user groups in the current draft of the PEIR is inadequate and should include the findings from the Interior Department Report

### **3. Include recommendations from the Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key recommendations from the Interior Department Report that I believe should be incorporated into the PEIR.

Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities (page 36). Regulations restricting horse and ATV uses to designated trails are recommended. Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry. Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the Interior Department Report, and the summary of findings from the Interior Department Report, the PEIR should incorporate these recommendations as well.

Thank you again for the opportunity to comment.

Regards,

Tim Bateson,  
frequent Marin trail user,  
Berkeley, CA

**From:** [David Bell](#)  
**To:** [Raives, James](#)  
**Subject:** Draft RTMP PEIR  
**Date:** Saturday, September 20, 2014 9:38:37 AM

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James Raives  
Marin County Open Space District  
3501 Civic Center Drive, Suite 260  
San Rafael, CA 94903-4157

Thank for the opportunity to comment on the plan and participate in its development. I am an avid cyclist, both mountain and rode.

I appreciate the bike friendly revisions, including priority-use and time allocated trails.

I suggest that "mountain biking" be removed from policy **SW.13: Prohibition on Dangerous Mountain Biking** to address all dangerous activities or that policies be added to address the safety expectations of equestrians and pedestrians as well.

Please reference **CA State Parks Appendix C - Trail Use Conflict Study** in the PEIR when addressing safety and user conflict.

David Bell  
Corte Madera, CA

**From:** [Pete Billington](#)  
**To:** [Raives, James](#)  
**Subject:** PEIR Plan  
**Date:** Monday, September 22, 2014 4:20:44 PM

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September 18, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin, have a wife and a young son and we are all active trail users. As a family we are looking for a future trail use plan that more accurately reflects the needs and desires of our community.

I am submitting the following comments:

**Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

**A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and

if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

### **B – No Reference to California State Parks Trail Use Conflict Study**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

### **C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.

Complaints and controversy about other trail users are common.

Actual incidents, including those involving accidents, between trail users are relatively rare.

Design of trails to accommodate multiple use helps to avoid or reduce conflict.

User education and outreach are key methods to avoid or reduce conflict.

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

### **Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

### **Erosion and Trail Impact Studies and Conclusions**

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers on the impact of various trail use, we believe that the research references as well as the incorporation of conclusions and recommendations from these research in the PEIR are inadequate.

#### **A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

The National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” This study included a literature review considerably more extensive than the two listed in table 6-2. The study also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the reputable nature of the author of the report, and the direct applicability of both the literature review as well as the scientific study, the PEIR should include this study in table 6-2.

#### **B – Review and Summary of Findings of Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Department of the Interior Report that we believe should be incorporated into the PEIR. Some of the more relevant findings in the report's literature review are repeated here:

Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34).

Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)

Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The current PEIR's review and conclusions of trail impact by user groups is inadequate and should include the findings from the 2006 Department of the Interior Report.

### **C – Recommendations from the Department of the Interior Report**

There are some key recommendations from the Department of the Interior Report that we believe should be incorporated into the PEIR.

Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)

Regulations restricting horse and ATV uses to designated trails are recommended. Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.

Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features,

and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the 2006 Department of the Interior Report, and the summary of findings from this report, the PEIR should incorporate the recommendations as well.

#### **D – Literature Review – Horseback Riding**

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, ‘Horseback Riding’ on page 6-34, the PEIR makes two conclusions:

Many types of impacts from horses are similar to those from hiking.

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the 2006 Department of the Interior Report which concluded:

Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.

Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.”

Nor do these conclusions match that of Pickering:

“with horse riding appearing to have greater impacts per user than hiking.”

The PEIR should properly include more research sources, including one funded by the Department of the Interior, and appropriately update the conclusions on what activities are more destructive to the environment than others.

#### **E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to

equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then states “there is little consensus in the literature as to whether any one particular use is more damaging than another” (Pickering et al 2008). In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organisations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

### **E – Different Rules In Spite of Similar Impact**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

Thank you for your time.

Pete Billington

**From:** [Anthony Biolatto](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR  
**Date:** Thursday, September 18, 2014 11:51:08 AM

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September 20, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and care deeply as to how we grant access to mountain bikers.

I am submitting the following comments:

**A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

**B – No Reference to California State Parks Trail Use Conflict Study**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, "Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces."

### **C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

- *Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.*
- *Complaints and controversy about other trail users are common.*
- *Actual incidents, including those involving accidents, between trail users are relatively rare.*
- *Design of trails to accommodate multiple use helps to avoid or reduce conflict.*
- *User education and outreach are key methods to avoid or reduce conflict.*

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more "dangerous" than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to "dangerous mountain biking" or similar statements should be removed from the PEIR.

### **Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space

District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”

The National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” This study included a literature review considerably more extensive than the two listed in table 6-2. The study also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the reputable nature of the author of the report, and the direct applicability of both the literature review as well as the scientific study, the PEIR should include this study in table 6-2.

## **B – Review and Summary of Findings of Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Department of the Interior Report that we believe should be incorporated into the PEIR. Some of the more relevant findings in the report’s literature review are repeated here:

- Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).
- Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

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- Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The current PEIR's review and conclusions of trail impact by user groups is inadequate and should include the findings from the 2006 Department of the Interior Report.

## **C – Recommendations from the Department of the Interior Report**

There are some key recommendations from the Department of the Interior Report that we believe should be incorporated into the PEIR.

- Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)
- Regulations restricting horse and ATV uses to designated trails are recommended.
- Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.
- Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the 2006 Department of the Interior Report, and the summary of findings from this report, the PEIR should incorporate the recommendations as well.

## **D – Literature Review – Horseback Riding**

In the section "LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON

THE ENVIRONMENT”, ‘Horseback Riding’ on page 6-34, the PEIR makes two conclusions:

- Many types of impacts from horses are similar to those from hiking.
- While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the 2006 Department of the Interior Report which concluded:

1. Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.
2. Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.
3. Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.”

Nor do these conclusions match that of Pickering:

“with horse riding appearing to have greater impacts per user than hiking.”

The PEIR should properly include more research sources, including one funded by the Department of the Interior, and appropriately update the conclusions on what activities are more destructive to the environment than others.

## **E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

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of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with **horse riding appearing to have greater impacts per user than hiking**. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organisations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.

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In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

Thank you again for the opportunity to comment.

Sincerely,  
Anthony Biolatto

From: [Birkie, Wolfe](#)  
To: [Raives, James](#)  
Subject: Comment regarding the PEIR for the Roads and Trails Management Plan  
Date: Friday, September 19, 2014 1:07:01 PM

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Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I was born, raised and reside in Marin. I am an avid outdoors person and bicyclist. I believe that mountain bikes should have more access to trails in the county and that mountain biking has positive benefits to the health of the people in our community as well as a positive economic impact and also a positive environmental impact as the mountain biking community has been very supportive of sustainable trail building.

I am submitting the following comments:

### **Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

#### **A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

#### **B – No Reference to California State Parks Trail Use Conflict Study**

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#### **C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.

Complaints and controversy about other trail users are common.

Actual incidents, including those involving accidents, between trail users are relatively rare.

Design of trails to accommodate multiple use helps to avoid or reduce conflict.

User education and outreach are key methods to avoid or reduce conflict.

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more "dangerous" than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to "dangerous mountain biking" or similar statements should be removed from the PEIR.

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the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

### **Erosion and Trail Impact Studies and Conclusions**

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers on the impact of various trail use, we believe that the research references as well as the incorporation of conclusions and recommendations from these research in the PEIR are inadequate.

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#### **B – Review and Summary of Findings of Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Department of the Interior Report that we believe should be incorporated into the PEIR. Some of the more relevant findings in the report’s literature review are repeated here:

Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)  
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The current PEIR’s review and conclusions of trail impact by user groups is inadequate and should include the findings from the 2006 Department of the Interior Report.

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Regulations restricting horse and ATV uses to designated trails are recommended.

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Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the 2006 Department of the Interior Report, and the summary of findings from this report, the PEIR should incorporate the recommendations as well.

#### **D – Literature Review – Horseback Riding**

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, ‘Horseback Riding’ on page 6-34, the PEIR makes two conclusions:

Many types of impacts from horses are similar to those from hiking.

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the 2006 Department of the Interior Report which concluded:

Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.

Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.”

Nor do these conclusions match that of Pickering:

“with horse riding appearing to have greater impacts per user than hiking.”

The PEIR should properly include more research sources, including one funded by the Department of the Interior, and appropriately update the conclusions on what activities are more destructive to the environment than others.

### **E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”.

Yet in spite of these references, the PEIR then states “there is little consensus in the literature as to whether any one particular use is more damaging than another” (Pickering et al 2008). In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organizations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

### **E – Different Rules In Spite of Similar Impact**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

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*Path to Zero Landfill-Interested in reducing your glove & garment waste stream? Ask me how*

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**From:** [Chris Borjian](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR  
**Date:** Monday, September 22, 2014 3:16:45 PM

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Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and have a genuine interest in the use of our public lands and how they are managed in order to best serve our community.

I am submitting the following comments:

Relating to **environmental impact**, the RTMP PEIR should reference the 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”

This study directly addresses many issues that come up in the RTMP and I would consider this study a valuable tool when determining policies for managing our Open Spaces and Parks.

The National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” (subsequently referred to as the “Interior Department Report”). This report included a literature review considerably more extensive than the two listed in table 6-2. The Interior Department Report also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the direct applicability of the literature review as well as the scientific study and fact based approach required by the National Park Service and the United States Department of the Interior, the PEIR should include the Interior Department Report in table 6-2.

There are some key findings from the Interior Department Report that I believe should be incorporated into the PEIR. Specifically, some of the more relevant findings in the Interior Department Report’s literature review are:

- Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).
- Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The Interior Department Report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

- Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34).
- Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)

- Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The review and conclusions of trail impact by user groups in the current draft of the PEIR is inadequate and should include the findings from the Interior Department Report.

Additionally, there are some key recommendations from the Interior Department Report that that I believe should be incorporated into the PEIR.

- Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)
- Regulations restricting horse and ATV uses to designated trails are recommended.
- Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.
- Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the Interior Department Report, and the summary of findings from the Interior Department Report, the PEIR should incorporate these recommendations as well.

As a lifelong Marin resident, I strongly believe that the RTMP presents a great opportunity for MCOSD to work with the major user groups of our community to develop an effective and safe management plan. In order to do so, MCOSD must honestly look at the facts relating to user groups and utilize existing studies that are directly applicable to our situation here in Marin. I sincerely hope you do so and look forward to the continuation of the RTMP process. Thank you very much for taking the time to review and consider my comments.

Respectfully,

-Chris Borjian

Fairfax, CA

From: [Steve Bottoms](#)  
To: [Raives, James](#)  
Subject: PEIR  
Date: Thursday, September 18, 2014 12:05:51 PM

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September 18, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and spend time running and mountain biking to the local trails.

I am submitting the following comments:

**Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

**A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

**B – No Reference to California State Parks Trail Use Conflict Study**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, "Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces."

### **C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.

Complaints and controversy about other trail users are common.

Actual incidents, including those involving accidents, between trail users are relatively rare.

Design of trails to accommodate multiple use helps to avoid or reduce conflict.

User education and outreach are key methods to avoid or reduce conflict.

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more "dangerous" than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to "dangerous mountain biking" or similar statements should be removed from the PEIR.

### **Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to "dangerous" mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

### **Erosion and Trail Impact Studies and Conclusions**

Trail use and trail impact is probably the most critical environmental issue that the

PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers on the impact of various trail use, we believe that the research references as well as the incorporation of conclusions and recommendations from these research in the PEIR are inadequate.

**A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

The National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” This study included a literature review considerably more extensive than the two listed in table 6-2. The study also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the reputable nature of the author of the report, and the direct applicability of both the literature review as well as the scientific study, the PEIR should include this study in table 6-2.

**B – Review and Summary of Findings of Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Department of the Interior Report that we believe should be incorporated into the PEIR. Some of the more relevant findings in the report’s literature review are repeated here:

Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5). Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

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Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The current PEIR’s review and conclusions of trail impact by user groups is inadequate and should include the findings from the 2006 Department of the Interior Report.

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There are some key recommendations from the Department of the Interior Report that we believe should be incorporated into the PEIR.

Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)

Regulations restricting horse and ATV uses to designated trails are recommended. Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.

Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the 2006 Department of the Interior Report, and the summary of findings from this report, the PEIR should incorporate the recommendations as well.

## **D – Literature Review – Horseback Riding**

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, ‘Horseback Riding’ on page 6-34, the PEIR makes two conclusions:

Many types of impacts from horses are similar to those from hiking.

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the 2006 Department of the Interior Report which concluded:

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Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.”

Nor do these conclusions match that of Pickering:

“with horse riding appearing to have greater impacts per user than hiking.”

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## **E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING –**

## Environmental Impacts

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then states “there is little consensus in the literature as to whether any one particular use is more damaging than another” (Pickering et al 2008). In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

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Steve

**From:** [Louis Brouillet](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR  
**Date:** Saturday, September 20, 2014 12:19:54 PM

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September 20, 2014

Marin County Parks and Open Space District

3501 Civic Center Drive, Room 260

San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and I am an avid mountain biker who **believes** Marin would not be the same if it wasn't for the fact that it is a mountain biker's **paradise**. We are blessed to live in Marin in many ways, but most importantly is to have the pleasure to experience nature in a healthy, safe and picturesque way.

I am submitting the following comments:

**Scientific Basis and Data for Safety Issues**

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believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organisations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

#### **E – Different Rules In Spite of Similar Impact**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

Kind regards

Louis Brouillet  
415 328 3380

From: [gabe@nocaltimes.com](mailto:gabe@nocaltimes.com)  
To: [Raives, James](#)  
Subject: RTMP RD TPEIR feedback  
Date: Thursday, September 18, 2014 10:23:07 AM

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September 18, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and FILL IN WHY YOU CARE HERE

I am submitting the following comments:

### **Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

#### **A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

#### **B – No Reference to California State Parks Trail Use Conflict Study**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as

such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

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There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.

Complaints and controversy about other trail users are common.

Actual incidents, including those involving accidents, between trail users are relatively rare.

Design of trails to accommodate multiple use helps to avoid or reduce conflict.

User education and outreach are key methods to avoid or reduce conflict.

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

### **Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way.

There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

### **Erosion and Trail Impact Studies and Conclusions**

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers on the impact of various trail use, we believe that the research references as well as the incorporation of conclusions and recommendations from these research in the PEIR are inadequate.

### **A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

The National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” This study included a literature review considerably more extensive than the two listed in table 6-2. The study also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the reputable nature of the author of the report, and the direct applicability of both the literature review as well as the scientific study, the PEIR should include this study in table 6-2.

**B – Review and Summary of Findings of Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Department of the Interior Report that we believe should be incorporated into the PEIR. Some of the more relevant findings in the report’s literature review are repeated here:

Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34). Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)

Even well-designed trails could sustain only low levels of horse use without gravel. (page 35). The current PEIR’s review and conclusions of trail impact by user groups is inadequate and should include the findings from the 2006 Department of the Interior Report.

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There are some key recommendations from the Department of the Interior Report that we believe should be incorporated into the PEIR.

Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)

Regulations restricting horse and ATV uses to designated trails are recommended.

Restricting higher impact uses to graveled trails during wet seasons is also recommended.

Trail use when soils are wet is considerably more damaging than when soils are dry.

Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the 2006 Department of the Interior Report, and the summary of findings from this report, the PEIR should incorporate the recommendations as well.

**D – Literature Review – Horseback Riding**

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, ‘Horseback Riding’ on page 6-34, the PEIR makes two conclusions:

Many types of impacts from horses are similar to those from hiking.

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the 2006 Department of the Interior Report which concluded:

Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.

Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.”

Nor do these conclusions match that of Pickering:

“with horse riding appearing to have greater impacts per user than hiking.”

The PEIR should properly include more research sources, including one funded by the Department of the Interior, and appropriately update the conclusions on what activities are more destructive to the environment than others.

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**Gabe Brown** Web Designer, Developer, Marketer & Story Teller  
web: [freestylewebsolutions.com](http://freestylewebsolutions.com) email: [gabe@freestylewebsolutions.com](mailto:gabe@freestylewebsolutions.com)  
Tel: 415-488-5130 | Cell: 415-488-7873

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**From:** [brian.cardoza@thomsonreuters.com](mailto:brian.cardoza@thomsonreuters.com)  
**To:** [Raives, James](#)  
**Subject:** RTMP RD TPEIR Comments  
**Date:** Monday, September 22, 2014 2:45:36 PM

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September 20, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and FILL IN WHY YOU CARE HERE

In the interest of decisions being based on fact I am submitting the following comments:

### **Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

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Marin County Open Space District has access to accident and incident records and if

there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

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The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the

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Open space should be exactly that, “Open”

Thank you again for the opportunity to comment.

Sincerely,

Brian Cardoza

15 Corte Mesa Ave

San Rafael, Ca 94901

**From:** [tim.Christophersen](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR  
**Date:** Thursday, September 18, 2014 12:20:52 PM

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September 18, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and use the open space trails multiple times a week as a mountain biker and for hiking with my dog. As a user in these categories I'm often left with the feeling of being a second class citizen to those in the hiking and equestrian user groups.

I am submitting the following comments:

**Scientific Basis and Data for Safety Issues**

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In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

Sincerely,  
Tim Christophersen

**From:** [Josh Church](#)  
**To:** [Raives, James](#)  
**Subject:** Please omit or edit RTMP Draft TPEIR, policy SW.13  
**Date:** Thursday, September 18, 2014 10:42:29 AM

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September 20, 2014  
Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903  
Attention: Jaimes Raives, Senior Open Space Planner

Dear Mr. Raives,

Thank you for receiving my message regarding the PEIR for the Roads and Trails Management Plan. I'm a lifelong Bay Area resident, and one of many who rely on open spaces in Marin County and elsewhere for recreation and exercise. I'm writing to express my concerns regarding errors in the RTMP Draft TPEIR.

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing data to support this characterization. Analysis without data is not true analysis, and is inadequate.

**A – Provide Empirical Data on Safety, or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

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- *Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.*
- *Complaints and controversy about other trail users are common.*
- *Actual incidents, including those involving accidents, between trail users are relatively rare.*
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By not including these significant research findings and their supporting documentation, and by not including adequate alternative research findings, the discussion of recreational impacts in the PEIR is inadequate. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to "dangerous mountain biking" or similar statements should be removed from the PEIR.

Sincerely,  
Josh Church  
Oakland, CA

From: [David Civiello](#)  
To: [Raives, James](#)  
Date: Friday, September 19, 2014 1:32:46 PM

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September 20, 2014

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3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

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SUBJECT: RTMP Draft TPEIR

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Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and FILL IN WHY YOU CARE HERE

I am submitting the following comments:

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

**A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner.

Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

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In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, "Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces."

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- *User education and outreach are key methods to avoid or reduce conflict.*

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more "dangerous" than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to "dangerous mountain biking" or similar statements should be removed from the PEIR.

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“dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

3. Jaimes please go mountain biking, Horseback riding ,hiking and dog walking. Go experience all the different user groups and you will then understand why we all belong out on the trails!

Thank you again for the opportunity to comment.

Sincerely,

David Civiello

**From:** [Dan Deffner](#)  
**To:** [Raives, James](#)  
**Subject:** PIER report and Marin Mountain biking.  
**Date:** Thursday, September 18, 2014 3:45:14 PM

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September 18, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin County and have both hiked and ridden bikes on the County for years. It has been my opinion that mountain biking has been unfairly targeted as an outlaw of trail use and sustainability.

Please review our findings below which we hope will be useful in the PIER process.

I am submitting the following comments:

### **Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

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regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

### **Erosion and Trail Impact Studies and Conclusions**

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers on the impact of various trail use, we believe that the research references as well as the incorporation of conclusions and recommendations from these research in the PEIR are inadequate.

#### **A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

The National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” This study included a literature review considerably more extensive than the two listed in table 6-2. The study also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the reputable nature of the author of the report, and the direct applicability of both the literature review as well as the scientific study, the PEIR should include this study in table 6-2.

#### **B – Review and Summary of Findings of Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Department of the Interior Report that we believe should be incorporated into the PEIR. Some of the more relevant findings in the report’s literature review are repeated here:

Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

Trampling and erosional impacts caused by horses have been found to be significantly higher

than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34). Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)

Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The current PEIR's review and conclusions of trail impact by user groups is inadequate and should include the findings from the 2006 Department of the Interior Report.

### **C – Recommendations from the Department of the Interior Report**

There are some key recommendations from the Department of the Interior Report that we believe should be incorporated into the PEIR.

Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)

Regulations restricting horse and ATV uses to designated trails are recommended.

Restricting higher impact uses to graveled trails during wet seasons is also recommended.

Trail use when soils are wet is considerably more damaging than when soils are dry.

Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the 2006 Department of the Interior Report, and the summary of findings from this report, the PEIR should incorporate the recommendations as well.

### **D – Literature Review – Horseback Riding**

In the section "LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT", 'Horseback Riding' on page 6-34, the PEIR makes two conclusions:

Many types of impacts from horses are similar to those from hiking.

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the 2006 Department of the Interior Report which concluded:

Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.

Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.”

Nor do these conclusions match that of Pickering:

“with horse riding appearing to have greater impacts per user than hiking.”

The PEIR should properly include more research sources, including one funded by the Department of the Interior, and appropriately update the conclusions on what activities are more destructive to the environment than others.

### **E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then states “there is little consensus in the literature as to whether any one particular use is more damaging than another” (Pickering et al 2008). In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organisations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

Sincerely,  
Daniel Deffner

### **E – Different Rules In Spite of Similar Impact**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

**From:** [Taylor Fogelquist](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR  
**Date:** Monday, September 22, 2014 10:27:40 AM

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Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I am a year round Marin County resident and I am concerned that reasonable, taxpayer access to safe mountain biking is slowly being compromised. My 11 year old son has also taken to biking and fostered a deep appreciation for Mt Tam and the area through his mountain biking experiences.

Below I am also submitting the following comments for additional consideration.

Thanks for your efforts!

Taylor Fogelquist  
361 Montford Ave  
Mill Valley CA 94941

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Taylor Fogelquist  
[tdf@taylorfogelquist.com](mailto:tdf@taylorfogelquist.com)  
Cell: 415 517 2666  
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**From:** [E. Andrew Galbraith](#)  
**To:** [Raives, James](#)  
**Subject:** Comments on RTMP PEIR  
**Date:** Sunday, September 21, 2014 8:16:39 PM

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Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the RTMP. I live in San Anselmo and I feel very strongly about how our open space is used and protected

I have the following comments on the PEIR. They focus on problems with how the PEIR treats the science on mountain biking related to safety and environmental impact.

### **Scientific Basis and Data for Safety Issues**

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### **A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River**

## **and Recreational Area.”**

In 2006, the National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” (subsequently referred to as the “Interior Department Report”). This report included a literature review considerably more extensive than the two listed in table 6-2. The Interior Department Report also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the direct applicability of the literature review as well as the scientific study and fact based approach required by the National Park Service and the United States Department of the Interior, the PEIR should include the Interior Department Report in table 6-2.

## **B – Review and Summary of Findings of The Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Interior Department Report that we believe should be incorporated into the PEIR. Specifically, some of the more relevant findings in the Interior Department Report’s literature review are repeated here:

- Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).
- Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The Interior Department Report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

- Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34).
- Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)
- Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The review and conclusions of trail impact by user groups in the current draft of the PEIR is inadequate and should include the findings from the Interior Department Report.

## **C – Recommendations from the Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and**

## **Recreational Area.”**

There are some key recommendations from the Interior Department Report that that we believe should be incorporated into the PEIR.

- Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)
- Regulations restricting horse and ATV uses to designated trails are recommended.
- Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.
- Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the Interior Department Report, and the summary of findings from the Interior Department Report, the PEIR should incorporate these recommendations as well.

## **D – No Integration of International Mountain Biking Association Data for Best Management Practices**

One of the purposes of the Environmental Impact Report is to provide “a description of other road and trail use and management policies, construction standards, and best management practices (BMP)” ( PEIR page 1-1).

The International Mountain Biking Association (IMBA) is the world’s definitive leader and expert on the impacts of mountain biking and the best management practices for mountain biking. IMBA’s scientific and reasonable approach is so well respected that the Sierra Club, in conjunction with IMBA, modified their policies and now “recognizes that bicyclists can be legitimate users of many non-Wilderness backcountry trails and supports responsible off-road bicycling.” (Sierra Club Off Road use of Bicycles Policy). Although the PEIR includes a reference to an IMBA study in table 6-2, the only reference to that article is in the section regarding Mountain Biking and Night Lighting, and there are no references to the various best management practices that IMBA has available.

Some of the specific best management practices that IMBA recommends to reduce vegetation impacts are:

- Design trails that provide the experience that trail users seek to reduce their desire to venture off-trail.
- Locate trails away from rare plants and animals and from sensitive or critical habitats of other species. Involve resource professionals in designing and approving new trail alignments.
- Keep trails narrow to reduce the total area of intensive tread disturbance, slow trail users, and minimize vegetation and soil impacts.
- Limit vegetation disturbance outside the corridor when constructing trails. Hand construction is least disruptive; mechanized construction with small equipment is less disruptive than full-sized equipment; skilled operators do less damage than those with

limited experience.

- Locate trails on side-hills where possible. Constructing a side-hill trail requires greater initial vegetation and soil disturbance but sloping topography above and below the trail bench will clearly define the tread and concentrate traffic on it. Trails in flatter terrain or along the fall line may involve less initial disturbance but allow excessive future tread widening and off-tread trampling, which favor non-native plants.
- Use construction techniques that save and redistribute topsoil and excavated plants.

Some of the specific best management practices that IMBA recommends for avoiding the worst soil-related impacts to trails:

- Discourage or prohibit off-trail travel. Informal trails created by off-trail travel frequently have steep grades and fall-line alignments that quickly erode, particularly in the absence of tread maintenance. Exceptions include areas of solid rock or non-vegetated cobble.
- Design trails with sustainable grades and avoid fall-line alignments. (See p. 112 for more)
- When possible, build trails in dry, cohesive soils that easily compact and contain a larger percentage of coarse material or rocks. These soils better resist erosion by wind and water or displacement by feet, hooves and tires.
- Minimize tread muddiness by avoiding flat terrain, wet soils, and drainage-bottom locations.
- Use grade reversals to remove water from trail treads. Grade reversals are permanent and sustainable – when designed into a trail’s alignment they remain 100 percent effective and rarely require maintenance.

One of the goals of an EIR is to provide best management practices and the current EIR’s research, review and integration of best management practices is inadequate and should leverage the techniques and experience that IMBA can provide.

## **E – Literature Review – Horseback Riding**

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, sub section ‘Horseback Riding’, on page 6-34, the PEIR makes two conclusions:

- Many types of impacts from horses are similar to those from hiking.
- While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the Interior Department Report which concluded:

1. Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.
2. Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.
3. Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.

Additionally, it appears that the conclusions in the PEIR do not match those of Pickering. The current PEIR concludes:

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified. ( page 3-34 )

Whereas the conclusion of the Pickering study actually states:

There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. (page 557)

With regards to literature review of Horseback Riding, the research sources for the current draft of the PEIR are inadequate and additional sources should include the Interior Department Report.

Additionally, the PEIR conclusion on horseback riding incorrectly quotes one of the references cited. This incorrect citation makes the conclusion inadequate and should be remedied.

## **F – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then cites Pickering when concluding “there is little consensus in the literature as to whether any one particular use is more damaging than another (Pickering et al 2008)”. In reviewing the exact conclusions of the Pickering report, we believe that MCOSED has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with **horse riding appearing to have greater impacts per user than hiking**. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organizations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.(emphasis added)”

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

## **G – Different Rules In Spite of Similar Impact**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

Thank you for considering these comments.

Andrew Galbraith  
27 Tamalpais Ave  
San Anselmo  
415-830-7088

**From:** [Tracy Ginsberg](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP RD TPEIR Commentary  
**Date:** Sunday, September 21, 2014 11:09:14 AM

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Marin County Parks and Open Space District, 3501 Civic Center Drive, Room 260, San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and am a hiker and mountain biker. I am concerned about fair access rights on trails, as well as the environmental impact and trail erosion created by horses, which is far more serious than impact by hikers or bikers. I'm not sure why the facts have been so biased, and hope this data will shed light on the truth.

I am submitting the following comments:

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, "Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces." includes references to two research papers detailing the impact of various trail uses, we believe that these references, as well as the incorporation into the PEIR of conclusions and recommendations from these references are inadequate.

**A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

In 2006, the National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” (subsequently referred to as the “Interior Department Report”). This report included a literature review considerably more extensive than the two listed in table 6-2. The Interior Department Report also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the direct applicability of the literature review as well as the scientific study and fact based approach required by the National Park Service and the United States Department of the Interior, the PEIR should include the Interior Department Report in table 6-2.

**B – Review and Summary of Findings of The Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Interior Department Report that we believe should be

incorporated into the PEIR. Specifically, some of the more relevant findings in the Interior Department Report's literature review are repeated here:

- Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).
- Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The Interior Department Report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

- Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34).
- Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)
- Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

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In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

Thank you again for the opportunity to comment. I appreciate your consideration of this important information and hope you will consider the data.

Sincerely,  
Tracy Ginsberg  
Po Box 440, Woodacre, Ca 94973

From: [Jonathan Hart](#)  
To: [Raives, James](#)  
Subject: RD TPEIR Comments  
Date: Monday, September 22, 2014 10:09:19 AM

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September 22, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I was born and raised in Marin and have struggled with the challenges that have been put in front of the mountain biking community from it's inception. Having spent time hiking and riding in so many other communities that have seemingly hit a much better balance with multi-use spaces, it amazes me that we aren't there yet either. Instead of this continued focus on opposition, it would be such nice change to seem all users come together to support safety and environmental initiatives, versus always pointing finger.

Many thanks  
Jonathan Hart

I am submitting the following comments:

### **Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

### **A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of

incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

### **B – No Reference to California State Parks Trail Use Conflict Study**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

### **C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.

Complaints and controversy about other trail users are common.

Actual incidents, including those involving accidents, between trail users are relatively rare. Design of trails to accommodate multiple use helps to avoid or reduce conflict.

User education and outreach are key methods to avoid or reduce conflict.

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

### **Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

### **Erosion and Trail Impact Studies and Conclusions**

Trail use and trail impact is probably the most critical environmental issue that the PEIR

should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers on the impact of various trail use, we believe that the research references as well as the incorporation of conclusions and recommendations from these research in the PEIR are inadequate.

**A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

The National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” This study included a literature review considerably more extensive than the two listed in table 6-2. The study also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the reputable nature of the author of the report, and the direct applicability of both the literature review as well as the scientific study, the PEIR should include this study in table 6-2.

**B – Review and Summary of Findings of Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Department of the Interior Report that we believe should be incorporated into the PEIR. Some of the more relevant findings in the report’s literature review are repeated here:

Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34). Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)

Even well-designed trails could sustain only low levels of horse use without gravel. (page 35). The current PEIR’s review and conclusions of trail impact by user groups is inadequate and should include the findings from the 2006 Department of the Interior Report.

**C – Recommendations from the Department of the Interior Report**

There are some key recommendations from the Department of the Interior Report that we believe should be incorporated into the PEIR.

Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)

Regulations restricting horse and ATV uses to designated trails are recommended. Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry. Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments. In addition to referencing the 2006 Department of the Interior Report, and the summary of findings from this report, the PEIR should incorporate the recommendations as well.

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Nor do these conclusions match that of Pickering:

“with horse riding appearing to have greater impacts per user than hiking.”

The PEIR should properly include more research sources, including one funded by the Department of the Interior, and appropriately update the conclusions on what activities are more destructive to the environment than others.

#### **E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then states “there is little consensus in the literature as to whether any one particular use is more damaging than another” (Pickering et al 2008). In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

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Jonathan Hart  
(c)415.259.8637  
[jhart26@me.com](mailto:jhart26@me.com)

**From:** [Donald Herzog](#)  
**To:** [Raives, James](#)  
**Subject:** Marin County Park's Road and Trail Management Plan (RTMP)  
**Date:** Friday, September 19, 2014 5:13:11 PM

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James Raives  
Marin County Open Space District  
3501 Civic Center Drive, Suite 260  
San Rafael, CA 94903-4157

Thanks for the opportunity to comment on the Marin County Park's Road and Trail Management Plan (RTMP) and for the constructive revisions which have made the plan less hostile to the bicycling community.

However, in the interest of fairness to the bicycling community, it would be desirable to eliminate the term "mountain biking" from policy SW.13 or to add policies to address equestrian and pedestrian use as well. The report should reference California State Parks Appendix C when addressing safety and user conflicts.

I appreciate your consideration.

Yours Truly,

H. Donald Herzog  
45 E Manor Drive  
Mill Valley, CA 94941

**From:** [Alex Hildebrand](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR  
**Date:** Sunday, September 21, 2014 2:41:39 PM

---

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in San Rafael and a huge part of the quality of life here - for myself and many of my friends and neighbors - is the ability to enjoy the outdoors on my mountain bike. I ride 3-4 times a week and am always respectful of others using the trails, often getting off my bike to go around other groups of hikers.

I am submitting the following comments:

#### Scientific Basis and Data for Safety Issues

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

#### A – Provide Empirical Data on Safety or State There is No Data

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

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Complaints and controversy about other trail users are common.

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Design of trails to accommodate multiple use helps to avoid or reduce conflict.

User education and outreach are key methods to avoid or reduce conflict.

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

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Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

#### Erosion and Trail Impact Studies and Conclusions

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers on the impact of various trail use, we believe that the research references as well as the incorporation of conclusions and recommendations from these research in the PEIR are inadequate.

A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”

The National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” This study included a literature review considerably more extensive than the two listed in table 6-2. The study also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the reputable nature of the author of the report, and the direct applicability of both the literature review as well as the scientific study, the PEIR should include this study in table 6-2.

B – Review and Summary of Findings of Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”

There are some key findings from the Department of the Interior Report that we believe should be incorporated into the PEIR. Some of the more relevant findings in the report’s literature review are repeated here:

Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34).

Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)

Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The current PEIR's review and conclusions of trail impact by user groups is inadequate and should include the findings from the 2006 Department of the Interior Report.

#### C – Recommendations from the Department of the Interior Report

There are some key recommendations from the Department of the Interior Report that we believe should be incorporated into the PEIR.

Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)

Regulations restricting horse and ATV uses to designated trails are recommended.

Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.

Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the 2006 Department of the Interior Report, and the summary of findings from this report, the PEIR should incorporate the recommendations as well.

#### D – Literature Review – Horseback Riding

In the section "LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT", 'Horseback Riding' on page 6-34, the PEIR makes two conclusions:

Many types of impacts from horses are similar to those from hiking.

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the 2006 Department of the Interior Report which concluded:

Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.

Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails."

Nor do these conclusions match that of Pickering:

“with horse riding appearing to have greater impacts per user than hiking.”

The PEIR should properly include more research sources, including one funded by the Department of the Interior, and appropriately update the conclusions on what activities are more destructive to the environment than others.

#### E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then states “there is little consensus in the literature as to whether any one particular use is more damaging than another” (Pickering et al 2008). In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organisations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

#### E – Different Rules In Spite of Similar Impact

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

From: [Michael Hill](#)  
To: [Raives, James](#)  
Subject: RTMP Draft TPEIR  
Date: Saturday, September 20, 2014 8:01:32 AM

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Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and FILL IN WHY YOU CARE HERE

I am submitting the following comments:

### **Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

#### **A – Provide Empirical Data on Safety or State There is No Data**

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**From:** [Peter Hively](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR  
**Date:** Thursday, September 18, 2014 8:23:06 PM

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Dear Mr. Raives,

I would like to comment on the PEIR for the Roads and Trails Management Plan.

I have lived in Marin for all of my 49 years and have been hiking and bicycling on and off road since I was 5 years old. I have been following the progress of the RTMP and I have some concerns.

I am submitting the following comments:

### **Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

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Sincerely,

Peter Hively

178 Meadowcroft Drive,

San Anselmo CA 94960

From: [Vernon Huffman](#)  
To: [Raives, James](#)  
Subject: RD TPEIR Comment Letter  
Date: Monday, September 22, 2014 2:19:12 PM

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September 21, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Woodacre, CA and I'm an avid mountain biker and hiker. I hope this plan results in more single track trails throughout the preserve network. I, my children, and the high school kids I coach do not have enough trails to legally ride on now. This plan must fix that.

I am submitting the following comments:

## **1. Safety Issues**

### **A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

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## **2. Environmental Issues**

### **A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

In 2006, the National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” (subsequently referred to as the “Interior Department Report”). This report included a literature review considerably more extensive than the two listed in table 6-2. The Interior Department Report also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the direct applicability of the literature review as well as the scientific study and fact based approach required by the National Park Service and the United States Department of the Interior, the PEIR should include the Interior Department Report in table 6-2.

### **B – Review and Summary of Findings of The Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Interior Department Report that we believe should be incorporated into the PEIR. Specifically, some of the more relevant findings in the Interior Department Report's literature review are repeated here:

- Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).
- Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The Interior Department Report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

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- Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The review and conclusions of trail impact by user groups in the current draft of the PEIR is inadequate and should include the findings from the Interior Department Report.

### **C – Recommendations from the Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key recommendations from the Interior Department Report that that we believe should be incorporated into the PEIR.

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- Regulations restricting horse and ATV uses to designated trails are recommended.
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- Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the Interior Department Report, and the summary of findings from the Interior Department Report, the PEIR should incorporate these recommendations as well.

### **D – No Integration of International Mountain Biking Association Data for Best Management Practices**

One of the purposes of the Environmental Impact Report is to provide “a description of other

road and trail use and management policies, construction standards, and best management practices (BMP)” ( PEIR page 1-1).

The International Mountain Biking Association (IMBA) is the world’s definitive leader and expert on the impacts of mountain biking and the best management practices for mountain biking. IMBA’s scientific and reasonable approach is so well respected that the Sierra Club, in conjunction with IMBA, modified their policies and now “recognizes that bicyclists can be legitimate users of many non-Wilderness backcountry trails and supports responsible off-road bicycling.” (Sierra Club Off Road use of Bicycles Policy). Although the PEIR includes a reference to an IMBA study in table 6-2, the only reference to that article is in the section regarding Mountain Biking and Night Lighting, and there are no references to the various best management practices that IMBA has available.

Some of the specific best management practices that IMBA recommends to reduce vegetation impacts are:

- Design trails that provide the experience that trail users seek to reduce their desire to venture off-trail.
- Locate trails away from rare plants and animals and from sensitive or critical habitats of other species. Involve resource professionals in designing and approving new trail alignments.
- Keep trails narrow to reduce the total area of intensive tread disturbance, slow trail users, and minimize vegetation and soil impacts.
- Limit vegetation disturbance outside the corridor when constructing trails. Hand construction is least disruptive; mechanized construction with small equipment is less disruptive than full-sized equipment; skilled operators do less damage than those with limited experience.
- Locate trails on side-hills where possible. Constructing a side-hill trail requires greater initial vegetation and soil disturbance but sloping topography above and below the trail bench will clearly define the tread and concentrate traffic on it. Trails in flatter terrain or along the fall line may involve less initial disturbance but allow excessive future tread widening and off-tread trampling, which favor non-native plants.
- Use construction techniques that save and redistribute topsoil and excavated plants.

Some of the specific best management practices that IMBA recommends for avoiding the worst soil-related impacts to trails:

- Discourage or prohibit off-trail travel. Informal trails created by off-trail travel frequently have steep grades and fall-line alignments that quickly erode, particularly in the absence of tread maintenance. Exceptions include areas of solid rock or non-vegetated cobble.
- Design trails with sustainable grades and avoid fall-line alignments. (See p. 112 for more)
- When possible, build trails in dry, cohesive soils that easily compact and contain a larger percentage of coarse material or rocks. These soils better resist erosion by wind and water or displacement by feet, hooves and tires.
- Minimize tread muddiness by avoiding flat terrain, wet soils, and drainage-bottom locations.
- Use grade reversals to remove water from trail treads. Grade reversals are permanent and sustainable – when designed into a trail’s alignment they remain 100 percent effective and rarely require maintenance.

One of the goals of an EIR is to provide best management practices and the current EIR's research, review and integration of best management practices is inadequate and should leverage the techniques and experience that IMBA can provide.

### **E – Literature Review – Horseback Riding**

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, sub section ‘Horseback Riding’, on page 6-34, the PEIR makes two conclusions:

- Many types of impacts from horses are similar to those from hiking.
- While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the Interior Department Report which concluded:

1. Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.
2. Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.
3. Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.

Additionally, it appears that the conclusions in the PEIR do not match those of Pickering. The current PEIR concludes:

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified. ( page 3-34 )

Whereas the conclusion of the Pickering study actually states:

There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. (page 557)

With regards to literature review of Horseback Riding, the research sources for the current draft of the PEIR are inadequate and additional sources should include the Interior Department Report.

Additionally, the PEIR conclusion on horseback riding incorrectly quotes one of the references cited. This incorrect citation makes the conclusion inadequate and should be remedied.

### **F – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING,**

## AND MOUNTAIN BIKING – Environmental Impacts

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then cites Pickering when concluding “there is little consensus in the literature as to whether any one particular use is more damaging than another (Pickering et al 2008)”. In reviewing the exact conclusions of the Pickering report, we believe that MCOSED has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with **horse riding appearing to have greater impacts per user than hiking**. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organizations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.(emphasis added)”

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

## G – Different Rules In Spite of Similar Impact

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

Thank you again for the opportunity to comment. This has been an amazing project over the last 3 years and we truly hope for nice outcomes for mountain bikers.

Sincerely,

Vernon Huffman

PO Box 33  
9 Fire Road  
Woodacre, CA 04073

From: [Brad Hunt](#)  
To: [Raives, James](#)  
Subject: TPIER comments  
Date: Monday, September 22, 2014 3:06:56 PM

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September 22, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and recreate often in our beautiful open spaces. I appreciate all of the hard work that has been put into these documents and I look forward to it's implementation. I would also like to express my gratitude for the inclusion of time-sharing as a tool moving forward. Alternate day use has been extremely successful on the Tahoe Rim Trail off of Mt. Rose.

Scientific Basis and Data for Safety Issues

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

A – Provide Empirical Data on Safety or State There is No Data

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

B – No Reference to California State Parks Trail Use Conflict Study

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails

Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

#### C – The Significant Research Findings of the California State Parks Trail Use Conflict Study

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.

- Complaints and controversy about other trail users are common.
- Actual incidents, including those involving accidents, between trail users are relatively rare.
- Design of trails to accommodate multiple use helps to avoid or reduce conflict.
- User education and outreach are key methods to avoid or reduce conflict.

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

#### RTMP RD TPEIR – Environmental Issues Erosion and Trail Impact Studies and Conclusions

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers detailing the impact of various trail uses, we believe that these references, as well as the incorporation into the PEIR of conclusions and recommendations from these references are inadequate.

#### A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”

In 2006, the National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” (subsequently referred to as the “Interior Department Report”). This report included a literature review considerably more extensive than the two listed in table 6-2. The Interior Department Report also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the direct applicability of the literature review as well as the scientific study and fact based

approach required by the National Park Service and the United States Department of the Interior, the PEIR should include the Interior Department Report in table 6-2.

**B – Review and Summary of Findings of The Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Interior Department Report that we believe should be incorporated into the PEIR. Specifically, some of the more relevant findings in the Interior Department Report’s literature review are repeated here:

Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The Interior Department Report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34).

Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)

Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The review and conclusions of trail impact by user groups in the current draft of the PEIR is inadequate and should include the findings from the Interior Department Report.

**C – Recommendations from the Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key recommendations from the Interior Department Report that that we believe should be incorporated into the PEIR.

Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)

Regulations restricting horse and ATV uses to designated trails are recommended. Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.

Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse

and ATV use or restricting them to well-designed and maintained alignments. In addition to referencing the Interior Department Report, and the summary of findings from the Interior Department Report, the PEIR should incorporate these recommendations as well.

#### D – No Integration of International Mountain Biking Association Data for Best Management Practices

One of the purposes of the Environmental Impact Report is to provide “a description of other road and trail use and management policies, construction standards, and best management practices (BMP)” ( PEIR page 1-1).

The International Mountain Biking Association (IMBA) is the world’s definitive leader and expert on the impacts of mountain biking and the best management practices for mountain biking. IMBA’s scientific and reasonable approach is so well respected that the Sierra Club, in conjunction with IMBA, modified their policies and now “recognizes that bicyclists can be legitimate users of many non-Wilderness backcountry trails and supports responsible off-road bicycling.” (Sierra Club Off Road use of Bicycles Policy). Although the PEIR includes a reference to an IMBA study in table 6-2, the only reference to that article is in the section regarding Mountain Biking and Night Lighting, and there are no references to the various best management practices that IMBA has available.

Some of the specific best management practices that IMBA recommends to reduce vegetation impacts are:

Design trails that provide the experience that trail users seek to reduce their desire to venture off-trail.

Locate trails away from rare plants and animals and from sensitive or critical habitats of other species. Involve resource professionals in designing and approving new trail alignments.

Keep trails narrow to reduce the total area of intensive tread disturbance, slow trail users, and minimize vegetation and soil impacts.

Limit vegetation disturbance outside the corridor when constructing trails. Hand construction is least disruptive; mechanized construction with small equipment is less disruptive than full-sized equipment; skilled operators do less damage than those with limited experience.

Locate trails on side-hills where possible. Constructing a side-hill trail requires greater initial vegetation and soil disturbance but sloping topography above and below the trail bench will clearly define the tread and concentrate traffic on it. Trails in flatter terrain or along the fall line may involve less initial disturbance but allow excessive future tread widening and off-tread trampling, which favor non-native plants.

Use construction techniques that save and redistribute topsoil and excavated plants. Some of the specific best management practices that IMBA recommends for avoiding the worst soil-related impacts to trails:

Discourage or prohibit off-trail travel. Informal trails created by off-trail travel frequently have steep grades and fall-line alignments that quickly erode, particularly in the absence of tread maintenance. Exceptions include areas of solid rock or non-vegetated cobble.

Design trails with sustainable grades and avoid fall-line alignments. (See p. 112 for more)

When possible, build trails in dry, cohesive soils that easily compact and contain a larger percentage of coarse material or rocks. These soils better resist erosion by wind and water or displacement by feet, hooves and tires.

Minimize tread muddiness by avoiding flat terrain, wet soils, and drainage-bottom locations.

Use grade reversals to remove water from trail treads. Grade reversals are permanent and sustainable – when designed into a trail’s alignment they remain 100 percent effective and rarely require maintenance.

One of the goals of an EIR is to provide best management practices and the current EIR’s research, review and integration of best management practices is inadequate and should leverage the techniques and experience that IMBA can provide.

Thank you for considering my comments.

Brad Hunt  
PO 309  
Bollinas CA

From: [Jim Johnstone](#)  
To: [Raives, James](#)  
Subject: RTMP Draft TPEIR  
Date: Monday, September 22, 2014 12:08:50 AM

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September 18, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and have enjoyed biking on open space lands for over 30 years.

I am submitting the following comments:

### **Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

#### **A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

#### **B – No Reference to California State Parks Trail Use Conflict Study**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most

comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

### **C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.

Complaints and controversy about other trail users are common.

Actual incidents, including those involving accidents, between trail users are relatively rare.

Design of trails to accommodate multiple use helps to avoid or reduce conflict.

User education and outreach are key methods to avoid or reduce conflict.

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

### **Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

### **Erosion and Trail Impact Studies and Conclusions**

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers on the impact of various trail use, we believe that the research references as well as the incorporation of conclusions and recommendations from these research in the PEIR are inadequate.

### **A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River**

**and Recreational Area.”**

The National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” This study included a literature review considerably more extensive than the two listed in table 6-2. The study also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the reputable nature of the author of the report, and the direct applicability of both the literature review as well as the scientific study, the PEIR should include this study in table 6-2.

**B – Review and Summary of Findings of Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Department of the Interior Report that we believe should be incorporated into the PEIR. Some of the more relevant findings in the report’s literature review are repeated here:

Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34). Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)

Even well-designed trails could sustain only low levels of horse use without gravel. (page 35). The current PEIR’s review and conclusions of trail impact by user groups is inadequate and should include the findings from the 2006 Department of the Interior Report.

**C – Recommendations from the Department of the Interior Report**

There are some key recommendations from the Department of the Interior Report that we believe should be incorporated into the PEIR.

Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)

Regulations restricting horse and ATV uses to designated trails are recommended.

Restricting higher impact uses to graveled trails during wet seasons is also recommended.

Trail use when soils are wet is considerably more damaging than when soils are dry.

Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the 2006 Department of the Interior Report, and the summary of

findings from this report, the PEIR should incorporate the recommendations as well.

#### **D – Literature Review – Horseback Riding**

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, ‘Horseback Riding’ on page 6-34, the PEIR makes two conclusions:

Many types of impacts from horses are similar to those from hiking.

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the 2006 Department of the Interior Report which concluded:

Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.

Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.”

Nor do these conclusions match that of Pickering:

“with horse riding appearing to have greater impacts per user than hiking.”

The PEIR should properly include more research sources, including one funded by the Department of the Interior, and appropriately update the conclusions on what activities are more destructive to the environment than others.

#### **E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then states “there is little consensus in the literature as to whether any one particular use is more damaging than another” (Pickering et al 2008). In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organisations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

**E – Different Rules In Spite of Similar Impact**

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In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

Thanks for your time.

James Johnstone  
18 Golden Hind Passage  
Corte Madera, CA 94925

**From:** [Igor Krtolica](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR  
**Date:** Thursday, September 18, 2014 12:57:50 PM

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September 18, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in San Francisco at 2190 Bay St. #306, and own businesses in Marin County and am a frequent user of Marin County's beautiful parks and trails both for hiking and mountain biking.

I am submitting the following comments:

**Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

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### **Erosion and Trail Impact Studies and Conclusions**

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#### **A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

The National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” This study included a literature review considerably more extensive than the two listed in table 6-2. The study also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the reputable nature of the author of the report, and the direct applicability of both the literature review as well as the scientific study, the PEIR should include this study in table 6-2.

#### **B – Review and Summary of Findings of Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Department of the Interior Report that we believe should be incorporated into the PEIR. Some of the more relevant findings in the report’s literature review are repeated here:

Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts

from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34).

Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)

Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The current PEIR's review and conclusions of trail impact by user groups is inadequate and should include the findings from the 2006 Department of the Interior Report.

### **C – Recommendations from the Department of the Interior Report**

There are some key recommendations from the Department of the Interior Report that we believe should be incorporated into the PEIR.

Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)

Regulations restricting horse and ATV uses to designated trails are recommended.

Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.

Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the 2006 Department of the Interior Report, and the summary of findings from this report, the PEIR should incorporate the recommendations as well.

### **D – Literature Review – Horseback Riding**

In the section "LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT", 'Horseback Riding' on page 6-34, the PEIR makes two conclusions:

Many types of impacts from horses are similar to those from hiking.

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the 2006 Department of the Interior Report which concluded:

Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.

Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails."

Nor do these conclusions match that of Pickering:

"with horse riding appearing to have greater impacts per user than hiking."

The PEIR should properly include more research sources, including one funded by the Department of the Interior, and appropriately update the conclusions on what activities are more destructive to the environment than others.

### **E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK**

## **RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then states “there is little consensus in the literature as to whether any one particular use is more damaging than another” (Pickering et al 2008). In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organisations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

### **E – Different Rules In Spite of Similar Impact**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

**From:** [David Lazzarini](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR  
**Date:** Monday, September 22, 2014 2:16:45 PM

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Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan.

I live in Marin and hope to one day have access to technical single track trails that are bike legal, if not in my time for when my children are old enough to be exploring our open space.

I am submitting the following comments:

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

**A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

To explicitly state that cycling is a "dangerous" or "extreme" activity is disingenuous, without data to back it up.

**B – No Reference to California State Parks Trail Use Conflict Study**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

**C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

- *Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.*
- *Complaints and controversy about other trail users are common.*
- *Actual incidents, including those involving accidents, between trail users are relatively rare.*
- *Design of trails to accommodate multiple use helps to avoid or reduce conflict.*
- *User education and outreach are key methods to avoid or reduce conflict.*

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

**Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way.

There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous”

mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

Thank you again for the opportunity to comment. Sincerely,  
David Lazzarini  
Terra Linda, ca

**From:** [Cameron Leggett](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR  
**Date:** Friday, September 19, 2014 10:30:47 AM

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September 20, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and I am a mountain biker, hiker and have ridden horses quite a bit. I think it is important to consider the needs of mountain cyclists when drafting this report. We should have as much access to trails as any other lover of nature.

I am submitting the following comments:

**Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

**A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

**B – No Reference to California State Parks Trail Use Conflict Study**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, "Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces."

### **C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

- *Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.*
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- *Actual incidents, including those involving accidents, between trail users are relatively rare.*
- *Design of trails to accommodate multiple use helps to avoid or reduce conflict.*
- *User education and outreach are key methods to avoid or reduce conflict.*

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more "dangerous" than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to "dangerous mountain biking" or similar statements should be removed from the PEIR.

### **Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to "dangerous" mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

## **2. Erosion and Trail Impact Studies and Conclusions**

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, "Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces." includes references to two research papers detailing the impact of various trail uses, we believe that these references, as well as the incorporation into the PEIR of conclusions and recommendations from these references are inadequate.

### **A – No Reference to 2006 United States Department of the Interior Report "Assessing and Understanding Trail Degradation: Results from Big**

## **South Fork National River and Recreational Area.”**

In 2006, the National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” (subsequently referred to as the “Interior Department Report”). This report included a literature review considerably more extensive than the two listed in table 6-2. The Interior Department Report also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the direct applicability of the literature review as well as the scientific study and fact based approach required by the National Park Service and the United States Department of the Interior, the PEIR should include the Interior Department Report in table 6-2.

### **B – Review and Summary of Findings of The Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Interior Department Report that we believe should be incorporated into the PEIR. Specifically, some of the more relevant findings in the Interior Department Report’s literature review are repeated here:

- Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).
- Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The Interior Department Report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

- Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34).
- Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)
- Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The review and conclusions of trail impact by user groups in the current draft of the PEIR is inadequate and should include the findings from the Interior Department Report.

### **C – Recommendations from the Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key recommendations from the Interior Department Report that that we believe should be incorporated into the PEIR.

- Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)

- Regulations restricting horse and ATV uses to designated trails are recommended.
- Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.
- Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the Interior Department Report, and the summary of findings from the Interior Department Report, the PEIR should incorporate these recommendations as well.

## **D – No Integration of International Mountain Biking Association Data for Best Management Practices**

One of the purposes of the Environmental Impact Report is to provide “a description of other road and trail use and management policies, construction standards, and best management practices (BMP)” ( PEIR page 1-1).

The International Mountain Biking Association (IMBA) is the world’s definitive leader and expert on the impacts of mountain biking and the best management practices for mountain biking. IMBA’s scientific and reasonable approach is so well respected that the Sierra Club, in conjunction with IMBA, modified their policies and now “recognizes that bicyclists can be legitimate users of many non-Wilderness backcountry trails and supports responsible off-road bicycling.” (Sierra Club Off Road use of Bicycles Policy). Although the PEIR includes a reference to an IMBA study in table 6-2, the only reference to that article is in the section regarding Mountain Biking and Night Lighting, and there are no references to the various best management practices that IMBA has available.

Some of the specific best management practices that IMBA recommends to reduce vegetation impacts are:

- Design trails that provide the experience that trail users seek to reduce their desire to venture off-trail.
- Locate trails away from rare plants and animals and from sensitive or critical habitats of other species. Involve resource professionals in designing and approving new trail alignments.
- Keep trails narrow to reduce the total area of intensive tread disturbance, slow trail users, and minimize vegetation and soil impacts.
- Limit vegetation disturbance outside the corridor when constructing trails. Hand construction is least disruptive; mechanized construction with small equipment is less disruptive than full-sized equipment; skilled operators do less damage than those with limited experience.
- Locate trails on side-hills where possible. Constructing a side-hill trail requires greater initial vegetation and soil disturbance but sloping topography above and below the trail bench will clearly define the tread and concentrate traffic on it. Trails in flatter terrain or along the fall line may involve less initial disturbance but allow excessive future tread widening and off-tread trampling, which favor non-native plants.
- Use construction techniques that save and redistribute topsoil and excavated plants.

Some of the specific best management practices that IMBA recommends for avoiding the worst soil-related impacts to trails:

- Discourage or prohibit off-trail travel. Informal trails created by off-trail travel frequently have steep grades and fall-line alignments that quickly erode, particularly in the absence of tread maintenance. Exceptions include areas of solid rock or non-vegetated cobble.
- Design trails with sustainable grades and avoid fall-line alignments. (See p. 112 for more)
- When possible, build trails in dry, cohesive soils that easily compact and contain a larger percentage of coarse material or rocks. These soils better resist erosion by wind and water or displacement by feet, hooves and tires.
- Minimize tread muddiness by avoiding flat terrain, wet soils, and drainage-bottom locations.

- Use grade reversals to remove water from trail treads. Grade reversals are permanent and sustainable – when designed into a trail’s alignment they remain 100 percent effective and rarely require maintenance.

One of the goals of an EIR is to provide best management practices and the current EIR’s research, review and integration of best management practices is inadequate and should leverage the techniques and experience that IMBA can provide.

## E – Literature Review – Horseback Riding

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, sub section ‘Horseback Riding’, on page 6-34, the PEIR makes two conclusions:

- Many types of impacts from horses are similar to those from hiking.
- While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the Interior Department Report which concluded:

1. Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.
2. Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.
3. Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.

Additionally, it appears that the conclusions in the PEIR do not match those of Pickering. The current PEIR concludes:

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified. ( page 3-34 )

Whereas the conclusion of the Pickering study actually states:

There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. (page 557)

With regards to literature review of Horseback Riding, the research sources for the current draft of the PEIR are inadequate and additional sources should include the Interior Department Report.

Additionally, the PEIR conclusion on horseback riding incorrectly quotes one of the references cited. This incorrect citation makes the conclusion inadequate and should be remedied.

## F – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then states “there is little consensus in the literature as to whether any one particular use is more damaging than another” (Pickering et al 2008). In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the

conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with **horse riding appearing to have greater impacts per user than hiking**. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organisations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

## G – Different Rules In Spite of Similar Impact

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

3. I think that we can all get along. Mountain bikers as a whole are not the problem here. I agree with above that through education of all groups, we can all get along better.

Thank you again for the opportunity to comment.

Sincerely,

Cameron Leggett  
240 bay vista circle.  
sausalito, ca  
94965  
PLEASE NOTE NEW EMAIL ADDRESS  
[Cameron.Leggett99@gmail.com](mailto:Cameron.Leggett99@gmail.com)

**From:** [Abrahm Lustgarten](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR  
**Date:** Thursday, September 18, 2014 11:51:26 AM

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September 18, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Fairfax and am an avid trail user. I run, ride horses where allowed, walk my dog and Mountain Bike. Having direct experience with each of these activities, and being a regular user at one time or another of almost every trail in Marin, I have serious concerns about the different ways in which mountain biking activities are restricted from most other uses. In particular, as per the comments below, I believe its important to base policy on data and research, and I fear that the failure to do so is not only unequal and unfair, but opens policymakers to liability and potential litigation for an unbalanced approach. With that in mind, I am submitting the following comments:

### **Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

### **A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims

concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

### **B – No Reference to California State Parks Trail Use Conflict Study**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

### **C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.

Complaints and controversy about other trail users are common.

Actual incidents, including those involving accidents, between trail users are relatively rare.

Design of trails to accommodate multiple use helps to avoid or reduce conflict.

User education and outreach are key methods to avoid or reduce conflict.

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not

been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

### **Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

### **Erosion and Trail Impact Studies and Conclusions**

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers on the impact of various trail use, we believe that the research references as well as the incorporation of conclusions and recommendations from these research in the PEIR are inadequate.

### **A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

The National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” This study included a literature review considerably more extensive than the two listed in table 6-2. The study also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the reputable nature of the author of the report, and the direct applicability of both the literature review as well as the scientific study, the PEIR should include this study in table 6-2.

**B – Review and Summary of Findings of Department of the Interior Report  
“Assessing and Understanding Trail Degradation: Results from Big South Fork  
National River and Recreational Area.”**

There are some key findings from the Department of the Interior Report that we believe should be incorporated into the PEIR. Some of the more relevant findings in the report’s literature review are repeated here:

Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34).

Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)

Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The current PEIR’s review and conclusions of trail impact by user groups is inadequate and should include the findings from the 2006 Department of the Interior Report.

**C – Recommendations from the Department of the Interior Report**

There are some key recommendations from the Department of the Interior Report that we believe should be incorporated into the PEIR.

Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)

Regulations restricting horse and ATV uses to designated trails are recommended. Restricting higher impact uses to graveled trails during wet seasons is also

recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.

Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the 2006 Department of the Interior Report, and the summary of findings from this report, the PEIR should incorporate the recommendations as well.

#### **D – Literature Review – Horseback Riding**

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, ‘Horseback Riding’ on page 6-34, the PEIR makes two conclusions:

Many types of impacts from horses are similar to those from hiking. While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the 2006 Department of the Interior Report which concluded:

Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.

Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.”

Nor do these conclusions match that of Pickering:

“with horse riding appearing to have greater impacts per user than hiking.”

The PEIR should properly include more research sources, including one funded by the Department of the Interior, and appropriately update the conclusions on what activities are more destructive to the environment than others.

#### **E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then states “there is little consensus in the literature as to whether any one particular use is more damaging than another” (Pickering et al 2008). In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organisations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

### **E – Different Rules In Spite of Similar Impact**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

**From:** [Mike McDermott](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR - for the Roads and Trails Management Plan  
**Date:** Monday, September 22, 2014 10:04:34 AM

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September 22, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and have been an avid mountain biker for over 25 years with the last 11 years living in Larkspur. My family wife, son (12) and daughter (9) are also mountain bikers and love to ride the open space available to us. My son especially is getting into mountain biking having done 3 summers of mountain biking camp in Fairfax with Otis Guy. He loves Tamarancho and single track almost as much as his father. As a father, I am trying to teach him proper trail etiquette, safety and why riding on designated trails is so important to the environment.

I am submitting the following comments:

**Safety Issues:**

**1. Provide Empirical Data on Safety or State There is No Data.** Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if

there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

**2. No Reference to California State Parks Trail Use Conflict Study.** In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, "Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces."

**3. The Significant Research Findings of the California State Parks Trail Use Conflict Study.** There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

- *Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.*
- *Complaints and controversy about other trail users are common.*
- *Actual incidents, including those involving accidents, between trail users are relatively rare.*
- *Design of trails to accommodate multiple use helps to avoid or reduce conflict.*
- *User education and outreach are key methods to avoid or reduce conflict.*

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more "dangerous" than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to "dangerous mountain biking" or similar statements should be removed from the PEIR.

#### **4. Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

### **ENVIRONMENTAL IMPACT ISSUES:**

#### **Erosion and Trail Impact Studies and Conclusions**

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers detailing the impact of various trail uses, we believe that these references, as well as the incorporation into the PEIR of conclusions and recommendations from these references are inadequate.

#### **A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

In 2006, the National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” (subsequently referred to as the “Interior Department Report”). This report included a literature review considerably more extensive than the two listed in table 6-2. The Interior Department Report also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the direct applicability of the literature review as well as the scientific study and fact based approach required by the National Park Service and the United States Department of the Interior, the PEIR should include the Interior Department Report in table 6-2.

#### **B – Review and Summary of Findings of The Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South**

**Fork National River and Recreational Area.”**

There are some key findings from the Interior Department Report that we believe should be incorporated into the PEIR. Specifically, some of the more relevant findings in the Interior Department Report’s literature review are repeated here:

- Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).
- Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The Interior Department Report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

- Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34).
- Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)
- Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The review and conclusions of trail impact by user groups in the current draft of the PEIR is inadequate and should include the findings from the Interior Department Report.

**C – Recommendations from the Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key recommendations from the Interior Department Report that that we believe should be incorporated into the PEIR.

- Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)
- Regulations restricting horse and ATV uses to designated trails are recommended.

- Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.
- Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the Interior Department Report, and the summary of findings from the Interior Department Report, the PEIR should incorporate these recommendations as well.

### **D – No Integration of International Mountain Biking Association Data for Best Management Practices**

One of the purposes of the Environmental Impact Report is to provide “a description of other road and trail use and management policies, construction standards, and best management practices (BMP)” ( PEIR page 1-1).

The International Mountain Biking Association (IMBA) is the world’s definitive leader and expert on the impacts of mountain biking and the best management practices for mountain biking. IMBA’s scientific and reasonable approach is so well respected that the Sierra Club, in conjunction with IMBA, modified their policies and now “recognizes that bicyclists can be legitimate users of many non-Wilderness backcountry trails and supports responsible off-road bicycling.” (Sierra Club Off Road use of Bicycles Policy). Although the PEIR includes a reference to an IMBA study in table 6-2, the only reference to that article is in the section regarding Mountain Biking and Night Lighting, and there are no references to the various best management practices that IMBA has available.

Some of the specific best management practices that IMBA recommends to reduce vegetation impacts are:

- Design trails that provide the experience that trail users seek to reduce their desire to venture off-trail.
- Locate trails away from rare plants and animals and from sensitive or critical habitats of other species. Involve resource professionals in designing and approving new trail alignments.
- Keep trails narrow to reduce the total area of intensive tread disturbance, slow trail users, and minimize vegetation and soil impacts.

- Limit vegetation disturbance outside the corridor when constructing trails. Hand construction is least disruptive; mechanized construction with small equipment is less disruptive than full-sized equipment; skilled operators do less damage than those with limited experience.
- Locate trails on side-hills where possible. Constructing a side-hill trail requires greater initial vegetation and soil disturbance but sloping topography above and below the trail bench will clearly define the tread and concentrate traffic on it. Trails in flatter terrain or along the fall line may involve less initial disturbance but allow excessive future tread widening and off-tread trampling, which favor non-native plants.
- Use construction techniques that save and redistribute topsoil and excavated plants.

Some of the specific best management practices that IMBA recommends for avoiding the worst soil-related impacts to trails:

- Discourage or prohibit off-trail travel. Informal trails created by off-trail travel frequently have steep grades and fall-line alignments that quickly erode, particularly in the absence of tread maintenance. Exceptions include areas of solid rock or non-vegetated cobble.
- Design trails with sustainable grades and avoid fall-line alignments. (See p. 112 for more)
- When possible, build trails in dry, cohesive soils that easily compact and contain a larger percentage of coarse material or rocks. These soils better resist erosion by wind and water or displacement by feet, hooves and tires.
- Minimize tread muddiness by avoiding flat terrain, wet soils, and drainage-bottom locations.
- Use grade reversals to remove water from trail treads. Grade reversals are permanent and sustainable – when designed into a trail’s alignment they remain 100 percent effective and rarely require maintenance.

One of the goals of an EIR is to provide best management practices and the current EIR’s research, review and integration of best management practices is inadequate and should leverage the techniques and experience that IMBA can provide.

## **E – Literature Review – Horseback Riding**

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, sub section ‘Horseback Riding’, on page 6-34, the PEIR makes two conclusions:

- Many types of impacts from horses are similar to those from hiking.
- While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the Interior Department Report which concluded:

1. Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.
2. Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.
3. Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.

Additionally, it appears that the conclusions in the PEIR do not match those of Pickering. The current PEIR concludes:

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified. ( page 3-34 )

Whereas the conclusion of the Pickering study actually states:

There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. (page 557)

With regards to literature review of Horseback Riding, the research sources for the current draft of the PEIR are inadequate and additional sources should include the Interior Department Report.

Additionally, the PEIR conclusion on horseback riding incorrectly quotes one of the references cited. This incorrect citation makes the conclusion inadequate and should be remedied.

**F – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC,**

## **HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then cites Pickering when concluding “there is little consensus in the literature as to whether any one particular use is more damaging than another (Pickering et al 2008)”. In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with **horse riding appearing to have greater impacts per user than hiking**. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organizations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.(emphasis added)”

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

### **G – Different Rules In Spite of Similar Impact**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the

regulations treat bikes differently?

Thank you again for the opportunity to comment and I appreciate the consideration.

Regards,  
Mike McDermott

20 Meadowood Drive, Larkspur CA

**From:** [jake\\_moritz](#)  
**To:** [Raives, James](#)  
**Subject:** Following up: RTMP Draft TPEIR  
**Date:** Thursday, September 18, 2014 2:50:25 PM

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Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in San Francisco and routinely ride in Marin by myself, with friends, and with groups of high school students that I work with as a mountain bike coach.

I am submitting the following comments:

### **Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, “Prohibition on Dangerous Mountain Biking”, explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

#### **A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

#### **B – No Reference to California State Parks Trail Use Conflict Study**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

#### **C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict

Study that the PEIR should reference. Some of the more relevant findings are repeated here :

Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.

Complaints and controversy about other trail users are common.

Actual incidents, including those involving accidents, between trail users are relatively rare.

Design of trails to accommodate multiple use helps to avoid or reduce conflict.

User education and outreach are key methods to avoid or reduce conflict.

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

### **Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way.

There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

### **Erosion and Trail Impact Studies and Conclusions**

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers on the impact of various trail use, we believe that the research references as well as the incorporation of conclusions and recommendations from these research in the PEIR are inadequate.

#### **A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

The National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” This study included a literature review considerably more extensive than the two listed in table 6-2. The study also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the reputable nature of the author of the report, and the direct applicability of both the literature review as well as the scientific study, the PEIR should include this study in table 6-

2.

**B – Review and Summary of Findings of Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Department of the Interior Report that we believe should be incorporated into the PEIR. Some of the more relevant findings in the report’s literature review are repeated here:

Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

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Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34). Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)

Even well-designed trails could sustain only low levels of horse use without gravel. (page 35). The current PEIR’s review and conclusions of trail impact by user groups is inadequate and should include the findings from the 2006 Department of the Interior Report.

**C – Recommendations from the Department of the Interior Report**

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Regulations restricting horse and ATV uses to designated trails are recommended.

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Trail use when soils are wet is considerably more damaging than when soils are dry.

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“with horse riding appearing to have greater impacts per user than hiking.”

The PEIR should properly include more research sources, including one funded by the Department of the Interior, and appropriately update the conclusions on what activities are more destructive to the environment than others.

### **E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

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**From:** [marcusanmueller@gmail.com](mailto:marcusanmueller@gmail.com)  
**To:** [Raives, James](#)  
**Subject:** RTMP RD TPEIR Comments  
**Date:** Saturday, September 20, 2014 9:53:08 AM

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September 18, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and FILL IN WHY YOU CARE HERE

I am submitting the following comments:

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such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

### **C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

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Complaints and controversy about other trail users are common.

Actual incidents, including those involving accidents, between trail users are relatively rare.

Design of trails to accommodate multiple use helps to avoid or reduce conflict.

User education and outreach are key methods to avoid or reduce conflict.

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

### **Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way.

There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

### **Erosion and Trail Impact Studies and Conclusions**

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers on the impact of various trail use, we believe that the research references as well as the incorporation of conclusions and recommendations from these research in the PEIR are inadequate.

### **A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

The National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” This study included a literature review considerably more extensive than the two listed in table 6-2. The study also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the reputable nature of the author of the report, and the direct applicability of both the literature review as well as the scientific study, the PEIR should include this study in table 6-2.

### **B – Review and Summary of Findings of Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Department of the Interior Report that we believe should be incorporated into the PEIR. Some of the more relevant findings in the report’s literature review are repeated here:

Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34). Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)

Even well-designed trails could sustain only low levels of horse use without gravel. (page 35). The current PEIR’s review and conclusions of trail impact by user groups is inadequate and should include the findings from the 2006 Department of the Interior Report.

### **C – Recommendations from the Department of the Interior Report**

There are some key recommendations from the Department of the Interior Report that we believe should be incorporated into the PEIR.

Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)

Regulations restricting horse and ATV uses to designated trails are recommended.

Restricting higher impact uses to graveled trails during wet seasons is also recommended.

Trail use when soils are wet is considerably more damaging than when soils are dry.

Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the 2006 Department of the Interior Report, and the summary of findings from this report, the PEIR should incorporate the recommendations as well.

## **D – Literature Review – Horseback Riding**

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, ‘Horseback Riding’ on page 6-34, the PEIR makes two conclusions:

Many types of impacts from horses are similar to those from hiking.

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the 2006 Department of the Interior Report which concluded:

Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.

Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.”

Nor do these conclusions match that of Pickering:

“with horse riding appearing to have greater impacts per user than hiking.”

The PEIR should properly include more research sources, including one funded by the Department of the Interior, and appropriately update the conclusions on what activities are more destructive to the environment than others.

## **E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then states “there is little consensus in the literature as to whether any one particular use is more damaging than another” (Pickering et al 2008). In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organisations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that

most current studies do show that equestrians have greater impacts than hiking.

### **E – Different Rules In Spite of Similar Impact**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

Marcus Mueller  
10 Sandstone ct  
San Rafael, ca 94903

**From:** [Scott Parsley](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR  
**Date:** Monday, September 22, 2014 2:09:57 PM

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September 22, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and have enjoyed riding off-road bicycles and hiking in Marin County Open Space for over 30 years.

I am submitting the following comments:

### **Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

### **A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

### **B – No Reference to California State Parks Trail Use Conflict Study**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

### **C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

- *Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.*
- *Complaints and controversy about other trail users are common.*
- *Actual incidents, including those involving accidents, between trail users are relatively rare.*
- *Design of trails to accommodate multiple use helps to avoid or reduce conflict.*
- *User education and outreach are key methods to avoid or reduce conflict.*

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach

a conclusion that does not support the proposed regulation, **any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.**

### **Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

### **Literature Review – Horseback Riding**

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, sub section ‘Horseback Riding’, on page 6-34, the PEIR makes two conclusions:

- Many types of impacts from horses are similar to those from hiking.
- While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the Interior Department Report which concluded:

1. Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.
2. Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.
3. Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.

Additionally, it appears that the conclusions in the PEIR do not match those of

Pickering. The current PEIR concludes:

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified. ( page 3-34 )

Whereas the conclusion of the Pickering study actually states:

There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. (page 557)

With regards to literature review of Horseback Riding, the research sources for the current draft of the PEIR are inadequate and additional sources should include the Interior Department Report.

Additionally, the PEIR conclusion on horseback riding incorrectly quotes one of the references cited. This incorrect citation makes the conclusion inadequate and should be remedied.

## **Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then cites Pickering when concluding “there is little consensus in the literature as to whether any one particular use is more damaging than another (Pickering et al 2008)”. In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

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differences in the severity of the impact, with **horse riding appearing to have greater impacts per user than hiking**. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organizations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.(emphasis added)”

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

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Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

In conclusion, I would like to implore to the MCOSD that after so many months of hard work by the staff and advocates on all sides, heated meetings, debates, and controversy that the final draft of the RTMP PEIR provides a clear and accurate assessment of how our Open Space will be used. Any and all guidelines that are based on anecdotal or emotional information should be abolished. 30 years of unequitable use policy that is based on false assumptions has done nothing but create more controversy. Let's move forward into a new age of Parks management in Marin County.

Thank you again for the opportunity to comment.

Sincerely,

Scott Talbott Parsley  
156 Blackstone dr., San Rafael, ca

[scottparsley@gmail.com](mailto:scottparsley@gmail.com)

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From: [Matthew Pope](#)  
To: [Raives, James](#)  
Subject: RTMP Draft TPEIR  
Date: Monday, September 22, 2014 11:05:42 AM

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September 22, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and FILL IN WHY YOU CARE HERE

I am submitting the following comments:

### **Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

#### **A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

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By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

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Thank you again for the opportunity to comment.

Sincerely,

Matthew Pope  
22 Broadmoor Avenue  
San Anselmo, CA 94960

**From:** [Adam Preuss](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR  
**Date:** Monday, September 22, 2014 4:44:11 PM

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Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and FILL IN WHY YOU CARE HERE

I am submitting the following comments:

#### Scientific Basis and Data for Safety Issues

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

#### A – Provide Empirical Data on Safety or State There is No Data

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Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

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Adam Preuss  
Santa Rosa, CA

**From:** [dprouty.pgsp@gmail.com](mailto:dprouty.pgsp@gmail.com) on behalf of [Devin Prouty](#)  
**To:** [Raives, James](#)  
**Subject:** Road and Trail Management Plan (RTMP)  
**Date:** Friday, September 19, 2014 8:43:46 AM

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September 20, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and FILL IN WHY YOU CARE HERE

I am submitting the following comments:

I care about the safety of all trail users. However in the past the topic of safety has been used to exclude mountain bikes from trails without actual data or evidence of safety concerns. Please incorporate the state's trail use data and other sources of empirical data to substantiate any safety claims that go into the planning process. If no such data exists at this time that should be noted and considered. I have been mountain biking in the Bay Area for 15 years peacefully coexisting with other trail users. The more people are invited to use the area resources the stronger a base we form to protect those resources.

Sincerely,

Devin Prouty

812 Arbor Rd

Menlo Park

**From:** [Jackson Ratcliffe](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP RD TPEIR Comments  
**Date:** Sunday, September 21, 2014 7:48:36 PM  
**Attachments:** [RTMPPEIRLetterFromJacksonRatcliffe.pdf](#)

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September 21, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

**Attention: Jaimes Raives, Senior Open Space Planner**

**SUBJECT: RTMP Draft TPEIR**

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and actively enjoy the trails on our Open Space lands as a hiker and mountain biker, and am excited about the upcoming RTMP.

For the past 30 years there has been a very understandable bias against mountain bikes. Mountain bikes were a recent development and no one knew what their impact would be. It is better to be safe than sorry, so Marin's initial regulations, which were restrictive, protected our trails from the unknown dangers. This was the right decision at the time.

Time has passed and there is now empirical evidence that proves that mountain biking on well designed trails causes no more damage than a hiker. There are also studies that show that the safety and conflict issues are overblown.

Please use this PEIR as an opportunity use scientific facts to guide policy and adjust 30 year old regulations that need revision.

I am submitting the the attached comments regarding safety and the environment.

Thank you again for the opportunity to comment.

Sincerely,

Jackson Ratcliffe  
114 Palm Ave  
Corte Madera, CA 94925

September 21, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

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Please use this PEIR as an opportunity use scientific facts to guide policy and adjust 30 year old regulations that need revision.

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## **Scientific Basis and Data for Safety Issues**

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By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more "dangerous" than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to "dangerous mountain biking" or similar statements should be removed from the PEIR.

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#### **B - Review and Summary of Findings of The Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Interior Department Report that we believe should be incorporated into the PEIR. Specifically, some of the more relevant findings in the Interior Department Report’s literature review are repeated here:

- Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral

differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

- Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

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### **C - Recommendations from the Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

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- Regulations restricting horse and ATV uses to designated trails are recommended.
- Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.
- Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the Interior Department Report, and the summary of findings from the Interior Department Report, the PEIR should incorporate these recommendations as well.

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One of the purposes of the Environmental Impact Report is to provide “a description of other road and trail use and management policies, construction standards, and best management practices (BMP)” ( PEIR page 1-1).

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- Design trails that provide the experience that trail users seek to reduce their desire to venture off-trail.
- Locate trails away from rare plants and animals and from sensitive or critical habitats of other species. Involve resource professionals in designing and approving new trail alignments.
- Keep trails narrow to reduce the total area of intensive tread disturbance, slow trail users, and minimize vegetation and soil impacts.
- Limit vegetation disturbance outside the corridor when constructing trails. Hand construction is least disruptive; mechanized construction with small equipment is less disruptive than full-sized equipment; skilled operators do less damage than those with limited experience.
- Locate trails on side-hills where possible. Constructing a side-hill trail requires greater initial vegetation and soil disturbance but sloping topography above and below the trail bench will clearly define the tread and concentrate traffic on it. Trails in flatter terrain or along the fall line may involve less initial disturbance but allow excessive future tread widening and off-tread trampling, which favor non-native plants.
- Use construction techniques that save and redistribute topsoil and excavated plants.

Some of the specific best management practices that IMBA recommends for avoiding the worst soil-related impacts to trails:

- Discourage or prohibit off-trail travel. Informal trails created by off-trail travel frequently have steep grades and fall-line alignments that quickly erode, particularly in the absence of tread maintenance. Exceptions include areas of solid rock or non-vegetated cobble.
- Design trails with sustainable grades and avoid fall-line alignments. (See p. 112 for more)
- When possible, build trails in dry, cohesive soils that easily compact and contain a larger percentage of coarse material or rocks. These soils better resist erosion by wind and water or displacement by feet, hooves and tires.
- Minimize tread muddiness by avoiding flat terrain, wet soils, and drainage-bottom locations.

- Use grade reversals to remove water from trail treads. Grade reversals are permanent and sustainable – when designed into a trail’s alignment they remain 100 percent effective and rarely require maintenance.

One of the goals of an EIR is to provide best management practices and the current EIR’s research, review and integration of best management practices is inadequate and should leverage the techniques and experience that IMBA can provide.

### **E - Literature Review - Horseback Riding**

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, sub section ‘Horseback Riding’, on page 6-34, the PEIR makes two conclusions:

- Many types of impacts from horses are similar to those from hiking.
- While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the Interior Department Report which concluded:

1. Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.
2. Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.
3. Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.

Additionally, it appears that the conclusions in the PEIR do not match those of Pickering. The current PEIR concludes:

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified. ( page 3-34 )

Whereas the conclusion of the Pickering study actually states:

There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. (page 557)

With regards to literature review of Horseback Riding, the research sources for the current draft of the PEIR are inadequate and additional sources should include the Interior Department Report.

Additionally, the PEIR conclusion on horseback riding incorrectly quotes one of the references cited. This incorrect citation makes the conclusion inadequate and should be remedied.

### **F - Literature Review - COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING - Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then cites Pickering when concluding “there is little consensus in the literature as to whether any one particular use is more damaging than another (Pickering et al 2008)”. In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organizations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.(emphasis added)”

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

### **G - Different Rules In Spite of Similar Impact**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

Thank you again for the opportunity to comment.

Sincerely,

Jackson Ratcliffe  
114 Palm Ave  
Corte Madera, CA 94925

**From:** [Toby Roessingh](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR  
**Date:** Saturday, September 20, 2014 8:20:12 AM

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September 18, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and FILL IN WHY YOU CARE HERE

I am submitting the following comments:

#### Scientific Basis and Data for Safety Issues

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

#### A – Provide Empirical Data on Safety or State There is No Data

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

#### B – No Reference to California State Parks Trail Use Conflict Study

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, "Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces."

#### C – The Significant Research Findings of the California State Parks Trail Use Conflict Study

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.

Complaints and controversy about other trail users are common.

Actual incidents, including those involving accidents, between trail users are relatively rare.

Design of trails to accommodate multiple use helps to avoid or reduce conflict.

User education and outreach are key methods to avoid or reduce conflict.

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

#### Marin County Code Regulates Safety and Speed on Public Trails

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

#### Erosion and Trail Impact Studies and Conclusions

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers on the impact of various trail use, we believe that the research references as well as the incorporation of conclusions and recommendations from these research in the PEIR are inadequate.

A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”

The National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” This study included a literature review considerably more extensive than the two listed in table 6-2. The study also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the reputable nature of the author of the report, and the direct applicability of both the literature review as well as the

scientific study, the PEIR should include this study in table 6-2.

B – Review and Summary of Findings of Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”

There are some key findings from the Department of the Interior Report that we believe should be incorporated into the PEIR. Some of the more relevant findings in the report’s literature review are repeated here:

Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

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Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The current PEIR’s review and conclusions of trail impact by user groups is inadequate and should include the findings from the 2006 Department of the Interior Report.

C – Recommendations from the Department of the Interior Report

There are some key recommendations from the Department of the Interior Report that we believe should be incorporated into the PEIR.

Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)

Regulations restricting horse and ATV uses to designated trails are recommended.

Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.

Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the 2006 Department of the Interior Report, and the summary of findings from this report, the PEIR should incorporate the recommendations as well.

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equestrians as opposed to other trail users on wildlife have been poorly quantified.

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Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.

Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.”

Nor do these conclusions match that of Pickering:

“with horse riding appearing to have greater impacts per user than hiking.”

The PEIR should properly include more research sources, including one funded by the Department of the Interior, and appropriately update the conclusions on what activities are more destructive to the environment than others.

#### E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then states “there is little consensus in the literature as to whether any one particular use is more damaging than another” (Pickering et al 2008). In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

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Thank you for your consideration.

Toby Roessingh  
(650) 465 - 9517  
[tobyroessingh@gmail.com](mailto:tobyroessingh@gmail.com)

**From:** [Aaron Schohn](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR  
**Date:** Sunday, September 21, 2014 10:14:28 PM

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September 21, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and am an avid outdoors enthusiast. My family and I hike and bike extensively through MCOSD land. We thank you for your efforts to date in putting together a set of documents that will allow Marin to move forward in its handling of open space land. While I think the documents reflect a great amount of effort and compromise, do feel some further changes need to be made, as detailed below.

I am submitting the following comments:

### **Scientific Basis and Data for Safety Issues**

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- Locate trails away from rare plants and animals and from sensitive or critical habitats of other species. Involve resource professionals in designing and approving new trail alignments.
- Keep trails narrow to reduce the total area of intensive tread disturbance, slow trail users, and minimize vegetation and soil impacts.
- Limit vegetation disturbance outside the corridor when constructing trails. Hand construction is least disruptive; mechanized construction with small equipment is less disruptive than full-sized equipment; skilled operators do less damage than those with limited experience.
- Locate trails on side-hills where possible. Constructing a side-hill trail requires greater initial vegetation and soil disturbance but sloping topography above and below the trail bench will clearly define the tread and concentrate traffic on it. Trails in flatter terrain or along the fall line may involve less initial disturbance but allow excessive future tread widening and off-tread trampling, which favor non-native plants.
- Use construction techniques that save and redistribute topsoil and excavated plants.

Some of the specific best management practices that IMBA recommends for avoiding the worst soil-related impacts to trails:

- Discourage or prohibit off-trail travel. Informal trails created by off-trail travel frequently have steep grades and fall-line alignments that quickly erode, particularly in the absence of tread maintenance. Exceptions include areas of solid rock or non-vegetated cobble.
- Design trails with sustainable grades and avoid fall-line alignments. (See p. 112 for more)

- When possible, build trails in dry, cohesive soils that easily compact and contain a larger percentage of coarse material or rocks. These soils better resist erosion by wind and water or displacement by feet, hooves and tires.
- Minimize tread muddiness by avoiding flat terrain, wet soils, and drainage-bottom locations.
- Use grade reversals to remove water from trail treads. Grade reversals are permanent and sustainable – when designed into a trail’s alignment they remain 100 percent effective and rarely require maintenance.

One of the goals of an EIR is to provide best management practices and the current EIR’s research, review and integration of best management practices is inadequate and should leverage the techniques and experience that IMBA can provide.

## E – Literature Review – Horseback Riding

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, sub section ‘Horseback Riding’, on page 6-34, the PEIR makes two conclusions:

- Many types of impacts from horses are similar to those from hiking.
- While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the Interior Department Report which concluded:

1. Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.
2. Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.
3. Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.

Additionally, it appears that the conclusions in the PEIR do not match those of Pickering. The current PEIR concludes:

While equestrians may have similar impacts on wildlife as other types of trail use,

the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified. ( page 3-34 )

Whereas the conclusion of the Pickering study actually states:

There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. (page 557)

With regards to literature review of Horseback Riding, the research sources for the current draft of the PEIR are inadequate and additional sources should include the Interior Department Report.

Additionally, the PEIR conclusion on horseback riding incorrectly quotes one of the references cited. This incorrect citation makes the conclusion inadequate and should be remedied.

## **F – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then cites Pickering when concluding “there is little consensus in the literature as to whether any one particular use is more damaging than another (Pickering et al 2008)”. In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with **horse riding appearing to have greater impacts per user than hiking**. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific

impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organizations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.(emphasis added)”

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

Thank you again for the opportunity to comment.

Sincerely

Aaron Schohn

6 Creekside Way

Mill Valley, CA 94941

From: [Ethan Schwartz](#)  
To: [Raives, James](#)  
Subject: Road and Trail Management Plan  
Date: Monday, September 22, 2014 11:01:46 AM

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September 18, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and I, my wife, my 10 year old daughter and 6 year old son use the open space regularly. We mountain bike as a family and as individuals, and we are frustrated at the way mountain bikers are treated in land use plans as trails are set aside for other user groups (notably equestrians) and we are excluded. It is an unfair policy in our eyes and we want it to change.

I am submitting the following comments:

### **Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

#### **A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

#### **B – No Reference to California State Parks Trail Use Conflict Study**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

### **C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.

Complaints and controversy about other trail users are common.

Actual incidents, including those involving accidents, between trail users are relatively rare.

Design of trails to accommodate multiple use helps to avoid or reduce conflict.

User education and outreach are key methods to avoid or reduce conflict.

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

### **Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way.

There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

### **Erosion and Trail Impact Studies and Conclusions**

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers on the impact of various trail use, we believe that the research references as well as the incorporation of conclusions and recommendations from these research in the PEIR are inadequate.

**A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

The National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” This study included a literature review considerably more extensive than the two listed in table 6-2. The study also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the reputable nature of the author of the report, and the direct applicability of both the literature review as well as the scientific study, the PEIR should include this study in table 6-2.

**B – Review and Summary of Findings of Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Department of the Interior Report that we believe should be incorporated into the PEIR. Some of the more relevant findings in the report’s literature review are repeated here:

Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34). Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)

Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The current PEIR’s review and conclusions of trail impact by user groups is inadequate and should include the findings from the 2006 Department of the Interior Report.

**C – Recommendations from the Department of the Interior Report**

There are some key recommendations from the Department of the Interior Report that we believe should be incorporated into the PEIR.

Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)

Regulations restricting horse and ATV uses to designated trails are recommended.

Restricting higher impact uses to graveled trails during wet seasons is also recommended.

Trail use when soils are wet is considerably more damaging than when soils are dry.

Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse

and ATV use or restricting them to well-designed and maintained alignments. In addition to referencing the 2006 Department of the Interior Report, and the summary of findings from this report, the PEIR should incorporate the recommendations as well.

#### **D – Literature Review – Horseback Riding**

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, ‘Horseback Riding’ on page 6-34, the PEIR makes two conclusions:

Many types of impacts from horses are similar to those from hiking. While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified. These conclusions are not supported by the findings of the 2006 Department of the Interior Report which concluded:

Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot. Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles. Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.”

Nor do these conclusions match that of Pickering:

“with horse riding appearing to have greater impacts per user than hiking.”

The PEIR should properly include more research sources, including one funded by the Department of the Interior, and appropriately update the conclusions on what activities are more destructive to the environment than others.

#### **E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

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organisations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

### **E – Different Rules In Spite of Similar Impact**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

Thank you for your time,

Ethan Schwartz, Ph.D.  
Licensed Psychologist PSY 20986  
2340 Ward St., St. 204  
Berkeley, CA 94709  
(510) 658-5887

**From:** [James Bikes Green](#)  
**To:** [Raives, James](#)  
**Subject:** Road and Trail Management Comment  
**Date:** Saturday, September 20, 2014 10:53:08 AM

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Thank you for receiving public input on the new plan for our open space.

I appreciate some of the revisions to create a great outdoor experience for mountain biking, but I would like to see the "Dangerous Mountain Biking" policy broadened to a larger conversation on trail safety and that CA State Parks Appendix C be used as reference for this section.

Thanks again and I'll see you on our trails!

--

James "Bikes Green" Sievert  
[Marin County Safe Routes to Schools](#)  
[Elementary Teacher - Cycling Instructor - Bike Expert](#)



**From:** [Vanessa Slavich](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR  
**Date:** Thursday, September 18, 2014 3:07:14 PM

---

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Bay Area and am an outdoor enthusiast.

I am submitting the following comments:

### **Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

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Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

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Thanks again for your consideration.

Vanessa Slavich

**From:** [Beau Smith](#)  
**To:** [Raives, James](#)  
**Cc:** [jake moritz](#)  
**Subject:** RTMP Draft TPEIR  
**Date:** Thursday, September 18, 2014 3:05:35 PM

---

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and FILL IN WHY YOU CARE HERE

I am submitting the following comments:

### **Scientific Basis and Data for Safety Issues**

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Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34).

Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)

Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The current PEIR's review and conclusions of trail impact by user groups is inadequate and should include the findings from the 2006 Department of the Interior Report.

### **C – Recommendations from the Department of the Interior Report**

There are some key recommendations from the Department of the Interior Report that we believe should be incorporated into the PEIR.

Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)

Regulations restricting horse and ATV uses to designated trails are recommended.

Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.

Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the 2006 Department of the Interior Report, and the summary of findings from this report, the PEIR should incorporate the recommendations as well.

### **D – Literature Review – Horseback Riding**

In the section "LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT", 'Horseback Riding' on page 6-34, the PEIR makes two conclusions:

Many types of impacts from horses are similar to those from hiking.

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the 2006 Department of the Interior Report which concluded:

Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.

Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails."

Nor do these conclusions match that of Pickering:

"with horse riding appearing to have greater impacts per user than hiking."

The PEIR should properly include more research sources, including one funded by the Department of the Interior, and appropriately update the conclusions on what activities are more destructive to the environment than others.

### **E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that "mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat" and that "impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails". Yet in spite of these references, the PEIR then states "there is little consensus in the literature as to whether any one particular use is more damaging than another" (Pickering et al 2008). In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say "there is little consensus in the literature as to whether any one particular use is more damaging than another". The

exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organisations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

#### **E – Different Rules In Spite of Similar Impact**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

Thanks you,

**Beau Smith**, Bay Area Cyclist.

**From:** [Jeffrey Smith](#)  
**To:** [Raives, James](#)  
**Subject:** Please strengthen the mountain bike friendly plan  
**Date:** Saturday, September 20, 2014 3:21:49 PM

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Dear Mr Raives:

1. Thank you for the opportunity to comment on the plan and participate in its development.
2. My family and I appreciate the bike friendly revisions, including priority-use and time allocated trails.
3. I would like to suggest that "mountain biking" be removed from policy SW.13: Prohibition on Dangerous Mountain Biking to address all dangerous activities or that policies be added to address the safety expectations of equestrians and pedestrians as well.
4. I ask that Parks reference CA State Parks Appendix C - Trail Use Conflict Study in the PEIR when addressing safety and user conflict.

Thank you,

Jeffrey Smith  
Tiburon, CA

**From:** [Luke](#)  
**To:** [Raives, James](#)  
**Subject:** Draft Tiered Programatic Environmental Impact Report  
**Date:** Sunday, September 21, 2014 9:20:57 PM

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Thanks for the chance to comment on this report - I'm especially happy to see many of the recent revisions, including time allocated trails and priority-use trails. The trail decommissioning changes are also a huge deal to me - I'm happy to see the possibility of Marin making better strides towards new trails.

I'm a little concerned about SW.13 - The prohibition on dangerous mountain biking. This seems to unreasonably single out mountain bikers, when the policies seem like they should apply to at least equestrian and pedestrian activity as well. Ideally, I'd really like to see this policy apply to *\*all\** dangerous activity, not just mountain biking. Singling out this activity sends the wrong message, and potentially opens the door for activities that are just as dangerous as mountain biking in the future.

Thanks for your consideration -

--

Luke St.Clair

**From:** [nathan.spindel](mailto:nathan.spindel)  
**To:** [Raives,James](mailto:Raives,James)  
**Subject:** RTMP Draft TPEIR  
**Date:** Thursday, September 18, 2014 2:49:24 PM

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Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and FILL IN WHY YOU CARE HERE

I am submitting the following comments:

### **Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

#### **A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

#### **B – No Reference to California State Parks Trail Use Conflict Study**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, "Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces."

#### **C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.

Complaints and controversy about other trail users are common.

Actual incidents, including those involving accidents, between trail users are relatively rare.

Design of trails to accommodate multiple use helps to avoid or reduce conflict.

User education and outreach are key methods to avoid or reduce conflict.

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

### **Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

### **Erosion and Trail Impact Studies and Conclusions**

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers on the impact of various trail use, we believe that the research references as well as the incorporation of conclusions and recommendations from these research in the PEIR are inadequate.

#### **A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

The National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” This study included a literature review considerably more extensive than the two listed in table 6-2. The study also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the reputable nature of the author of the report, and the direct applicability of both the literature review as well as the scientific study, the PEIR should include this study in table 6-2.

#### **B – Review and Summary of Findings of Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Department of the Interior Report that we believe should be incorporated into the PEIR. Some of the more relevant findings in the report’s literature review are repeated here:

Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

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(page 35)

Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The current PEIR's review and conclusions of trail impact by user groups is inadequate and should include the findings from the 2006 Department of the Interior Report.

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There are some key recommendations from the Department of the Interior Report that we believe should be incorporated into the PEIR.

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Regulations restricting horse and ATV uses to designated trails are recommended.

Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.

Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the 2006 Department of the Interior Report, and the summary of findings from this report, the PEIR should incorporate the recommendations as well.

### **D – Literature Review – Horseback Riding**

In the section "LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT", 'Horseback Riding' on page 6-34, the PEIR makes two conclusions:

Many types of impacts from horses are similar to those from hiking.

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These conclusions are not supported by the findings of the 2006 Department of the Interior Report which concluded:

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Nor do these conclusions match that of Pickering:

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The PEIR should properly include more research sources, including one funded by the Department of the Interior, and appropriately update the conclusions on what activities are more destructive to the environment than others.

### **E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

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In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

From: [Aaron Spindell](#)  
To: [Raives, James](#)  
Subject: RTMP Draft TPEIR  
Date: Monday, September 22, 2014 10:09:33 AM

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Hello Mr. Raives,

The following is in regards to the RTMP Draft TPEIR. I've lived in Marin County my whole life and I've found that there are a few problems with the language in the draft that effects my favorite pass time that should be resolved.

#### Scientific Basis and Data for Safety Issues

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

#### A – Provide Empirical Data on Safety or State There is No Data

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

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By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

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There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

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Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers detailing the impact of various trail uses, we believe that these references, as well as the incorporation into the PEIR of conclusions and recommendations from these references are inadequate.

#### A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”

In 2006, the National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” (subsequently referred to as the “Interior Department Report”). This report included a literature review considerably more extensive than the two listed in table 6-2. The Interior Department Report also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the direct applicability of the literature review as well as the scientific study and fact based approach required by the National Park Service and the United States Department of the Interior, the PEIR should include the Interior Department Report in table 6-2.

B – Review and Summary of Findings of The Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”

There are some key findings from the Interior Department Report that we believe should be incorporated into the PEIR. Specifically, some of the more relevant findings in the Interior Department Report’s literature review are repeated here:

Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

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The Interior Department Report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

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Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The review and conclusions of trail impact by user groups in the current draft of the PEIR is inadequate and should include the findings from the Interior Department Report.

C – Recommendations from the Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”

There are some key recommendations from the Interior Department Report that that we believe should be incorporated into the PEIR.

Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)

Regulations restricting horse and ATV uses to designated trails are recommended.

Restricting higher impact uses to graveled trails during wet seasons is also recommended.

Trail use when soils are wet is considerably more damaging than when soils are dry.

Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the Interior Department Report, and the summary of findings from the Interior Department Report, the PEIR should incorporate these recommendations as well.

D – No Integration of International Mountain Biking Association Data for Best Management Practices

One of the purposes of the Environmental Impact Report is to provide “a description of other road and trail use and management policies, construction standards, and best management practices (BMP)” ( PEIR page 1-1).

The International Mountain Biking Association (IMBA) is the world’s definitive leader and expert on the impacts of mountain biking and the best management practices for mountain biking. IMBA’s scientific and reasonable approach is so well respected that the Sierra Club, in conjunction with IMBA, modified their policies and now “recognizes that bicyclists can be legitimate users of many non-Wilderness backcountry trails and supports responsible off-road bicycling.” (Sierra Club Off Road use of Bicycles Policy). Although the PEIR includes a reference to an IMBA study in table 6-2, the only reference to that article is in the section regarding Mountain Biking and Night Lighting, and there are no references to the various best management practices that IMBA has available.

Some of the specific best management practices that IMBA recommends to reduce vegetation impacts are:

Design trails that provide the experience that trail users seek to reduce their desire to venture off-trail.

Locate trails away from rare plants and animals and from sensitive or critical habitats of other species. Involve resource professionals in designing and approving new trail alignments.

Keep trails narrow to reduce the total area of intensive tread disturbance, slow trail users, and minimize vegetation and soil impacts.

Limit vegetation disturbance outside the corridor when constructing trails. Hand construction is least disruptive; mechanized construction with small equipment is less disruptive than full-sized equipment; skilled operators do less damage than those with limited experience.

Locate trails on side-hills where possible. Constructing a side-hill trail requires greater initial vegetation and soil disturbance but sloping topography above and below the trail bench will clearly define the tread and concentrate traffic on it. Trails in flatter terrain or along the fall line may involve less initial disturbance but allow excessive future tread widening and off-tread trampling, which favor non-native plants.

Use construction techniques that save and redistribute topsoil and excavated plants.

Some of the specific best management practices that IMBA recommends for avoiding the worst soil-related impacts to trails:

Discourage or prohibit off-trail travel. Informal trails created by off-trail travel frequently have steep grades and fall-line alignments that quickly erode, particularly in the absence of tread maintenance. Exceptions include areas of solid rock or non-vegetated cobble.

Design trails with sustainable grades and avoid fall-line alignments. (See p. 112 for more)

When possible, build trails in dry, cohesive soils that easily compact and contain a larger percentage of coarse material or rocks. These soils better resist erosion by wind and water or displacement by feet, hooves and tires.

Minimize tread muddiness by avoiding flat terrain, wet soils, and drainage-bottom locations.

Use grade reversals to remove water from trail treads. Grade reversals are permanent and sustainable – when designed into a trail’s alignment they remain 100 percent effective and rarely require maintenance.

One of the goals of an EIR is to provide best management practices and the current EIR’s research, review and integration of best management practices is inadequate and should

leverage the techniques and experience that IMBA can provide.

#### E – Literature Review – Horseback Riding

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, sub section ‘Horseback Riding’, on page 6-34, the PEIR makes two conclusions:

Many types of impacts from horses are similar to those from hiking.

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the Interior Department Report which concluded:

Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.

Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.

Additionally, it appears that the conclusions in the PEIR do not match those of Pickering. The current PEIR concludes:

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified. ( page 3-34 )

Whereas the conclusion of the Pickering study actually states:

There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. (page 557)

With regards to literature review of Horseback Riding, the research sources for the current draft of the PEIR are inadequate and additional sources should include the Interior Department Report.

Additionally, the PEIR conclusion on horseback riding incorrectly quotes one of the references cited. This incorrect citation makes the conclusion inadequate and should be remedied.

#### F – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then cites Pickering when concluding “there is little

consensus in the literature as to whether any one particular use is more damaging than another (Pickering et al 2008)”. In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organizations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.(emphasis added)”

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

#### G – Different Rules In Spite of Similar Impact

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

Best Regards,  
Aaron Spindell  
Fairfax, CA

**From:** [Chris Stein](#)  
**To:** [Raives, James](#)  
**Subject:** Comment on RTMP Draft TPEIR  
**Date:** Saturday, September 20, 2014 4:53:13 AM

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Dear Mr. Raives,

I'm a lifelong Marinite and a longtime mountain biker and lover of Marin's trails. I've been encouraged by provisions in the RTMP that would take steps to allow equal access for all trail users in Marin, including mountain bikers. I have high hopes that this plan will end some of the unwarranted stigma of mountain bikers perpetuated by a vocal minority in the county, as well as reduce the possibility that actual conflicts between users will occur. However, I remain concerned by one aspect of the plan that I believe is unfair towards mountain bikers and sets a bad precedent for how land is managed and public policy formulated in Marin county.

The RTMP and PEIR employ language singling out "Dangerous Mountain Biking." This language is unnecessary and promotes the idea that the only trail users capable of creating a dangerous environment are mountain bikers. This conclusion is based not on data, but on perception and stigma, neither of which should be the basis for forming public policy. The California State Parks's own study on trail use conflict has found no data supporting the conclusion that mountain bikers are particularly dangerous trail users, and has said that actual incidences on the trails between users are relatively rare. County ordinances already address bicycle speed and right-of-way on trails, rendering the language in the RTMPY and PEIR redundant at best and stigmatizing at worst. Public safety should be a top priority both for land managers and for this plan, but it should be dealt with universally, with well-sourced data and without targeting a particular group of trail users. Any language singling out "Dangerous Mountain Biking" should be removed from the RTMP and the PEIR.

I thank you for taking the time to read my concerns.

Sincerely,

Chris Stein

79 Bennett Ave.  
San Anselmo, CA 94960

**From:** [Chris Upjohn](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR  
**Date:** Thursday, September 18, 2014 5:22:50 PM

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Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and am an avid cyclist, both road and mountain. I love Marin dearly.

I am submitting the following comments:

### **Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

#### **A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

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In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, "Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces."

#### **C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.

Complaints and controversy about other trail users are common.

Actual incidents, including those involving accidents, between trail users are relatively rare.

Design of trails to accommodate multiple use helps to avoid or reduce conflict.

User education and outreach are key methods to avoid or reduce conflict.

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

### **Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

### **Erosion and Trail Impact Studies and Conclusions**

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers on the impact of various trail use, we believe that the research references as well as the incorporation of conclusions and recommendations from these research in the PEIR are inadequate.

#### **A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

The National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” This study included a literature review considerably more extensive than the two listed in table 6-2. The study also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the reputable nature of the author of the report, and the direct applicability of both the literature review as well as the scientific study, the PEIR should include this study in table 6-2.

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There are some key findings from the Department of the Interior Report that we believe should be incorporated into the PEIR. Some of the more relevant findings in the report’s literature review are repeated here:

Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34). Several trail design-related factors were found to have substantial influence on levels of trail degradation.

(page 35)

Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The current PEIR's review and conclusions of trail impact by user groups is inadequate and should include the findings from the 2006 Department of the Interior Report.

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There are some key recommendations from the Department of the Interior Report that we believe should be incorporated into the PEIR.

Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)

Regulations restricting horse and ATV uses to designated trails are recommended.

Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.

Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the 2006 Department of the Interior Report, and the summary of findings from this report, the PEIR should incorporate the recommendations as well.

### **D – Literature Review – Horseback Riding**

In the section "LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT", 'Horseback Riding' on page 6-34, the PEIR makes two conclusions:

Many types of impacts from horses are similar to those from hiking.

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the 2006 Department of the Interior Report which concluded:

Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.

Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails."

Nor do these conclusions match that of Pickering:

"with horse riding appearing to have greater impacts per user than hiking."

The PEIR should properly include more research sources, including one funded by the Department of the Interior, and appropriately update the conclusions on what activities are more destructive to the environment than others.

### **E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that "mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat" and that "impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails". Yet in spite of these references, the PEIR then states "there is little consensus in the literature as to whether any one particular use is more damaging than another" (Pickering et al 2008). In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say "there is little consensus in the literature as to whether any one particular use is more damaging than another". The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organisations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

#### **E – Different Rules In Spite of Similar Impact**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

Thank you for your time and attention.

Sincerely,  
Chris Upjohn

From: [Tammy Wallace](#)  
To: [Raives, James](#)  
Subject: RTMP Draft TPEIR  
Date: Thursday, September 18, 2014 2:24:40 PM

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September 18, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

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Scientific Basis and Data for Safety Issues

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From: [dww@ao.com](mailto:dww@ao.com)  
To: [Raives, James](#)  
Date: Monday, September 22, 2014 1:48:05 PM

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Dear Mr. Raives

I am frequent user of Marin open space ,I would like to comment on proposed PEIR .My concerns are listed below.

A –

#### **Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

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Thank you David Wolden

September 20, 2014  
Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260 San Rafael, CA 94903  
Attention: Jaimes Raives, Senior Open Space Planner  
SUBJECT: RTMP Draft TPEIR Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and I love mountain biking here. We have such awesome trails and views, that I want to make sure we don't lose access to them, and can share them with pedestrians and horseback riders.

I am submitting the following comments:

#### Scientific Basis and Data for Safety Issues

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The current PEIR's review and conclusions of trail impact by user groups is inadequate and should include the findings from the 2006 Department of the Interior Report.

#### C – Recommendations from the Department of the Interior Report

There are some key recommendations from the Department of the Interior Report that we believe should be incorporated into the PEIR.

Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)

Regulations restricting horse and ATV uses to designated trails are recommended.

Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.

Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the 2006 Department of the Interior Report, and the summary of findings from this report, the PEIR should incorporate the recommendations as well.

#### D – Literature Review – Horseback Riding

In the section "LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT", 'Horseback Riding' on page 6-34, the PEIR makes two conclusions:

Many types of impacts from horses are similar to those from hiking.

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the 2006 Department of the Interior Report which concluded:

Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.

Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.”

Nor do these conclusions match that of Pickering:

“with horse riding appearing to have greater impacts per user than hiking.”

The PEIR should properly include more research sources, including one funded by the Department of the Interior, and appropriately update the conclusions on what activities are more destructive to the environment than others.

#### E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then states “there is little consensus in the literature as to whether any one particular use is more damaging than another” (Pickering et al 2008). In reviewing the exact conclusions of the Pickering report, we believe that MCOSED has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organisations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

#### E – Different Rules In Spite of Similar Impact

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

Thank you for your Consideration,

Bernard Zylberberg CompuCoach Since 1995: Computer & Business Consulting PCs, Macs, Sales, Installs, Training, Hard/Software, Networking, Wireless, Security, Payroll, Quickbooks Expert. 875 Flaxberry Lane San Rafael, Ca 94903 415-505-0091 [bernard@compucoach.org](mailto:bernard@compucoach.org)

**From:** [Craig Anderson](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP RD TPEIR Comments  
**Date:** Sunday, September 21, 2014 1:50:52 PM

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Dear Mr. Raives,

I am a Novato resident, am an active hiker, dog walker and mountain biker and have been following the RTMP process along for the past several years. During this time I have attended a number of meetings and have seen what appears to be progress towards more equal access by different user groups but still have a number of concerns about some language that appears to be biased against mountain bikers.

61-1

Over the past 20+ years the various Marin land management agencies, including Marin Parks, have banned mountain bikes from most narrow use trails while the population of mountain bikers has dramatically increased. Rather than adjusting use policies or building more trails, the manager's resources have been spent on enforcement. As a result we've seen an increase in the formation of social trails, tickets and most importantly an increase in animosity towards the biking community that has been fueled by these land use and enforcement policies.

As someone who has traveled, and biked/hiked in other preserves such as those managed by East Bay Parks or Midpeninsula where hikers, bikers and equestrians are allowed to share trails – in these preserves the mountain bikers are not labeled as dangerous people and all groups get along with minimal to no safety issues.

- **RTMP Policy SW.13. Prohibition on Dangerous Mountain Biking. RDTPEIR 3-35**

62-2

Why call out mountain bikers as being dangerous and tied into speed limits. Few bikes have speedometers and even if they did there are times when exceeding 15mph is not dangerous, and times when speeds closer to 5mph are dangerous. This is a poorly written section that can be re-written to specify that – No user should behave negligently, recklessly and should at all times not endanger other users, and that mountain bikers should at all times yield to pedestrian and equestrian users. This is what occurs in other preserves and it works.

The RTMP could incorporate the language and results from the California State Parks study on Trail Use Conflicts which was certified in April of 2013. Why not leverage factual evidence from existing studies.? What works outside of Marin will also work in Marin.

- **RTMP Policy SW.3. Social Trails. RDTPEIR 3-33.** Social trails are subject to decommission if their volume of use increases or are used by equestrians or bikers

62-3

Social trails should not be decommissioned. They are there as you as land managers have not created appropriate access and routes. Parks should consider adopting these trails and in many cases allow local residents to volunteer time for maintenance such as trimming branches and erosion control. Work with the social trails, not against them. Hikers, bikers, equestrians and off leash dogs should be considered allowable on most of the social trails in the Novato preserves.

I appreciate the opportunity to take part in the RTMP process and am optimistic that this animosity created over the years towards mountain bikers will soon be reversed and we can all move forward

62-4

on equal footing.

Thank you for your consideration,

Craig Anderson

[craighande@hotmail.com](mailto:craighande@hotmail.com)

415 883 0603

## Response to Letter 61

**Commenter** Craig Anderson  
September 21, 2014

---

- 61-1 *The comment provides background information, and history regarding mountain bike use of open space trails and MCOSED enforcement activities.*

The comment provides background information, but does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSED Board of Directors.

- 61-2 *The comment objects to the wording of RTMP policy SW.13, and requests that the policy be broadened to include all user groups. Additionally, the comment requests that the MCOSED incorporate the findings of a study prepared by California State Parks in addressing safety and user conflict. This issue topic is based on the sections designated as MR-2 to MR-4 in the in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 to MR-4 beginning on page 3-21 of this Final TPEIR.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSED Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 61-3 *The comment requests that RTMP Policy SW.3, Social Trails, be revised so that social trails are adopted into the formal trail system and that all users be permitted to access these trails.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question

the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 61-4 *The comment expresses a desire that the perceived animosity towards mountain bikers be reversed, and that a more equal approach to trail use will be adopted by the MCOSD.*

The comment provides an opinion. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

**From:** [Peter Badger](#)  
**To:** [Raives, James](#)  
**Cc:** [Helen Badger](#)  
**Subject:** Comments on the PEIR for the Roads and Trails Management Plan  
**Date:** Monday, September 22, 2014 1:44:26 PM

---

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in San Anselmo and am an avid hiker and mountain biker. Our entire family hits the trails frequently by mountain bike or by foot and we care about equal access for all.

I am submitting the following comments:

1. I have big concerns about the inflammatory and often qualitative statements in these drafts about safety concerns due to mountain bikers. As you know, Marin County Code Regulates Safety and Speed on Public Trails already; the existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to "dangerous" mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code. The vast majority of us make sure that the trails are safe for hikers, bikers and horse riders alike (in the same way that a few people on the roads will continue to speed and drive dangerously, there will always be a few outliers). Much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories; for the sake of fairness, I would request that these be removed. **62-1**

2. I've been frustrated that certain trails are closed to mountain bikers in Marin and the report continues to suggest this approach even though the study suggests access should be equal. I refer you to Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces." The RTPEIR cites "Marion and Wimpey which concludes that **62-2**

mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use." This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria. Thus in spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

**62-2  
cont.**

Our family loves hiking and biking locally on our Marin trails. I trust that equal consideration will be given to all forms of recreation in an inclusive manner going forward.

**62-3**

Thank you again for the opportunity to comment.

Sincerely,

Peter M. Badger

72 Laurel Ave  
San Anselmo  
CA 94960

## Response to Letter 62

**Commenter** Peter Badger  
September 22, 2014

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62-1 *The comment expresses the opinion that mountain bicycles pose no more danger on multi-use trails than other uses, and that Marin County Code regulations provide sufficient regulation of bicycle use. The comment incorporates the section designated as MR-5 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comment MR-5 beginning on page 3-23 of this Final TPEIR.

62-2 *The comment expresses the opinion that mountain biking has no more impact on the environment than other uses, and that bikers should therefore have equal access to trails. The comment also incorporates the section designated as MR-12 in the comment letter template prepared by Access4Bikes.*

For a response to this comment, please refer to the master responses to the Access4Bikes template for comment MR-12 beginning on page 3-31 of this Final TPEIR.

62-3 *The comment requests that the MCOSED give equal consideration to all forms of recreation.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSED Board of Directors.

From: [Amie Brooke](#)  
 To: [Raives, James](#)  
 Subject: SUBJECT: RTMP Draft TPEIR  
 Date: Thursday, September 18, 2014 10:50:50 AM

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Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in San Anselmo, own a business in Mill Valley, have two kids in the schools here and I am a hiker and a mountain biker.

I have also lived, hiked and biked in 3 other states that have successfully created shared trailed use between hikers, equestrians and bikers: Utah, Colorado and Idaho. In these 3 states (among many others) what works to create a more fair trail system is an **alternating use day system**...where hikers have full use of the trails all week and share them with bikers and horses on odd/even days. In a large metropolitan area like Salt Lake City with trails bordering the city, they have figured out multi-user trail planning- so WHY can't we do something similar in Marin County? <http://www.mtbproject.com/directory/166771/salt-lake-city>.

63-1

I am ready to start lobbying fervently on this issue with the county, as bikers are not allowed on most trails rarely used by hikers and equestrians... this is NOT equitable or legal - let alone rational. Mountain biking is not a crime and writing expensive tickets to people trying to recreate and stay in shape outdoors is an outright TRAVESTY and poor use of law enforcement time and dollars.

63-2

I am submitting the following additional comments:

### **Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

63-3

### **A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

## **B – No Reference to California State Parks Trail Use Conflict Study**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

**63-3  
cont.**

## **C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.

Complaints and controversy about other trail users are common.

Actual incidents, including those involving accidents, between trail users are relatively rare.

Design of trails to accommodate multiple use helps to avoid or reduce conflict.

User education and outreach are key methods to avoid or reduce conflict.

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

## **Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

## **Erosion and Trail Impact Studies and Conclusions**

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers on the impact of various trail use, we

believe that the research references as well as the incorporation of conclusions and recommendations from these research in the PEIR are inadequate.

63-3  
cont.

**A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

The National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” This study included a literature review considerably more extensive than the two listed in table 6-2. The study also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the reputable nature of the author of the report, and the direct applicability of both the literature review as well as the scientific study, the PEIR should include this study in table 6-2.

**B – Review and Summary of Findings of Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Department of the Interior Report that we believe should be incorporated into the PEIR. Some of the more relevant findings in the report’s literature review are repeated here:

Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34). Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)

Even well-designed trails could sustain only low levels of horse use without gravel. (page 35). The current PEIR’s review and conclusions of trail impact by user groups is inadequate and should include the findings from the 2006 Department of the Interior Report.

**C – Recommendations from the Department of the Interior Report**

There are some key recommendations from the Department of the Interior Report that we believe should be incorporated into the PEIR.

Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)

Regulations restricting horse and ATV uses to designated trails are recommended.

Restricting higher impact uses to graveled trails during wet seasons is also recommended.

Trail use when soils are wet is considerably more damaging than when soils are dry.

Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments. In addition to referencing the 2006 Department of the Interior Report, and the summary of findings from this report, the PEIR should incorporate the recommendations as well.

**63-3  
cont.**

#### **D – Literature Review – Horseback Riding**

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, ‘Horseback Riding’ on page 6-34, the PEIR makes two conclusions:

Many types of impacts from horses are similar to those from hiking.

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the 2006 Department of the Interior Report which concluded:

Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.

Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.”

Nor do these conclusions match that of Pickering:

“with horse riding appearing to have greater impacts per user than hiking.”

The PEIR should properly include more research sources, including one funded by the Department of the Interior, and appropriately update the conclusions on what activities are more destructive to the environment than others.

#### **E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then states “there is little consensus in the literature as to whether any one particular use is more damaging than another” (Pickering et al 2008). In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity

specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organisations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.

63-3  
cont.

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

**E – Different Rules In Spite of Similar Impact**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

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-----  
Regards,

Amie

*Amie Brooke, MSOM*

Licensed Acupuncturist + Herbalist

[www.amiebrooke.com](http://www.amiebrooke.com)

Serving Marin & San Francisco

## Response to Letter 63

**Commenter** Amie Brooke  
September 18, 2014

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- 63-1 *The comment identifies a management technique that permits an equitable distribution of access for various classes of trail users, and suggests that such a system would be appropriate for use in Marin County.*

The comment addresses the manner in which multi-use recreation planning is conducted in Marin County, not the adequacy of the RD TPEIR. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 63-2 *The comment states that limiting access to trails by mountain bikes is inequitable, and leads to wasteful enforcement.*

The comment addresses the fairness, equitability, and legality of Marin County policies regarding mountain bike use of trails, not the adequacy of the EIR. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

- 63-3 *The comment incorporates sections designated as MR-2 through MR-8, and MR-10 through MR-12 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 through MR-8 and MR-10 through MR-12 beginning on page 3-21 of this Final TPEIR.

From: [Ross Blanchard](#)  
To: [Raives, James](#)  
Subject: RTMP Draft TPEIR  
Date: Thursday, September 18, 2014 10:08:57 PM

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Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and I use the trails in the headlands, Mt. Tam and points west several times a week and have done so for many years.

I am submitting the following comments:

1. In terms of trail user safety, there are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here : **64-1**
  - *Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.*
  - *Complaints and controversy about other trail users are common.*
  - *Actual incidents, including those involving accidents, between trail users are relatively rare.*
  - *Design of trails to accommodate multiple use helps to avoid or reduce conflict. User education and outreach are key methods to avoid or reduce conflict.*

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

In addition, in the hundreds of hours I've spent on these trails I have not experienced or seen any conflicts or other safety issues. Further, above Lake Lagunitas I rarely (if ever) encounter non-bikers on trails, except for weekends. I have never seen a horse above Lake Lagunitas. **64-2**

2. I believe a shared use system would be the most equitable arrangement - my anecdotal experience is that, given the relative remoteness of many trails and the time it takes for hikers and equestrians to reach many parts of the mountain, the large majority of trail users are bikers, particularly at higher elevations. Allowing bikes on these trails would only minimally impact other users, if at all (particularly during the week). I believe that the MCOSD should, at a minimum, allow bicycle access to most or all trails on alternate days or during certain time windows on all days. If there are concerns about trail impacts I'm sure most bikers would embrace an annual use pass to fund additional maintenance, similar to the one in place for Tamarancho, for example. **64-3**

Thank you again for the opportunity to comment

Sincerely,

Ross Blanchard  
15 Scenic Ave.  
San Anselmo, CA 94960

## Response to Letter 64

**Commenter** Ross Blanchard  
September 18, 2014

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64-1 *The comment incorporates sections designated MR-2 through MR-8, and MR-10 through MR-12 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 through MR-8 and MR-10 through MR-12 beginning on page 3-21 of this Final TPEIR.

64-2 *The comment provides information regarding conflicts, safety issues, and user types on MCOSD preserves.*

The comment provides information regarding trail uses above Lake Lagunitas. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

64-3 *This comment provides observations regarding trail use, and recommends a method for allowing multiple use of trails.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

**From:** [John Boeschen](#)  
**To:** [Raives, James](#)  
**Subject:** Draft RTMP PEIR Comments  
**Date:** Monday, September 22, 2014 10:11:04 AM

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Mr. Raives,

Thanks for letting me review the Draft RTMP PEIR.

The document is in many ways more balanced in regard to mt. biking. Thank, you.

However, one section still seems heavily slanted to the negative: SW.13: Prohibition on Dangerous Mountain Biking. Shouldn't a section like this be addressed to all users rather than highlighting one in the title? Equestrians and hikers don't engage in activities that require remedial actions? I know they do.

**65-1**

I'm definitely in favor of priority-use and time-allocated trails for all users.

**65-2**

Thanks again,

John Boeschen  
25 Valley View Ave.  
San Rafael, CA 94901

## Response to Letter 65

**Commenter** John Boeschen  
September 22, 2014

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65-1 *The comment requests that the reference to dangerous mountain biking be removed from RTMP Policy SW.13, or alternatively that the policy address all potentially dangerous activities by all classes of users. The comment also incorporates the sections designated as MR-2 and MR-3 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 and MR-3 beginning on page 3-21 of this Final TPEIR.

65-2 *The comment identifies possible management techniques to permit an equitable distribution of access for various classes of trail users.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSED Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

**From:** [David Carbonell](#)  
**To:** [Raives, James](#)  
**Subject:** In support of mountain bike access for Marin Open Space  
**Date:** Thursday, September 18, 2014 12:27:11 PM

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To Mr. Raives,

I have been told by various fellow mountain bikers to forward you this message, which I am doing below, in order to share my support for full mountain bike access to Marin Open Space. I know that the email copy/paste idea is a bit sterile, although the arguments made within are nonetheless valid.

66-1

I do want to say, however, that I am a recovering patient with leukemia and I also love to mountain bike. In fact, after moving to Fairfax last year, I feel like my time mountain biking in the hills in and around Fairfax has been incredibly rewarding and crucial to my recovery and health. I would love to see more of this land opened up to me and my fellow mountain bikers. Please consider my plea, as well as the pleas of others, when you are making decisions about Open Space access.

Sincerely,

David Carbonell, MD  
San Francisco Emergency Medical Associates  
919-272-2689  
[dacarbon@gmail.com](mailto:dacarbon@gmail.com)

September 18, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and FILL IN WHY YOU CARE HERE

I am submitting the following comments:

**Scientific Basis and Data for Safety Issues**

66-2

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

**A – Provide Empirical Data on Safety or State There is No Data****66-2,  
cont.**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

**B – No Reference to California State Parks Trail Use Conflict Study**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

**C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.

Complaints and controversy about other trail users are common.

Actual incidents, including those involving accidents, between trail users are relatively rare.

Design of trails to accommodate multiple use helps to avoid or reduce conflict.

User education and outreach are key methods to avoid or reduce conflict.

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict

Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

**66-2,  
cont.**

### **Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

### **Erosion and Trail Impact Studies and Conclusions**

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers on the impact of various trail use, we believe that the research references as well as the incorporation of conclusions and recommendations from these research in the PEIR are inadequate.

#### **A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

The National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” This study included a literature review considerably more extensive than the two listed in table 6-2. The study also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the reputable nature of the author of the report, and the direct applicability of both the literature review as well as the scientific study, the PEIR should include this study in table 6-2.

#### **B – Review and Summary of Findings of Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Department of the Interior Report that we believe should be incorporated into the PEIR. Some of the more relevant findings in the report’s literature review are repeated here:

Thurstan and Reader (2001) found no significant differences between the

vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5). Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34).

Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)

Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The current PEIR's review and conclusions of trail impact by user groups is inadequate and should include the findings from the 2006 Department of the Interior Report.

### **C – Recommendations from the Department of the Interior Report**

There are some key recommendations from the Department of the Interior Report that we believe should be incorporated into the PEIR.

Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)

Regulations restricting horse and ATV uses to designated trails are recommended. Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.

Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the 2006 Department of the Interior Report, and the summary of findings from this report, the PEIR should incorporate the recommendations as well.

### **D – Literature Review – Horseback Riding**

In the section "LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT", 'Horseback Riding' on page 6-34, the PEIR makes two conclusions:

Many types of impacts from horses are similar to those from hiking.

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been

poorly quantified.

These conclusions are not supported by the findings of the 2006 Department of the Interior Report which concluded:

66-2,  
cont.

Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.

Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.

Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.”

Nor do these conclusions match that of Pickering:

“with horse riding appearing to have greater impacts per user than hiking.”

The PEIR should properly include more research sources, including one funded by the Department of the Interior, and appropriately update the conclusions on what activities are more destructive to the environment than others.

### **E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then states “there is little consensus in the literature as to whether any one particular use is more damaging than another” (Pickering et al 2008). In reviewing the exact conclusions of the Pickering report, we believe that MCOSED has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organisations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

**E – Different Rules In Spite of Similar Impact**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

**66-2,  
cont.**

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

## Response to Letter 66

**Commenter** David Carbonell  
September 18, 2014

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66-1 *The comment provides introductory information, and requests that additional MCOSD preserves and facilities be made available for mountain biking.*

This comment expresses personal experiences and opinions. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

66-2 *The comment incorporates sections designated MR-2 through MR-8, and MR-10 through MR-12 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 through MR-8 and MR-10 through MR-12 beginning on page 3-21 of this Final TPEIR.

From: [Pippin Cavagnaro](#)  
To: [Raives, James](#)  
Subject: RTMP RD TPEIR Comments pc  
Date: Monday, September 22, 2014 10:43:02 AM

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September 22, 2014, 10:45 am

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and FILL IN WHY YOU CARE HERE

I am submitting the following comments:

1, a. WHERE IS THE LOCAL SAFTEY DATA?: Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

67-1

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

- 1, b. SAFTEY DATA COMPATED TO THE OTHE SIMILAR STATE MULTI US PARKS? In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the

Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

*Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.*

- *Complaints and controversy about other trail users are common.*
- *Actual incidents, including those involving accidents, between trail users are relatively rare.*
- *Design of trails to accommodate multiple use helps to avoid or reduce conflict.*
- *User education and outreach are key methods to avoid or reduce conflict.*

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

**2. WHERE ARE THE RELEVANT ENVIRONMENTAL STUDIES ABOUT BIKES AND MULTY USE?**

67-2

**A- No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

**B – Review and Summary of Findings of The Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.**

**C – Recommendations from the Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

**D – No Integration of International Mountain Biking Association Data for Best Management Practices**

**E – Literature Review – Horseback Riding Comparison?**

**G – Different Rules In Spite of Similar Impact-unfair treatment.**

**2. HEALTHY FAMILIES = HEALTHY HILLS:**

67-3

Taking my family and kids into the hills, teaching him to ride horses with a

riding clinic, walking, fishing and Mountain Biking are key to keeping our family in touch with the environment. Access to the open space is the main reason i live in Marin County. Teaching my kids to enjoy the hills and the trails and the streams is imperative to raising a healthy family and to saving the hills. They best way to steward the land is to go out and touch it, live with it, learn about it, and see how we can take care of it.

67-3,  
cont.

Biking, is a key element in keeping us connected with our environment and teaching respect for open space. We need to keep access four bikes to the hills OPEN so we can continue to teach our children by example of how to enjoy the land and keep both the land and our families healthy.

Thank you again for the opportunity to comment.

Sincerely,  
Pippin Cavagnaro  
po box 231

201 Redwood Drive

Woodacre, CA 94973  
Signed via email-pc

## Response to Letter 67

**Commenter** Pippin Cavagnaro  
September 22, 2014

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67-1 *The comment incorporates sections designated MR-2 through MR4 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 through MR4 beginning on page 3-21 of this Final TPEIR.

67-2 *The comment incorporates sections designated MR-6 through MR-12 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-6 through MR-12 beginning on page 3-24 of this Final TPEIR.

67-3 *The comment expresses the importance of providing access to open spaces, including access for bicycles.*

The comment provides background information on the importance of recreation. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

**Raives, James**

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**From:** rich cerick <richcerick@gmail.com>  
**Sent:** Sunday, September 21, 2014 2:04 PM  
**To:** Raives, James  
**Subject:** SUBJECT: RTMP Draft TPEIR

September 21, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

Dear Mr. Raives:

I am commenting on the PEIR for the Roads and Trails Management Plan. I live in Marin and FILL IN WHY YOU CARE HERE

I am submitting the following comments:

**1. Safety Considerations -**

**68-1**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

**A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

**B – No Reference to California State Parks Trail Use Conflict Study**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

### **C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

- *Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.*
- *Complaints and controversy about other trail users are common.*
- *Actual incidents, including those involving accidents, between trail users are relatively rare.*
- *Design of trails to accommodate multiple use helps to avoid or reduce conflict.*
- *User education and outreach are key methods to avoid or reduce conflict.*

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

#### **Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

## **2. Environmental Issues -**

### **Erosion and Trail Impact Studies and Conclusions**

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers detailing the impact of various trail uses, we believe that these references, as well as the incorporation into the PEIR of conclusions and recommendations from these references are inadequate. **68-1, cont.**

### **A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

In 2006, the National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” (subsequently referred to as the “Interior Department Report”). This report included a literature review considerably more extensive than the two listed in table 6-2. The Interior Department Report also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the direct applicability of the literature review as well as the scientific study and fact based approach required by the National Park Service and the United States Department of the Interior, the PEIR should include the Interior Department Report in table 6-2.

### **B – Review and Summary of Findings of The Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Interior Department Report that we believe should be incorporated into the PEIR. Specifically, some of the more relevant findings in the Interior Department Report’s literature review are repeated here:

- Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).
- Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The Interior Department Report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

- Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34).

- Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35) **68-1, cont.**
- Even well-designed trails could sustain only low levels of horse use without gravel. (page 35). The review and conclusions of trail impact by user groups in the current draft of the PEIR is inadequate and should include the findings from the Interior Department Report.

## **C – Recommendations from the Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key recommendations from the Interior Department Report that that we believe should be incorporated into the PEIR.

- Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)
- Regulations restricting horse and ATV uses to designated trails are recommended.
- Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.
- Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the Interior Department Report, and the summary of findings from the Interior Department Report, the PEIR should incorporate these recommendations as well.

## **D – No Integration of International Mountain Biking Association Data for Best Management Practices**

One of the purposes of the Environmental Impact Report is to provide “a description of other road and trail use and management policies, construction standards, and best management practices (BMP)” (PEIR page 1-1).

The International Mountain Biking Association (IMBA) is the world’s definitive leader and expert on the impacts of mountain biking and the best management practices for mountain biking. IMBA’s scientific and reasonable approach is so well respected that the Sierra Club, in conjunction with IMBA, modified their policies and now “recognizes that bicyclists can be legitimate users of many non-Wilderness backcountry trails and supports responsible off-road bicycling.” (Sierra Club Off Road use of Bicycles Policy). Although the PEIR includes a reference to an IMBA study in table 6-2, the only reference to that article is in the section regarding Mountain Biking and Night Lighting, and there are no references to the various best management practices that IMBA has available.

Some of the specific best management practices that IMBA recommends to reduce vegetation impacts are: **68-1, cont.**

- Design trails that provide the experience that trail users seek to reduce their desire to venture off-trail.
- Locate trails away from rare plants and animals and from sensitive or critical habitats of other species. Involve resource professionals in designing and approving new trail alignments.
- Keep trails narrow to reduce the total area of intensive tread disturbance, slow trail users, and minimize vegetation and soil impacts.
- Limit vegetation disturbance outside the corridor when constructing trails. Hand construction is least disruptive; mechanized construction with small equipment is less disruptive than full-sized equipment; skilled operators do less damage than those with limited experience.
- Locate trails on side-hills where possible. Constructing a side-hill trail requires greater initial vegetation and soil disturbance but sloping topography above and below the trail bench will clearly define the tread and concentrate traffic on it. Trails in flatter terrain or along the fall line may involve less initial disturbance but allow excessive future tread widening and off-tread trampling, which favor non-native plants.
- Use construction techniques that save and redistribute topsoil and excavated plants.

Some of the specific best management practices that IMBA recommends for avoiding the worst soil-related impacts to trails:

- Discourage or prohibit off-trail travel. Informal trails created by off-trail travel frequently have steep grades and fall-line alignments that quickly erode, particularly in the absence of tread maintenance. Exceptions include areas of solid rock or non-vegetated cobble.
- Design trails with sustainable grades and avoid fall-line alignments. (See p. 112 for more)
- When possible, build trails in dry, cohesive soils that easily compact and contain a larger percentage of coarse material or rocks. These soils better resist erosion by wind and water or displacement by feet, hooves and tires.
- Minimize tread muddiness by avoiding flat terrain, wet soils, and drainage-bottom locations.
- Use grade reversals to remove water from trail treads. Grade reversals are permanent and sustainable – when designed into a trail’s alignment they remain 100 percent effective and rarely require maintenance.

One of the goals of an EIR is to provide best management practices and the current EIR’s research, review and integration of best management practices is inadequate and should leverage the techniques and experience that IMBA can provide.

## **E – Literature Review – Horseback Riding**

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, sub section ‘Horseback Riding’, on page 6-34, the PEIR makes two conclusions:

- Many types of impacts from horses are similar to those from hiking.

- While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the Interior Department Report which concluded:

**68-1,  
cont.**

1. Many studies demonstrate that trampling by a horse is substantially more destructive to vegetation than trampling by foot.
2. Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.
3. Data reveals horse and ATV trails to be substantially more impacted - negatively so - than the hiking and bike trails.

Additionally, it is clear that the conclusions in the PEIR do not match those of Pickering. The current PEIR concludes:

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified. ( page 3-34 )

Whereas the conclusion of the Pickering study actually states:

There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. (page 557)

With regards to literature review of Horseback Riding, the research sources for the current draft of the PEIR are inadequate and additional sources should include the Interior Department Report.

Additionally, the PEIR conclusion on horseback riding incorrectly quotes one of the references cited. This incorrect citation makes the conclusion inadequate and should be remedied.

## **F – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then cites Pickering when concluding “there is little consensus in the literature as to whether any one particular use is more damaging than another (Pickering et al 2008)”. In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of

the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are: **68-1, cont.**

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with **horse riding appearing to have greater impacts per user than hiking**. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organizations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.(emphasis added)”

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

## **G – Different Rules In Spite of Similar Impact**

68-2

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

### **3. Marin County is the Birthplace of Mountain biking, which generates enormous financial benefits for the County -**

Marin County is where mountain biking started. Nowhere else in the world can lay claim to creating a sport that allows participants to safely enjoy and embrace their natural surroundings. In addition, the economic boost which mountain biking creates for Marin County - the countless stores, restaurants and organizations that mountain bikers regularly patronize, is enormous and constitutes a real financial reason to embrace mountain biking and mountain bikers, who are our parents, our children and our neighbors and colleagues. The Marin County Board of Supervisor and the MCPOSD cannot possibly be ignorant of these powerful facts and of the economic benefits, which reduces real estate and sales taxes for the County, which mountain biking produces.

Before singling out mountain bikers, the County and MCPOSD should reflect carefully on the benefit all of these individuals provide to the County, both economically and in terms of making Marin a highly desirable destination, where in addition to locals, many who live outside of Marin County come

and spend a lot of money before and after mountain biking. Do not lose sight of this most crucial fact please.

**68-2,  
cont.**

Thank you again for the opportunity to comment. I trust my comments and concern will be evaluated carefully and integrated into the draft PEIR going forward.

Sincerely,  
M. Richard Cerick, Esq.

125 Porteous Avenue

Fairfax, CA 94930

## Response to Letter 68

**Commenter** Richard Cerick  
September 21, 2014

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68-1 *The comment incorporates sections designated MR-2 through MR-12 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 through MR-12 beginning on page 3-21 of this Final TPEIR.

68-2 *The comment states arguments in favor of mountain biking as recreation and as an economic benefit to the County.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

From: [Chris Costello](#)  
To: [Raives, James](#)  
Subject: RTMP Draft TPEIR  
Date: Monday, September 22, 2014 10:37:05 AM

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Dear Mr. Raives,  
Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan.

I wanted to take a moment to comment some of the sections regarding horses. As a long time Marin trail user as both a hiker and a cyclist I find that statements in the plan contradict what I have see happening in real life out on the trails. They also contradict know studies on trail impact by various user groups.

69-1

In the section "LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT", sub section 'Horseback Riding', on page 6-34, the PEIR makes two conclusions:

- Many types of impacts from horses are similar to those from hiking.
- While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the Interior Department Report which concluded:

1. Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.
2. Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.
3. Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.

Additionally, it appears that the conclusions in the PEIR do not match those of Pickering. The current PEIR concludes:

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified. ( page 3-34 )

Whereas the conclusion of the Pickering study actually states:

69-1,  
cont.

There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. (page 557)

With regards to literature review of Horseback Riding, the research sources for the current draft of the PEIR are inadequate and additional sources should include the Interior Department Report.

Additionally, the PEIR conclusion on horseback riding incorrectly quotes one of the references cited. This incorrect citation makes the conclusion inadequate and should be remedied.

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then cites Pickering when concluding “there is little consensus in the literature as to whether any one particular use is more damaging than another (Pickering et al 2008)”. In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with **horse riding appearing to have greater impacts per user than hiking**. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organizations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.(emphasis added)”

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than

hiking.

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

**69-1,  
cont.**

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

Aside from environmental impact, there are grave safety issues associated with these large and skittish animals which should relegate them to private trail use only. It will be an unfortunate day when a trail user is injured or worse yet, killed by a skittish and out-of-control animal that weighs several thousand pounds. Please note some of these statistics on the dangers of horseback riding and why they should be granted limited access at best:

**69-2**

<http://www.mc.uky.edu/traumaservices/prevention/TFequestrian137.pdf>

I have personally had several encounters where horseback riders clearly had limited control of their animals and am growing tired of the entitled attitude many equestrians convey to other trail users.

Thanks for your time and consideration.

Chris Costello

(707) 342-1444

## Response to Letter 69

**Commenter** Chris Costello  
September 22, 2014

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69-1 *The comment incorporates sections designated MR-7 and MR-10 through MR-12 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-7 and MR-10 through MR-12 beginning on page 3-24 of this Final TPEIR.

69-2 *The comment sets forth experiences and information regarding the safety of equestrians and mountain bikers sharing trails.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

From: [James](#)  
To: [Raives, James](#)  
Cc: [Beth Dyer](#)  
Subject: RTMP Draft TPEIR Comments  
Date: Sunday, September 21, 2014 8:49:57 PM

September 21, 2014  
Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I moved to Marin with my family about a year ago. Previously I lived in Jackson Hole, Wyoming where I learned to love the outdoors and especially mountain biking. One of the best parts about living in a mountain town was the access to open space and public land. All stakeholders worked together to improve and expand the trail network for ALL users of the trails.

70-1

When work drew me to the Bay Area, I was excited to learn that Marin had much to offer in this same vein. My wife and I have been avidly mountain biking the trails throughout Marin and while we are appreciative of the trails already established, we believe there is room to make Marin's trails even better.

I am submitting the following comments:

1. Thank you for the bike friendly provisions already allocated and for the opportunity to comment.

70-2

2. I suggest that "mountain biking" be removed from policy **SW.13: Prohibition on Dangerous Mountain Biking** to address all dangerous activities or that policies be added to address the safety expectations of equestrians and pedestrians as well. In the interest of having equal expectations for all trail users, this seems like a no-brainer.

70-3

3. I ask that Parks reference **CA State Parks Appendix C - Trail Use Conflict Study** in the PEIR when addressing safety and user conflict.

70-4

Thank you again for the opportunity to comment.

Sincerely,

James de Carion  
4 Cottonwood Dr.  
San Rafael, CA 94901  
jdecarion@hotmail.com

## Response to Letter 70

**Commenter** James de Carion  
September 21, 2014

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70-1 *The comment provides introductory information regarding the benefits of mountain biking, and expresses support for expanded access to open space lands in Marin County for use by mountain bikers.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

70-2 *The comment expresses appreciation for bike friendly provisions included in the RTMP, and the opportunity for the public to participate in the creation of the Plan.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

70-3 *The comment requests that Policy SW.13 of the RTMP be amended to include a prohibition of dangerous activities by all user groups.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this

and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 70-4 *The comment incorporates the section designated MR-4 in the comment letter template prepared by Access4Bikes regarding incorporation of information prepared by the California State Parks.*

For a response to this comment, please refer to the master response to the Access4Bikes template for comment MR-4 beginning on page 3-23 of this Final TPEIR.

**From:** [Justin Eagleton](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR  
**Date:** Saturday, September 20, 2014 7:48:06 AM

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Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and am an avid cyclist, hiker and general proponent of both outdoors recreation and preservation. I would like to make a few comments about the views on mountain biking in the most recent RTMP draft.

71-1

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate. In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, "Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces."

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

- *Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.*
- *Complaints and controversy about other trail users are common.*
- *Actual incidents, including those involving accidents, between trail users are relatively rare.*
- *Design of trails to accommodate multiple use helps to avoid or reduce conflict.*
- *User education and outreach are key methods to avoid or reduce conflict.*

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that

single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

**71-1,  
cont.**

I understand that trying to create a trail management plan that supports a wide range on trail users in different areas is difficult to achieve but the parks really needs to look at the number of trails users and to try and find a balance that supports all users while also helping to preserve our open spaces, not just singling out mountain bikes based on long standing biases.

**71-2**

Thank you Mr. Raives for taking the time to read this and I hope that by the time the final version of the Regional Trails Management Plan comes to fruition it outlines a policies that are fair to all trail groups while helping to foster our future outdoor recreation and preservation.

- Justin Eagleton

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**Justin Eagleton**

*Phone* - (415) 720-3450

*Email* - [Jeagletonmusic@gmail.com](mailto:Jeagletonmusic@gmail.com)

## Response to Letter 71

**Commenter** Justin Eagleton  
September 20, 2014

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71-1 *The comment incorporates sections designated MR-2 through MR-4 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 through MR-4 beginning on page 3-21 of this Final TPEIR.

71-2 *The comment acknowledges the difficulty of balancing multiple uses on trails, but requests that RTMP policies not be biased against mountain bikes.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

**From:** [Floren, Joseph E.](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP RD TPEIR Comments  
**Date:** Monday, September 22, 2014 1:20:57 AM  
**Attachments:** [mg\\_info.txt](#)

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Dear Mr. Raives,

I am writing to comment on the RD TPEIR for the Roads and Trails Management Plan. I spend an average of 5 days each month riding my mountain bike on Marin trails. The comparatively few trails on which we are allowed to ride are a precious resource to mountain bikers, and we desperately need access to more of them, the right to ride safely on longstanding social trails, and the ability to build more narrow trails for use by cyclists.

**72-1**

The Recirculated Draft TPEIR represents a tremendous amount of work and I appreciate the thorough and remarkably thoughtful approach that it demonstrates to most issues. My comments necessarily focus on a comparative handful of issues that are of great importance to me and many other mountain bikers, where I think the TPEIR could benefit from improvement, revisions, and a few additional citations. My criticisms should not be taken as disrespect for the fine work you have done. I have three principal comments.

First, like many mountain bikers, I am concerned that misperceptions of mountain biking infect Open Space District policy, based almost entirely on exaggerated or false stereotypes and a few anecdotes (that are publicized and re-publicized repeatedly by a small number of anti-cycling zealots) — rather than hard facts. A case in point is the “Prohibition on Dangerous Mountain Biking” (Policy SW.13), which indicates a prejudicial view that mountain biking is “dangerous.” There is no similar prohibition against “dangerous” horseback riding, trail running, dog walking, or hiking. Nor is any such policy necessary with respect to mountain biking, as there are already sufficient laws and ordinances on the books that cover the subject. The fact is that mountain biking is no more dangerous — and is, in fact, less dangerous — than many other longstanding uses of the Open Space lands. Mountain bikers should not be singled out as “dangerous.” We are not. We are committed to safely sharing the trails with others while we enjoy them together. There also is no data supporting a suggestion that mountain biking is “dangerous” relative to other uses. The California State Parks Trail Use Conflict Study bears this out. I urge you to cite that study, particularly its findings that actual incidents/accidents are rare and complaints are driven by opinions rather than data. In the alternative, I urge you to point out that there is no data supporting the suggestion that mountain biking is more dangerous than other legal and proper uses such that a separate policy is necessary.

**72-2**

(Certainly, many mountain bikers could complain about thoughtless dog-walkers or equestrians. The only real negative encounter I have ever had on the Marin trails was when I was hiking on single track with my family and a group of horse riders practically mowed us down the hillside as we could not get out of their way and they would not slow down. But that is just an example of an anecdote, not something on which policy should be based or impact considered. I have no problem with equestrians; they have some bad apples just like every other user group, but overall they have just as much right to use the trails safely as I do.)

Second, the discussion of mountain bikers’ effects on the trails is in many respects overly solicitous of unsupported anecdotes offered by those pursuing anti-bike agendas, again without real support in data. A few photos of bugs and lizards supposedly run over by a mountain biker, submitted by someone hoping to

**72-3**

restrict mountain biking, should be recognized as having little or no probative value. They should not be considered together with actual scientific data in addressing the bases on which important access policy decisions are to be made. Likewise, the discussion of night-time mountain biking impacts demonstrates that there is as yet no evidence of any impacts. The TPEIR should say so, and should make clear that the discussion of possible impacts (in some respects by inappropriate comparisons to studies showing the effect of car headlights on well-travelled roads) is wholly theoretical.

**72-3,  
cont.**

I commend those who worked on the revised draft PEIR for reviewing some of the literature of actual studies performed, which generally indicate that mountain bike use has comparable (the same or less) impact as hiking, and substantially less impact than equestrian use. I urge you also to cite the U.S. Department of the Interior's 2006 report addressing these issues entitled "Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area."

**72-4**

Finally, I must register my strong disagreement with MCOSD Policy SW.3, which states that "social trails" (defined as "narrow pedestrian footpaths that were not constructed and have not been improved, managed, or maintained") are "not subject to closure or decommissioning" unless, among other things, "they are used by equestrians or bikers." I understand that the misguided adoption of this policy is beyond the scope of the TPEIR, as is the problem of what off-map trails meet the definition. I commend the TPEIR for the statement: "The RTMP policy gives the MCOSD clear authority to decommission social trails as necessary for resource protection or safety reasons." (page 4-6). Those, in fact, are the only reasons the MCOSD should consider closing a social trail. I note also that the preceding sentence on page 4-6 erroneously refers to the "discretionally authority of the MCOSD," which should be corrected to "discretionary authority."

**72-5**

Thank you again for your hard work on this and for the opportunity to comment.

Sincerely,

Joseph Floren

889 Santa Barbara Road

Berkeley, CA 94707

## Response to Letter 72

**Commenter** Joseph Floren  
September 22, 2014

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72-1 *The comment provides introductory information, sets forth the value of trails open to mountain bikers, and requests that access to more trails be allowed for mountain bikes.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

72-2 *The comment expresses the opinion that mountain bicycles pose no more danger on multi-use trails than other uses. The comment addresses the relative safety of mountain biking versus other uses. This issue is based on the sections designated as MR-2 and MR-3 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 and MR-3 beginning on page 3-21 of this Final TPEIR.

72-3 *The comment desires that facts and not anecdotes be used to evaluate the environmental impacts of mountain bike use on trails, and of night-time mountain biking. The comment recommends that facts be used to make decisions on trail use, and that the TPEIR be the source of these facts.*

Regarding the relationship between the RD TPEIR and the RTMP, please refer to the master responses to the Access4Bikes template for comment MR-2 beginning on page 3-21 of this Final TPEIR. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

72-4 *The comment requests that findings from the U.S. Department of Interior report on the Big South Fork National River and Recreation Area be cited in the RD TPEIR. This issue is based on the sections designated as MR-6 through MR-8 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-6 through MR-8 beginning on page 3-24 of this Final TPEIR.

72-5 *The comment objects to the RTMP Policy SW.3 that would allow the closure of “social trails” if they are used by equestrians or bikers.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

Additionally, please refer to the master responses to the Access4Bikes template for comments MR-6 through MR-8 beginning on page 3-24 of this Final TPEIR.

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Re: Marin County RDTPEIR

September 20, 2014

Dear Mr. Raives,

I am writing to comment on the Re-circulated Draft Tiered Environmental Impact Report, for the Road and Trail Management Plan.

First, I want to thank the Marin County Open Space District for providing an exhaustive and quite inclusive process for developing the RTMP and the accompanying environmental report. **73-1**

As well, I appreciate very much many of the changes you made in the documents after receiving extensive public comments. For example, the current RTMP, referred to in the RDTPEIR, removed a very problematic trail-decommissioning ratio contained in earlier versions. I hope this can lead to more new trail construction. As well, there are now provisions for single use or priority use trail conversions and time allocated (alternate-day) trails, and a greater emphasis on loops and long distance routes.

I do have concerns that remain after this productive work. One of the most important of these is the aggressive statement that mountain biking is a "dangerous activity," without any evidence or data to support that claim. This statement explicitly highlights mountain biking, and **73-2**

makes no reference to other uses of trails. Without supporting data, this statement is discriminatory, and must be removed.

**73-2,  
cont.**

Of course, we all would agree that concerns about user safety are legitimate, and must be fairly addressed. But in these circumstances, most of the discussion is based upon perception, rather than reality. A document such as the RDTPEIR must be based upon scientific analysis, not upon speculation, such as is the case here.

Fortunately, there exists good information that indicates that mountain biking does not carry the dangers that these perceptions imply. One of the best examples is contained in a study commissioned by California State Parks in its effort to develop a Statewide Program Environmental Impact Report. This was in support of proposals to change use of trails, and was certified in April of 2013. That study centered on Trail Use Conflict, and is lengthy, and very exhaustive. It is the “state of the art” in trail conflict studies.

That Trail Conflict Study must be referenced in the RDTPEIR. It supplies much needed data, which is otherwise not evident in either that document, or the RTMP. The conclusions of that study are dramatic:

- Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.
- Complaints and controversy about “other trail users” are common
- Actual incidents involving accidents between trail users are relatively rare.
- Proper design of trails and user education can help avoid or minimize conflicts

Because of the failure of the RTMP and the RDTPEIR to include these significant research findings, and the supporting documentation, the discussion of this topic is incomplete and misleading. There is no rational basis for singling out mountain biking as a “dangerous activity”. That reference must either be removed from the RTMP and RDTPEIR, or rephrased to include all dangerous activity by all trail users. As it is, it is discriminatory, and a denial of equal protection.

Another major concern I have about the RDTPEIR is the lack of use of mitigation measures that could provide for the needs of trail users,

**73-3**

including mountain bicyclists, while at the same time, protecting the environment. As written, the RTMP is said to be “self mitigating”, and thus, no specific mitigation measures are needed. In a sense, this is true. The policies are written with the repeated goal on their face, of decreasing environmental impact.

**73-3,  
cont.**

There is a significantly better way to do this, which provides for trail users, while at the same time protecting the environment. This better approach would enable the District to propose “progressive” trail projects that do not lessen, and might even increase trail opportunities, while at the same time offering superb environmental protection.

This is the approach taken by California State Parks, in its PEIR, which was adopted last year. There, the PEIR lists and *pre-approves* a comprehensive toolbox of “mitigations”, which can be applied to projected environmental impacts. In that manner, a State Park unit could propose a change in use of a trail. If it appears that the change proposed might impact the environment, the agency, in its initial description of the project, could draw upon pre-approved mitigations to deal with projected impacts. If properly implemented, these mitigations would result in “less than significant” impact, and the project could proceed without further environmental review. This approach would be a “win-win” situation: trail users would get consideration, and the environment would be protected.

I realize this comment has been made before, and rejected. But I make the suggestion again. Marin County Open Space District should utilize this far superior approach. This would enable the District to engage in a much more progressive trail policy, while at the same time, protecting the environment.

As always, thank you very much for considering my remarks.

Michael Kelley

## Response to Letter 73

**Commenter** Michael Kelley  
September 20, 2014

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73-1 *The comment expresses appreciation of the process used by the MCOSD in preparing and modifying the RTMP and the TPEIR. The comment also expresses approval of several policies that reduce constraints on mountain biking.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

73-2 *The comment incorporates sections designated MR-2 through MR-4 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 through MR-4 beginning on page 3-21 of this Final TPEIR.

73-3 *The comment suggests that the RD TPEIR be revised to include a list of mitigation measures for use by the MCOSD in assessing and mitigating future change-in-use projects to provide increased access for users.*

The RTMP sets forth policies, standards, BMPs, and a method for establishing system roads and trails. It also sets forth a method for screening subsequent individual construction, maintenance, and management actions to ensure a reduction in overall environmental effects. As such, no specific road and trail system or future projects are identified in the RTMP.

The comment correctly identifies the “self-mitigating” process used in the development of the RTMP and assessed in the RD TPEIR, but misinterprets the implications of the concept for future projects and their environmental review pursuant to CEQA. Rather than identifying no measures that act to mitigate the environmental effects of future effects of projects, the policies, design and construction standards, and BMPs set forth in the RTMP act to mitigate the broad range of impacts that could occur in the future from projects implemented by the MCOSD to manage and maintain the road and trail system. Thus, the components of the RTMP provide a menu of requirements and standards that act much as traditional mitigation measures to reduce or avoid environmental effects. Based on an analysis of the RTMP and its integrated environmental protection components, the RD TPEIR has determined all potential impacts to be less than significant.

Additionally, the RTMP specifically cites changes-in-use and other management actions as a project type contemplated in the RTMP (RTMP Chapter 5, Table 5.1, and RD TPEIR Chapter 3, Table 3-6). With the exception of identifying specific projects for implementation, the RTMP and its TPEIR could operate as suggested in the comment.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

**From:** [Nat](#)  
**To:** [Raives, James](#)  
**Subject:** SUBJECT: RTMP Draft TPEIR - Attention: Jaimes Raives, Senior Open Space Planner  
**Date:** Friday, September 19, 2014 7:49:25 AM

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Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and am a hiker, mt. biker and am tired of the way my public lands have been held hostage by minority groups who don't want to share. I am particularly concerned about the hostile, antiquated language used to describe mountain biking. Horseback riding is statistically more dangerous than riding a motorcycle and these animals cause more erosion than both hikers and mt. bikers combined yet phrases like "Prohibition on Dangerous Mountain Biking" continue to appear in this document. What about "dangerous horseback riding?" I am submitting the following comments:

74-1

**SAFTEY:**

74-2

-RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

-Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

-Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

-In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP)

commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, "Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces."

**74-2,  
cont.**

-There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

- *Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.*
- *Complaints and controversy about other trail users are common.*
- *Actual incidents, including those involving accidents, between trail users are relatively rare.*
- *Design of trails to accommodate multiple use helps to avoid or reduce conflict.*
- *User education and outreach are key methods to avoid or reduce conflict.*

-By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

-The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more "dangerous" than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to "dangerous mountain biking" or similar statements should be removed from the PEIR.

## **EROSION:**

-In 2006, the National Park Service and the United States Department of the Interior funded an extensive research report entitled "Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area." (subsequently referred to as the "Interior Department Report"). This report included a literature review considerably more extensive than the two listed in table 6-2. The Interior Department Report also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the direct applicability of the

literature review as well as the scientific study and fact based approach required by the National Park Service and the United States Department of the Interior, the PEIR should include the Interior Department Report in table 6-2.

**74-2,  
cont.**

**There are some key findings from the Interior Department Report that we believe should be incorporated into the PEIR. Specifically, some of the more relevant findings in the Interior Department Report's literature review are repeated here:**

- Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).
- Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The Interior Department Report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

- Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34).
- Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)
- Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The review and conclusions of trail impact by user groups in the current draft of the PEIR is inadequate and should include the findings from the Interior Department Report.

**There are some key recommendations from the Interior Department Report that that we believe should be incorporated into the PEIR.**

**74-2,  
cont.**

- Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)
- Regulations restricting horse and ATV uses to designated trails are recommended.
- Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.
- Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

-In the section "LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT", sub section 'Horseback Riding', on page 6-34, the PEIR makes two conclusions:

- Many types of impacts from horses are similar to those from hiking.
- While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the Interior Department Report which concluded:

1. Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.
2. Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.
3. Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.

Additionally, it appears that the conclusions in the PEIR do not match those of Pickering. The current PEIR concludes:

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified. ( page 3-34 )

Whereas the conclusion of the Pickering study actually states:

There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. (page 557)

**74-2,  
cont.**

With regards to literature review of Horseback Riding, the research sources for the current draft of the PEIR are inadequate and additional sources should include the Interior Department Report.

Additionally, the PEIR conclusion on horseback riding incorrectly quotes one of the references cited. This incorrect citation makes the conclusion inadequate and should be remedied.

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then states “there is little consensus in the literature as to whether any one particular use is more damaging than another” (Pickering et al 2008). In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with **horse riding appearing to have greater impacts per user than hiking**. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organizations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

Sincerely,

Nat Kidder  
natkidder.com  
natkidder@comcast.net  
415-497-2554

## Response to Letter 74

**Commenter** Nat Kidder  
September 19, 2014

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74-1 *The comment expresses unhappiness regarding the use of the word “dangerous” to refer to mountain biking. The comment additionally states that horseback riding is dangerous and results in high levels of erosion.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

For an additional response regarding policy SW.13, Prohibition on Dangerous Mountain Biking, please refer to the master responses to the Access4Bikes template for comments MR-2 on page 3-21 of this Final TPEIR.

74-2 *The comment incorporates sections designated MR-2 through MR-4, MR-7 through MR-8, and MR-10 through MR-11 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 through MR-4, MR-7 through MR-8, and MR-10 through MR-11 beginning on page 3-21 of this Final TPEIR.

**From:** [Richard Lawrence](#)  
**To:** [Raives, James](#)  
**Subject:** Mountain Bike Access to Mt. Tam  
**Date:** Monday, September 22, 2014 9:32:49 AM

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September 22, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and am a middle-aged mountain biker who has enjoyed Mt. Tam for the past 15 years. I have watched the sport grow over the past years and am increasingly concerned about the unbalanced governance system that is in place. This unbalance has reached a point that the County Parks and Open Space District needs to issue with urgency and fairness and open up substantially more trails for mountain bikers.

**75-1**

I am submitting the following comments:

**1. Scientific Basis and Data for Safety Issues**

**75-2**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

**A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of

the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

**75-2,  
cont.**

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

### **B – No Reference to California State Parks Trail Use Conflict Study**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

### **C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

- *Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.*
- *Complaints and controversy about other trail users are common.*
- *Actual incidents, including those involving accidents, between trail users are relatively rare.*
- *Design of trails to accommodate multiple use helps to avoid or reduce conflict.*
- *User education and outreach are key methods to avoid or reduce conflict.*

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

**75-2,  
cont.**

### **Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

## **Erosion and Trail Impact Studies and Co**

Trail use and trail impact is probably the most critical environmental issue that the I “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Pub detailing the impact of various trail uses, we believe that these references, as well : these references are inadequate.

### **A – No Reference to 2006 United States Department Understanding Trail Degradation: Results from Big Area.”**

In 2006, the National Park Service and the United States Department of the Interior Trail Degradation: Results from Big South Fork National River and Recreational A included a literature review considerably more extensive than the two listed in tabl very scientific analysis of trail impact of various trail users. Given the direct applic approach required by the National Park Service and the United States Department 6-2.

### **B – Review and Summary of Findings of The Depart Understanding Trail Degradation: Results from Big Area.”**

There are some key findings from the Interior Department Report that we believe s

findings in the Interior Department Report's literature review are repeated here:

75-2,  
cont.

- Thurstan and Reader (2001) found no significant differences between the veget. that behavioral differences between the two groups could contribute to the belief
- Trampling and erosional impacts caused by horses have been found to be significant for motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994).

The Interior Department Report also conducted detailed scientific research and analysis and came to the following conclusions:

- Horse and ATV trails are significantly more degraded than hiking and biking trails
- Several trail design-related factors were found to have substantial influence on trail degradation
- Even well-designed trails could sustain only low levels of horse use without grave

The review and conclusions of trail impact by user groups in the current draft of the Interior Department Report.

## **C – Recommendations from the Department of the Interior on Trail Degradation: Results from Big South Fork National Preserve**

There are some key recommendations from the Interior Department Report that the BLM should consider:

- Survey results reveal that trail impacts related to horse and ATV use are substantial
- Regulations restricting horse and ATV uses to designated trails are recommended
- Restricting higher impact uses to graveled trails during wet seasons is also recommended when soils are dry.
- Trail erosion can be most effectively minimized by avoiding use on steep trails with loose soil and by reducing horse and ATV use or restricting them to well-designed and maintained trails.

In addition to referencing the Interior Department Report, and the summary of findings and recommendations as well.

## **D – No Integration of International Mountain Biking**

One of the purposes of the Environmental Impact Report is to provide “a description of current conditions and best management practices (BMP)” ( PEIR page 1-1).

The International Mountain Biking Association (IMBA) is the world's definitive leader in mountain biking practices for mountain biking. IMBA's scientific and reasonable approach is so well respected that it has been adopted by many state and local agencies and now “recognizes that bicyclists can be legitimate users of many non-VOL (Sierra Club Off Road use of Bicycles Policy). Although the PEIR includes a reference section regarding Mountain Biking and Night Lighting, and there are no references to IMBA.

Some of the specific best management practices that IMBA recommends to reduce trail impacts are:

- Design trails that provide the experience that trail users seek to reduce their desire for off-trail travel.

Locate trails away from rare plants and animals and from sensitive or critical habitat. Approving new trail alignments.

- Keep trails narrow to reduce the total area of intensive tread disturbance, slow tread, and avoid unnecessary widening.
- Limit vegetation disturbance outside the corridor when constructing trails. Hand work is less disruptive than full-sized equipment; skilled operators do less damage than unskilled operators.
- Locate trails on side-hills where possible. Constructing a side-hill trail requires grading below the trail bench will clearly define the tread and concentrate traffic on it. Trails allow excessive future tread widening and off-tread trampling, which favor non-point source erosion.
- Use construction techniques that save and redistribute topsoil and excavated plant material.

Some of the specific best management practices that IMBA recommends for avoiding erosion are:

- Discourage or prohibit off-trail travel. Informal trails created by off-trail travel frequently occur in the absence of tread maintenance. Exceptions include areas of solid rock or steep slopes.
- Design trails with sustainable grades and avoid fall-line alignments. (See p. 112)
- When possible, build trails in dry, cohesive soils that easily compact and contain erosion by wind and water or displacement by feet, hooves and tires.
- Minimize tread muddiness by avoiding flat terrain, wet soils, and drainage-bottoms.
- Use grade reversals to remove water from trail treads. Grade reversals are 90 percent effective and rarely require maintenance.

One of the goals of an EIR is to provide best management practices and the current best available science. The EIR should leverage the techniques and experience that IMBA can provide.

## E – Literature Review – Horseback Riding

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON WILDLIFE AND PLANTS” the EIR makes two conclusions:

- Many types of impacts from horses are similar to those from hiking.
- While equestrians may have similar impacts on wildlife as other types of trail use, the impacts have been poorly quantified.

These conclusions are not supported by the findings of the Interior Department Report:

1. Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by motorcycles.
2. Trampling and erosional impacts caused by horses have been found to be significantly greater than those caused by motorcycles.
3. Data reveals horse and ATV trails to be substantially more impacted than the trails used by hikers.

Additionally, it appears that the conclusions in the PEIR do not match those of Pickering et al. (1998):

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts have been poorly quantified. ( page 3-34 )

Whereas the conclusion of the Pickering study actually states:

There are impacts in common to all three activities, although differences in the user than hiking. (page 557)

**75-2,  
cont.**

With regards to literature review of Horseback Riding, the research sources for the the Interior Department Report.

Additionally, the PEIR conclusion on horseback riding incorrectly quotes one of the should be remedied.

## **F – Literature Review – COMPARISON OF IMPACTS RIDING, AND MOUNTAIN BIKING – Environmental I**

Page 6-36 refers to a number of studies and cites evidence that “mountain biking a that “impacts to designated mountain bike trails, such as user-increased trail width, equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR as to whether any one particular use is more damaging than another (Pickering et . believe that MCOSD has made an error as the conclusions of the report do not say is more damaging than another”. The exact conclusions of the Pickering report are

Biophysical impacts from hiking are better researched than from horse riding a although differences in the severity of the impact, with **horse riding appearing** to assess relative impacts as there is little research, particularly using quantita specific impacts that can damage the environment, but again further research conservation organizations by highlighting what is known, even if a significant t

The PEIR must be revised to both accurately quote the Pickering conclusions, as v impacts than hiking.

## **G – Different Rules In Spite of Similar Impact**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail U which concludes that mountain biking did not appear to have significantly different clear that bikers should have equal access to all trails as other users, using enviro In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails If the scientific data concludes that the impact from bikes is similar to hikers, why d

3. I am bothered by the imbalance between trail access opened to mountain bikers vs. the trail access open to equestrians. The numbers are so bad that a full review with public participation needs to be carried out.

**75-3**

4. Before fair and equitable access to Mt. Tam for mountain bikers becomes a politicized issue where money politics will play an increasingly large impact on the outcome, I urge you to address the issues raised and listed above. Given the much

larger size of the mountain bike community, when compared to the equestrian community, I think it is everyone's best interest to address the issue now.

75-3,  
cont.

Thank you again for the opportunity to comment.

Sincerely,

Richard Lawrence

30 Evergreen Drive, Kentfield

[rlawrence@overlookinv.com](mailto:rlawrence@overlookinv.com)

Richard H. Lawrence Jr. Director  
(415) 925.1886  
rlawrence@overlookinv.com



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## Response to Letter 75

**Commenter** Richard Lawrence  
September 22, 2014

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75-1 *The comment expresses enjoyment of mountain biking, concern regarding the perceived imbalance in the governance of trails, and a desire for more trails to be made available to mountain bikers.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

75-2 *The comment incorporates sections designated MR-2 through MR-12 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 through MR-12 beginning on page 3-21 of this Final TPEIR.

75-3 *The comment states concern regarding a perceived imbalance in access to trails for mountain bikes compared to equestrians, and requests that the MCOSD take action.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

**From:** [Theodore Lillie](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR coments  
**Date:** Sunday, September 21, 2014 2:06:53 PM

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Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I am an environmentalist, hiker and a Mountain Biker. I have enjoyed recreation in Marin county for over 25 years, the last 11 as a resident. I am writing you to comment on the RTMP RD TPEIR and address its inconsistencies and biases regarding safety and environment. I am very concerned about some of the language addressing mountain biking as a "dangerous activity" and the neglect of many environmental studies that would benefit MCOSD in making fair and unbiased trail use policy.

76-1

Safety first: I would like the MCOSD to strike all language in the RTMP referring to Mountain Biking as "dangerous." (specifically refer to RTMP policy SW.13) All activities in open space carry a certain amount of risk. One should not be labeled as a dangerous activity without evidence to support it. There is evidence to support that Equestrians are more dangerous than any other user group, according to insurance carriers they are more dangerous than Motorcycle riding. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space. The unfounded safety argument has been pushed by a single outdated and anti environmental group: Equestrians. Unfortunately, MCSOD has supported these unfounded claims and has written them into proposed policy... Please change this bias toward one user group. Further information regarding the safety language of the RTMP is included at the end of this letter.

Environment, also first: The PEIR only references two research papers detailing the impact of various trail users. This is inadequate. My concerns as an environmentalist first: As a hiker I especially enjoy the rare opportunity of seeing spotted owls. Spotted owls nest in the San Geronimo Valley. They eat mice. Mice often come into contact with horse manure. Horse manure contains bacteria and pharmaceutical drugs that infect mice with disease. The spotted owls eat the infected mice and become infected themselves. This cycle happens to many different species in the San Geronimo Valley because equestrians are not required to carry out the waste of their horses. Dog walkers are required to remove feces. This should apply to all users bringing a pet into open space. Please include language to address the removal of manure on Marin trails. Also, manure stinks and destroys the fresh air I hope to find in Open Space.

76-2

As a mountain biker I am disturbed by the language referencing horseback riding on page 6-34. It states "many types of impacts from horses are similar to those from hiking". This is disproved by multiple studies and should not be included in the RTMP. Please refer below for specific information regarding the comparison of user impacts.

76-3

Mountain Bikers care about our trails, environment and how our presence affects the nature we enjoy. We do not have the heavy impact on the environment that horses do and should not be laden with judgment based in opinion. There are many examples of successful multi-use trail management in effect. They should be embraced and emulated. This will ensure a safe and conflict free trail system. Below is a detailed analysis of all my issues and recommendations to change the language in the RTMP RD TPEIR. Please consider them and implement changes to the document that will shape the future of our trails.

Thank You for your consideration,  
 Theodore Lillie  
 P.O. Box 440 Woodacre, CA 94973

**Safety Issues:**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

76-4

**A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner.

Imperatives to all user safety include quality signage and sound construction and design. However, much of the

rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation. Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

#### **B – No Reference to California State Parks Trail Use Conflict Study**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

#### **C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

- *Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.*
- *Complaints and controversy about other trail users are common.*
- *Actual incidents, including those involving accidents, between trail users are relatively rare.*
- *Design of trails to accommodate multiple use helps to avoid or reduce conflict.*
- *User education and outreach are key methods to avoid or reduce conflict.*

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

#### **Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

#### **RTMP RD TPEIR – Environmental Issues**

##### **Erosion and Trail Impact Studies and Conclusions**

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing.

Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers detailing the impact of various trail uses, we believe that these references, as well as the incorporation into the PEIR of conclusions and recommendations from these references are inadequate.

##### **A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

In 2006, the National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” (subsequently referred to as the “Interior Department Report”). This report included a literature review considerably more extensive than the two listed in table 6-2. The Interior Department Report also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the direct applicability of the literature review as well as the scientific study and fact based approach required by the National Park Service and the United States Department of the Interior, the PEIR should include the Interior

Department Report in table 6-2.

**B – Review and Summary of Findings of The Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

**76-4,  
cont.**

There are some key findings from the Interior Department Report that we believe should be incorporated into the PEIR. Specifically, some of the more relevant findings in the Interior Department Report’s literature review are repeated here:

- Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).
- Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The Interior Department Report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

- Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34).
- Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)
- Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The review and conclusions of trail impact by user groups in the current draft of the PEIR is inadequate and should include the findings from the Interior Department Report.

**C – Recommendations from the Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key recommendations from the Interior Department Report that that we believe should be incorporated into the PEIR.

- Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)
- Regulations restricting horse and ATV uses to designated trails are recommended.
- Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.
- Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the Interior Department Report, and the summary of findings from the Interior Department Report, the PEIR should incorporate these recommendations as well.

**D – No Integration of International Mountain Biking Association Data for Best Management Practices**

One of the purposes of the Environmental Impact Report is to provide “a description of other road and trail use and management policies, construction standards, and best management practices (BMP)” ( PEIR page 1-1).

The International Mountain Biking Association (IMBA) is the world’s definitive leader and expert on the impacts of mountain biking and the best management practices for mountain biking. IMBA’s scientific and reasonable approach is so well respected that the Sierra Club, in conjunction with IMBA, modified their policies and now “recognizes that bicyclists can be legitimate users of many non-Wilderness backcountry trails and supports responsible off-road bicycling.” (Sierra Club Off Road use of Bicycles Policy). Although the PEIR includes a reference to an IMBA study in table 6-2, the only reference to that article is in the section regarding Mountain Biking and Night Lighting, and there are no references to the various best management practices that IMBA has available.

Some of the specific best management practices that IMBA recommends to reduce vegetation impacts are:

- Design trails that provide the experience that trail users seek to reduce their desire to venture off-trail.
- Locate trails away from rare plants and animals and from sensitive or critical habitats of other species. Involve resource professionals in designing and approving new trail alignments.
- Keep trails narrow to reduce the total area of intensive tread disturbance, slow trail users, and minimize vegetation and soil impacts.

Limit vegetation disturbance outside the corridor when constructing trails. Hand construction is least disruptive; mechanized construction with small equipment is less disruptive than full-sized equipment; skilled operators do less damage than those with limited experience.

- Locate trails on side-hills where possible. Constructing a side-hill trail requires greater initial vegetation and soil disturbance but sloping topography above and below the trail bench will clearly define the tread and concentrate traffic on it. Trails in flatter terrain or along the fall line may involve less initial disturbance but allow excessive future tread widening and off-tread trampling, which favor non-native plants.
- Use construction techniques that save and redistribute topsoil and excavated plants.

Some of the specific best management practices that IMBA recommends for avoiding the worst soil-related impacts to trails:

- Discourage or prohibit off-trail travel. Informal trails created by off-trail travel frequently have steep grades and fall-line alignments that quickly erode, particularly in the absence of tread maintenance. Exceptions include areas of solid rock or non-vegetated cobble.
- Design trails with sustainable grades and avoid fall-line alignments. (See p. 112 for more)
- When possible, build trails in dry, cohesive soils that easily compact and contain a larger percentage of coarse material or rocks. These soils better resist erosion by wind and water or displacement by feet, hooves and tires.
- Minimize tread muddiness by avoiding flat terrain, wet soils, and drainage-bottom locations.
- Use grade reversals to remove water from trail treads. Grade reversals are permanent and sustainable – when designed into a trail's alignment they remain 100 percent effective and rarely require maintenance.

One of the goals of an EIR is to provide best management practices and the current EIR's research, review and integration of best management practices is inadequate and should leverage the techniques and experience that IMBA can provide.

#### **E – Literature Review – Horseback Riding**

In the section "LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT", subsection 'Horseback Riding', on page 6-34, the PEIR makes two conclusions:

- Many types of impacts from horses are similar to those from hiking.
- While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the Interior Department Report which concluded:

1. Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.
2. Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.
3. Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.

Additionally, it appears that the conclusions in the PEIR do not match those of Pickering. The current PEIR concludes:

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified. ( page 3-34 )

Whereas the conclusion of the Pickering study actually states:

There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. (page 557)

With regards to literature review of Horseback Riding, the research sources for the current draft of the PEIR are inadequate and additional sources should include the Interior Department Report.

Additionally, the PEIR conclusion on horseback riding incorrectly quotes one of the references cited. This incorrect citation makes the conclusion inadequate and should be remedied.

#### **F – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that "mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat" and that "impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-

highway vehicle trails". Yet in spite of these references, the PEIR then cites Pickering when concluding "there is little consensus in the literature as to whether any one particular use is more damaging than another (Pickering et al 2008)". In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say "there is little consensus in the literature as to whether any one particular use is more damaging than another". The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with **horse riding appearing to have greater impacts per user than hiking**. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organizations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.(emphasis added)"

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

#### **G – Different Rules In Spite of Similar Impact**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces." The RTPEIR cites "Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use." This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

**76-4,  
cont.**

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## Response to Letter 76

**Commenter** Theodore Lillie  
September 21, 2014

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76-1 *The comment expresses unhappiness regarding the use of the word “dangerous” to refer to mountain biking, and the failure of the RTMP to incorporate studies that the comment suggests would compel fair and unbiased trail use policies. The comment additionally compares the perceived safety of the activities of various user groups.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

76-2 *The comment postulates that the deposition of horse manure on MCOSD trails could result in the transmission of disease from horses through intermediary hosts to northern spotted owls. The comment states that manure on trails is unsightly and offensive. The comment advocates that horse owners be required to remove horse manure from trails, and that similar requirements already exists for dog owners.*

As noted in the comment, equestrian use of MCOSD roads and trails has historically occurred within MCOSD open space preserves, and would continue to do so, both in the absence of the RTMP or with its approval and implementation. No specific policies of the RTMP address waste from horses, although policies SW-3, SW-6, and SW-16 limit equestrians to system roads and trails, prohibit off-trail travel with limited exceptions, prohibit equestrian use of social trails, and permit the MCOSD to limit the access of equestrians or other users to protect natural resources. Compared to existing regulations, these policies would act to limit the area where equestrian uses are permitted. No policy or program of the RTMP would directly result in an increase in equestrian use of the open space preserves, or expand the area where equestrians are currently permitted.

Additionally, the Marin County Code (Section 02.02.110) prohibits any person using district lands from permitting dogs or other domestic animals, including horses, to urinate or defecate, within fifty feet of any entrance to district lands, or within one hundred feet of any water source, including wells, creeks and streams.

The primary threats to the Northern Spotted Owl (NSO; *Strix occidentalis caurina*) in Marin County are urban development, human disturbance due to construction and/or recreational activities, noise disturbance, pesticide poisoning, risk of wildfires along the urban-wildland interface, and genetic isolation (Stralberg et al. 2009 quoted in Point Blue 2013). According to a literature review, little is known about the diseases and parasites of spotted owls although a number of species of internal and external parasites are endemic to spotted owls,

as are avian diseases such as avian malaria and West Nile virus. (USFWS 1992, Ishak et al. 2008, Defenders of Wildlife 2014) Studies completed in the High Sierra along the John Muir Trail indicate a low prevalence of human pathogens in pack animal manure on the Trail. (Derlet et al., 2002)

Section 15126.2(a) of the State CEQA Guidelines defines an impact to be “changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published.” Thus, under this definition, the existing equestrian activities cited in the comment would be considered to be part of the existing setting, and not an effect caused by implementation of the RTMP. Even if the deposition of manure were determined to be a potential effect, the impact of the RTMP would be determined to be beneficial since it would act to limit where horses can travel compared to the existing condition. This limitation on equestrian travel would concurrently act to limit where manure would be deposited, thereby substantially reducing the level of the potential effect. Thus, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 76-3 *This comment summarizes concerns regarding the relative environmental impacts of mountain biking versus horseback riding, detailed in the balance of the letter, and requests that a different approach to multiuse trail planning be adopted in the RTMP.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSED Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 76-4 *The comment incorporates sections designated MR-2 through MR-12 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 through MR-12 beginning on page 3-21 of this Final TPEIR.

From: [Michael Mejia](#)  
 To: [Raives, James](#)  
 Subject: RTMP Draft TPEIR  
 Date: Thursday, September 18, 2014 5:48:41 PM

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Marin County Parks and Open Space District  
 3501 Civic Center Drive, Room 260  
 San Rafael, CA 94903

Dear Mr. Raives,

I take this opportunity to weigh in about an area I have valued for recreation and respite for the last 25 years and its management going forward. My primary issue has to do with some misguided notions about safety. It is embodied in the phrase “dangerous mountain biking.” **77-1**

Thus far the administration has single-mindedly focused on mountain bikes as a safety concern. Clearly this enjoys a longstanding political influence promoting an arcane agenda of fear-mongering through mythic inaccuracies.

The California State Parks have determined that the actual incidence of accident and injury due to encounters with mountain bikes is exceedingly low. Factually such incidents are far below those, for example, equestrians cause on their own. National insurance data indicate that equestrians rank as a higher risk than motorcycles. Parks data show dog incidents high as well. Mountain biking rates as much safer with injury rates many factors lower than the three aforementioned activities.

Over the years mountain bikers have demonstrated that claims of extreme erosion caused by the sport, long used as argument against mountain biking on trails, are erroneous. Studies show that wear on trails is on a par with hiking and less than that of horses. That argument for exclusion cannot be used any longer. Now the threat to “safety” is being shown for the false argument it has always been. That device can no longer be used either; it doesn’t stand up to the light of day. So one must ask; why do such ideas hold sway? **77-2**

Certain user groups cite “conflict” as the reason to keep mountain biking off of trails. Yet, implicit in that is an unspoken presumption that the conflict is *caused* by mountain bikers. The State Parks have determined that user conflict will occur but the key to solution is in user education and outreach to all parties. Further, trails design to accommodate multi-use is beneficial. The East Bay Regional Park District in its recent Master Plan, has acknowledged the value of mountain bikers and set in motion programs to enhance their access through their own Roads to Trails programs and inform all users of the presence of mountain biking in their parks. **77-3**

A failure to consider these concepts and the ample documentation which support them determines that the PEIR fails to draw any reasonable picture of usage by mountain biking. Such a document should reflect conclusions based upon factual data and not the anecdotal references and inside influences which undermine an sense of clarity or fairness. So “dangerous mountain biking” is a term emblematic of a language bias which has no support in fact. I look to have it stricken from the document. I further look to have a refreshed and fact-based attitude about the real effect of mountain biking in our open spaces.

Thank you,

Michael Mejia  
 932 Yuba Street  
 Richmond CA  
 94805

## Response to Letter 77

**Commenter** Michael Mejia  
September 18, 2014

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77-1 *The comment expresses the opinion that mountain bicycles pose no more danger on multi-use trails than other uses and requests that a report prepared by California Department of Parks be used as a reference in the RTMP and RD TPEIR. This issue is based on the sections designated as MR-2 through MR-4 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 through MR-4 beginning on page 3-21 of this Final TPEIR.

77-2 *The comment expresses the opinion that mountain biking does not cause increased erosion compared to other uses. This issue is based on the sections designated as MR-6, MR-7, MR-10 and MR-11 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-6, MR-7, MR-10 and MR-11 beginning on page 3-24 of this Final TPEIR.

77-3 *The comment expresses the opinion that mountain biking is not a cause of conflict between users, that education is the key to avoiding conflict between trail uses, and that the RD TPEIR fails to correctly characterize mountain bike usage.*

The comment concerns the value and popularity of mountain biking and ways to avoid conflicts between uses. Regarding the relationship between the RD TPEIR and the RTMP, please refer to the master responses to the Access4Bikes template for comment MR-2 beginning on page 3-21 of this Final TPEIR.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

From: [brianmibach@comcast.net](mailto:brianmibach@comcast.net)  
To: [Raives, James](#)  
Subject: RTMP RD TPEIR Comments  
Date: Sunday, September 21, 2014 3:55:14 PM

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September 20, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and FILL IN WHY YOU CARE HERE

I am submitting the following comments:

1. I have biked multi use trail for years and have not experienced any problems from any horse. Rude and horsemen riding over their abilities are common. I also hike and the only danger that I have encountered as a hiker, have been horses, that were not able to ride on public trails. They and the rider were unable to share trails in a populated area. **78-1**
2. I have built trails all over California. If a trail is well constructed, a bike offers no more impact than a hiker. Large livestock no matter how well a trail is built will damage it in a few months.
3. Mountain biking is a growing lifestyle. There are more bikers than hikers or horsemen. Please allow those who choose to ride bikes room to have fun. **78-2**

Thank you again for the opportunity to comment.

Brian Mibach  
636 Fairhaven Way  
Novato CA 94947

## Response to Letter 78

**Commenter** Brian Mibach  
September 21, 2014

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78-1 *The comment observes that the only conflicts experienced by the writer have resulted from equestrian users of trails. The comment states that mountain bike riders have similar impacts to bikers, and both have less adverse effects than livestock. This issue topic is based on the sections designated as MR-2 and MR-3, MR-6 to MR-7, and MR-10 through 12 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 and MR-3, MR-6 to MR-7, and MR-10 through 12 beginning on page 3-21 of this Final TPEIR.

78-2 *The comment requests that mountain bikers be allowed to continue using trails, and that biking uses be expanded within MCOSD preserves.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

**From:** [Michael O'Connell](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP RD TPEIR Comments  
**Date:** Monday, September 22, 2014 1:31:56 PM

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Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in San Rafael and ride frequently in Marin County open space.

I wanted to comment on a few issues:

Safety: I think the State Parks (e.g. China Camp) have shown that mountain bike users can be successfully incorporated into trail use with hikers and horses. That small minority of bikers who may ride in an irresponsible way are just that, a small minority. Continued outreach is the key to providing a safe and accessible experience for all users. I frequently hike at Helen Putnam park (Sonoma County Parks) and this is another good example of successful multiple trail use.

**79-1**

Environmental Impact: Access for Bikes has a compelling round up of data (<http://www.access4bikes.com/rtmp-rd-tpeir-environmental-issues/>) showing the impact if Mountain bike use and other users. The bottom line is all human use creates impact on open space, and mountain biking is not substantially different than other accepted uses.

**79-2**

I hope the County will continue to provide fair and equal access for everyone who want to enjoy our great open space lands.

**79-3**

Sincerely,

Michael O'Connell  
33 Bayo Vista Way  
San Rafael, CA 94901  
[mjo@oclandscape.com](mailto:mjo@oclandscape.com)

## Response to Letter 79

**Commenter** Michael O'Connell  
September 22, 2014

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79-1 *The comment expresses the opinion that multi-use of trails can be successfully accomplished, and that the key to this success is public outreach.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

79-2 *This comment expresses the opinion that the impacts of mountain bike use of trails is similar to the impacts of other human uses of open space, and refers to sections designated MR-6 through MR-8, and MR-10 through MR-12 in the comment letter template prepared by Access4Bikes to support this position.*

For a response to that portion of the comment that references the comment letter template prepared by Access4Bikes, please refer to the master responses to the Access4Bikes template for comments MR-6 through MR-8, and MR-10 through MR-12 beginning on page 3-24 of this Final TPEIR.

The remainder of the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

79-3 *This comment expresses the desire that the County continue to provide access to open space lands in a fair and equal manner.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

From: [Jim O'Loughlin](#)  
To: [Raives, James](#)  
Subject: RTMP Draft TPEIR  
Date: Monday, September 22, 2014 9:08:48 AM

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September 22, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903  
Attention: Jaimes Raives, Senior Open Space Planner  
SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and believe that hikers/runners, and bikers, can all equally share the trails in Marin by being safe and courteous, and that bikers should **not** be restricted from using any of the trails.

I am submitting the following comments:

Safety is up to the individual, and individuals educating themselves to best practices on the trails. **80-1**

When I bike I use a bell or my voice to alert hikers (or equestrians) that I am coming up behind them (if traveling in the same direction). I always announce myself as to not scare them and make sure that my speed is slow and acceptable. On numerous occasions I approach groups of hikers who are walking side by side and are taking up the entire trail. When I announce myself the groups almost always split and half go to one side and half to the other. I usually suggest nicely that the leave half of the trail accessible at all times, and stay to one side or another as a group. Its a matter of education and experience.

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, "Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces." includes references to two research papers detailing the impact of various trail uses, we believe that these references, as well as the incorporation into the PEIR of conclusions and recommendations from these references are inadequate. **80-2**

- Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).
- Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney,

1994). (page 5)

The Interior Department Report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

**80-2,  
cont.**

- Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34).
- Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)
- Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The review and conclusions of trail impact by user groups in the current draft of the PEIR is inadequate and should include the findings from the Interior Department Report.

in the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, sub section ‘Horseback Riding’, on page 6-34, the PEIR makes two conclusions:

- Many types of impacts from horses are similar to those from hiking.
- While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the Interior Department Report which concluded:

1. Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.
2. Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.
3. Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.

Additionally, it appears that the conclusions in the PEIR do not match those of Pickering. The current PEIR concludes:

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified. ( page 3-34 )

Whereas the conclusion of the Pickering study actually states:

There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. (page 557)

With regards to literature review of Horseback Riding, the research sources for the current draft of the PEIR are inadequate and additional sources should include the Interior Department Report.

Additionally, the PEIR conclusion on horseback riding incorrectly quotes one of the references cited. This incorrect citation makes the conclusion inadequate and should

be remedied.

This old "us versus them" attitude with hikers and bikers in Marin needs to stop. By restricting bikers from certain trails you create a division among the people. I ride my bike down a fire road that is wide enough for a semi, and when approaching hikers I can sometimes see the scowl on their faces from far away. I approach with a smile, and my smile is returned with a look that seems as though I have ruined their whole day. That is the old Marin attitude that needs to stop. Just go hiking up in Lake Tahoe, and you will see an entirely different attitude. Young and old bikers and hikers greet each other with smiles and salutations. Everyone uses the trails together and get along great.

80-3

Thank you again for the opportunity to comment.  
Sincerely,  
James O'Loughlin

## Response to Letter 80

**Commenter** James O'Loughlin  
September 22, 2014

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80-1 *The comment expresses a desire that the County continue to provide access to open space lands in a fair and equal manner and that access for mountain bikes not be restricted. This comment expresses the opinion that safety on multi-use trails can be ensured by educating users on safety practices. The comment provides examples of several safety practices.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

80-2 *The comment incorporates sections designated MR-2 through MR-6, MR-7, and MR-10 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2, MR-7, and MR-10 beginning on page 3-21 of this Final TPEIR.

80-3 *The comment expresses the opinion that multi-use of trails by bikers and mountain bikers is possible.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

From: [Ted](#)  
To: [Raives, James](#)  
Subject: RTMP Draft TPEIR  
Date: Monday, September 22, 2014 9:17:46 AM

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Monday, September 22, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan.

I live in Marin and I'm an active hiker and biker yet I'm concerned about the user group bias in the draft RTMP, so I am submitting the following comments:

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to "dangerous" mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code. **81-1**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces." The RTPEIR cites "Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use." This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria. **81-2**

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

The MCOSD is obligated to be objective and impartial to all residents and users. I hope that emotions and personal preferences are eliminated from any policy proposals to ensure there's open, equal access to all individuals and families. **81-3**

Thank you again for the opportunity to comment.

Sincerely,  
Ted Peterson  
1311 San Anselmo Ave  
San Anselmo, CA 95960  
Sent from my iPad

## Response to Letter 81

**Commenter** Ted Peterson  
September 22, 2014

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81-1 *The comment objects to a perceived bias in the Draft RTMP and states that the existing Marin County Code of Ordinances provides sufficient safety restrictions on mountain bikes. This issue topic is based on the section designated as MR-5 in the comment letter template prepared by Access4Bikes.*

For a response to this comments, please refer to the master responses to the Access4Bikes template for comment MR-5 beginning on page 3-23 of this Final TPEIR.

81-2 *The comment suggests that evidence presented in the RD TPEIR supports the conclusion that mountain bikes should have access to all trails, but that RTMP Policy SW 3: Social Trails treats mountain bikes differently from other uses. This issue topic is based on the section designated as MR-12 in the comment letter template prepared by Access4Bikes.*

For a response to this comments, please refer to the master responses to the Access4Bikes template for comment MR-12 beginning on page 3-31 of this Final TPEIR.

81-3 *The comment expresses the desire that the MCOSD act objectively and impartially, and that equal access be provided for all users.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

September 22, 2014

Marin County Parks and Open Space District

3501 Civic Center Drive, Room 260

San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

Dear Mr. Raives,

Thank you for taking the time for allowing the community to comment on this important document. It will pave the way we use our beloved open space. I live in Fairfax where I enjoy Marin County Open Space whilst, hiking, walking my dog, and riding my mountain bike. I would like to see this document be fair for all user groups in the end. As you can see I am apart of 99.6% of the Marin trail user group. We should not have any one user group singled out in this document. With that of course we want all user groups to have a safe enjoyable time while in the open space.

**82-1**

Here are my comments to the RTMP Draft TPEIR:

Trail Safety:

**82-2**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate. Please, when singling out a particular user group provide data that depicts the behaviour you are referencing. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation. Please have this language removed from the document.

Environmental Issues:

**82-3**

IMBA (International Mountain Bike Association) is the nation's leader in mountain bike advocacy and transparency to mountain bike data.

**82-3,  
cont.**

The International Mountain Biking Association (IMBA) is the world's definitive leader and expert on the impacts of mountain biking and the best management practices for mountain biking. IMBA's scientific and reasonable approach is so well respected that the Sierra Club, in conjunction with IMBA, modified their policies and now "recognizes that bicyclists can be legitimate users of many non-Wilderness backcountry trails and supports responsible off-road bicycling." (Sierra Club Off Road use of Bicycles Policy). Although the PEIR includes a reference to an IMBA study in table 6-2, the only reference to that article is in the section regarding Mountain Biking and Night Lighting, and there are no references to the various best management practices that IMBA has available.

Some of the specific best management practices that IMBA recommends to reduce vegetation impacts are:

- Design trails that provide the experience that trail users seek to reduce their desire to venture off-trail.
- Locate trails away from rare plants and animals and from sensitive or critical habitats of other species. Involve resource professionals in designing and approving new trail alignments.
- Keep trails narrow to reduce the total area of intensive tread disturbance, slow trail users, and minimize vegetation and soil impacts.
- Limit vegetation disturbance outside the corridor when constructing trails. Hand construction is least disruptive; mechanized construction with small equipment is less disruptive than full-sized equipment; skilled operators do less damage than those with limited experience.
- Locate trails on side-hills where possible. Constructing a side-hill trail requires greater initial vegetation and soil disturbance but sloping topography above and below the trail bench will clearly define the tread and concentrate traffic on it. Trails in flatter terrain or along the fall line may involve less initial

disturbance but allow excessive future tread widening and off-tread trampling, which favor non-native plants.

**82-3,  
cont.**

- Use construction techniques that save and redistribute topsoil and excavated plants.

Some of the specific best management practices that IMBA recommends for avoiding the worst soil-related impacts to trails:

- Discourage or prohibit off-trail travel. Informal trails created by off-trail travel frequently have steep grades and fall-line alignments that quickly erode, particularly in the absence of tread maintenance. Exceptions include areas of solid rock or non-vegetated cobble.
- Design trails with sustainable grades and avoid fall-line alignments. (See p. 112 for more)
- When possible, build trails in dry, cohesive soils that easily compact and contain a larger percentage of coarse material or rocks. These soils better resist erosion by wind and water or displacement by feet, hooves and tires.
- Minimize tread muddiness by avoiding flat terrain, wet soils, and drainage-bottom locations.
- Use grade reversals to remove water from trail treads. Grade reversals are permanent and sustainable – when designed into a trail's alignment they remain 100 percent effective and rarely require maintenance.

One of the goals of an EIR is to provide best management practices and the current EIR's research, review and integration of best management practices is inadequate and should leverage the techniques and experience that IMBA can provide.

Thank you for taking the time to read my letter. I hope this and other letters from the community will help MCOS staff shape this document.

Cheers,

Brian Popplewell  
47 Maple Avenue  
Fairfax, CA 94930

## Response to Letter 82

**Commenter** Brian Popplewell  
September 22, 2014

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82-1 *The comment provides introductory information, and requests that all open space users be treated fairly.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSED Board of Directors.

82-2 *The comment expresses the opinion that mountain bicycles pose no more danger on multi-use trails than other uses, and objects to the language in RTMP Policy SW.13 regarding the safety of mountain biking. The comment states that the TPEIR should be based upon reasoned scientific analysis. This issue topic is based on the sections designated as MR-2 and MR-3 in the comment letter template prepared by Access4Bikes.*

The comment represents a misunderstanding of the relationship between the RTMP and its policies, and the RD TPEIR. For a further response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 and MR-3 beginning on page 3-21 of this Final TPEIR.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSED Board of Directors.

82-3 *The comment requests that BMPs identified by the International Mountain Biking Association be incorporated into the TPEIR. This issue topic is based on the section designated as MR-9 in the comment letter template prepared by Access4Bikes.*

The comment represents a misunderstanding of the relationship between the RTMP and its policies, and the RD TPEIR. For a further response to this comment, please refer to the master responses to the Access4Bikes template for comment MR-9 beginning on page 3-28 of this Final TPEIR.

From: [Karen Rehder](#)  
To: [Raives, James](#)  
Subject: RTMP  
Date: Monday, September 22, 2014 3:28:21 PM

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September 21, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in San Rafael and I'm an avid mountain biker and hiker. I hope this plan results in more single track trails throughout the preserve network. I, my children, and the high school kids I coach do not have enough trails to legally ride on now. This plan must fix that.

83-1

My number one issue is to OPEN any hiking trail that parallels a road.

Get cyclists off of the road.

With texting drivers the issue has never been so significant.

I am submitting the following comments:

## **1. Safety Issues**

83-2

### **A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

### **B – No Reference to California State Parks Trail Use Conflict Study**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study

on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

83-2,  
cont.

### **C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

- *Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.*
- *Complaints and controversy about other trail users are common.*
- *Actual incidents, including those involving accidents, between trail users are relatively rare.*
- *Design of trails to accommodate multiple use helps to avoid or reduce conflict.*
- *User education and outreach are key methods to avoid or reduce conflict.*

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

## **2. Environmental Issues**

### **A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

In 2006, the National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” (subsequently referred to as the “Interior Department Report”). This report included a literature review considerably more extensive than the two listed in table 6-2. The Interior Department Report also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the direct applicability of the literature review as well as the scientific study and fact based approach required by the National Park Service and the United States Department of the Interior, the PEIR should include the Interior Department Report in table 6-2.

### **B – Review and Summary of Findings of The Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Interior Department Report that we believe should be incorporated into the PEIR. Specifically, some of the more relevant findings in the Interior Department Report's literature review are repeated here:

- Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).
- Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The Interior Department Report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

- Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34).
- Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)
- Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The review and conclusions of trail impact by user groups in the current draft of the PEIR is inadequate and should include the findings from the Interior Department Report.

### **C – Recommendations from the Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key recommendations from the Interior Department Report that that we believe should be incorporated into the PEIR.

- Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)
- Regulations restricting horse and ATV uses to designated trails are recommended.
- Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.
- Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the Interior Department Report, and the summary of findings from the Interior Department Report, the PEIR should incorporate these recommendations as well.

### **D – No Integration of International Mountain Biking Association Data for Best Management Practices**

One of the purposes of the Environmental Impact Report is to provide “a description of other road and trail use and management policies, construction standards, and best management practices (BMP)” ( PEIR page 1-1).

**83-2,  
cont.**

The International Mountain Biking Association (IMBA) is the world’s definitive leader and expert on the impacts of mountain biking and the best management practices for mountain biking. IMBA’s scientific and reasonable approach is so well respected that the Sierra Club, in conjunction with IMBA, modified their policies and now “recognizes that bicyclists can be legitimate users of many non-Wilderness backcountry trails and supports responsible off-road bicycling.” (Sierra Club Off Road use of Bicycles Policy). Although the PEIR includes a reference to an IMBA study in table 6-2, the only reference to that article is in the section regarding Mountain Biking and Night Lighting, and there are no references to the various best management practices that IMBA has available.

Some of the specific best management practices that IMBA recommends to reduce vegetation impacts are:

- Design trails that provide the experience that trail users seek to reduce their desire to venture off-trail.
- Locate trails away from rare plants and animals and from sensitive or critical habitats of other species. Involve resource professionals in designing and approving new trail alignments.
- Keep trails narrow to reduce the total area of intensive tread disturbance, slow trail users, and minimize vegetation and soil impacts.
- Limit vegetation disturbance outside the corridor when constructing trails. Hand construction is least disruptive; mechanized construction with small equipment is less disruptive than full-sized equipment; skilled operators do less damage than those with limited experience.
- Locate trails on side-hills where possible. Constructing a side-hill trail requires greater initial vegetation and soil disturbance but sloping topography above and below the trail bench will clearly define the tread and concentrate traffic on it. Trails in flatter terrain or along the fall line may involve less initial disturbance but allow excessive future tread widening and off-tread trampling, which favor non-native plants.
- Use construction techniques that save and redistribute topsoil and excavated plants.

Some of the specific best management practices that IMBA recommends for avoiding the worst soil-related impacts to trails:

- Discourage or prohibit off-trail travel. Informal trails created by off-trail travel frequently have steep grades and fall-line alignments that quickly erode, particularly in the absence of tread maintenance. Exceptions include areas of solid rock or non-vegetated cobble.
- Design trails with sustainable grades and avoid fall-line alignments. (See p. 112 for more)
- When possible, build trails in dry, cohesive soils that easily compact and contain a larger percentage of coarse material or rocks. These soils better resist erosion by wind and water or displacement by feet, hooves and tires.
- Minimize tread muddiness by avoiding flat terrain, wet soils, and drainage-bottom locations.
- Use grade reversals to remove water from trail treads. Grade reversals are permanent and sustainable – when designed into a trail’s alignment they remain 100 percent

effective and rarely require maintenance.

One of the goals of an EIR is to provide best management practices and the current EIR's research, review and integration of best management practices is inadequate and should leverage the techniques and experience that IMBA can provide.

**83-2,  
cont.**

### **E – Literature Review – Horseback Riding**

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, sub section ‘Horseback Riding’, on page 6-34, the PEIR makes two conclusions:

- Many types of impacts from horses are similar to those from hiking.
- While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the Interior Department Report which concluded:

1. Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.
2. Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.
3. Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.

Additionally, it appears that the conclusions in the PEIR do not match those of Pickering. The current PEIR concludes:

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified. ( page 3-34 )

Whereas the conclusion of the Pickering study actually states:

There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. (page 557)

With regards to literature review of Horseback Riding, the research sources for the current draft of the PEIR are inadequate and additional sources should include the Interior Department Report.

Additionally, the PEIR conclusion on horseback riding incorrectly quotes one of the references cited. This incorrect citation makes the conclusion inadequate and should be remedied.

### **F – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then cites Pickering when concluding “there is little consensus in the literature as to whether any one particular use is more damaging than another (Pickering et al 2008)”. In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with **horse riding appearing to have greater impacts per user than hiking**. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organizations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out. (emphasis added)”

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

### **G – Different Rules In Spite of Similar Impact**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

Thank you again for the opportunity to comment. This has been an amazing project over the last 3 years and we truly hope for nice outcomes for mountain bikers.

Gratefully Karen

1645 Vendola Dr

San Rafael. Ca

## Response to Letter 83

**Commenter** Karen Rehder  
September 21, 2014

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83-1 *The comment expresses that more single-track trails should be provided for mountain bikers, so that bikes are taken off roadways.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

83-2 *The comment incorporates sections designated MR-3 through MR-4, and MR-6 through MR-12 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-3 through MR-4, and MR-6 through MR-12 beginning on page 3-22 of this Final TPEIR.

From: [Gabe Sanctuary](#)  
To: [Raives, James](#)  
Subject: Bike Plan  
Date: Monday, September 22, 2014 1:58:14 PM

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September 20, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and FILL IN WHY YOU CARE HERE

I am submitting the following comments:

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

**84-1**

- *Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.*
- *Complaints and controversy about other trail users are common.*
- *Actual incidents, including those involving accidents, between trail users are relatively rare.*
- *Design of trails to accommodate multiple use helps to avoid or reduce conflict.*
- *User education and outreach are key methods to avoid or reduce conflict.*

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

There are some key findings from the Interior Department Report that we believe should be incorporated into the PEIR. Specifically, some of the more relevant findings in the Interior Department Report’s literature review are repeated here:

- Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

- Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

**84-1,  
cont.**

The Interior Department Report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

- Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34).
- Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)
- Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The review and conclusions of trail impact by user groups in the current draft of the PEIR is inadequate and should include the findings from the Interior Department Report.

I feel that riding a bicycle, either on or off road, can lead to greater environmental and civic awareness, both of which are necessary to maintain a sense of community in Marin County. I feel that only by having more open access to the great resources this county has to offer can we ensure they will not get taken away in the future, thus destroying what makes Marin so unique.

**84-2**

My family and I have greatly enjoyed the trails of Marin and they are one of the reasons we want to live in this county and raise our children here.

Yours Sincerely,

Gabriel and Jane Sanctuary.

## Response to Letter 84

**Commenter** Gabe Sanctuary  
September 20, 2014

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84-1 *The comment incorporates sections designated MR-4 and MR-7 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-4 and MR-7 beginning on page 3-23 of this Final TPEIR.

84-2 *The comment expresses the writer's opinion that riding a bicycle has many civic virtues, and that more bicycle access to open space should be provided.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

**From:** [David Simon](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP comment  
**Date:** Thursday, September 18, 2014 12:24:04 PM

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September 20, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and I have been mountain biking all of my adult life in Marin County. I have also traveled quite a lot as a professional pilot. Whenever I visited other communities I always had a great experience seeing how well land managers included the mountain bike community and often times how these communities of mountain bikers were able to assist the land managers with trail maintenance and construction. This always brought me back to Marin facing the reality that things for the Marin mountain bike community were not as inclusive. In fact in all of my travels I have never seen restrictions on mountain biking as severe as Marin County.

**85-1**

I have also seen the argument for keeping bikes off of trails evolve in the last 20 years. First somehow a bike "tore up" a trail for more than an 1100 pound animal that leave post holes in soft ground. Now the argument has shifted to safety. As a professional pilot I know a lot about safety and mitigating risk. I am very sorry to report that I have found little logic in the safety language of the RTMP. Also there is no value to the safety language. The safety regulations to not mitigate risk. If anything it appears to be another illogical argument to keep the off road cycling community off of the trails. Of course the irony is that this is only done to support the equestrian community which according to a peer reviewed study by the CDC are 9 times more likely to be badly hurt on a horse than on a bike.

**85-2**

I am submitting the following comments regarding safety:

**85-3**

## Scientific Basis and Data for Safety Issues

85-3,  
cont.

RTMP policy SW.13, “Prohibition on Dangerous Mountain Biking”, explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

### A – Provide Empirical Data on Safety or State There is No Data

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

### B – No Reference to California State Parks Trail Use Conflict Study

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

### C – The Significant Research Findings of the CA State Conflict Study

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

- *Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.*
- *Complaints and controversy about other trail users are common.*
- *Actual incidents, including those involving accidents, between trail users are relatively rare.*
- *Design of trails to accommodate multiple use helps to avoid or reduce conflict.*
- *User education and outreach are key methods to avoid or reduce conflict.*

85-3,  
cont.

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

### **Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

I can't help but feel that if the mountain bike community of Marin County was treated as equally as other trail users that problems such as illegal trail building and riding illegal trails would end. After all why not just go for a ride on a great legal trail. Why make the effort to break the rules when there is a legal alternative? I think once the numerous restrictions on off road cycling are removed it will make the land managers job much easier.

85-4

Thank you again for the opportunity to comment.

Sincerely,  
David Simon  
1108 Elm Drive

Novato CA 94920

--  
Dave Simon  
415 328 8615

## Response to Letter 85

**Commenter** David Simon  
September 20, 2014

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85-1 *This comment expresses observations regarding the restrictions placed on mountain biking in Marin County compared to other communities.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

85-2 *The comment expresses the concern that the RTMP policies regarding safety are not logical or adequate, and that horses are more dangerous than mountain bikes.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

85-3 *The comment incorporates sections designated MR-2 through MR-5 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 through MR-5 beginning on page 3-21 of this Final TPEIR.

85-4 *The comment expresses the belief that if more legal mountain bike trails were available, fewer problems with illegal usage and trail building would result.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

**From:** [Cameron Stewart](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR  
**Date:** Thursday, September 18, 2014 10:53:21 PM

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September 18, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I am a home owner in San Rafael and am passionate about our open space and about mountain biking. Additionally, as a parent of two young children and a member of the MCBC and A4B, I want to ensure that we both protect and enhance our open space opportunities for the next generation.

86-1

I am submitting the following comments:

**1. Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

86-2

**A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

**B – No Reference to California State Parks Trail Use Conflict Study**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, "Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces."

**C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here:

**86-2,  
cont.**

- Information on trail use conflict is primarily based on opinion; little data about actual user conflicts is available.
- Complaints and controversy about other trail users are common.
- Actual incidents, including those involving accidents, between trail users are relatively rare.
- Design of trails to accommodate multiple use helps to avoid or reduce conflict.
- User education and outreach are key methods to avoid or reduce conflict.

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

### **Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way. There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

## **2. Erosion and Trail Impact Studies and Conclusions**

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers detailing the impact of various trail uses, we believe that these references, as well as the incorporation into the PEIR of conclusions and recommendations from these references are inadequate.

### **A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

In 2006, the National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” (subsequently referred to as the “Interior Department Report”). This report included a literature review considerably more extensive than the two listed in table 6-2. The Interior Department Report also included detailed field studies and a scientific analysis of trail impact of various trail users. Given the direct applicability of the literature review as well as the scientific study and fact based approach required by the National Park Service and the United States Department of the Interior, the PEIR should include the Interior Department Report in table 6-2.

**B – Review and Summary of Findings of The Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

**86-2,  
cont.**

There are some key findings from the Interior Department Report that we believe should be incorporated into the PEIR. Specifically, some of the more relevant findings in the Interior Department Report’s literature review are repeated here:

- Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).
- Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

The Interior Department Report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

- Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34)
- Several trail design-related factors were found to have substantial influence on levels of trail degradation (page 35)
- Even well-designed trails could sustain only low levels of horse use without gravel (page 35)

The review and conclusions of trail impact by user groups in the current draft of the PEIR is inadequate and should include the above findings from the Interior Department Report.

**C – Recommendations from the Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key recommendations from the Interior Department Report that that we believe should be incorporated into the PEIR.

- Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities (page 36)
- Regulations restricting horse and ATV uses to designated trails are recommended
- Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry
- Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, on valley trails by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the Interior Department Report, and the summary of findings from the Interior Department Report, the PEIR should incorporate these recommendations as well.

**D – Literature Review – Horseback Riding**

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, ‘Horseback Riding’ on page 6-34, the PEIR makes two conclusions:

- Many types of impacts from horses are similar to those from hiking.
- While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the Interior Department Report

which concluded:

- Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.
- Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.
- Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails."

**86-2,  
cont.**

Nor do the above conclusions in the current draft of the PEIR match that of the Pickering which is currently referenced as saying "There are impacts common to hiking, biking, and horseback riding, but there is little consensus in the literature as to whether any one particular use is more damaging than another" (6-36). The actual Pickering report's conclusion (page 557), states "...horse riding appear[s] to have greater impacts per user than hiking."

The research sources for the current draft of the PEIR are inadequate and additional sources should include the Interior Department Report. As a result of these omissions, the conclusions of the current draft of the PEIR as to the relative environmental impact of each recreational activity are also inadequate.

#### **E – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that "mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat" and that "impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails". Yet in spite of these references, the PEIR then states "there is little consensus in the literature as to whether any one particular use is more damaging than another" (Pickering et al 2008). *In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error* as the conclusions of the report do not say "there is little consensus in the literature as to whether any one particular use is more damaging than another". The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organisations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

#### **F – Different Rules In Spite of Similar Impact**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces." The RTPEIR cites "Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use." This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers and there is no quantified safety issue, why do the regulations treat bikes differently?

**3. Additional Recreational Opportunities: Camping & Backpacking.**

86-3

I would like to see the MCOSD and the PEIR make more specific recommendations around adding tent campsites both for car/bike camping and for backpacking. The limited campsites available in Marin County through the State & National Parks are at capacity for most weekends from May-October and need to be booked months in advance; our Open Space can help alleviate some of that demand. Additionally, as a parent teaching children to cherish the outdoors & nature, having access to beginner backpacking sites (within a mile or two of the trailhead) that are also within our own county and therefore don't require a long drive would be invaluable. Given the relative small size of the MCOSD land, it seems like it is just right for beginner backpacking camp sites; and with the proximity to State & National Park land, trips could always be extended.

In summary, our open space is vital to our community on many levels. Many of us in Marin enjoy using mountain biking on single track trails as a way to connect with our open space and as a form of fitness. As a parent, I am already enjoying the opportunity to pass this connection on to my children.

Thank you again for the opportunity to comment.

Sincerely,  
Cameron Stewart  
103 Gable Ct.  
San Rafael, CA 94903

## Response to Letter 86

**Commenter** Cameron Stewart  
September 18, 2014

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86-1 *The comment expresses strong support for open space and mountain biking.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

86-2 *The comment incorporates sections designated MR-2 through MR-8, and MR-10 through MR-12 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 through MR-8 and MR-10 through MR-12 beginning on page 3-21 of this Final TPEIR.

86-3 *The comment expresses the desire that more recreational opportunities be provided in Marin County, including more car and bike campsites, and beginning backpack sites.*

Though there are no developed campsites within MCOSD open space preserves, backcountry camping is allowed upon obtaining a permit from the MCOSD. However, no source of open flame is permitted within open space preserves. (Marin County Code, Sections 02.02.060, 02.06.010)

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

From: [Alissa VanLeuven](#)  
To: [Raives, James](#)  
Subject: RTMP Draft TPEIR  
Date: Monday, September 22, 2014 11:06:47 AM

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September 22, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and have been a mountain biker since I attended high school in San Rafael in the late 1980's. I am also a hiker and my father and step-mother raise, train, and ride horses.

87-1

I am submitting the following comments:

87-2

1. There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

- *Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.*
- *Complaints and controversy about other trail users are common.*
- *Actual incidents, including those involving accidents, between trail users are relatively rare.*
- *Design of trails to accommodate multiple use helps to avoid or reduce conflict.*
- *User education and outreach are key methods to avoid or reduce conflict.*

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more "dangerous" than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to "dangerous mountain biking" or similar statements should be removed from the PEIR.

2. One of the purposes of the Environmental Impact Report is to provide "a description of other road and trail use and management policies, construction standards, and best management practices (BMP)" ( PEIR page 1-1).

The International Mountain Biking Association (IMBA) is the world's definitive leader and expert on the impacts of mountain biking and the best management practices for mountain biking. IMBA's scientific and reasonable approach is so well respected that the Sierra Club, in conjunction with IMBA, modified their policies and now "recognizes that bicyclists can be legitimate users of many non-Wilderness backcountry trails and supports responsible off-road bicycling." (Sierra Club Off Road use of Bicycles Policy). Although the PEIR includes a

reference to an IMBA study in table 6-2, the only reference to that article is in the section regarding Mountain Biking and Night Lighting, and there are no references to the various best management practices that IMBA has available.

**87-2,  
cont.**

Some of the specific best management practices that IMBA recommends to reduce vegetation impacts are:

- Design trails that provide the experience that trail users seek to reduce their desire to venture off-trail.
- Locate trails away from rare plants and animals and from sensitive or critical habitats of other species. Involve resource professionals in designing and approving new trail alignments.
- Keep trails narrow to reduce the total area of intensive tread disturbance, slow trail users, and minimize vegetation and soil impacts.
- Limit vegetation disturbance outside the corridor when constructing trails. Hand construction is least disruptive; mechanized construction with small equipment is less disruptive than full-sized equipment; skilled operators do less damage than those with limited experience.
- Locate trails on side-hills where possible. Constructing a side-hill trail requires greater initial vegetation and soil disturbance but sloping topography above and below the trail bench will clearly define the tread and concentrate traffic on it. Trails in flatter terrain or along the fall line may involve less initial disturbance but allow excessive future tread widening and off-tread trampling, which favor non-native plants.
- Use construction techniques that save and redistribute topsoil and excavated plants.

Some of the specific best management practices that IMBA recommends for avoiding the worst soil-related impacts to trails:

- Discourage or prohibit off-trail travel. Informal trails created by off-trail travel frequently have steep grades and fall-line alignments that quickly erode, particularly in the absence of tread maintenance. Exceptions include areas of solid rock or non-vegetated cobble.
- Design trails with sustainable grades and avoid fall-line alignments. (See p. 112 for more)
- When possible, build trails in dry, cohesive soils that easily compact and contain a larger percentage of coarse material or rocks. These soils better resist erosion by wind and water or displacement by feet, hooves and tires.
- Minimize tread muddiness by avoiding flat terrain, wet soils, and drainage-bottom locations.
- Use grade reversals to remove water from trail treads. Grade reversals are permanent and sustainable – when designed into a trail’s alignment they remain 100 percent effective and rarely require maintenance.

One of the goals of an EIR is to provide best management practices and the current EIR’s research, review and integration of best management practices is inadequate and should leverage the techniques and experience that IMBA can provide.

3. In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, sub section ‘Horseback Riding’, on page 6-34, the PEIR makes two conclusions:

- Many types of impacts from horses are similar to those from hiking.
- While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the Interior Department Report which concluded:

1. Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.
2. Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.
3. Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.

Additionally, it appears that the conclusions in the PEIR do not match those of Pickering. The current PEIR

concludes:

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified. ( page 3-34 )

**87-2,  
cont.**

Whereas the conclusion of the Pickering study actually states:

There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. (page 557)

With regards to literature review of Horseback Riding, the research sources for the current draft of the PEIR are inadequate and additional sources should include the Interior Department Report.

Additionally, the PEIR conclusion on horseback riding incorrectly quotes one of the references cited. This incorrect citation makes the conclusion inadequate and should be remedied.

4. Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then cites Pickering when concluding “there is little consensus in the literature as to whether any one particular use is more damaging than another (Pickering et al 2008)”. In reviewing the exact conclusions of the Pickering report, we believe that MCOSED has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with **horse riding appearing to have greater impacts per user than hiking**. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organizations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.(emphasis added)”

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

5. Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria. In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

6. I am a Marin county native, born and raised in San Anselmo, and now I am raising my two children in Fairfax. My 9 year-old son is an avid mountain biker. He is not the coordinated type at other sports, but he has a gift on a bike. I am thrilled that he can be on a team in high school and gets to go to mountain bike camps over the summer. I have taught him how to be courteous on the trails, going slowly by hikers, children, and animals including horses. He has a bell on his handle bar to alert folks he is coming and he also knows to announce himself. He knows to stay on the trails and we don't ride when it is too muddy to protect the trails. My friends that ride are teaching their kids the same things. My son's favorite riding is single

**87-3**

track. The trails at Tamarancho are so crowded on weekends, I worry he will get hurt riding there. The only other option for us is to get in the car and drive someplace, which causes more traffic and pollution. We teach our kids how to co-exist and work with others who want different things, who think differently, and how to get along. We should set examples for the next generation that us adults can work together as well. We can share the trails and we should.

87-3,  
cont.

Thank you again for the opportunity to comment.

Sincerely,

Alissa Van Leuven  
65 Manzanita Rd.  
Fairfax, CA



**Alissa VanLeuven**  
Controller

919 Sir Francis Drake Blvd., Suite 201  
Kentfield, CA 94904  
Tel: (415) 925-1840 Fax: (415) 925-1882  
E-mail: [avanleuven@overlookinv.com](mailto:avanleuven@overlookinv.com)

## Response to Letter 87

**Commenter** Alissa Van Leuven  
September 22, 2014

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87-1 *This comment contains introductory information.*

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

87-2 *The comment incorporates sections designated MR-4 and MR-9 through MR-12 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-4 and MR-9 through MR-12 beginning on page 3-23 of this Final TPEIR.

87-3 *The comment provides information regarding the importance of mountain biking, and states that the provision of more single track trails available to bikes within MCOSD open space preserves would reduce travel and air pollution.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

**From:** [Marc Vendetti](#)  
**To:** [Raives, James](#)  
**Subject:** Comments on the Draft Tiered Programmatic Environmental Impact Report (TPEIR)  
**Date:** Friday, September 19, 2014 8:26:44 PM

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Dear Mr. Raives,

First of all, thank you for the opportunity to comment on this plan! It is of the utmost importance for my favorite pastime, mountain biking!

I have been mountain bike riding since the early 1970's and I'm especially heartened to see that county government is responding to the popularity of cycling by making bike-friendly revisions to the plans. I strongly favor shared-use trails that include bicycles. I have seen solutions such as priority-use trails or day/time allocated scheduling work well in many other areas. We should be able to incorporate these simple, practical solutions to all of our trails to accommodate all of our users. In many cases, all it would take is some signage and getting the word out.

**88-1**

Specifically, I would suggest that "mountain biking" be removed from policy **SW.13: Prohibition on Dangerous Mountain Biking** to address all dangerous activities or that policies be added to address the safety expectations of equestrians and pedestrians as well. I would ask that Parks reference **CA State Parks Appendix C - Trail Use Conflict Study** in the PEIR when addressing safety and user conflict.

**88-2**

The cycling community is also an untapped resource for Parks. Imagine if you will all the eager volunteers to help maintain the new trails that could be opened up. This could be a huge boon to Parks.

**88-3**

Thanks again for opening this up for comments. Please feel free to contact me with any questions.

Sincerely,

Marc

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Marc Vendetti [marc@2910.org](mailto:marc@2910.org)  
Phone: 415-450-5309 8-5 Pacific Time

*Speak I love you in ten thousand ways without using the words  
and the words will speak themselves without using the voice.*

*~Michael Bridge*

[Seva Child International](#) | [Marin Museum of Bicycling](#) | [2910 LLC](#)

 Please consider the environment before printing this e-mail

## Response to Letter 88

**Commenter** Marc Vendetti  
September 19, 2014

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88-1 *The comment supports shared-use trails, and provides examples of management measures to successfully accomplish trails hosting multiple user types.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

88-2 *The comment objects to the wording of RTMP policy SW.13, and requests that the policy be broadened to include all user groups. Additionally, the comment requests that the MCOSD incorporate the findings of a study prepared by California State Parks in addressing safety and user conflict. This issue topic is based on the sections designated as MR-2 to MR-4 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 to MR-4 beginning on page 3-21 of this Final TPEIR.

88-3 *The comment states that the cycling community could provide a source of volunteers to assist in the maintenance of new trails.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

September 20, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I have lived in Marin for over 20 years and have raised my family here and have been a property tax payer here for that same period. My wife and myself, along with my children mountain bike and hike the open space and water district trails all over Marin. We have all long been confused at the animosity between user groups in these spaces, as our own experience of courteous and helpful encounters between hikers, bikers and horse back riders in the open space above the San Geronimo Valley. Therefore I am submitting the following comments on the safety and environmental issues addressed in the PEIR which I have and are concerns of other local Marin Mountain Bike Riders:

89-1

**ROAD AND TRAIL SAFETY**

89-2

**Scientific Basis and Data for Safety Issues**

RTMP policy SW.13, "Prohibition on Dangerous Mountain Biking", explicitly highlights mountain biking as a dangerous activity, without providing evidence or data to support this characterization. Without supporting data, the analysis of recreational impacts in the PEIR is inadequate.

**A – Provide Empirical Data on Safety or State There is No Data**

Concerns about trail user safety are legitimate concerns and should be addressed in a universal manner. Imperatives to all user safety include quality signage and sound construction and design. However, much of the rhetoric is derived from a perception of conflict and unsubstantiated qualitative stories. The language in Policy SW.13 of the the RTMP and PEIR supports these unfounded claims concerning the alleged danger of biking on public trails. An EIR document should be based upon reasoned scientific analysis, not on speculation.

Marin County Open Space District has access to accident and incident records and if there is a pattern of one activity causing harm to another user group, then those data should be included in support of a policy recommendation. The PEIR fails to provide any quantifiable analysis of incident statistics between any combination of hikers, mountain bikers, equestrians, and dog walkers on Marin County Open Space.

**B – No Reference to California State Parks Trail Use Conflict Study****89-2,  
cont.**

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”

**C – The Significant Research Findings of the California State Parks Trail Use Conflict Study**

There are a number of key findings and facts regarding safety in the CSP Trail Use Conflict Study that the PEIR should reference. Some of the more relevant findings are repeated here :

- *Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.*
- *Complaints and controversy about other trail users are common.*
- *Actual incidents, including those involving accidents, between trail users are relatively rare.*
- *Design of trails to accommodate multiple use helps to avoid or reduce conflict.*
- *User education and outreach are key methods to avoid or reduce conflict.*

By not including these significant research findings and their supporting documentation, the discussion of recreational impacts in the PEIR is inadequate.

The absence of any empirical data fails to provide a rational basis for regulations that single out mountain biking as a recreational activity that is more “dangerous” than other trail use. Because the data from Marin County Open Space has not been examined and the results of the California State Parks Trail Use Conflict Study reach a conclusion that does not support the proposed regulation, any reference to “dangerous mountain biking” or similar statements should be removed from the PEIR.

**Marin County Code Regulates Safety and Speed on Public Trails**

Existing Marin County Code of Ordinances, Appendix A, Marin County Open Space District Code sections 02.04.020, .040, and .050 address bicycle use, speed limits and right-of-way.

There is no need for supplemental safety policies in the RTMP. The duplicative but different regulatory language of the PEIR will create confusion for field managers enforcing the regulations. To avoid this result the PEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety on local, county, state, and federal laws and ordinances. The defect could be corrected by incorporating a statement that all trail use will conform to Marin County Open Space District Code.

As you can see the above comments on safety address this issue of “perception” of a problem and attempts to clarify the “perception” with the current “real” information that is actually out there. Again as addressed above, I believe much of any real safety issues cannot only be addressed by rules in there enforcement, but must start and continue with a dialogue between the agency and the user groups and between the user groups alone.

89-3

The following comments on the environmental discussion of the PEIR are shared by myself and other local Marin County mountain bike riders.

## **ROAD AND TRAIL ENVIRONMENTAL ISSUES**

89-4

### **Erosion and Trail Impact Studies and Conclusions**

Trail use and trail impact is probably the most critical environmental issue that the PEIR should be addressing. Although Table 6-2 from the Change-in-Use PEIR, “Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” includes references to two research papers detailing the impact of various trail uses, we believe that these references, as well as the incorporation into the PEIR of conclusions and recommendations from these references are inadequate.

#### **A – No Reference to 2006 United States Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

In 2006, the National Park Service and the United States Department of the Interior funded an extensive research report entitled “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” (subsequently referred to as the “Interior Department Report”). This report included a literature review considerably more extensive than the two listed in table 6-2. The Interior Department Report also included detailed field studies and a very scientific analysis of trail impact of various trail users. Given the direct applicability of the literature review as well as the scientific study and fact based approach required by the National Park Service and the United States Department of the Interior, the PEIR should include the Interior Department Report in table 6-2.

#### **B – Review and Summary of Findings of The Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key findings from the Interior Department Report that we believe should be incorporated into the PEIR. Specifically, some of the more relevant findings in the Interior Department Report’s literature review are repeated here:

- Thurstan and Reader (2001) found no significant differences between the vegetation and soil impacts from hiking and mountain biking, though they speculated that behavioral differences between the two groups could contribute to the belief that mountain biking has led to trail degradation problems. (page 5).

- Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles (Cole & Spildie, 1998; DeLuca et al., 1998; Wilson & Seney, 1994). (page 5)

89-4,  
cont.

The Interior Department Report also conducted detailed scientific research and analysis of the trails in the Big South Fork National River and Recreational Area and came to the following conclusions:

- Horse and ATV trails are significantly more degraded than hiking and biking trails (page 34).
- Several trail design-related factors were found to have substantial influence on levels of trail degradation. (page 35)
- Even well-designed trails could sustain only low levels of horse use without gravel. (page 35).

The review and conclusions of trail impact by user groups in the current draft of the PEIR is inadequate and should include the findings from the Interior Department Report.

### **C – Recommendations from the Department of the Interior Report “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.”**

There are some key recommendations from the Interior Department Report that that we believe should be incorporated into the PEIR.

- Survey results reveal that trail impacts related to horse and ATV use are substantially greater than other forms of human-powered trail activities. (page 36)
- Regulations restricting horse and ATV uses to designated trails are recommended.
- Restricting higher impact uses to graveled trails during wet seasons is also recommended. Trail use when soils are wet is considerably more damaging than when soils are dry.
- Trail erosion can be most effectively minimized by avoiding use on steep trails with direct ascent alignments, valley trails, by installing tread drainage features, and by reducing horse and ATV use or restricting them to well-designed and maintained alignments.

In addition to referencing the Interior Department Report, and the summary of findings from the Interior Department Report, the PEIR should incorporate these recommendations as well.

### **D – No Integration of International Mountain Biking Association Data for Best Management Practices**

One of the purposes of the Environmental Impact Report is to provide “a description of other road and trail use and management policies, construction standards, and best management practices (BMP)” ( PEIR page 1-1).

The International Mountain Biking Association (IMBA) is the world's definitive leader and expert on the impacts of mountain biking and the best management practices for mountain biking. IMBA's scientific and reasonable approach is so well respected that the Sierra Club, in conjunction with IMBA, modified their policies and now "recognizes that bicyclists can be legitimate users of many non-Wilderness backcountry trails and supports responsible off-road bicycling." (Sierra Club Off Road use of Bicycles Policy). Although the PEIR includes a reference to an IMBA study in table 6-2, the only reference to that article is in the section regarding Mountain Biking and Night Lighting, and there are no references to the various best management practices that IMBA has available.

**89-4,  
cont.**

Some of the specific best management practices that IMBA recommends to reduce vegetation impacts are:

- Design trails that provide the experience that trail users seek to reduce their desire to venture off-trail.
- Locate trails away from rare plants and animals and from sensitive or critical habitats of other species. Involve resource professionals in designing and approving new trail alignments.
- Keep trails narrow to reduce the total area of intensive tread disturbance, slow trail users, and minimize vegetation and soil impacts.
- Limit vegetation disturbance outside the corridor when constructing trails. Hand construction is least disruptive; mechanized construction with small equipment is less disruptive than full-sized equipment; skilled operators do less damage than those with limited experience.
- Locate trails on side-hills where possible. Constructing a side-hill trail requires greater initial vegetation and soil disturbance but sloping topography above and below the trail bench will clearly define the tread and concentrate traffic on it. Trails in flatter terrain or along the fall line may involve less initial disturbance but allow excessive future tread widening and off-tread trampling, which favor non-native plants.
- Use construction techniques that save and redistribute topsoil and excavated plants.

Some of the specific best management practices that IMBA recommends for avoiding the worst soil-related impacts to trails:

- Discourage or prohibit off-trail travel. Informal trails created by off-trail travel frequently have steep grades and fall-line alignments that quickly erode, particularly in the absence of tread maintenance. Exceptions include areas of solid rock or non-vegetated cobble.
- Design trails with sustainable grades and avoid fall-line alignments. (See p. 112 for more)
- When possible, build trails in dry, cohesive soils that easily compact and contain a larger percentage of coarse material or rocks. These soils better resist erosion by wind and water or displacement by feet, hooves and tires.
- Minimize tread muddiness by avoiding flat terrain, wet soils, and drainage-bottom locations.
- Use grade reversals to remove water from trail treads. Grade reversals are permanent and sustainable – when designed into a trail's alignment they remain 100 percent effective and rarely require maintenance.

One of the goals of an EIR is to provide best management practices and the current EIR's research, review and integration of best management practices is inadequate and should leverage the techniques and experience that IMBA can provide.

### **E – Literature Review – Horseback Riding**

In the section “LITERATURE REVIEW OF THE IMPACTS OF RECREATION ON THE ENVIRONMENT”, sub section ‘Horseback Riding’, on page 6-34, the PEIR makes two conclusions:

- Many types of impacts from horses are similar to those from hiking.
- While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified.

These conclusions are not supported by the findings of the Interior Department Report which concluded:

1. Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.
2. Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.
3. Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.

Additionally, it appears that the conclusions in the PEIR do not match those of Pickering. The current PEIR concludes:

While equestrians may have similar impacts on wildlife as other types of trail use, the impacts of equestrians as opposed to other trail users on wildlife have been poorly quantified. ( page 3-34 )

Whereas the conclusion of the Pickering study actually states:

There are impacts in common to all three activities, although differences in the severity of the impact, with horse riding appearing to have greater impacts per user than hiking. (page 557)

With regards to literature review of Horseback Riding, the research sources for the current draft of the PEIR are inadequate and additional sources should include the Interior Department Report.

Additionally, the PEIR conclusion on horseback riding incorrectly quotes one of the references cited. This incorrect citation makes the conclusion inadequate and should be remedied.

### **F – Literature Review – COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING – Environmental Impacts**

Page 6-36 refers to a number of studies and cites evidence that “mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat” and that “impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails”. Yet in spite of these references, the PEIR then cites Pickering when concluding “there is little consensus in the literature as to whether any one particular use is more damaging than another (Pickering et al 2008)”. In reviewing the exact conclusions of the Pickering report, we believe that MCOSD has made an error as the conclusions of the report do not say “there is little consensus in the literature as to whether any one particular use is more damaging than another”. The exact conclusions of the Pickering report are:

89-4,  
cont.

Biophysical impacts from hiking are better researched than from horse riding and mountain biking. There are impacts in common to all three activities, although differences in the severity of the impact, with **horse riding appearing to have greater impacts per user than hiking**. For mountain biking it is hard to assess relative impacts as there is little research, particularly using quantitative experimental methods and more realistic riding styles. There are activity specific impacts that can damage the environment, but again further research is required. We hope that this review helps managers, researchers, users and conservation organizations by highlighting what is known, even if a significant finding is, that there is still much more we need to find out.(emphasis added)”

The PEIR must be revised to both accurately quote the Pickering conclusions, as well note that most current studies do show that equestrians have greater impacts than hiking.

### **G – Different Rules In Spite of Similar Impact**

Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.” The RTPEIR cites “Marion and Wimpey which concludes that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria.

In spite of this fact, bikes are given special restrictions in policy SW 3: Social Trails where hikers can hike these social trails, but mountain bikes cannot ride them. If the scientific data concludes that the impact from bikes is similar to hikers, why do the regulations treat bikes differently?

Finally, I would like to add a comment solely my own in regards to the environmental impact of horses and livestock to the wild open space environment. As has been long accepted the horse waste is left on the trail to erode away and or degrade. This waste of course is biological in nature and creates localized impacts to nutrients in the waterways, a source of non-native grass seeds. Most of us can easily avoid this by walking around the waste pile. Thankfully this problem seems to have been limited by the fact that there are fewer horse back riders on the road and trail system than other users, as clearly just a few of us can afford to own and maintain horses. However, the impacts of horse and livestock waste should be addressed in the PEIR.

89-5

Thank you again for the opportunity to comment.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark Wilson'. The signature is fluid and cursive, with a large, sweeping loop at the end.

Mark Wilson

23 Hill Ave, Woodacre, CA 94973

POB 934

## Response to Letter 89

**Commenter** Mark Wilson  
September 20, 2014

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89-1 *The comment provides introductory information and describes experiences of different types of users cooperatively using multi-use trails on MCOSED preserves.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSED Board of Directors.

89-2 *The comment incorporates sections designated MR-2 through MR-4 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 through MR-4 beginning on page 3-21 of this Final TPEIR.

89-3 *This comment expresses the opinion that there is a difference between perception and reality with regard to safety issues related to mountain bike use of open space trails, and that communication and enforcement are key to safe use.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSED Board of Directors.

89-4 *The comment incorporates sections designated MR-6 through MR-12 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-6 through MR-12 beginning on page 3-24 of this Final TPEIR.

89-5 *The comment provides information about the impacts of horses on trails and the potential for horse waste to disperse the seeds of invasive plants. The comment requests that the impacts of this waste be evaluated in the RD TPEIR.*

As noted in the comment, equestrian use of MCOSD roads and trails has historically occurred within MCOSD open space preserves, and would continue to do so, both in the absence of the RTMP or with its approval and implementation. No specific policies of the RTMP address waste from horses, although policies SW-3, SW-6, and SW-16 limit equestrians to system roads and trails, prohibit off-trail travel with limited exceptions, prohibit equestrian use of social trails, and permit the MCOSD to limit the access of equestrians or other users to protect natural resources. Compared to existing regulations, these policies would act to limit the area where equestrian uses are permitted. No policy or program of the RTMP would directly result in an increase in equestrian use of the open space preserves or expand the area where equestrians are currently permitted.

Additionally, the Marin County Code (Section 02.02.110) prohibits any person using district lands from permitting dogs or other domestic animals, including horses, to urinate or defecate, within fifty feet of any entrance to district lands, or within one hundred feet of any water source, including wells, creeks and streams.

A literature review indicates that horse manure has been found to contain viable seeds, including the seeds of non-native plants. The literature also documents that the deposition of horse manure in wildlands can result in the sprouting of non-native plants in manure pats, although at a substantially lower rate and in a reduced variety in the sprouted plants compared to the numbers and varieties present in the manure itself. Documented studies also find that the number of plants that establish themselves is substantially smaller than the number that sprout, primarily due to harsh environmental conditions present on trails and trampling by trail users. Finally, studies performed throughout the United States and Australia have found that the number of established plants that can be traced to the deposition of manure decreases rapidly with distance from the edge of a trailway, with the majority of plants being located on the verge of the trail. (Campbell and Gibson 2000; Elseveir 2008; Landsberg et. al. 2001; Weaver and Adams undated; Wells and Lauenroth 2007)

Section 15126.2(a) of the State CEQA Guidelines defines an impact to be “changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published.” Thus, under this definition, the existing equestrian activities cited in the comment would be considered to be part of the existing setting, and not an effect caused by implementation of the RTMP. Even if the deposition of manure were determined to be a potential effect, the impact of the RTMP would be determined to be beneficial since it would act to limit where horses can travel compared to the existing condition. This limitation on equestrian travel would concurrently act to limit where manure would be deposited, thereby substantially reducing the level of the potential effect. Thus, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

From: [Lidia Belknap](#)  
To: [Raives, James](#)  
Subject: Road and Trail Management Plan  
Date: Thursday, September 18, 2014 2:10:13 PM

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To whom it may concern,

I read the Road and Trail Management Plan. Thank you for providing a way to share opinion on it. I want to express 2 concerns:

1)

I am a Marin County resident for 20 years. All these years I hiked every day on different trails around the county. I have seen many trails and watched many changes on all those trails during these years. Unfortunately only sad changes.

Degradation and loss of biodiversity year from year becomes more and more obvious. For an example: the trail, which starts in Mill Valley off off Overhill Drive, used to have wild flowers framing the fire road: clarkias, lupins, blue dicks, etc every spring and all summer - yellow monkey flowers and morning glory. Flower carpet was very thick, some people would lay on it, but that didn't ruin it. Then one year the machines came, those, which are operated by a driver, and a long cutting arm of the machine clear cuts all what on its way.

After that wildflowers were gone for ever. Only exotic annual grasses frame the roads. On other trails the same... Since that I saw more and more use of machines, more and more trees cut.

This new plan promises accent on biodiversity. I wonder if previous plans didn't, since the trails look so much worse around the county.

I read this new plan and it sounds very nice, but all, what I saw, was description of intentions to preserve biodiversity. What I couldn't see there was an ACTUAL PLAN OF WORKS, WHICH ARE GOING TO TAKE PLACE.

Like location, time, the scale of the project, etc. At least the biggest projects.

**I guess, without reading about them in advance, like it a plan, we will have to find out about each of them, when we run in the woods into the fleet of heavy machinery and a note on the post. But, unfortunately, it would be too late to comment.**

I am sorry not to be very enthusiastic, but the plan doesn't really give a clear idea what is going to happen in our open spaces, because it doesn't disclose specific means to achieve the goals. Without knowing what is planned it is NOT POSSIBLE to comment on the plan. How can one estimate whether he/she is "for "or "against" those or some of the projects.

Even though the plan says that the accents will be on the both: preservation and recreation, my concern is that the second in reality will be given the real priority. Just a few weeks ago I came across with the beginning of

90-1

90-2

construction of the bridges in Baltimore Canyon in Larkspur. I would vote strongly against such projects, if I knew about them. The very reason why there is so much degradation along the creek: overuse by the public, is going to be even wider in scale, because the bridges will allow more people to use the trail, as a matter of fact: in the middle of wildlife habitats. I would definitely prefer if preservation of the natural spaces is conducted in the way of restoration of vegetation, which holds the banks of the creeks and the hillsides along the trails, - not in the way of widening, paving, and construction of the bridges. Also by keeping the users in designated areas and having them to keep their voices down. I would prefer to see guarding fences and signs appealing to the public to respect the wildlife and their habitats - not expensive concrete structures.

**90-2,  
cont.**

2) I noticed that it is mentioned that goat grazing will be allowed. I saw what goat grazing does. Nothing is left after a herd of hundreds of hungry animals is fenced in the area, even the bark of the trees is gone. It is mentioned in all native plants books that main reason for losing grasslands and native plants is overgrazing. Goat grazing is not just overgrazing it is much worse. I am strongly against using and allowing farm animals in the open spaces.

**90-3**

Sincerely,

Lidia Belknap  
349 Fairhills Drive  
San Rafael, CA

415 925 9756

## Response to Letter 90

**Commenter** Lydia Belknap  
September 19, 2014

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90-1 *The comment provides observations concerning the loss of wildflowers where mechanical control of vegetation adjacent to fire roads has been used.*

The comment pertains to mechanical control of vegetation. No policy or program of the RTMP would influence the routine control of vegetation. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

90-2 *The comment expresses concern that the RTMP contains no specifics as to what projects will be proposed, and a strong preference for preservation of open spaces, as opposed to development of new facilities.*

The comment correctly describes the contents of the RTMP. The RTMP consists of policies, design and construction standards, best management practices, and a project development and evaluation process. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

90-3 *The comment expresses opposition to allowing goats to graze on open space lands.*

No policy, program, or provision of the RTMP would permit or encourage the grazing of MCOSD lands by goats or any other herbivore. The author may be referring to a discussion of this topic in the proposed Vegetation and Biodiversity Master Plan currently being circulated in draft form by the MCOSD. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of

the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

# SAN GERONIMO VALLEY PLANNING GROUP

September 20, 2014

To:

James Raives  
Marin County Open Space District  
3501 Civic Center Drive, Suite 260  
San Rafael, CA 94903 – 4157  
Contact: [jraives@marincounty.org](mailto:jraives@marincounty.org)

From:

San Geronimo Valley Planning Group  
Jean Berensmeier, Chair  
P.O. Box 57  
Forest Knolls, CA 94933  
Contact: [jeanberens@comcast.net](mailto:jeanberens@comcast.net)

Re: RTMP Recirculated Draft Tiered Program EIR  
August 2014

The San Geronimo Valley appreciates the effort of the Marin County Open Space District in compiling the Recirculated Draft Tiered Program EIR. Our comments follow and are listed by page number.

1-8

Table 1-1 Goal OS –1

“Sustainably Managed Open Space. Manage open space in a sustainable manner for environmental health and the long term protection of resources.”  
Note: Change end of the sentence to read “. . . protection of natural resources.”

**91-1**

The Planning Group endorses these primary goals. They continue to reflect the goals that originated when the first County Wide Plan was adopted and the Open Space Bond measure was passed -- both in 1972. Support for these goals have continued through regular updates of the County Wide Plan, Community Plan and Trail Plan. Key to our comments is “how” the visitor experience is improved. Visitors include hikers, runners, dog walkers, mountain bikers and equestrians. It is noteworthy that mountain bikers represent only 24% of the users –Table 3-1. They are also the only users who consistently, and adamantly, interpret “how” as adding and expanding new trails, suggesting trails for long travel experiences and requesting special “perks” all the while building and using illegal trails and riding illegally on single track trails. It is also worth noting that at a community trails workshop staff reported that consultants, contracted to identify and assess trail locations, discovered that when rechecking locations, they found that new, illegal trails were built as fast as they could identify existing illegal trails.

**91-2**

1-7

91-3

1.4 The Marin Countywide Plan

“While the law established specific requirements for the contents of the general plan, within that framework each community has the latitude to design its own future.” With that mind along with the goals of environmental health and protection and preservation of our natural resources the Planning Group makes the following four recommendations.

Recommendation #1:

91-4

In keeping with the goals of the plan and the latitude in 1.4 to “design our own future”: the Planning Group recommends that a new protection status be created for the Gary Giacomini 1600 acre Preserve to be known as the Legacy Protection Zone. San Geronimo Creek is recognized regionally and nationally as a major and critical spawning habitat for endangered coho salmon and threatened steelhead trout. Along with this recognition has come significant funding from State and Federal agencies used by the county, organizations, and partnerships that are ongoing. In addition, the San Geronimo Valley Salmon Enhancement Plan has been invaluable as a resource for developing restoration projects. All tributaries on this preserve lead to San Geronimo Creek that runs the length of the Valley from Woodacre to the Ink Wells west of Lagunitas where it joins Lagunitas Creek and eventually reaches the Pacific Ocean. This unique preserve extends five miles from White’s Hill to Peters Dam along San Geronimo ridge and wraps around the villages of Woodacre, San Geronimo, Forest Knolls and Lagunitas. Once established, enforcement personnel and fines should be increased and illegal trails should be eliminated. It should then be considered for priority funding for restoration projects.

13-9

91-5

Fig. 3-4 Region 2

Recommendation #2:

Region #2 currently contains Open Space preserves in two different watersheds. The Planning Group recommends that there be 7 Regions instead of 6 in order to separate these watersheds. Region 2 would be limited to Open Space preserves in the San Geronimo Valley west of White’s Hill for a total of 2,028 acres whose waters flow west. Region #7 (new) would include the Open Space preserves on the Fairfax side for a total of 1,403 acres whose waters flow east to San Pablo Bay.

3-26

91-6

Recommendations #3:

Roys Redwoods is shown as a #2 designation. It should be changed to a #1 designation as a Sensitive Resource Area. Mountain biking is not allowed in this preserve and horse back riding is limited to one route and unpermitted for equestrians during the wintertime. Old growth redwoods that rival in size, those in Muir woods, surround the meadow. This and the preserve’s mixed forests

contain broad areas of undisturbed natural environment along the swale, loop and spur trails and northern steep (17%) slope. **91-6, cont.**

Recommendation #4

Devise a map, for public use, that generally indicates the location of special-status plants and wildlife species (possibly corridors). This would NOT be a “site specific” map that could be used as a trail guide, but simply a general map to give a sense of the richness of these species in our preserves. **91-7**

3-20

Change bullets so #2 bullet reads “Scientific data” and #3 bullet refers to “Visitor data.” **91-8**

Goal TRL-1

Trail and Network Expansion **91-9**

While the Planning Group supports preserving existing trail routes designated for public use, pending new scientific information that may modify trail proposals, the Planning Group does not support expanding the trail network for all or any one user group.

In addition, the Bond measure, and subsequent reviews and changes to the County Wide Plan and Community Plan never proposed using Open Space for “safe routes to schools” or for “commute” routes. The Planning Group has no problem with individual use of the trails for these purposes, but we do not support advertising or designating routes or making purchases of open space land for this use. This is a slippery slope to stay clear of!

TRL – 1.e

Explore funding. Public and private funding including private endowments and requests are welcome. But these funds must not be used to create private trails nor contain conditions that require (conditions) signs or ads to be placed on open space. **91-10**

TRL-2.a

Revise to read, “... habitats such as wetlands, rare plants, wildlife corridors and areas where endangered . . .’ **91-11**

TRL-2.c

Eliminate trail redundancy. Agreed. See comments on page 6-57. Policy SW19. **91-12**

3-31

Policy P5

The Planning Group does not support using Open Space district land to create 3 **91-13**

Policy 21f	<b>91-14</b>
The Planning Group does not agree with this policy. Revise to read, “The MCOSD will eliminate trails that are illegal as they are not part of its system of maintained trails.”	
Policy T1g	<b>91-15</b>
What are “authorized exceptions?”	
3-32	
Policy SW2	<b>91-16</b>
The Planning Group does not support inclusion of illegal trails built before November 2011 as eligible for consideration as part of the “roads and trails system” There is no fair or scientific reason for their inclusion other than they exist. How many miles of illegal trails have been identified for this “free ride?”	
3-35	
Policy SW.12	<b>91-17</b>
The Planning Group supports exploring novel forms of trail designation on a limited, pilot basis. We do not support “time separation” use because too many mountain bikers do not follow the rules. They build trails illegally, ride single-track trails at will and ignore speed limits. The District does not have the enforcement staff to monitor time separation use given this prevailing attitude. The result would be increased complaints, user conflict and would be a drain on staff and financial resources – resources that could be better used elsewhere.	
Policy SW 19	<b>91-18</b>
Well done!	
Policy SW 22	
Well done!	
Policy SW.23	<b>91-19</b>
Add “. . . and scientific data.”	
3-40	
Policy T-1	<b>91-20</b>
The Planning Group does not support developing new opportunities for long distance travel. It unnecessarily impacts rare plants, wildlife, wildlife corridors and diminishes the open space we voted to preserve and protect.	
3-41	
Table 3-4	<b>91-21</b>
Zone1: New Roads and Trails	
The Planning Group needs to see examples of how “new trail” and “net reduction” would work at a 2.1 ratio.	

All Zones **91-22**  
 Existing Roads and Trails  
 “(For zones 2-4, an additional criterion regarding use levels is added)”. What does this mean?

All Zones **91-23**  
 Visitor Use  
 The Planning Group is concerned about the number of dogs on fire roads that are off leash and not under voice control.

3-47 **91-24**  
 3.8.4  
 Annual Decision Making Process  
 Please include a statement whereby MCOSD annually meets with DPW, State Fish & Wildlife and federal agencies to share, provide and gather information about ideas for future restoration projects. This would undoubtedly result in better coordination, support and efficient use of staff and financial resources.

3-51 **91-25**  
 Drainage Condition  
 “The maintenance of natural drainage patterns is one of the most important considerations for road or trail sustainability.” We note that the worst areas are the Giacomini Preserve (7 miles) and Mt. Burdell (6 miles). Funding restoration efforts to correct this problem should be a priority.

3-52 **91-26**  
 Social Criteria  
 Road/Trail Length  
 Yes, this was raised several times by mountain bikers -- not hikers, runners, dog walkers or equestrians. The Planning Group does not support this concept. Travelling long distances would require “moving into” or “opening up” “wilderness” or “sensitive” wildlife habitats. This would violate the basic tenets of the Plan. Namely, protection and preservation goals. This request can be better accommodated in counties that are larger than little Marin or in Parks that already have these long trails. Marin can’t be all things to mountain bikers.

Distance from Development  
 This request is because mountain bikers want to go as far as they can as fast as they can. Check mountain bike web sites and magazines. Seeking long distance races, competitiveness against others, is the standard. Going slow is not in their lexicon. No one is fooled so eliminate solitude as a reason.

3-58 **91-27**  
 Multi- year Wildlife Monitoring. An excellent program!

3-59		<b>91-28</b>
	It was a wise decision to make changes to seasonal restrictions and buffer areas for birds. Scientific data from current and future wildlife studies will undoubtedly provide information for similar restrictions for four leggeds.	
3-60		<b>91-29</b>
	3.10 Implementation of the RTMP The Planning Group is not familiar with the web based reporting system to permit the public to easily provide information to the district regarding road and trail problems. We will form a committee to review this form and see how it can be best used in protecting the four Open Space preserves in our Valley.	
6-2		<b>91-30</b>
	Environmental Setting and Use The San Geronimo Valley has 4 preserves. The 1600 Giacomini Preserve that wraps around each village to the south of Drake Blvd. In the northeast quadrant is 320 acre Roys Redwoods and to the west is little Maurice Thorner and French Ranch. Giacomini Preserve - Frequent complaints about bikers building illegal trails, using single-track trails and night riding. Increasing complaints about dog walkers with too many dogs, not licensed users, dogs off leash and not responding to voice commands and dog waste on the trails. Roys Redwoods Preserve - Lots of use. Occasional biker and equestrian illegally ride across the meadow. Occasional equestrian goes through in rainy weather. Thorner Preserve – Most frequent users are students from the Lagunitas School Dist. Biggest problem is that children too frequently cut across switchbacks. Some dog walkers find this a favorable site. French Ranch – Infrequent use. Resolving many of the impacts listed above will require assistance and coordination with the county to rectify.	
	The Planning Group hosted a community meeting regarding dog complaints. A community committee was formed to go over ideas and make suggestions. The committee fell apart and did nothing.	<b>91-31</b>
6-15		<b>91-32</b>
	Figure 6-2 Special – status plant species within 3 miles of Region 2 preserve Very informative but the striped orange circle is not identified in the legend.	
6-29		<b>91-33</b>
	Figure 6-15 Essential Habitat Connectivity Within Vicinity of Preserves Not clear what a “connectivity stick” is.	

6-31		
Table 6-2		<b>91-34</b>
Summary of Literature Reviewed Addressing Potential Impact of Trail Use In Public Parks and Open Space.		
Regretfully the Content summary was unable to include “results” in only a few instances.		
6-34		
Mountain Biking and Night Riding		<b>91-35</b>
The Planning Group continues to hear complaints from residents. Particularly those residents living near the village boundary next to the Giacomini Preserve. Complainers say the noise of the nightriders is loud and all too frequent. Planning Group research has come up with limited scientific information.		
6-37		
Table 6-3 Summary of Literature Reviewed Addressing Potential Impacts of Dogs in Public Parks and Open Spaces		<b>91-36</b>
Dogs in the Preserves		
As mentioned earlier there are increasing complaints about dog walkers with too many dogs, not licensed users, dogs off leash, dogs not responding to voice commands and dog waste on the trails. The problems are ongoing despite efforts to educate. The Planning Group agrees with the county that at this time dogs are to be restricted to trails on leash or other control and cannot go off trail.		
6-41		
Federal Laws and Regulations		<b>91-37</b>
The Planning Group is pleased to see that Total Maximum Daily Loads (TMDL) of sediment are currently undergoing environmental review and are expected to be adopted for San Geronimo and Lagunitas Creek.		
6-45		
Native Plant Protection Act		<b>91-38</b>
The Planning Group is pleased to see that rare plants will be regulated under new guidance from the California Fish and Game Code. This is good news for the 64 rare plant species that currently have no protection.		
6-49		
Marin County		<b>91-39</b>
Watershed Program		
The Planning Group has supported this program for many years. We urge the Supervisors and Dept. Head to seek funding to implement and construct the improvements proposed under the individual Master Plans.		

- 6-57 **91-40**  
 Table 6-4  
 Policy SW 19  
 Redundant Roads and Trails  
 Agreed. We note that on page 3-21 one third of the roads and trails are redundant and that Region 2 has the highest mileage of such facilities. Given the high environmental value of the Giacomini Preserve for endangered species eliminating redundant trails that cause erosion and sedimentation should be a project priority.
- 6-91 **91-41**  
 Road and Trail Use and Night Lighting  
 The Planning Group supports wildlife studies that will provide scientific data on the use of open space preserves by wildlife both day and night. The results will be used to support future management of the preserves so that the needs of wildlife are recognized and properly protected.
- 11-44 **91-42**  
 Drainage and Trail Crossings  
 The Salmon Enhancement Plan and earlier studies have shown the impact of undesignated stream crossings in Valley preserves. In particular, the Plan identifies roads and trails within the Giacomini Preserve that have numerous stream crossings, including several each on the Sylvestris Fire Road, Contour Trail, Candalero Canyon Trail and Lagunitas Trail. We look forward to proposing and reviewing projects to resolve this problem.
- The Planning Group applauds the Open Space District and Dept. of Public Works for their efforts in recent years to realign old logging roads and make trail improvements that prevent erosion and sediment from entering tributaries that lead to San Geronimo Creek. The effort should be acknowledged in this document. It is not clear how closely the Open Space District and Department of Public Works work together. Please include a phrase along these lines: “The Open Space Dist. and Dept. of Public Works will meet annually to share information so that future restoration efforts planned by each department are coordinated in order to use financial resources and staffing efficiently and effectively, as well as achieve common goals.
- 15-3 **91-43**  
 Time Allocated Management of Recreation Uses.  
 The Planning Group does not support “time separation”. Consider the unfairness of the example. Mountain bikers (24% of the users) select trails or roads for their singular use 3 days a week while hikers (called pedestrians) who represent 76% of the users are expected to share the trails with equestrians, runners and dog walkers the remaining days of the week.

15-3

91-44

Enhanced Mountain Bicycle Facilities and Uses.

The Planning Group does not support the development of special facilities for mountain bike use and/or the reservation of select facilities for use only by mountain bikers. We oppose the construction of narrow trails to be used exclusively for bike use and/or the reservation of certain facilities for exclusive or primarily for mountain bike use. We are also opposed to having races or technical competitions on open space preserves, or the establishment of facilities for training purposes. None of these uses are appropriate on open space land that is to be preserved and protected for future generations. Mountain bikers need to purchase land for these endeavors. These outrageous requests are totally inappropriate given the purpose and goals of the 1972 Bond measure. And the mountain bikers represent only 24% of user groups.

Thank you for the opportunity to comment.

Sincerely,  
Jean Berensmeier  
San Geronimo Valley Planning Group, Chair

## Response to Letter 91

**Commenter** Jean Berensmeier  
San Geronimo Valley Planning Group  
September 20, 2014

91-1 *The comment cites Goal OS-1 of the Marin Countywide Plan and requests a change in the text of the Goal.*

The purpose of Table 1-1 in Chapter 1, *Introduction*, of the RD TPEIR is to identify existing Marin County goals and policies set forth in the Marin Countywide Plan that affect the operations of the Marin County Open Space District. The MCOSD does not propose to amend the Countywide Plan in the RTMP, and in fact, has no authority to do so. The sole authority to amend the Countywide Plan rests with the Marin County Board of Supervisors. Thus, the MCOSD is unable to comply with the request set forth in the comment. Should the San Geronimo Valley Planning Group (SGVPG) wish to amend the Countywide Plan as suggested, the group would need to make application to Marin County through the Community Development Agency, located at 3501 Civic Center Drive, San Rafael, California 94903.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused by the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

91-2 *The comment states that the SGVPG supports the goals of the Countywide Plan set forth in Table 1-1 in Chapter 1, Introduction, of the RD TPEIR. The comment additionally sets forth information regarding the relative share of various user types of MCOSD open space preserves, and provides information on the behavior of mountain bicyclists.*

The MCOSD has used the information regarding the share and behavior of user types cited in the comment in the development of the RTMP. Thus, no amendment of the RTMP would be necessary. The MCOSD acknowledges the views expressed in the comment. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused by the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond

to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

- 91-3 *The comment introduces a series of requests by the SGVPG to create a new classification for the Gary Giacomini Open Space Preserve, and to modify the MCOSD's planning regions and visitor use management area designations as set forth in the RTMP and cited in Chapter 3, Project Description, of the RD TPEIR.*

See responses to comments 91-4 through 91-7.

- 91-4 *The comment requests that the MCOSD create a new protection new classification for the Gary Giacomini Open Space Preserve to be known as the Legacy Protection Zone. As stated in the comment, enforcement would be expanded in this zone, illegal trails would be eliminated, and RTMP projects within the Preserve would be prioritized.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 91-5 *The comment requests that the MCOSD revise the administrative region depicted in Figure 3-4 in Chapter 3, Project Description, of the RD TPEIR. The comment requests that Region 2 be divided into two regions based on watershed boundaries.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this

and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 91-6 *The comment requests that the MCOSD revise the visitor use management area designation of the Roy's Redwoods Open Space Preserve as depicted on Figure 4-7 of the RTMP as cited in Figure 3-10 of the RD TPEIR.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 91-7 *The comment requests that the MCOSD produce a general map that generally indicates the location of sensitive plant and wildlife species to provide a sense of the richness of such species in MCOSD open space preserves.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

- 91-8 *The comment requests that the bullet points set forth in Section 3.6.1 in Chapter 3, Project Description, of the RD TPEIR.*

These bullet points accurately quote the passage set forth in the first paragraph of Chapter 3, *Framework for Science-Based Management*, of the RTMP. No changes are necessary to Section 3.6.1 of the RD TPEIR.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with

the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 91-9 *The comment states that the SGVPG supports preserving existing trail routes subject to potential modification based on the continuing acquisition of scientific data. However, the SGVPG does not support the use of trails within MCOSD preserves as commute routes for safe routes to schools.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

- 91-10 *The comment states the support of the SGVPG for increased private and public funding of the MCOSD as set forth in Countywide Plan implementation measure TRL-1.e quoted in Table 3-2 in the RD TPEIR, but cautions that funding must not be used to create private trails or lead to outdoor advertising in preserves.*

The MCOSD acknowledges the views expressed in the comment. The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSD Board of Directors when they consider the RTMP for approval.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-11 *The comment requests revision of Countywide Plan implementation measure TRL-2.a quoted in Table 3-2 in the RD TPEIR.*

The MCOSD is unable to comply with this request. See response to comment 91-1.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question

the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 91-12 *The comment supports Countywide Plan implementation measure TRL-2.c quoted in Table 3-2 in the RD TPEIR.*

The MCOSD acknowledges the views expressed in the comment. The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSD Board of Directors when they consider the RTMP for approval.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-13 *The comment is incomplete.*

The MCOSD is unable to determine the subject of the content. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it question the environmental conclusions of the RD TPEIR. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-14 *The comment requests modification of Policy T1f of the adopted MCOSD Policy Review Initiative.*

The RTMP recommends deleting and replacing Policy T1f with new systemwide policies SW-2, SW.3, SW.5, SW.6, SW.7, and SW.8. These policies establish a road and trail system, provide direction on decommissioning non-system Roads and Trails, decommissioning social trails, and restrictions on off trail activities.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-15 *The comment requests clarification of Policy T1g set forth in the MCOSD Policy Review Initiative regarding the phrase “authorized exceptions” to a prohibition on the use of motorized vehicles within open space preserves.*

As defined by Section 02.04.010 of the Marin County Code, “authorized exceptions” are defined as emergency vehicles and county or district maintenance vehicles, battery-powered wheelchairs and other power-driven mobility devices being used by individuals with mobility disabilities, unless the Open Space District determines and posts notice of such determination that under 28 CFR §§ 35.130(h) and 35.137(b)(2) the class of other power-driven mobility devices cannot be operated in accordance with legitimate safety requirements that the Open Space District has adopted. Public utilities, water districts, and other similar entities may be permitted to operate service vehicles within open space preserves upon obtaining a Special Use permit from the MCOSD pursuant to RTMP Policy SP-1.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-16 *The comment disagrees with the provisions of RTMP policy SW.2, System Roads and Trails, which would permit illegally constructed trails to be accepted into the MCOSD system. The comment additionally requests information regarding the mileage of illegal trails that may be accepted into the MDOSD system.*

Regarding the mileage of illegal roads and trails that could be designated as system roads or trails, the RTMP establishes a process in Chapter 5, Road and Trail Decision-Making Process, by which designated system roads and trails will be identified. Until this process has been completed, the MCOSD cannot quantify the length of illegal roads and trails that may be accepted into the system. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 91-17 *The comment states that the SGVPG supports exploring different forms of designating uses on trails, but opposes “time separation” of uses because of a past history of non-compliance with MCOSD rules by mountain bikers and the lack of enforcement capability by the MCOSD.*

The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSD Board of Directors when they consider the RTMP for approval.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

91-18 *The comment states support for RTMP policies SW.19 and SW.22.*

The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSD Board of Directors when they consider the RTMP for approval.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

91-19 *The comment requests that RTMP policy SW.23 be modified to add the phrase “and scientific data” at the end of the last sentence of the policy.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

91-20 *The comment states that the SGVPG does not support the development of new opportunities for long distance travel as described in RTMP Policy T.1 because of adverse effects to rare plants, wildlife, wildlife corridors, and the conversion of open space.*

The potential environmental effects of implementing proposed RTMP policy T.1 on biological resources are assessed in Chapter 6, *Biological Resources*, of the RD TPEIR. Impacts

BIO-1 through BIO-5 assess the potential impacts of implementing the RTMP, including all of its component policies, on the biological resources stated in the comment.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-21 *The comment requests a quantitative comparison of the resulting road and trail system with operation of the previous Visitor Use Management Zone offset ratios (1:1, 2:1) and implementation of the “net reduction” strategy that replaces the numeric offsets in the revised RTMP.*

Given the fundamental difference in how impacts are assessed and mitigated for in the revised RTMP, it is impossible to predict the magnitude of changes to the total surface area of the road and trail network as a result of RTMP implementation. The current draft RTMP’s requirement that a new trail project result in a net reduction of biophysical impacts as measured by the Road and Trail Evaluation Tool is described in Chapter 5 of the RTMP. This tool requires each existing and proposed road and trail facility to be scored for 25 environmental and physical criteria. Each criterion corresponds to a significant factor of environmental impact (e.g. proximity of the facility to a known owl nesting site, intersection with invasive weeds) or physical performance (e.g. length, width, proximity to streams, erosion). These scores are summed together for each existing or proposed road and trail facility to provide coefficients measuring the overall biophysical impacts of that facility. These coefficients are in turn added together to estimate a “baseline” of total biophysical impacts for all roads and trails. The RTMP requires that budgeted road and trail projects result in a net reduction of the total biophysical impacts, measured against the previous year’s baseline. The RTMP also directs staff to “maximize the reduction” of biophysical impacts in Sensitive Resource Areas (formerly the “Immersed in Nature Zone”). This means that, over time, the total measure of road and trail impacts will be significantly reduced below the original baseline level, with even greater reductions measurable in Sensitive Resource Areas. The previous version of the RTMP proposed to use trail area as a method to quantify trail impact and mitigation, specifically requiring a 1:1 ratio for the restoration of existing trail area for new trail area impact for all zones except the former “Immersed in Nature Zone,” which required a 2:1 ratio of decommissioned to newly disturbed area. The revised RTMP eliminated the offset ratios because they only addressed one area of impact and did not consider other issues such as erosion potential, habitat, stream crossings, or vegetation type. The proposed “net reduction” strategy is preferred because it allows for the consideration of a robust list of site-specific environmental characteristics, instead of one single characteristic, disturbance area. The “net reduction” strategy is also preferable because it will result in cumulative significant reductions in impacts across the preserve system, whereas the original proposed ratio based method would have allowed for a no-net-change approach in the 85 percent of the preserve system located outside of the former “Immersed in Nature Zone.” The appendix to the RTMP provides two examples on how the MCOSD will use the evaluation tool to achieve a net reduction of biophysical impacts to the region.

As required by CEQA (State CEQA Guidelines Section 15064[d]), the RD TPEIR evaluates the potential effects of implementing the revised RTMP on the physical environment. The physical environmental against which the project is assessed is the defined as the environmental setting or baseline (State CEQA Guidelines Section 15125[a]). Section 15125(a) further defines the baseline as the physical environmental conditions that existed at the time of circulation of the Notice of Preparation. In the case of the RTMP, this date is January 2011. Thus, CEQA does not require that a project be evaluated against a previous iteration of itself, but only against the existing environment. The RD TPEIR properly assesses the project in this way.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-22 *The comment refers to Table 3-4 of the RD TPEIR. The comment requests clarification of a parenthetical statement that appears in the row entitled, “All Zones: Existing Roads and Trails”.*

The purpose of Table 3-4 is to illustrate those Visitor Use Management Zone policies that were deleted by the MCOSED in the revised version of the RTMP assessed in the RD TPEIR. Thus, the policy cited in the comment is no longer part of the RTMP.

The reference cited in Table 3-4 is a summary of the Visitor Use Management Zone policies set forth in Table 4.2 of the RTMP dated October 1, 2013. The “additional criterion” cited in Table 3-4 refers to clauses added to the policies for the row cited above for Management Zones 2-4 that describes the expected levels of use in these Zones.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-23 *The comment refers to Table 3-4 of the RD TPEIR. The comment refers to the last row of the Table, which sets forth dog policies within the Visitor Use Management Zones. The comment expresses concerns regarding unleashed dogs on fire roads.*

See response to comment 91-22 for an explanation of the information presented in Table 3-4. Regarding the concern expressed in the comment, the views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSED Board of Directors when they consider the RTMP for approval.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental

conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-24 *The comment suggests that the MCOSD should coordinate with county, state, and federal agencies during the Annual Decision Making Process to identify restoration projects that would be pursued by the MCOSD.*

As set forth in Table 3-15 of the RD TPEIR, step 1 of the Annual Decision Making Process is for the MCOSD to solicit and receive project proposals. As part of the RTMP goal of reducing the overall impacts of new road and trail projects, these projects will likely include trail restoration components. It is the responsibility of the individuals proposing a new trail project to identify other projects that will reduce the biophysical impacts of the new trail. As the projects are developed and prepared for implementation, the MCOSD will coordinate with the appropriate public agencies. It is unlikely that these agencies have the resources to identify restoration opportunities on the preserves. It is more likely that they will rely on the MCOSD to identify restoration opportunities. Because this solicitation is already a part of the RTMP, no modification of the RTMP is necessary to respond to the comment.

Regarding the suggestion expressed in the comment, the views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSD Board of Directors when they consider the RTMP for approval.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-25 *The comment quotes from the column entitled “Rationale for Criterion” from Table 3-7 of the RD TPEIR for the criterion “Drainage Condition”. The comment expresses agreement with the Drainage Condition criterion, cites areas where drainage conditions are not optimal, and suggests that such areas be made a priority for restoration.*

As set forth in Table 3-15 of the RD TPEIR, step 1 of the Annual Decision Making Process is for the MCOSD to solicit and receive project proposals. As part of this solicitation process, individuals or interest groups may participate and suggest restoration projects that should be made a priority. Because this solicitation is already a part of the RTMP, no modification of the RTMP is necessary to respond to the comment.

Regarding the suggestion expressed in the comment, the views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSD Board of Directors when they consider the RTMP for approval.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed

project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-26 *The comment cites social criteria from the column entitled “Rationale for Criterion” from Table 3-7 of the RD TPEIR for the criteria “Road/Trail Length” and “Distance from Development”. The comment expresses opposition to including these two criteria in the Road and Trail Evaluation Tool.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 91-27 *The comment expresses support for the Multi-Year Wildlife Monitoring Program established by the RTMP.*

The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSD Board of Directors when they consider the RTMP for approval. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-28 *The comment expresses support for revisions to seasonal construction restrictions and setbacks to protect wildlife as set forth in the RTMP.*

The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSD Board of Directors when they consider the RTMP for approval. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-29 *The comment expresses a lack of familiarity with the web based incident and maintenance reporting system described in Section 3.10 of the RD TPEIR.*

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-30 *The comment describes existing use conflicts and problems for the four open space preserves located in or adjacent to the San Geronimo Valley, and states that rectifying these problems will require coordinated action between the community and the MCOSED.*

The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSED Board of Directors when they consider the RTMP for approval. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-31 *The comment states that a community meeting was held in the San Geronimo Valley to discuss dogs in MCOSED open space preserves, and that no consensus was reached at this meeting.*

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-32 *The comment questions the shading and patterns on Figure 6-2 15 in Chapter 6, "Biological Resources" of the RD TPEIR.*

Where a symbol indicating a species occurrence presents more than one keyed color or pattern, it indicates that more than one species has a coterminous location record. For example using Figure 6-1, the large orange and striped circle in the bottom right of the figure indicates that the boundaries of the occurrences of both the small groundcone and the Diablo helianthella cover the same area. Thus, Figures 6-1 through 6-12 are correct, and no modification of the Figures would be necessary

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed

project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-33 *The comment requests a definition of the phrase “connectivity stick” as used in Figure 6-15 in Chapter 6, “Biological Resources” of the RD TPEIR.*

As set forth on page 6-27 of the RD TPEIR, large, relatively natural habitat blocks that support native biodiversity are called ‘Natural Landscape Blocks’, and areas essential for general, system-wide ecological connectivity between the Natural Landscape Blocks are called ‘Essential Connectivity Areas’ or ‘sticks.’ Figure 6-15 locates the MCOSD preserves in relation to these ‘essential connectivity sticks’ and ‘natural landscape blocks’ as identified by the CDFW in its California Essential Habitat Connectivity Project.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-34 *The comment expresses regret that Table 6-2 does not summarize the results of each of the cited studies.*

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-35 *The comment provides information on the adverse experience of San Geronimo Valley residents affected by noise from night riding mountain bicyclists using adjacent MCOSD open space preserves.*

The information conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSD Board of Directors when they consider the RTMP for approval. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-36 *The comment describes the experiences of residents regarding dog use of the four open space preserves located in or adjacent to the San Geronimo Valley, and states agreement with restrictions on dogs proposed in the RTMP.*

The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSD Board of Directors when they consider the RTMP for approval. The comment does not identify any new or significantly increased impacts beyond

those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-37 *The comment expresses appreciation that the Regional Water Quality Control Board is in the process of adopting Total Maximum Daily Loads for San Geronimo and Lagunitas Creeks as stated on page 6-41 of the RD TPEIR.*

The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSED Board of Directors when they consider the RTMP for approval. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it question the environmental conclusions of the RD TPEIR. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-38 *The comment expresses appreciation that the State of California is in the process of amending regulations with respect to rare plants that may lead to an increase in their protection.*

The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSED Board of Directors when they consider the RTMP for approval. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it question the environmental conclusions of the RD TPEIR. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-39 *The comment states support for the Marin County Watershed Program.*

The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSED Board of Directors when they consider the RTMP for approval. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-40 *The comment states support for RTMP policy SW.19, Redundant Roads and Trails.*

The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSED Board of Directors when they consider the RTMP for approval. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-41 *The comment states support for the Multi-Year Wildlife Monitoring Program and its use in making future refinements to the road and trail system as described on page 3-58 of the RD TPEIR, and referred to on page 6-91 of the RD TPEIR.*

The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSD Board of Directors when they consider the RTMP for approval. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-42 *The comment provides information regarding trail crossings within the Giacomini Open Space Preserve and encourages the MCOSD to prioritize restoration or removal of crossings. The comments also expresses appreciation for the past efforts of the MCOSD and the Marin County Department of Public Works in jointly making improvements to the road and trail system to reduce sediment transport to waterways. The comment additionally requests that the MCOSD and the Public Works Department meet to coordinate mutually beneficial projects during the Annual Decision Making Process to identify projects for inclusion in the MCOSD's work program.*

The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSD Board of Directors when they consider the RTMP for approval. For a response to the request that the MCOSD coordinate with the Department of Public Works, please refer to response to comment 91-24.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-43 *The comment states opposition to the concept of "time allocated management" to provide for the needs of various user groups on the same facility.*

The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSD Board of Directors when they consider the RTMP for approval. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 91-44 *The comment states opposition to a variety of potential facilities and management measures that could be dedicated to mountain biking. The comment also state opposition to permitting organized competitions for mountain bikes within MCOSD open space preserves.*

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

70 Crane Drive  
San Anselmo CA 94960

22 Sept. 2014

Linda Dahl, Director, and Staff  
Marin County Open Space District  
Civic Center  
San Rafael, CA 94903



Dear Director Dahl and Staff Members:

I am writing to comment on the recirculated draft, tiered program, and EIR, (two volumes) dated 1 and 14 August 2014, of the Road and Trail Management Plan (RTMP).

92-1

The amount of work and words in these books is staggering. In fact, the sheer quantity of information works against the location and assimilation of facts and, I regret to say, hinders the necessary understanding of the project.

It appears that this is not a definitive work as regards actual trail uses and designations. It lays out tools to achieve that end. That in itself is commendable, but the tools chosen leave unanswered questions and lay the groundwork for future argumentation and subjective interpretation. This is not good. This work should have concrete standards and definitions for trail use, at the very least. This RTMP draft does not provide enduring or credible standards for the future.

92-2

For instance: "SW 14, Road and Trail Etiquette: All... users will practice good etiquette at all times..." Again, "SW 15, Expectation of Active Cooperation of all... Users: Increased trail use opportunities must be coupled with cooperation among all trail users..." Where are the red-line, concrete safety standards? Where is the outline for increased enforcement and citation-writing capability by Open Space Rangers (and NOT a visiting sheriff's deputy)?

Apparently nobody in MCOSD has noticed that it is precisely this sort of vagueness without adequate enforcement standards that has led to the conflicts, charges, counter-charges, and accidents (many of them requiring hospitalization). Apparently no one in MCOSD realizes that 80% of trail users are on their feet out on public lands, and this 80% DOES NOT WANT MOUNTAIN BICYCLES ON NARROW TRAILS, with all the safety hazards, displacement, and environmental damage to the land and to wildlife that they cause. The documentation of accidents and incidents caused by far too many rogue mountain bicyclists is rising.

92-3

If MCOSD is aware of these enduring facts, then many of the Policies governing MCOSD Roads and Trails are moot and should be rewritten to reflect the dire need for enduring safety policies, i.e., NO bicycles on footpaths less than vehicular-width wide. Other Policies should be written in to reflect the need for ongoing, rigorous enforcement, and not namby-pamby "expectations" of good behavior. Currently, there are no effective control or enforcement measures. MCOSD Rangers are not permitted to write tickets.

92-4

Regarding SW 13, "Prohibition on Dangerous Mountain Biking Activities:" in previous drafts, the possibility of allowing mountain bike races on MCOSD lands has been aired. By no means should this be allowed, under any circumstances or rules. MCOSD should not consider, much less permit, the racing of vehicles (bicycles are classed as vehicles under federal Wilderness standards) on Open Space lands. **92-4, cont.**

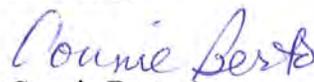
Comments on SW 12, "Road and Trail Connectivity:" restricting usage by certain groups to defined days or hours is not acceptable, if only for the reason that this will be widely abused by one user group. Another reason is that there is currently inadequate enforcement and low supervision of trails. How does the District expect "compliance" from bicyclists, the least compliant trail user group of all? **92-5**

Lastly: the section on 'Greenhouse Gases and Climate Change,' Sec. 9.1.1, is out-dated. There is no agreement on climate science. See page A13, *Wall Street Journal*, Sept. 5, 2014, "Whatever Happened to Global Warming?" by Lord Matt Ridley, (House of Lords, UK) and page C1, *Wall Street Journal*, Sept. 20-21, 2014, "Climate Science is *Not* Settled" by Dr. Steven E. Koonin, former Caltech professor of theoretical physics and former science undersecretary, Energy Dept., in Pres. Obama's first term, for understandable explanations of the current fiasco on climate predictions. The U.N.'s Intergovernmental Panel on Climate Change (IPCC) has quietly downgraded the warming it expected in the 30 years after 1995. Global warming has stopped since shortly before this century began. The RTMP draft devotes too much space to unsupported speculation. **92-6**

I feel that it would be to the discredit of Marin County if proposed policies were enacted that would add confusion, uncertainty, displacement, and disregard of regulations if the RTMP were to be passed without adding some solid facts about trail widths and putting some teeth into enforcement for the future. The possibility of licensing of all bicycles should be part of this future; the time has come for such measures. **92-7**

Thank you for the opportunity to comment.

Sincerely,



Connie Berto  
(Mrs. Frank J. Berto)

Cc: files  
email

## Response to Letter 92

**Commenter** Connie Berto  
September 22, 2014

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92-1 *The comment provides introductory information and expresses regret at the volume of information contained in the RTMP and RD TPEIR.*

The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSED Board of Directors when they consider the RTMP for approval. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

92-2 *The comment states that the RTMP is a tool to be used by the MCOSED to manage roads and trails, and that the RTMP does not establish a defined road and trail network or assign allowable uses to individual facilities. The comment additionally states that the RTMP is deficient because it does not contain explicit safety standards or enforcement mechanisms.*

The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSED Board of Directors when they consider the RTMP for approval.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

92-3 *The comment reiterates the points set forth in comment 92-2 regarding the deficiency of RTMP policies and enforcement, and expresses opposition to permitting mountain bicyclists to use narrow trails.*

See response to comment 92-2. The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSED Board of Directors when they consider the RTMP for approval.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 92-4 *The comment reiterates the points set forth in comment 92-2 regarding the deficiency of RTMP policies and enforcement, and expresses opposition to permitting mountain bike races on MCOSD open space preserves.*

See response to comment 92-2. The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSD Board of Directors when they consider the RTMP for approval. For a staff response to the policy recommendations contained in this comment, please refer to the companion document, entitled Responses to Policy-Related Comments, which will be included in staff's report to the Commission and Board.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 92-5 *The comment expresses opposition to "time separation" of uses because of a past history of non-compliance with MCOSD rules by mountain bikers and the lack of enforcement capability by the MCOSD.*

The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSD Board of Directors when they consider the RTMP for approval. For a staff response to the policy recommendations contained in this comment, please refer to the companion document, entitled Responses to Policy-Related Comments, which will be included in staff's report to the Commission and Board.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 92-6 *The comment disagrees with the statement on page 9-3 in Section 9.1.1 of Chapter 9, Global Climate Change, of the RD TPEIR regarding the scientific consensus that climate change is occurring under the influence of human activities.*

As discussed in Section 9.1.2, it is the policy of the United States, the State of California, and Marin County that climate change is occurring and that human activities have substantially contributed to this phenomenon. In response to this finding, the United States, the State of California, and Marin County have instituted programs and regulations to combat climate change. The MCOSD is subject to these programs and regulations, as is every other local government agency within the state. Additionally, the State CEQA Guidelines have been amended to require the evaluation of a project's effect on climate change or its compliance with state regulations to combat climate change. This assessment is properly evaluated in Chapter 9 of the RD TPEIR.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

92-7 *The comment summarizes the contents of comments 92-2 through 92-5.*

Please refer to responses to comments 92-2 through 92-5. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

**From:** [jonbindloss@yahoo.com](mailto:jonbindloss@yahoo.com)  
**To:** [Raives, James](#)  
**Subject:** Cascade Canyon and trail plan  
**Date:** Monday, September 22, 2014 3:55:17 PM

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jonbindloss would like information about:

Mr. Reeves,

I am community member of Cascade Canyon and regular user of the open space. I consider myself a steward of the surrounding woods and all that inhabit this space. As a dog owner I would like to understand the decision making process which requires dogs to on leash at all times. As you know the Cascade area was previously under a voice control ordinance. I find it strange that the fire road/area that is used to park ranger trucks and other vehicles ( up to 6 at one time ) cannot withstand a well behaved dog walking with it's owner. Mr. Elliot walked his dogs in this area off leash as have generations before and intended for the open space to continue to be enjoyed by the community as he had. Please justify this leash law with real scientific data based on this preserve. Certainly, keeping animals from disturbing the rainbow eggs in a creek beds is reasonable and gladly complied with. However, making it illegal to walk one's well behaved dog on the same road that trucks drive and park seems ridiculous. Please allow the open space to continue to be "open".

Best Regards,

W. Jon Bindloss

93-1

## Response to Letter 93

**Commenter** Jon Bindloss  
September 22, 2014

---

93-1 *The comment objects to rules requiring that dogs remain on-leash in Cascade Canyon.*

The comment pertains to MCOSD policies related to dog use. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

**From:** [Geoff](#)  
**To:** [Raives, James](#)  
**Subject:** RDTPEIR. RTMP  
**Date:** Monday, September 22, 2014 4:28:14 PM

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To All Concerned Parties,

With regard to the Elliott Nature Preserve and it's designation as an environmentally sensitive area that requires a mandatory dogs on leash only regulation. We in the neighborhood have requested in writing and as a matter of record in public hearings a single scientific study that would prove conclusively that dogs have damage to the ElliottNature Preserve. This study has yet to come forward. Until it is made available we request a moratorium on the issuance of citations to dog owners for violating a law which is considered a violation of civil rights.

**94-1**

Thank You,  
Geoff Bolt

from my iPad

## Response to Letter 94

**Commenter** Geoff Bolt  
September 22, 2014

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94-1 *The comment objects to rules requiring that dogs remain on-leash in the Elliott Nature Preserve, and requests that the MCOSD not enforce on-leash requirements until damage to the Elliott Nature Preserve from off-leash dogs has been proved.*

The comment pertains to MCOSD policies related to dog use. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

The MCOSD acknowledges the views expressed in the comment. The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSD Board of Directors when they consider the RTMP for approval. For a staff response to the policy recommendation contained in this comment, please refer to the companion document, entitled *Responses to Policy-Related Comments*, which will be included in staff's report to the Commission and Board.



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*Safe Routes Instructor*

James Raives  
Marin County Open Space District  
3501 Civic Center Drive, Suite 260  
San Rafael, CA 94903-4157

September 22, 2014

Dear James,

The Marin County Bicycle Coalition (MCBC) appreciates the opportunity to comment on the District's Recirculated Draft Tiered Programmatic Road and Trail Management Plan (RDTPEIR, or EIR). MCBC represents 2,500 annual contributing bicyclists in Marin as well as cyclists across the Bay Area and elsewhere who enjoy cycling throughout Marin's beautiful landscapes.

95-1

We share the District's goal of fostering a road and trail network that welcomes public recreation and education while protecting environmental quality, and view the Plan as an important step towards making that goal a reality. To that end, we are very pleased to see many revisions based on the comments we submitted on previous draft versions of the EIR. We particularly appreciate the proposed policy changes regarding Visitor Use Management Zones, the revision of Policy T1d to include existing trails on existing MCOSD lands, and the inclusion of temporally-separated use as a potential trail management tool. In addition, we believe the restructuring of the self-mitigating process and updated matrix tool will enhance the integrity of Marin's remarkable natural landscapes while increasing recreational opportunities. New trail alignments, reroutes, conversions and adoption of non-system trails – coupled with management tools and education – will increase safety for all trail users as well.

We have two types of comments on the EIR: general comments on the EIR's composition and approach to impact assessment and mitigation, and specific comments on language in the chapters. Page numbers refer to the page of the PEIR, unless otherwise noted.

### General Comments

#### **GC-1: Literature Review of the Impacts Of Recreation on the Environment**

95-2

We are happy to see reference in the PEIR to an abundance of credible peer reviewed studies that support the consensus that walking, hiking, biking, and horseback riding on roads and trails have a comparable impact on the environment and that trail degradation has less to do with user type and more to do with trail design, construction, maintenance, and management. This science-based approach to environmental assessment and enhancement avoids alienating user groups (stakeholders and stewards) and will lead to more resilient improvements to the road and trail network.

#### **GC-2: Project Summary**

95-3

With one of the three listed goals of the Plan stated as "Improve the visitor experience and visitor safety" we are surprised that Trail Use Conflict Study commissioned by California State Parks for the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use PEIR (certified April 2013, SCH #2010092023) is not referenced in the RDTPEIR. The Trail Use Conflict Study is the most comprehensive statewide assessment to date of how trail use conflict is addressed by agencies with responsibility over recreational trail development and

management. The study had six major findings relevant to visitor experience and safety:

**95-3,  
cont.**

1. Information on trail use conflict is primarily based on opinion; little data about actual user conflicts are available.
2. Complaints and controversy about other trail users are common.
3. Actual incidents, including those involving accidents [defined as a type of incident “*where someone is injured, or falls, but avoided injury*”] are relatively rare.
4. Trail use conflict is an important social issue.
5. Design of trails to accommodate multiple use helps to avoid or reduce conflict.
6. User education and outreach are key methods to avoid or reduce user conflict.

The study proposed the following recommendations to reduce trail use conflict (repeated verbatim here):

#### **Recommendations for low-conflict, multi-use trail design:**

- **Tread Width and Passing Space.** Provide sufficient width of the trail tread and existing or created space to allow users to pass each other, either as a continuous condition, or as passing spaces at defined intervals. This also includes vertical clearance from overhanging trees and objects.
- **Sight Distance.** Include adequate length of the trail visible ahead to the user. This is particularly important to resolve in conjunction with speed control features, turns, and sinuous layout.
- **Turn Radius.** Create a minimum inside radius of turns to ensure that they can be comfortably negotiated.
- **Sinuosity.** Lay out a trail with many curves and minimal straight sections (however, with sufficient sight distance). This helps limit the speed of mountain bikers and other users.
- **Speed Control Features.** Install pinch points, choke points, trail anchors, technical trail features, ‘stiles’, and other elements specifically designed to limit users’ speeds.
- **Surface Texture.** Design the relative smoothness, evenness, and firmness of the trail tread to moderate travel speed by mountain bicyclists, including the presence of irregularities.
- **Low Trail Structures.** Avoid steps and water-bar structures that constrain access for horses and mountain bikers and can create points of conflict.
- **Gradient.** Apply design limits or variations in the gradient of the trail to allow for multiple uses.
- **Trail Layout and Classification.** When considering trail suitability for multiple uses, factor the level of use of the trail, availability of alternative trails and routes, and the potential for trails to primarily serve one or multiple user types.

#### **Recommendations for multi-use trail conflict management:**

##### **Management Strategies:**

- **Rules.** Adopt enforceable rules, regarding staying on designated trails, right-of-way, warning when overtaking, speed limits, etc.
- **Enforcement.** Establish enforcement strategies, including monitoring, warnings, radar and citations.
- **User Information.** Provide information to users about rules, polices, and advice for trail user respect, right-of-way requirements, courtesy, routes, destinations, and conditions.
- **Data Tracking.** Collect and track data on trail use conflict incidents and design or management response successes.

- **Separate Trails and Specialized Trails.** Alternate use days, provide one-way trails, and designate use-intensive trails.

95-3,  
cont.

#### User Outreach and Coordination Strategies:

- **Education.** Provide user-specific printed materials and web postings, and/or active, focused public relations campaigns to educate users about trail use rules and appropriate behavior.
- **User Group Relations.** To establish or improve constructive relationships with user groups, arrange and conduct general meetings with user groups about trail safety or conflict-related issues, or objectives, such as making improving and maintaining trails and making the trail experience more enjoyable.
- **Volunteer Programs.** Organize, encourage, and /or support establishment of volunteer trail stewardship programs, such as ongoing trail patrol and/or maintenance assistance, specific projects, and help with outreach and education regarding conflict avoidance, safety, and courtesy.
- **Events.** Organize, encourage, and/or support multi-user social, fun, trail construction, or maintenance events (e.g., Trail Clean-up Days).

To its credit, Marin Parks is already engaged in many of these initiatives and/or proposed similar procedures in the RTMP. The findings of the Trail Conflict Study provide further evidence (within a certified CEQA document) in support of these initiatives, and should be referenced as such within the RTMP and EIR.

#### GC-3: “Dangerous” Mountain Biking Activities

95-4

This is more of a comment on the RTMP than the environmental analysis provided in the EIR, but nonetheless we feel it is important to note that the proposed language for policy SW.13 could not go as far as it could in terms of addressing user safety on roads and trails in County open space. Policy SW.13 states:

**Policy SW.13: Prohibition on Dangerous Mountain Biking Activities.** *Mountain biking activities that exceed the established speed limit, are reckless, or pose a danger to the rider or to other road and trail users, are prohibited.*

In many ways, this language echoes existing Marin County code language that prohibits actions that endanger property, public safety, or environmental resources. We support language that makes clear the behavioral expectations for mountain bikers. Unfortunately, the policy singles out mountain bikers as though they were the only users capable of engaging in such dangerous behavior; there are no parallel acknowledgements of or warnings against dangerous hiking, equestrian, or other activities. The expectations for these user groups are only generally discussed in the language of Policies SW.14 and SW.15:

**Policy SW.14: Road and Trail Etiquette.** *All road and trail users will practice good etiquette at all times. Mountain bikers will always yield to both hikers and equestrians. Hikers will yield to equestrians. Mountain bikers must announce their presence by using a bell or calling out when overtaking other trail users.*

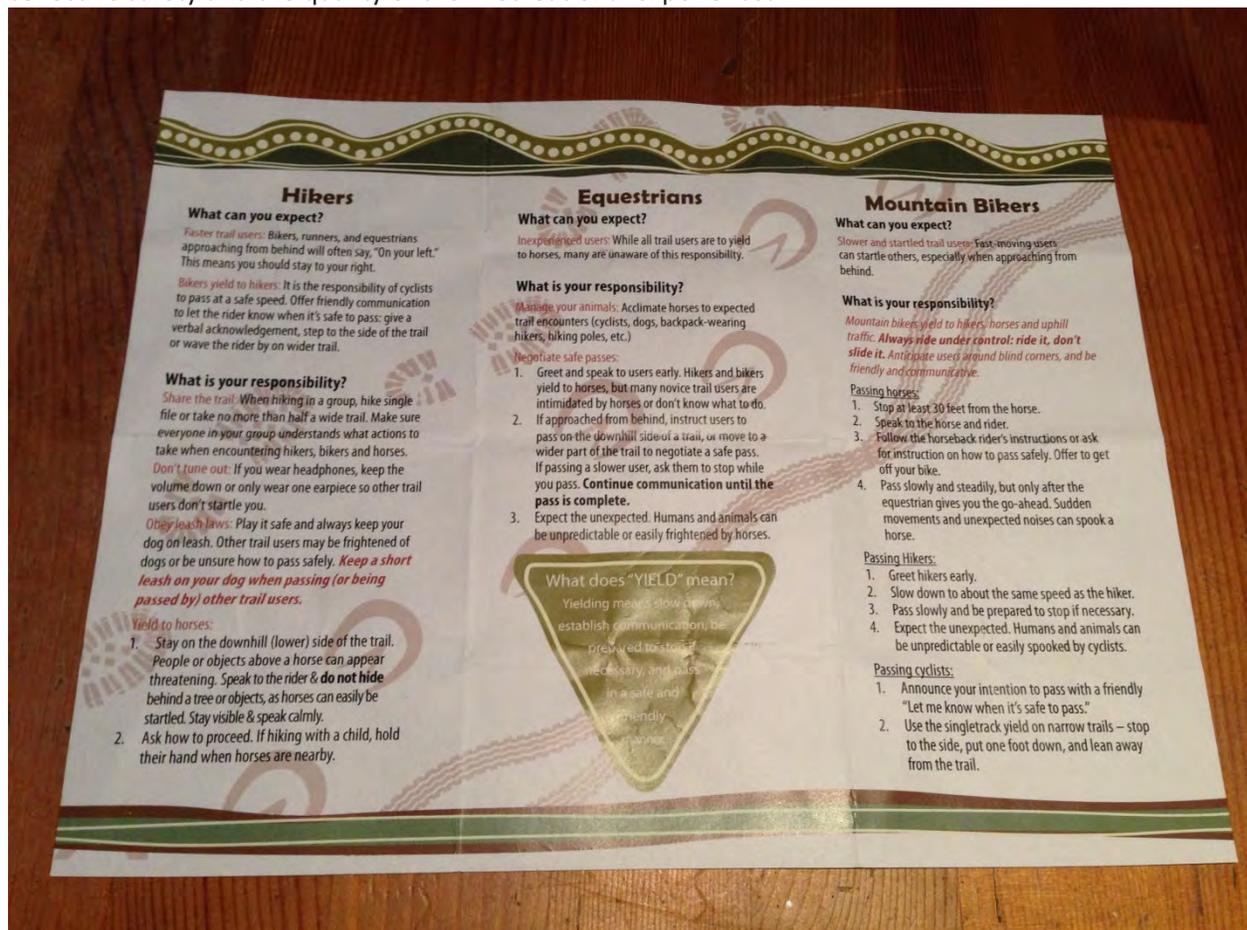
**Policy SW.15: Expectation of Active Cooperation of All Road and Trail Users.** *Increased trail use opportunities must be coupled with cooperation among all trail users, and with the MCOSED, to promote lawful trail use, reduce violations, reduce impacts to natural resources, prevent*

displacement of any trail user types, minimize disturbance to existing neighbors, and avoid endangerment of other trail users.

95-4,  
cont.

The lack of language describing the behavioral/safety expectations for hikers and equestrians may seem like a relatively minor oversight, until one considers that in the last year, two hikers have perished on Marin trails from potentially irresponsible behavior, and there has been at least one known incident of an injured equestrian requiring a helicopter evacuation from Big Trees Trail in Indian Tree Open Space Preserve.

Instead of eliminating Policy SW.13, we suggest that it be re-written to include the behavioral expectations of all user groups. This approach has been applied successfully in a variety of public lands across the country, including areas like Marin that feature major urban communities in close proximity to open space. A particularly applicable example of behavior expectations for all user groups is described in the Friends of Boggs Mountain (Lake County, CA) "Sharing Trails" brochure (pictured below), which is based on a similar brochure produced by the Boulder MountainBike Alliance (an area of abundant open space less than an hour from the Denver metropolitan area). The brochure is endorsed by a coalition of Boggs Mountain user groups, including hikers, birdwatchers, native plant enthusiasts, equestrians, and mountain bikers. The language in the brochure makes it clear to each type of user what they can expect to encounter on the trails, instead of simply stating how users should react when encountering another user, and which behaviors are prohibited. By not singling out a particular user group, this language makes all users feel like equal stakeholders, working in the interest of everyone's collective safety and the quality of their recreational experiences.



We can provide multiple other examples of policy/guideline language that establish behavioral expectations for all user groups. Consistent with our work in Trail Partners, we are happy to work with our partners in the hiking and equestrian communities to develop the precise language that best meets our community's collective needs. We believe that it is only through such collaboration and acknowledgement of shared responsibility that safety can be effectively promoted on County roads and trails.

95-4,  
cont.

### Chapter Comments

95-5

#### **Chapter 11: Water-bars, Climate Change, and Episodic Hydrologic Events**

The direct impacts of the RTMP on climate change (i.e., actions that would result in the generation of greenhouse gases) are discussed in Chapters 5 (Air Quality) and 9 (Global Climate Change). Conversely, the potential impacts of climate change on the project are discussed in Chapter 11 (Hydrology and Water Quality), which references climate change as a driver of sea level rise.

One element of climate change that goes relatively undiscussed in Chapter 11 is the potential impact of climate change on the frequency, magnitude, and duration of extreme episodic hydrologic events such as floods and droughts. The science on this topic is unsettled; some studies (e.g. Hayhoe et al. 2004) indicate that though models describe an overall decrease in precipitation towards the second half of the 21<sup>st</sup> century, they do not describe changes in the magnitude or frequency of this precipitation. Other studies (e.g. Dettinger 2011) suggest that climate change could increase the frequency and severity of flood events.

How is this relevant to the RTMP and PEIR? Both documents describe the use of water bars as one of the accepted methods to manage runoff from roads and trails. While there may be some situations in which water bars are the most feasible and appropriate way to manage road/trail drainage, the recent experience of land managers from Colorado's Front Range indicated otherwise. In September 2013, the Front Range experienced record flooding that wiped out a broad range of infrastructure, including roads and trails on open space lands. In early 2014, Boulder County Open Space field coordinator Michael Rutter noted in the pages of *Mountain Flyer* magazine that the trails that suffered the most severe damage (and in many cases, were completely destroyed) were older trails that had been reinforced with water bars. The water bars had filled up with sediment during the storm and subsequently failed, leading the trails to wash out. On the contrary, newer trails that had been constructed with rolling dips/grade reversals fared much better, and in many cases were the first to be re-opened after the storms. Rutter was quoted as stating,

*"The big thing for us is sustainability. In 2007, we really started implementing the ideas of IMBA's [International Mountain Bicycling Association] rolling contour trail design that features more frequent grade reversals in the design of new trails, and retro-fitting that into old trails. We're hoping we can show the different agencies that you can't put enough water bars into those types of trails and have them be sustainable. Everything we build now uses the rolling contour system, so that we do not have to constantly maintain the trails."*

Though the floods in Colorado were extreme, they are nevertheless illustrative of the benefits of rolling dips and grade reversals over water bars in improving the resiliency and sustainability of roads and trails. This is an important difference, one that is underscored by the potential for climate change to increase the frequency, magnitude, and duration of extreme flooding events in California. The IMBA trail

design standards are hardly the only to emphasize rolling dips and grade reversals over water bars; others in this category include standards for the US Forest Service (cited in the RTMP) and Pacific Crest Trail), as well as multiple experts with the advocacy group American Trails (e.g. Favro 2012, Massachusetts DCR 2008). We suggest that the RTMP and PEIR emphasize that in order to best protect water quality, water bars will only be utilized when absolutely necessary, and that long-term road/trail maintenance activities will encourage to the greatest extent feasible the gradual replacement of existing water bars with grade reversals or rolling dips.

Again, we appreciate the opportunity to comment on the revised EIR, and we look forward to discussing our comments with Marin County Parks staff.

Sincerely,



Tom Boss, Off-Road and Events Director

cc:

MCBC Off-Road Program Committee

John Vipiana, Chair

Christina Toms

Julia Violich

Maureen Gaffney

Matt Adams

Chris Hobbs

Scott Penzarella

Vernon Huffman

Alex Burnham

Ryan Gibson

Jim Elias, Executive Director

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## Response to Letter 95

**Commenter** Tom Boss  
Marin County Bicycle Coalition  
September 22, 2014

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95-1 *The comment provides introductory information, expresses appreciation for modifications in the August 1, 2014 draft of the RTMP that are beneficial to mountain bikers, and sets forth.*

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

95-2 *The comment expresses appreciation for the information contained in Chapter 6, Biological Resources, of the RD TPEIR in Section 6.1.1 of the Chapter under the headings of “Literature Review of the Impacts of Recreation on the Environment” and “Comparison of Impacts of Pedestrian Traffic, Horseback Riding, and Mountain Biking.*

The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSED Board of Directors when they consider the RTMP for approval. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

95-3 *The comment requests that the trail use conflicts study presented in the California State Parks Road and Trail Change-in-Use Evaluation Process Program EIR prepared by California State Parks be incorporated into the RD TPEIR. The comment additionally summarizes the findings of that study, its recommendations for trail design and management, and its strategies for user outreach and coordination. The comment concludes that the MCOSED currently employees many of the recommendations or that they are proposed in the RTMP.*

For a discussion of the relationship between the RTMP, the RD TPEIR, and trail use and safety impacts, please see the Master Responses for the letter template provided by Access4Bikes, specifically responses to comments MR-2 and MR-4. The recommendations and views conveyed by the comment with respect to trail design and management, and user outreach and coordination will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSED Board of Directors.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental

conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 95-4 *The comment disagrees with the wording of RTMP policy SW.13, and suggests the policy be revised to set forth behavior expectations and requirements for all user types. The comment provides a sample of an existing program used in a nearby county that addresses user expectations and etiquette for hikers, pedestrians, and mountain bikers.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 95-5 *The comment provides information regarding extreme flood events and the performance of trail features for stormwater management during such events. The comment advocates that water bars not be used in new trail projects in favor of rolling dips and grade reversals, and that water bars on existing facilities be replaced with dips and reversals. The comment acknowledges that several of the sources of trail standards incorporated into the RTMP permit or encourage the use of rolling dips and grade reversals.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

COMMUNITY MARIN ACTION COMMITTEE

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September 22, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: James Raives, Senior Open Space Planner  
By e-mail

SUBJECT: Road and Trail Management Plan – Draft Revised Tiered Program Environmental Impact Report

Dear Mr. Raives:

The document *Community Marin* (2013) represents the collaborative efforts of Marin County's major environmental organizations to provide an environmentally responsible foundation for land use planning managers, but, as *Community Marin* states, even with diligent management, existing use and trends toward increased recreational use are negatively impacting the valuable resources on public lands that originally prompted their acquisition for long-term conservation. An overarching goal of *Community Marin* is that "Preservation and protection of the natural environment (of Marin County) is a priority in all land use, transportation, and facility planning." This general goal is reflected in more specific recommendations under each section in the document, one of which is titled "Parks and Open Space" and is the framework for our comments on the Draft TPEIR for the Road and Trail Management Plan (RTMP). These comments follow on and, in some instances repeat comments, from the Community Marin letter of December 2, 2013.

96-1

1. *Community Marin* states that "... (Marin County) open space resources currently suffer from overuse and trends toward increased use ... and recommends as a primary management goal the protection of natural resources in the open space preserves. ..."

96-2

The primary objectives of the proposed RTMP would be to "strike the appropriate balance between resource protection and public use and provide guidance for sustainable maintenance..." Implying that equal weight is given to each. This is inconsistent with *Community Marin's* goal, which assigns highest priority to preservation and protection of the natural environment. It is also inconsistent with the RTMP itself (Page 1.5): "... the hierarchy of responsibilities approved by the voters (for Measure A) emphasizes resource protection first, followed by road and trail system maintenance and improvement, and the maintenance and enhancement of recreation uses on the MCOSD lands."

The goals purpose and objectives in the Final TPEIR and the RTMP should restate clearly that resource protection (i.e., avoiding or reducing impacts on sensitive resources) holds first place

in the hierarchy of objectives for management of the OSPs, as reinforced by voter approval of Measure A, and demonstrate how the hierarchy will be carried out.

2. *Community Marin* (2.4) recommends: "Allow access where it will not adversely impact natural resources and where it is compatible with adjacent natural areas on open space, water district, or park lands." Many policies, design standards and Best Management Practices are intended to avoid or reduce impacts on natural resources. Even with these precautionary conditions, however, the Draft TPEIR is not adequate in its analysis of potential impacts of recreational uses on sensitive resources. Vegetative resources are covered but there is virtually no information on wildlife.

96-3

- a. Information on wildlife that is supported by the preserves is needed to allow assessment of locations where access will not adversely impact natural resources.
- b. The new discussion of scientific studies about the impacts of different recreational uses is useful background indicating that all recreational uses have the potential for adverse impacts. The TPEIR should provide a more comprehensive discussion of the impacts of each of the uses, horse, cycles, hikers, dogs and others, as individual as well as cumulative impacts -- not just in comparison with each other.
- c. The Final TPEIR should analyze the impacts of *increased intensity* of all recreational uses on wildlife and vegetation.

3. *Community Marin* (2.11) includes a list of recommendations that should be observed in the planning and management of open space areas. The following relevant recommendations along with our comments relative the DEIR are:

96-4

- (1) "Protect native wildlife habitat areas, enhance or restore degraded habitat for threatened, endangered, and other special status species, and provide corridors to connect habitat areas."

The Biological Resources discussion in the Draft TPEIR, continues to focus on *special status species, wetlands, and riparian ecosystems*, BMPs focus on the impacts of road and trail construction and maintenance, and policies focus on the above along with user management issues, with the conclusion that no significant impacts will occur. Virtually no information is provided for non-special-status wildlife species living on the preserves, other than a reference in several policies.

In order to adequately identify and address impacts on wildlife resources, the Draft TPEIR needs to discuss habitat types and the wildlife species that depend on them. Wildlife corridors certainly exist on many preserves, but none are identified. Few policies cover impacts to wildlife that are not special status. The proposal for wildlife monitoring should be pursued, but it does not take the place of providing existing information into this decision-making process.

- a. The Final TPEIR should provide a thorough analysis of the impacts of recreation on native wildlife, their habitats, ability to nest, movement corridors within habitats and between. Wildlife corridors should be identified and impacts to these resources should be discussed and evaluated.

- b. All users can impact wildlife; most egregious, however, are dogs off leash (see below) and fast-moving mountain bikes. The analysis must address the increased intensity of *use* by recreationists over time. The Final TPEIR should provide a more complete analysis of the impacts of all uses and mitigations for these impacts. 96-4, cont.
- c. The revised analysis should more thoroughly address the impact of night-riding on nocturnal wildlife. The new discussion about this use, which brings bright head or handle-bar lamps into the darkness, is a start, but the impact is simply left hanging. How much night riding is known or believed to occur, on what preserves? What are its potential impacts?
- d. More information should be provided about the proposed plan for wildlife surveys. Will all preserves and species be addressed? What is the time frame? What process and schedule will be followed to integrate the data into the RTMP?

(2) *"Increase protection of trails from illegal, unsafe, or destructive use."*

96-5

The lengthy list of policies includes requirements for compliance, prohibitions of conduct and trail use and modes that compromise protection of natural resources, prohibition of dangerous activities and of unauthorized trail construction, etc. However, how compliance with these policies would be ensured is not discussed.

- a. The Final TPEIR should describe the illegal, unsafe, and destructive uses that are known to occur on the preserves, and explain how policies that deal with these issues will be applied to specific projects and be "self-mitigating." An enforcement program that ensures the policies restricting destructive and dangerous behaviors will be reduced, and not increased, must be developed and presented in the Final DPEIR.
- b. Ways to protect popular areas from destructive use should be researched and recommended in the Final PEIR for implementation. These could include seasonal and occasional closure, or requiring permits for trail use and other actions.

(3) *"Ensure that shared use trails are properly constructed and maintained to ensure safety of all permitted users."* 96-6

The Final TPEIR must address the potentially significant safety impacts of shared use of road and trail facilities on the preserves, and standards must be added to the RTMP that reflect recent understanding of trail design to mitigate these impacts.

(4) *"Dogs on parks and open space lands should be on leash to protect wildlife and vegetation unless otherwise designated."* The Draft TPEIR does not address the impacts of dogs, on or off leash, on wildlife except to present studies. 96-7

The Final TPEIR should analyze the variety of impacts that dogs can have on both natural resources and user safety and list education and enforcement that will ensure enforcement of leash regulations or outright prohibition on selected trails as means of "mitigating" impacts of this use.

- (5) "Ensure that users are able to experience quiet enjoyment of nature in open space areas." **96-8**  
Quiet enjoyment is among the most frequently voiced concerns by pedestrians and equestrians who fear that increased presence of mountain bikes disturb the tranquility of walking in preserves.

The Final TPEIR should compare the impacts of differing modes of travel and differing experience objectives among users and not simply ignore that these differences exist but are central to both safety and conflict issues.

- (6) "Educate users about the function and sensitivity of public lands, plants, and wildlife." The District's existing interpretive programs should be expanded to assist in avoiding or reduces impacts. **96-9**

The Final TPEIR should acknowledge that educating users about the importance and sensitivity of the preserve habitats and animals is critical to achieving a reduction of adverse impacts on these resources, even though it may be limited in its direct effect unless supported by rigorous enforcement of rules. A public education plan should be prepared and implemented.

- (7) "Research and implement ways to protect popular areas from destructive use." These could include seasonal and occasional closure, or requiring permits for trail use." **96-10**

The Draft TPEIR should discuss specific measures to protect popular areas from destructive use. Those considered should include seasonal and night closures, To determine their effectiveness over time, however, there should be a procedure similar to a mitigation monitoring and reporting plan. to ensure that the impacts, for example, of narrowing a road, or constructing a new connector trail, or opening a single path to shared use, are identified and considered during environmental review. The current proposal should be changed, where appropriate, to protect resources.

4. Finally, Community Marin recommends: "Approve no net increase in trail mileage beyond the currently authorized mileage. Eliminate unauthorized trails unless it is determined they are environmentally superior, in which case eliminate a comparable length of unauthorized trail." **96-11**

Marin County preserves have a trail density that exceeds, on a mile per acre basis, that of other open space lands throughout the Bay Area. The current intent, as reflected in policy SW-4, is that "the roads and trails will have less overall impact to resources as compared to the network of roads and trails as of November 2011." It is unclear how this intent will be accomplished; how the biophysical coefficient approach will result in protection of natural resources. It appears the process would be lengthy, the components are vague and the evaluation tool does not reflect the complexity of ecosystems on the preserves.

- Both RTMP and Final TPEIR should retain and implement all provisions that call for no net increase in authorized trail or road footprint and mileage. This is basic to the "self-mitigating" strategy for avoiding or reducing impacts. The potential impacts and potential for success of this changing in approach should be analysis. A discussion in the Final TPEIR should **96-12**

demonstrate that a net reductions in the environmental impacts over time” would result. The length of “time” this would take should be identified.

The undersigned appreciate this opportunity to comment on the Draft TPEIR and look forward to responses in the Final EIR.

Sincerely yours,

Priscilla Bull

Ann Thomas

Nona Dennis

Barbara Salzman

Marge Macris

Randy Greenberg

Susan Stompe

Rick Fraites

## Response to Letter 96

**Commenter** Priscilla Bull  
Community Marin Action Committee  
September 20, 2014

96-1 *The comment provides introductory information and characterizes existing environmental and social conditions within MCOSD open space preserves. The characterization states that the "...existing use and trends toward increased recreational use are negatively impacting the valuable resources on public lands that originally prompted their acquisition for long-term conservation."*

The comment provides introductory text. This introductory text does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

With respect to the characterization of existing environmental and social conditions within the MCOSD open space preserves, the comment is accurate, but provides only a limited understanding of the existing conditions within the MCOSD and its system of open space preserves. Because of the importance of accurately understanding the environmental baseline in assessing the environmental impacts of a project, the MCOSD provides the following summary of the environmental setting information from the RD TPEIR, RTMP, and several documents that provided data used by the MCOSD during the development of the RTMP and in the assessment of impacts in the RD TPEIR.

A more complete picture of the existing condition of the open space preserves would reveal that<sup>1</sup>:

- In acquiring its lands, the MCOSD inherited many miles of existing roads and trails. (RD TPEIR, p. 3-21)
- The 34 open space preserves administered by the MCOSD range in size from 8 acres to more than 1,600 acres, and together total approximately 16,000 acres scattered throughout central and eastern Marin County. Additionally, the MCOSD holds conservation easements on approximately 3,000 acres of private lands. (RD TPEIR, p. 3-4)
- Most of these roads supported agriculture and timber operations, or emergency and other public services, and not public access and recreation. (RD TPEIR, p. 3-21)
- More than 113 miles of the roads and trails are considered fire roads. (RD TPEIR, p. 3-27)
- Most of the (*open space*) preserves are open at night with some limited use occurring at that time. (RD TPEIR, p. 4-4)

<sup>1</sup> The citations in the original text have been deleted. To view the original citations, please refer to the cited page numbers in the RD TPEIR.

- There is also a wide range of narrow trails used for recreational use. Some of these trails are well designed and laid out, while others were developed over time from informal use and adopted as part of the *existing network of signed and maintained trails*. (RTA<sup>2</sup>, p. 2)
- Route selection (*of existing roads and trails*) was commonly based on ease of construction and finding the shortest distance between two points. Natural resource protection objectives were rarely a concern, and many routes were not intended to support the level of year-round recreational and other vehicular use they currently receive. (RD TPEIR, p. 3-21)
- Prior to the completion of studies in support of the RTMP, there existed no current inventory of MCOSD facilities. Unknown information prior to completion of the RTA included: trail grades; trail orientation (fall line); trail drainage; trail width; geology and soils underlying trails; number, type and condition of stream crossings; and use intensity and type (vehicles/no vehicles) based on trail condition. (RTA, pps. 5 to 15)
- The MCOSD routinely maintains its road and trails consistent with all legal and planning requirements and regularly builds new trails based on recommendations in its management plans and priorities identified by the Board of Directors (RD TPEIR, p. 4-4).
- Since the establishment of the Marin County Open Space District in 1972, the MCOSD has maintained selected roads and trails, and has periodically constructed new facilities. Maintenance has ranged from annual mowing to grading to reconstruction. The MCOSD has also managed the use of trails during this time. (RD TPEIR, pps. 3-17 and 4-4)
- All of the preserves are currently managed consistent with the 2007 Marin Countywide Plan, existing MCOSD policy (including the 2005 Policy Review Initiative), the Marin County and the MCOSD adopted code, and management plans for individual preserves (RD TPEIR, p. 4-4). Guiding documents that govern the actions of the MCOSD with respect to roads and trails include the Marin Countywide Plan and the MCOSD policy review initiative (RD TPEIR, pps. 3-29 to 3-31), and the Marin County Code. Overall, these policy documents provide only general guidance to the MCOSD.
- Existing infrastructure within the preserves includes public service and utility facilities, including stormwater facilities, such as culverts and drainage features (e.g., water bars); water mains and hydrants; and fences and gates. Pacific Gas and Electric (PG&E), AT&T, the Marin Municipal Water District, and the North Marin Water District operate and maintain facilities within the MCOSD preserves that require year-round access over preserve roads... (RD TPEIR, pps. 3-27 to 3-28)
- Land uses surrounding the various preserves include other public conservation lands, agricultural lands, private residences, private undeveloped land, and commercial/mixed uses. Many of the preserves are located adjacent to other large open space and recreational lands, including Golden Gate National Recreation Area (managed by the National Park Service), various California state parks, lands managed by the Marin Municipal Water District and the North Marin Water District, and local city parks. (RD TPEIR, p. 3-15)

<sup>2</sup> Road and Trail Assessment (RTA), prepared by Tim C. Best, CEG, and Alta Planning and Design for the MCOSD. Cited in the RD TPEIR as MCOSD 2011a. This document is incorporated by reference into this Final TPEIR as though fully set forth herein. Copies are available for review at the offices of the MCOSD during standard business hours located at 3502 Civic Center Dr., Suite 260, San Rafael, CA 94903.

- Many preserves also share boundaries with private land, including urban, suburban, and rural residences and ranches. Residential uses consist mainly of medium- to high-density development; however, a small percentage of residential use is “very rural” (Marin Countywide Plan categories of low density and hillside residential uses). (RD TPEIR, p. 3-15)
- Visitors and community members access the preserves through a system of unpaved roads and trails from more than 335 trailheads and undesignated access points (i.e., social trails). Additionally, the public uses an unidentifiable number of social trails and illegally built trails to access the preserves. The network of roads and trails lies primarily within the preserves, but the MCOSD also holds numerous public trail easements across private lands that link the preserves to surrounding communities. The nearly 249 miles of unpaved roads and trails traversing the preserves represent roughly 39 percent of the estimated 640 miles of unpaved roads and trails, on public lands, in all of Marin County. (RD TPEIR, pps. 3-4 and 4-4)
- When existing trail networks fail to provide visitors the access and experiences they desire, visitors frequently venture off-trail to reach locations not accessible by formal trails, following cattle and wildlife trails. In addition, some users have constructed trails without authorization from (*the MCOSD*). Because social trails and unauthorized trails are often not professionally designed, constructed or maintained they can contribute substantially greater impacts to protected area resources than formal trails. Common impacts are related to poor trail design, including alignments parallel to slopes (fall-line orientation), steep grade, multiple trails accessing the same destinations; and routes through fragile vegetation, soils, or sensitive wildlife habitats. (RTA, p. 3)
- Because of their current locations and design characteristics, many of the existing roads and trails may not be sustainable. (RD TPEIR, p. 3-22)
- Ideally trails are located and designed to be very low maintenance, but many Open Space roads and trails were not designed with this in mind, and even in the best case there is no “zero maintenance” trail. The Open Space maintenance staff is challenged to keep up with a growing trail system and increasing use at a time when staff resources and maintenance budgets have been reduced. One of the objectives of the RTA and subsequent RTMP is to direct maintenance to the locations and maintenance practices that have the best cost/benefit ratio, and address the highest priority areas. (RTA, p. 15)
- Based on a summary of the information gathered in the road and trail assessment, only 38 percent of the roads and trails within MCOSD preserves are classified as good or good/fair. Almost half of the surveyed trails were classified as fair to poor, indicating that such facilities ranged from marginally functional with portions unsustainable without high levels of maintenance to not functional or sustainable (RTMP, p. 3-4)
- The preserves provide important linkages in large blocks of habitat and recreational open space. ... Several preserves serve as important links in regional habitat corridors. (RD TPEIR, p. 3-15)
- The preserves are characterized as having high biodiversity. The full taxonomic richness of the MCOSD lands is not well understood at this time, so many more species of wildlife, lichens, mosses, fungi, and insects are likely to occur than are currently known to occur on the MCOSD preserves. More complete surveys conducted on Marin Municipal Water District lands have identified more than 900 species of vascular plants and at least 400 species of vertebrates (RD TPEIR, pps. 3-20 to 3-21).

- The MCOSD preserves contain forest, woodland, shrubland, grassland, wetland, and marsh habitats made up of 107 documented vegetation alliances and associations. (RD TPEIR, p. 3-21)
- Many of the preserves drain to or encompass water bodies listed by the San Francisco Regional Water Quality Control Board as beneficial for water supply, critical habitat, or recreational use. In addition, several of the preserves encompass or drain to small ephemeral, intermittent, and perennial creeks and streams and associated riparian and wetland habitat, which are also important resources for water quality, riparian, and aquatic species. (RD TPEIR, p. 3-21)
- Over the past decades, visitor use of the preserves has been increasing, which has led to the need for increased maintenance and improvement of the roads and trails. (RD TPEIR, pps. 3-21 to 3-22)
- An estimated 2.8 to 3.8 million visitors use the preserves annually. Of these, the large majority are hikers, many of whom are walking dogs both on-leash and off-leash. (RD TPEIR, p. 3-27)
- In preparing the RTMP, the MCOSD commissioned a census and survey of visitor use at the open space preserves (VUCS<sup>3</sup>). Summarily, the survey found (VUCS, pps 4-1 to 4-2):
  - ✓ Overall, visitors rated conditions and their interactions with other visitors as great or good.
  - ✓ The most common concerns about bicyclists were that they were discourteous and rode too fast. The most common request regarding bicyclists was to increase bicycle accessibility, including more single track trails.
  - ✓ The most common concerns associated with dogs were that owners do not pick up dog waste and off-leash dogs were nuisances. Visitors also praised off-leash areas.
  - ✓ The most common concern associated with horses was the prevalence of horse waste at several preserves.

In summary, the existing setting (baseline) of the area subject to the RTMP can be characterized by the following:

- The road and trail system within the MCOSD preserves was developed primarily for purposes other than recreation, or arose from the actions of users (social trails). Approximately half of the existing roads and trails are in fair to poor condition, and are environmentally sustainable only with great effort or not at all. Existing poorly located, designed, and constructed existing roads and trails serve as sources of sediment to nearby and downslope watercourses.
- The level by recreational use is high and increasing over time. These high levels of human activity have adversely affected the distribution and species composition of wildlife, adversely affected native plant populations, and encouraged the spread of invasive plants.

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<sup>3</sup> Visitor Use Census and Survey (VUCS), prepared by Alta Planning and Design for the MCOSD. Cited in the RD TPEIR as MCOSD 2011. This document is incorporated by reference into this Final TPEIR as though fully set forth herein. Copies are available for review at the offices of the MCOSD during standard business hours located at 3502 Civic Center Dr., Suite 260, San Rafael, CA 94903.

- Utilities and other entities have developed facilities within open space preserves and use the road system for access to their facilities. In many cases, this year round use has led to degradation of roads.
- Many preserves are located adjacent to developed land uses and act as buffers between developed uses and large open space areas operated by other entities.
- Although the MCOSD has maintained roads and trails within the preserves since 1972, this maintenance has not been systematic or coordinated. Existing guidance documents provide only general direction to the MCOSD in the management and administration of the road and trail system.
- Prior to the initiation of the RTMP, little was known about the locations and physical characteristics of roads and trails within the preserves.

The following discussion of the importance and use of the environmental baseline is set forth in Section 4.4 of the RD TPEIR:

As stated in the State CEQA Guidelines (Section 15125(a)), an EIR must describe the existing conditions in the vicinity of the proposed project. Because some environmental conditions change over time, it is necessary to establish baseline data to evaluate these conditions and to compare conditions after implementation of the proposed project to determine environmental impacts. As set forth in the State CEQA Guidelines (Section 15125(a)), existing conditions are normally assessed “at the time the notice of preparation is published” or if a notice of preparation is not published, “at the time environmental analysis is commenced.” The section further states, “[t]his environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant.” For the RTMP, the baseline is established as January 31, 2011, the date that the MCOSD made the Notice of Preparation available for agency and public review.

... Based on these conditions, this RD TPEIR identifies potential impacts by comparing the future condition of the MCOSD road and trail system with implementation of the RTMP to the existing environmental and physical conditions defined by the environmental baseline.

Section 15002(g) of the State CEQA Guidelines defines the concept of a significant impact. According to this section, a “significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project.” Thus, an accurate description of the existing environment (baseline) such as that provided above is critical to the adequacy of the subsequent impact assessment.

The characterization described in the comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 96-2 *The comment requests that the goals of the MCOSD's Resource Management Plan Framework and the RTMP as quoted in the RD TPEIR be revised to prioritize preservation and protection of the natural environment.*

The comment misconstrues the relationship between the adopted Resource Management Plan Framework, the proposed RTMP and the RD TPEIR, both in time and in content. The Resource Management Plan Framework<sup>4</sup> was adopted by the MCOSD Board of Directors on September 23, 2008, and guides the development of subsequent topical plans, including the RTMP. The sentence quoted in the RD TPEIR and in the comment is present in the following paragraph:

A Road and Trail Management Plan (and subsequent road and trail assessments in specific preserves) will serve critical functions related to land and resource management decision-making. It would be the OSD's key vehicle for striking the appropriate balance between resource protection and public use, and provide guidance for sustainable maintenance of roads and trails. Key to sustainability will be to ensure that roads and trails function in concert with the benefits that healthy watersheds provide, including clean runoff and a reduced runoff volume. The assessments will enable determinations of whether road and trail designations might be changed, or whether particular roads and trails might be decommissioned as a means of improving the health of aquatic environments. (MCOSD Resource Management Plan Framework, p. 6 of 8)

The RD TPEIR accurately reflects this adopted policy and neither the RTMP or the RD TPEIR propose any amendments to this previously approved document. For these reasons, no modification of the TPEIR is necessary to respond to this portion of the comment.

The RTMP consists of proposed goals and policies, road and trail design and construction standards, and best management practices, together with a decision making process. In total, these components constitute the proposed project that is assessed in the RD TPEIR. The RD TPEIR must accurately describe the project, and the MCOSD's goals in pursuing the project. The goals set forth on pages 3-17 and 3-18 of the RD TPEIR accurately quote the goals set forth in the RTMP on pages 1-3 and 4-6 respectively. Thus, the TPEIR meets the test of accuracy in its description of the MCOSD's goals in pursuing the project and no modification of the TPEIR is necessary to respond to this portion of the comment.

The sole requirement of the RD TPEIR is to evaluate the potential environmental effects of the proposed project on the physical environment, and identify mitigation measures and alternatives that could avoid or reduce any adverse effects (State CEQA Guidelines Section 15002).

The EIR is not an appropriate vehicle in which to debate or establish the overall strategy or goals of the RTMP. Rather, these issues would most appropriately be considered by the staff

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<sup>4</sup> Resource Management Plan Framework. Adopted by MCOSD Board of Directors on September 23, 2008. Cited in the RD TPEIR as MCOSD 2008a. This document is incorporated by reference into this Final TPEIR as though fully set forth herein. Copies are available for review at the offices of the MCOSD during standard business hours located at 3502 Civic Center Dr., Suite 260, San Rafael, CA 94903.

of the MCOSD, the Parks and Open Space Commission, and the MCOSD Board of Directors in their consideration of the RTMP for approval.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 96-3 *The comment states that information on common wildlife species is insufficient in the RD TPEIR, that the TPEIR should assess potential impacts to common wildlife by type of use, and that the overall impacts of recreational use should be evaluated. The comment additionally states that the RD TPEIR should have evaluated the increased intensity of recreational uses on biological resources.*

The general concepts of CEQA are set forth in Section 15002 of the State CEQA Guidelines. With respect to an EIR, Section 15002(f) defines an EIR as the 1) public document used by a 2) governmental agency to 3) analyze the significant environmental effects of a proposed project, 4) to identify alternatives, and 5) to disclose possible ways to reduce or avoid the possible environmental damage. Section 15002(g) further defines a significant environmental effect as a substantial adverse change in the physical conditions that exist in the area affected by the proposed project. Because of the importance of each of these requirements in guiding the analysis presented in the RD TPEIR, and the nature of the comments received on that analysis, this response to comment 96-3 will address each of the required elements of Section 15002 (f) and (g), as well as the range of environmental effects to be assessed and level of detail required of the analysis by Sections 15146, 15382, and Appendix G of the State CEQA Guidelines.

**1) Public Document** – The RD TPEIR was circulated for public review and comment from August 5, 2014 to September 22, 2014. This Final TPEIR will be provided to the public for review no less than 10 days prior to the consideration of the RTMP by the MCOSD Board of Directors.

**2) Governmental Agency** – The TPEIR has been prepared by the MCOSD.

**3) Analysis of Significant Environmental Effects** – The potentially significant environmental effects of implementing the RTMP are assessed in Chapters 5 – 14, and 16 of the RD TPEIR. The analytic process described in the RD TPEIR follows the requirements of Sections 15002(g), 15146, and 15382 of the State CEQA Guidelines to a) describe the physical conditions that exist in the area affected by the project, b) describe the proposed project, c) determine the range of environmental resources that could be affected by the project, d) determine the appropriate level of detail to be used in evaluating the potential effects of the project, and e) conduct and report the analysis. The analyses and reporting of potential effects are set forth in the RD TPEIR. Each of the remaining factors is discussed in the following paragraphs.

**a) Existing Physical Conditions** – The existing physical conditions (environmental baseline) of the area potentially affected by the RTMP are described in Chapters 3, 5-14, and 16 of the

RD TPEIR, and further discussed in response to comment 96-1. The MCOSD road and trail system consists of many existing roads and trails, many in poor to fair condition, and heavily used by all categories of users. The maintenance of this existing system and the management of users are without regard to any comprehensive strategy that avoids or reduces the environmental effects of the existing road and trail systems or of the use of that system. The existing conditions of the road and trail system are set forth in the RD TPEIR and response to comment 96-1. In summary, the findings of these two documents are:

- The road and trail system within the MCOSD preserves was developed primarily for purposes other than recreation, or arose from the actions of users (social trails). Approximately half of the roads and trails are in fair to poor condition, and are environmentally sustainable only with great effort or not at all. Poorly located, designed, and constructed existing roads and trails serve as sources of sediment to nearby and downslope watercourses.
- The level by recreational use is high and increasing over time. These high levels of human activity have adversely affected the distribution and species composition of wildlife, adversely affected native plant populations, and encouraged the spread of invasive plants.
- The MCOSD has acquired many parcels with existing developed facilities and access easements. In many cases, these facilities and easements necessitate the year-round use of unpaved roads, which has led to degradation of roads.
- Many preserves are located adjacent to developed land uses and act as buffers between developed uses and large open space areas operated by other entities.
- Although the MCOSD has maintained roads and trails within the preserves since 1972, this maintenance has not been systematic or coordinated. Existing guidance documents provide only general direction to the MCOSD in the management and administration of the road and trail system.
- Prior to the initiation of the RTMP, little was known about the locations and physical characteristics of roads and trails within the preserves.

Two themes are established by this summary of the existing condition of the preserves:

- ✓ An extensive road and trail system exists within the MCOSD open space preserves whose facilities, and high and increasing levels of use, result in a range of adverse environmental effects.
- ✓ Past, current, and ongoing maintenance, construction, and administration of the road and trail system are conducted by the MCOSD without regard to a comprehensive strategy to avoid or reduce adverse environmental effects. These activities, and the level of coordination and guidance provided for them, would continue into the future even in the absence of a RTMP.

The underlying assumptions of comment 96-3 rely upon a fundamental misunderstanding of the role of the environmental baseline in the environmental assessment process as outlined above. As stated in the response to comment 96-1 and above, the existing environment for all wildlife species, including common native wildlife, within the MCOSD's open space preserves is substantially degraded in terms of species composition, range, and behavior. The intent of the RTMP is to provide an organized framework of policies, design and

construction standards, and best management practices to avoid or reduce potential impacts to a range of resources, including native wildlife species. That the RTMP does not go as far as the authors desire in remediating the effects of past and ongoing actions is not a requirement of CEQA. As noted in the response to comment 96-1, CEQA requires an evaluation of the substantial adverse effects of implementing the project on the existing environment (CEQA Guidelines Section 15002(g)). The clear direction of this Guideline is to prevent agencies from characterizing existing environmental conditions, no matter how degraded, as impacts of a proposed project, and the Guideline exempts project proponents from being required to remedy existing environmental deficiencies under the guise of CEQA. In the case of the MCOSD's open space preserves, the existing environment is substantially degraded, and the practices and uses that led to such degradation would continue into the future in the absence of the RTMP. To the extent that the RTMP would provide District-specific policies, standards, and practices that would be beneficial to the existing environment where none now exist, the notion that the RTMP does not go far enough in remediating past and existing conditions is not a CEQA issue but rather one of policy.

*b) Proposed Project* - An accurate description of the proposed project and its implications is a key component in conducting an environmental analysis pursuant to CEQA. The description of the proposed RTMP is presented in Chapter 3 of the RD TPEIR. The implications of implementing the project are set forth in Chapter 4, Section 4.5 of the RD TPEIR. In the case of the RD TPEIR, it is important for the public and decision makers to understand what the RTMP is and what it is not. As described in the Chapter 3 and assessed in Chapters 5 – 14 and 16 of the RD PEIR, the RTMP consists of policies, design and construction standards, best management practices, and a decision making process to aid in the identification and design of environmentally beneficial projects. The overarching purpose of the components of the RTMP is to avoid or reduce environmental harm during maintenance and construction, and to reduce over time the environmental footprint of existing facilities by decommissioning, maintaining, rerouting, or improving roads and trails to reduce sources of sediment and incursion into sensitive biological habitats (RD TPEIR, Section 3.4, pps. 3-16 to 3-18). As noted above and in response to comment 96-1, the MCOSD has in the past and will continue to maintain, construct, and manage the road and trail system. No aspect of the RTMP would expand or modify the range of activities being conducted by the MCOSD. They would continue even in the absence of the RTMP.

Similarly, implementation of the RTMP by itself would not result in an increase in the rate or number of activities pursued by the MCOSD in any given year. The number and type of maintenance, construction, and management activities that occur from year to year is a function of the MCOSD budget, which is unaffected by the RTMP. Indeed, as noted in response to comment 96-1, MCOSD's budget has decreased over time, thereby forcing the agency to defer maintenance and previously programmed maintenance projects. The RTMP does not address or influence the level of funding for the MCOSD.

However, as noted in the RD TPEIR, in November 2012, the voters of Marin County adopted local Measure A to amend the sales tax collected within the County by ¼ cent for the benefit of parks, open space, and farmland preservation. According to its text, Measure A would fund projects to: protect or restore natural resources; reduce erosion and sedimentation, or restore streams and creeks; repair, maintain, and/or replace deteriorating

facilities and infrastructure; and implement trail projects to avoid or reduce existing levels of a broad range of environmental effects. Thus, independently of the RTMP, the additional funding provided with adoption of Measure A has increased the capacity of the MCOSD to initiate and complete road and trail maintenance, construction, and management projects. This increase in maintenance, construction, and management is occurring irrespective of whether the RTMP is adopted or not. (RD TPEIR, pps. 4-7 to 4-8)

In summary, the RTMP would not: expand the range of maintenance, construction, or management activities above those currently conducted by the MCOSD; increase the rate or number of such actions above levels currently initiated or completed by the MCOSD in any given time period; or provide additional funding that could result in an increase in the rate or number of activities in a given time period. The RTMP merely provides structure to organize and prioritize maintenance, construction, and management activities with the goal of reducing environmental harm over time, and provides policies, standards, and best management practices where none currently exist to avoid or reduce environmental harm arising from the management and use of roads and trails within open space preserves. Though not applicable to the proposed RTMP, the State CEQA Guidelines favorably treat the activities of agencies to adopt rules to protect the environment and offer several exemptions from CEQA for such activities (State CEQA Guidelines, Sections 15307, 15308, and 15378(b)(2)).

One question raised in comment 96-3 inquires whether any changes in the location or intensity of recreational uses could be engendered by implementation of the RTMP. As set forth in comment 96-1 and the MCOSD's response to comment 96-1, the use of MCOSD preserves has increased over time, and would continue increasing in the absence of the RTMP. Regarding the potential for increases in the intensity of use with implementation of the RTMP, the RTMP does not specify the facilities contained within the designated road and trail system, nor does it specify the location, design, or permitted uses of any individual future project or projects. None of the components of the RTMP, acting either individually or in concert with one another, permit the MCOSD to engage in any maintenance, construction, or management action that was not previously permitted under existing regulations and policies that govern the MCOSD. That implementation of the RTMP could shift the location and intensity of uses is considered in the RD TPEIR in Section 4.5 in concept and in Chapters 5 -14 for each issue area. As noted in Section 4.5 of the RD TPEIR, the analysis assumes that coverage impacts (such as those to biological resources) could occur anywhere within any of the MCOSD's 34 open space preserves. Regarding potential changes in the intensity or location of uses, Section 4.5 of the RD TPEIR additionally notes that:

Because of the lack of historical trend data on public use of the preserve system and the difficulty in distinguishing between other factors (e.g., population growth or changes in regional recreation patterns) that may increase use, it is impossible to determine if and to what degree the RTMP would result in increased use of the preserves. It is possible that an improved road and trail system could attract new users, but any assumption about the magnitude of this increase would be speculative. Additionally, the MCOSD did not design the RTMP to increase use of the preserves, rather it is intended to reduce the existing level of resource impacts from the road and

trail system and to improve visitor experience and visitor safety. However, in order to comprehensively address potential environmental impacts from the RTMP, the RD TPEIR assumes that the location of activities could change from those that existed on January 31, 2011. The potential environmental effects of this displacement within MCOSD preserves are evaluated in Chapters 5 through 14 of this RD TPEIR.

Thus, the RD TPEIR has anticipated and properly documented the potential effects of increased intensity given the nature of the RTMP project, the degree of specificity required of the TPEIR, and CEQA's discouragement of speculation in the analysis of potential impacts (State CEQA Guidelines Section 15145).

*c) Range of Resources Potentially Affected/ Significance Criteria* – As set forth in Chapters 5 through 14 of the TPEIR, the environmental analyses have relied upon Appendix G of the State CEQA Guidelines to establish significance criteria to guide the TPEIR's evaluation of potential effects. Section IX, question (a) of Appendix G defines the range of species that should be assessed in an environmental document. According to question (a) this list of species is confined to special status species. (This effect is evaluated in Impact BIO-1 of the RD TPEIR.)

Section 15064.7 of the State CEQA Guidelines establishes the procedures that local agencies must follow in adopting thresholds of significance. According to Section 15064.7(b), any new or revised local thresholds must be adopted for general use, must be adopted by ordinance, resolution, rule, or regulation, and developed through a public review process and be supported by substantial evidence. The intent of these requirements is to avoid the ad hoc imposition of inconsistently applied significance criteria as implied by the comment. Because of the need for a separate public hearing, the MCOSD is unable to comply with the requirements of 15064.7(b) in a timely manner within the context of the environmental review process for the RTMP. Thus, Impact BIO-1 properly addresses the range of species required by Appendix G. The comment does not question the adequacy of the analysis or conclusions of this impact statement for special status species.

Section IX, question (d) does apply to the movement of any native resident wildlife species, any native resident or migratory wildlife corridor, or the use of any native wildlife nursery sites. The potential effect of implementing the RTMP on these resources is evaluated in Impact BIO-4 of the RD TPEIR. The comment does not question the analysis or conclusions of this impact statement.

Chapter 6, Biological Resources, and Appendix C of the RD TPEIR provide an extensive environmental setting of existing biological resources and the effect that past and ongoing use has had on biological resources. Appendix C documents special status species of wildlife that could be affected by implementation of the RTMP and describes potential effects and management measures to reduce any effects. Table 6-1 summarizes all habitat associations present within MCOSD preserves and sets forth the range of special status species that could occur there. Figures 6-1 through 6-12 depict the location of special status plant and wildlife species within 3 miles of any preserve; Figure 6-13 illustrates the location of critical habitats in the vicinity of MCOSD preserves. Existing wildlife corridors are discussed on page 6-27 and depicted on Figures 6-14 and 6-15. A literature review and survey of the

impacts of recreation on the environment is presented on pages 6-31 through 6-40, including a comparison of the effects of various activities on wildlife as requested by the comment. The conclusion of this survey is that all human uses of open space influence the behavior and species composition in affected areas, with little consensus regarding the relative effects of various types of human uses. There is a greater consensus regarding the adverse effects of off-leash dogs on wildlife. The RTMP would establish a series of policies related to the control of dogs within preserves (SW.8 through SW.11). These policies were considered in assessing potential impacts to wildlife in Impacts BIO-1 and BIO-4 in the RD TPEIR.

Please see the response to comment 96-5 for a discussion of the appropriateness of safety in the environmental analysis.

*d) Degree of Specificity of the Analysis* - State CEQA Guidelines Section 15146 discusses the degree of specificity required in an EIR. As required by this Section:

The degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity that is described in the EIR.

- (a) An EIR on a construction project will necessarily be more detailed in the specific effects of the project than will be an EIR on the adoption of a local general plan or comprehensive zoning ordinance because the effects of the construction can be predicted with greater accuracy.
- (b) An EIR on a project such as the adoption or amendment of a comprehensive zoning ordinance or a local general plan should focus on the secondary effects that can be expected to follow from the adoption or amendment, but the EIR need not be as detailed as an EIR on the specific construction projects that might follow.

As proposed and assessed in the RD TPEIR, the RTMP is even less specific than a local general plan or a comprehensive zoning ordinance. Whereas a general plan or a zoning ordinance designates areas appropriate for developed uses, and the type and intensity of uses, the RTMP merely imposes detailed environmentally protective standards on the ongoing maintenance and use of the road and trail system. The RTMP consists of proposed goals and policies, road and trail design and construction standards, and best management practices, together with a decision making process. No individual road or trail actions are identified or programmed in the RTMP. Thus, in compliance with Section 15146(b) of the State CEQA Guidelines, the RD TPEIR focuses on the secondary effects of implementing the RTMP at a level of detail commensurate with the specificity of the RTMP project itself. The level of analytic detail urged by the comment would be contrary to the guidance provided by Section 15146(b). See Section 4.5 of the RD TPEIR for a discussion of how this guidance has been applied to the analysis of the RTMP project.

**4) *Alternatives to the Project*** – Alternatives to the proposed RTMP that could reduce or avoid potentially significant impacts are identified and evaluated in Chapter 15 of the RD TPEIR.

**5) Identification of Ways to Reduce Environmental Damage** – As assessed in the RD TPEIR, the RTMP consists of policies, design and construction standards, best management practices, and a decision process to aid in the identification and design of environmentally beneficial projects. The RTMP is described in Chapter 3 of the RD TPEIR, and the analyses finding that there would be no residual significant environmental effects are presented in Chapters 5 -14 and 16 of the RD TPEIR.

**Conclusion** - As set forth in the previous discussion, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 96-4 *The comment states that the evaluation contained in the RD TPEIR continues to focus on special status species, wetlands, and riparian ecosystems. The comment states that the TPEIR needs to be modified to assess common wildlife species, adverse effects to wildlife from off-leash dogs and rapidly moving mountain bikes, and night riding. The comment requests information regarding existing night riding on preserves. The comment requests additional information regarding planned wildlife surveys.*

Regarding the need of the TPEIR to assess common wildlife species, please refer to the response to comment 96-3, *Range of Resources Potentially Affected/ Significance Criteria*. Regarding information of the effects of off-leash dogs, equestrians, mountain bikes, and night riding, please see pages 6-31 through 6-40 of the RD TPEIR and response to comment 96-3, *Existing Physical Conditions*. For information regarding the setting of wildlife movement corridors, please see pages 6-27 to 6-29 of the RD TPEIR; for an evaluation of the potential effects of implementing the RTMP on wildlife corridors, see Impact BIO-4, beginning on page 6-106 of the RD TPEIR.

As currently proposed, the Multi-Year Wildlife Monitoring Program described on page 3-58 of the RD TPEIR would consist of conducting surveys and using multiple methods of data collection, including wildlife cameras and direct observations, to enhance our understanding of wildlife on MCOSD lands. The program is based on a peer-reviewed scientific protocol and is being implemented in Marin on the basis of a landscape-scale multi-agency collaborative effort. Analysis of the data will provide information on occupancy, distribution, important movement corridors, and population trends for multiple trophic levels. The MCOSD will gather population metrics for both special status and common native wildlife species whose population trends may be indicators of ecosystem health. The MCOSD will use the data to assess the impact of human activities and potential projects on sensitive native wildlife populations, behavior, and habitat use. Additionally, RTMP policy SW.23

states that the MCOSD will use the information gathered by this Program to amend system designations, project design, or project implementation.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 96-5 *The comment states that TPEIR must inventory and describe existing “illegal, unsafe, and destructive uses” that have occurred and continue to occur within MCOSD open space preserves. The comment states that the TPEIR must describe how the policies that apply to these actions would be applied to specific projects. The comment states that ways to protect popular areas should be researched and described in the Final TPEIR, along with recommendations for implementation of identified measures. The comment provides examples of measures that could be employed.*

“Illegal, unsafe, and destructive uses” are examples of social effects that are not within the purview of CEQA. The range of topics assessed in an EIR is established in part by the State CEQA Guidelines. Section 15131(a) of the Guideline states that the “... social effects of a project shall not be treated as significant effects on the environment.” That trail user safety is a social effect is validated in part in comment MR-3 (Access4Bikes letter template) that states “much of the rhetoric (*regarding trail user safety*) is derived from a perception of conflict and unsubstantiated qualitative stories.” Because the safety of users of the road and trail system and illegal and destructive actions are social effects within the meaning of Section 15131(a), they are not within the purview of CEQA. Section 15131(b) permits social or economic effects to be used to determine the significance of physical changes caused by the project. The TPEIR has incorporated this concept into its evaluation of environmental topics that could vary in their significance depending upon the location or intensity of an activity or use. See, for example, RD TPEIR Chapter 12, *Noise*.

Additionally, because of the policies, standards, and best management practices of the RTMP, illegal, unsafe, and destructive uses would not be conducted by the MCOSD. Thus, by definition these actions could not be characterized as potential environmental impacts arising from implementation of the RTMP. While the comment raises important questions, and the suggested management measures are worthy of consideration, they are questions of policy and regulation, and not the environmental analysis contained in the TPEIR.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

96-6 *The comment states that the safety impacts of implementing the RTMP must be assessed in the TPEIR.*

User safety is a social effect, and thus, not subject to CEQA. That trail user safety is a social effect is validated in part in comment MR-3 (Access4Bikes letter template) that states “much of the rhetoric (*regarding trail user safety*) is derived from a perception of conflict and unsubstantiated qualitative stories.” As discuss in response to comment 96-5, because user safety is not an appropriate CEQA topic, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

96-7 *The comment states that the potential impacts from dogs on wildlife and user safety arising from the implementation of the RTMP must be assessed in the TPEIR, and that the TPEIR needs to list education and enforcement measures that would reduce these potential effects.*

With respect to the potential influence of dogs on user safety, please see response to comment 96-5. Regarding the effects of dogs on wildlife, see response to comment 96-3, *Range of Resources Potentially Affected/ Significance Criteria*. As noted in that discussion, there is a consensus regarding the adverse effects of off-leash dogs on wildlife. The RTMP would establish a series of policies related to the control of dogs within preserves (SW.8 through SW.11). These policies were considered in assessing potential impacts to wildlife in Impacts BIO-1 and BIO-4 in the RD TPEIR.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

96-8 *The comment states that the TPEIR must assess the differing experience expectations of various types of users of the MCOSSD open space preserves.*

This comment represents another example of a social effect. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

96-9 *The comment states that the TPEIR must discuss the need for user education in protecting sensitive biological resources within open space preserves.*

The comment provides a policy recommendation, and does not discuss the environmental analysis provided by the TPEIR. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it

propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

96-10 *The comment states that the TPEIR must discuss methods to protect popular areas from destructive uses.*

Please refer to the response to comment 96-5. As set forth in that discussion, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

96-11 *The comment requests a detailed description regarding the operation of RTMP policy SW.4 and the Road and Trail Evaluation Tool. The comment reflects skepticism that the Road and Trail Evaluation Tool is adequate to consider the complex ecosystem effects of implementing management actions.*

Chapter 6 of the RTMP provides an extensive discussion of the decision making process to be used in the planning and prioritizing of future road and trail management actions, including the Road and Trail Evaluation Tool. The appendix to the RTMP provides further information and description of the criteria considered by the Road and Trail Evaluation Tool, and provides examples of how the tool will be used. The Road and Trail Evaluation Tool and the project development and consideration process that would be followed by the MCOSD in identifying future management projects are also described in Chapter 3, Section 3.8 of the RD TPEIR. For more details on the function of the tool and how it evaluates the ecosystem, see the response to comment 91-21.

The comment expresses the views of the authors, and does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

- 96-12 *The comment requests that both the RTMP and the Final TPEIR be amended to restore the policies that called for no net increase in authorized trail or road footprint and mileage as they appeared in a previous draft of the RTMP. The comment requests that the Final TPEIR assess the potential difference in effects between this cited previous policy and the net environmental benefit policy set forth in policy SW.4 of the RTMP.*

Please refer to the response to comment 96-2 for a discussion of the relationship between the RTMP and the TPEIR, and 91-21 for a comparison of the proposed net reduction policy with the previously proposed no net increase policy. As stated in that comment, the EIR is not an appropriate vehicle in which to debate or establish the policies of the RTMP. Rather, these issues would most appropriately be considered by the staff of the MCOCD, the Parks and Open Space Commission, and the MCOCD Board of Directors in their consideration of the RTMP for approval.

Regarding the comment's request that the TPEIR assess any change in impacts between the previous draft of the RTMP (October 1, 2013) and the current draft (August 1, 2014), and the relative likelihood of success of each of the iterations of the RTMP, please refer to response to comment 96-3. That response discusses CEQA requirements for the determination of significant environmental impacts as set forth in State CEQA Guidelines Sections 15002(g) and 15382. The instruction of these Sections of the Guidelines is that an EIR should evaluate the potential effects of a project in relation to existing physical environmental conditions. This direction does not require or contemplate that an environmental analysis would be conducted relative to the effects of various iterations of a project. Rather, the suggestion of the comment would be considered improper practice.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOCD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

**From:** [kburggraf@gmail.com](mailto:kburggraf@gmail.com)  
**To:** [Raives, James](#)  
**Subject:** Policy SW.9 through 11  
**Date:** Monday, September 22, 2014 1:21:40 PM

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Kim Burggraf would like information about:

Hi

I am a member of the Canyon community in the Cascade Canyon area. We have been walking our dogs in the Elliott Preserve for many years without incident. Fairfax had been given the use of this acreage from Floyd Elliott for our recreation and enjoyment in nature. We have done a great job of taking care and respecting it. The rules of no dogs off leash and now 6 foot leashes only and no dogs in water is not what we want. We have asked Katie Rice and Linda Dahl to come out and see for themselves, the quiet neighborhood use of this area which does not warrant all of these rules we clearly do not want. It is important to listen to the people who live in the neighborhood you want to override with rules and regulations. Hal Brown specifically said that there was not enough information to warrant this type of regulation and that it was being left open for more input from the community. We have repeatedly given input to no avail.

We do not want to be ignored

Kim Burggraf

97-1

## Response to Letter 97

**Commenter** Kim Burggraf  
September 22, 2014

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97-1 *The comment objects to rules requiring that dogs remain on-leash in the Elliott Nature Preserve.*

The comment pertains to MCOSD policies related to dog use. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

**From:** [lcorn@comcast.net](mailto:lcorn@comcast.net)  
**To:** [Raives, James](#)  
**Subject:** Road and Trail Management Plan  
**Date:** Monday, September 22, 2014 4:57:10 PM

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Marin County Parks and Open Space District  
3501 Civic Center Drive, room 260  
San Rafael, CA 94903

Attention: Mr. James Raives, Senior Open Space Planner

Dear James:

Thank you for the opportunity to comment on the Road and Trail Management Plan – Recirculated Draft Tiered Program Environmental Impact Report (RD TPEIR).

1. Evaluation Tool. In the evaluation tool criteria, neither safety “bmps” nor displacement of other users were factored in. **98-1**
  
2. Fire hazard. As a resident of one of the most fire prone areas in Marin (Cascade Canyon, Fairfax) I, and other neighbors, have grave concerns about any increase in visitor traffic, especially any change in fire road status to more narrow trails. Also, many of us are already concerned with the level of night riding on illegal trails, and day time riding openly on signs clearly marked: No bikes. Any increase in the intensity of bike traffic would be a negative to this preserve and increase the threat of fire and the safety of slower users. **98-2**
  
3. Races and technical competitions, and training for this events. These uses should be prohibited from all open space roads and trails. Any developing of trails for exclusive mtn. bike use threatened wildlife, and only invites more out of the area visitation and increases the intensity of use. And, specifically, in Cascade Canyon, no Thanksgiving Ride should occur. **98-3**
  
4. Wildlife. I wholeheartedly support the installation of wildlife cameras and the gathering of data. The plan should make allowances to modify uses based on data as it is received including banning night riding of bikes. **98-4**
  
5. Policy SW 15. I support this policy for active participation of all users in legal uses of the preserves. Those user groups who do not comply with regulations, should not be extended any additional opportunities for new or modified trails for their benefit. A transparent process is needed where citations, warnings, observations, etc. are compiled and published monthly. **98-5**

Thank you again for your hard work on this plan,

Sincerely,

Lynn Corwin

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## Response to Letter 98

**Commenter** Lynn Corwin  
September 22, 2014

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98-1 *The comment criticizes the evaluation tool presented in the RTMP.*

The comment pertains to the evaluation tool presented in the RTMP. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

98-2 *The comment expresses concern regarding fire hazards in the Cascade Canyon area, and the effect on fire safety of changes in fire road status, increases in night riding, and illegal access by bikes on trails not signed for their use.*

Fire hazards are evaluated in Impact HAZ-4 in Chapter 10, *Hazards and Hazardous Materials*, of the RD TPEIR. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

98-3 *The comment requests that races and technical competitions, including the Appetite Ride, be prohibited from all open space roads and trails.*

The RTMP includes policies that address races and technical competitions. Specifically, Policy SW.13 of the RTMP prohibits dangerous operations by mountain bikers, and Policy SW.16 permits the MCOSD to prohibit or restrict uses that compromise safety. In addition, the RTMP includes Special Use policies SP-1 and SP-3 that require all organized events to obtain a permit from the MCOSD prior to the event, and prohibit unofficial, non-sponsored group activities involving more than 15 participants. With these policies, the RTMP provides clear direction to prohibit dangerous activities and regulate other special events.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question

the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

- 98-4 *The comment expresses support for the use of wildlife cameras to gather data, and requests that the data from these cameras be used to ban night bike riding.*

The comment expresses an opinion about the use of wildlife cameras and night mountain bike riding. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

- 98-5 *The comment expresses support for RTMP Policy SW.15 regarding MCOSD expectations regarding the active cooperation of users and groups, and ties the provision of additional recreational opportunities to the demonstrated cooperation of user groups.*

The comment expresses support for RTMP Policy SW.15. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

**From:** [Bryan Costello](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP RD TPEIR Comments  
**Date:** Monday, September 22, 2014 12:11:03 PM

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Dear Mr. Raives:

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and frequently mountain bike in our wonderful open spaces. I also hike these same trails, so can appreciate the point of view of different users. I believe there is enough space for all of these activities to be pursued in a manner that maximizes enjoyment, safety and environmental protection for all.

99-1

I would appreciate it if we could remove the emotions and opinions from the debate, and try to reach conclusions regarding policies that are based on fact instead of conjecture or the one-off experience of particular individuals. **No one that I know who rides regularly is against safety or the ability of hikers and equestrians to enjoy the open spaces. Nor would any of us be against measures designed to preserve the environment, protect against soil erosion, etc.** But there needs to be balance, and fact-based decisions. Also, it would help to look at a variety of options, many of which have worked well elsewhere. For example, on the Tahoe Rim Trail, bikers are limited to odd- (or even-) numbered days so that there are days during which the trails are free of bikes entirely. Have we considered piloting a similar program in Marin? Also, many of the people I ride with would happily pay for a permit, the funds of which could be used to maintain trails open to bikers. Again, I'm not sure this has been considered.

All I would ask for is a balanced discussion and approach without the emotional theatrics, and to date I have not seen that.

Best,  
Bryan Costello

**BRYAN COSTELLO**  
Chief Executive Officer

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## Response to Letter 99

**Commenter** Bryan Costello  
September 22, 2014

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99-1 *The comment expresses appreciation for open spaces and the opinion that sufficient open space is available to accommodate all forms of recreation. It also requests that facts rather than emotions be used to make decisions, and that a balanced approach be used. It also suggests some options for management of multiple uses on trails and the provision of funding for maintenance.*

The comment addresses issues related to balance, fairness, and equity, and suggests some options for management of trails to reduce conflicts. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

From: [Andrew Davidson](#)  
To: [Raives, James](#)  
Subject: RTMP Draft TPEIR  
Date: Monday, September 22, 2014 9:05:10 AM

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Thank you for the opportunity to comment on the RTMP draft TPEIR.

Just as San Francisco provides jobs, nightlife, museums, and other social opportunities for residents in the surrounding communities, the Marin County trail network provides invaluable recreation and environmental opportunities for not just its residents, but for those nearby. As a San Francisco resident, I take full advantage of Marin's many parks and trails, in many ways. I am a father of two young children, the owner of a wonderful shelter dog, a hiker, and a mountain biker. The Marin trail networks provide outdoor opportunities that my children do not experience in their urban surroundings, and my dog appreciates walking on dirt.

100-1

I urge that the RTMP be based on empirical evidence, such that any conclusions are supportable and would withstand a rational basis review. Anecdotal evidence has no place in such a document. Continuing past practices, without support for why these practices are adequate to meet current needs, is not supportable on a rational basis review.

I also urge that the RTMP accommodate Marin's user base in proportion to the numbers of users and the modes in which they choose to enjoy the outdoors. The RTMP must not limit certain users to a disproportionately small percentage of the trails, or a certain kind of trail.

100-2

I submit these comments in favor of expanding the number and variety of trails that are open to mountain bikes, in addition to the hours that these trails are accessible. Mountain biking is not just a growing sport, but an established method by which a substantial number of Marin's trail network users choose to access the outdoors. As the Marin Parks 2011 visitor survey noted, during that period in time, 23% of trail users were on mountain bikes. Despite these numbers, currently only 16% of Marin's narrow trails are open to bicycles. Given the ability of mountain bikers to cover significantly more trail mileage than other users, Marin must open more trails to cyclists in proportion with the trail mileage use.

I urge the RTMP to reflect the best practices put forward in the FHWA's recent publication on mitigating trail conflict, available at [https://www.fhwa.dot.gov/environment/recreational\\_trails/publications/conflicts\\_on\\_multiple\\_use\\_trails/conflicts.pdf](https://www.fhwa.dot.gov/environment/recreational_trails/publications/conflicts_on_multiple_use_trails/conflicts.pdf). As reflected on page 25 of this document, the first option for reducing trail conflict is to "[p]rovide adequate trail mileage and a variety of trail opportunities in terms of terrain, difficulty, scenery, etc." Other options the RTMP should consider are allowing different user groups access on different days (similar to sections of the Tahoe Rim Trail), allowing mountain bikes to use trails in the uphill direction (like Middle Green Gulch in the GGNRA).

Finally, I ask that the RTMP allow night use of Marin's trail network. Such use is invaluable for those of us who are short on time, particularly during daylight hours. Night trail access in the GGNRA is a wonderful gift to all users, such as the 24-hour ultramarathon runners. A

100-3

Thank you for providing an opportunity to comment on the RTMP TPEIR. I look forward to many years of enjoying Marin's trails.

Sincerely,

Andrew Davidson  
3321 Octavia St  
San Francisco, CA 94123

## Response to Letter 100

**Commenter** Andrew Davidson  
September 22, 2014

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100-1 *The comment expresses appreciation for open spaces, and requests that facts rather than emotions be used to make decisions. It also suggests several options for the management of multi-use on trails and funding maintenance.*

The comment provides background information and a request for the use of facts in decision making. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

100-2 *The comment requests that trail resources be allocated to user groups in proportion to their relative levels of the use of trails, and that the number and length of trails allocated for mountain bikes be increased. It also suggests other management techniques for decreasing conflicts between users on multi-use trails, including best practices included in an FHWA document.*

The comment expresses a desire for decisions on trail use to provide equity for all users, and makes some suggestions for reducing trail conflicts. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

100-3 *The comment requests that the MCOSD permit the night use of trails.*

The comment makes a request regarding the night use of trails. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

September 22, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903



Attention: James Raives, Senior Open Space Planner

SUBJECT: Road and Trail Management Plan – Recirculated Draft Tiered Program Environmental Impact Report (RD TPEIR)

Dear Mr. Raives:

Marin Conservation League appreciates the opportunity to submit comments on the Recirculated Draft TPEIR for the Road and Trail Management Plan (RTMP). We submitted extensive comments on the earlier Draft TPEIR in December 2013 and acknowledge that the Recirculated Draft has attempted to address many of the submitted comments. There continue to be important gaps in the analysis. As before, in order to critique the RD TPEIR, it is necessary to critique the revised RTMP itself, since it constitutes the “project” whose impacts are analyzed in the RD TPEIR. **101-1**

Our comments are presented in three parts: general or systemic issues with the revised RTMP and RD TPEIR; specific impact analyses that are either missing or incomplete and should be corrected in the Final TPEIR; and miscellaneous comments on the RTMP and TPEIR.

I. General Issues

1. Explanation of “Self-mitigating” approach of EIR. We previously noted that the Draft TPEIR identified no potentially significant impacts and therefore provided no mitigation measures. The RD TPEIR follows the same approach. By setting the baseline for analysis of impacts as January 31, 2011 (date of Notice of Preparation), the existing condition on the preserves includes many roads and trails in disrepair. As a consequence, any project carried out in accordance with the system-wide and special use policies, design standards, and Best Management Practices (BMPs), outlined in Chapters 4 and 6 of the revised RTMP, ideally should result in a net improvement to the environment: ergo, no significant impacts, and no required mitigation measures. As we requested earlier, the RD TPEIR should explain this approach clearly at the outset. Section 4.6, Presentation of Mitigation, states that mitigation measures are identified in the report, even though, in fact, *no mitigation measures are required in the document!* Section 4.7 includes “Significant Impact” as a frequently-used term, and states that “Mitigation measures are proposed, when feasible, to reduce the magnitude of significant impacts.” These are “boilerplate” responses, as the RD TPEIR requires *no mitigation measures!* **101-2**

In the absence of mitigation measures, there is no obvious requirement for mitigation monitoring and reporting, as a CEQA document typically provides. Although language **101-3**

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throughout the RTMP, echoed in the RD TPEIR, states that the Marin Parks Staff “will implement” standards, policies, BMPs, etc., there needs to be a transparent mechanism for documenting conditions placed on individual projects, with assurances that these quasi-mitigations will be implemented and monitored, other than stating that activities will “be regularly inspected.” As the two documents (RTMP and RD TPEIR) now stand, one must refer back and forth, to find a comprehensive sense of how resources and conditions will be monitored. **101-3, cont.**

—**The Final TPEIR should use Section 4.6 or other appropriate location within Chapter 4 to explain the logic of the RTMP – that it is based on the concept of “net environmental improvement” and therefore the policies, standards, and BMPs listed in the RD TPEIR under each environmental topic serve, in effect, as quasi “mitigation measures.”**

—**The Final TPEIR should clarify how the policies, standards and BMPs will be applied to future projects as specific conditions and how their implementation will be monitored, as one would find in a “Mitigation Monitoring and Reporting Program.” For example, monitoring for invasive plants will follow construction activity for a period of three years (RTMP Table 6.5 (7)). Table 6.6 in the RD TPEIR should include a BMP for post-construction monitoring.**

2. **“Evaluation Tool” as a means of reducing impacts.** The approach to evaluating projects, as outlined as the “Evaluation Tool” in Chapter 5 of the RTMP, is central to establishing the environmental baseline “system” of roads and trails, and will be key to evaluating the environmental impacts of project proposals on an annual basis. The RTMP uses twenty-five scored environmental and physical criteria, plus seven social criteria, to build aggregate scores for existing and/or new alignments. The end result is intended to eliminate or reduce impacts of new, altered, or reassigned trails or roads by reducing other environmental impacts, such as through decommissioning or redesigning trails to eliminate sources of impact. The environmental result over time may involve shifts in use from one preserve to another or one trail to another, but according to the RD TPEIR will be a net reduction in impacts across the preserves. **101-4**

MCL is concerned that the simple-to-apply trail mileage proxy for evaluating impact and initial screening of projects has been dropped and replaced by a mathematical “Tool” that relies on a highly contrived scoring system (See Revised RTMP, Appendix) that gives the illusion of precision. In fact, the scaling mixes a variety of metrics (admitted on Page 3-49 of the RD TPEIR), including linear, area, percent slope, distance from sensitive resource, etc., with qualitative assessments.

Social criteria are particularly problematic, in that they are based on assumptions of desirability, justified by numeric measures. The scoring is in reverse order, with higher rather than lower numbers (e.g., distance between trail intersections) apparently assumed to be superior, in contrast to scoring of environmental and physical criteria. Scoring of “terrain quality” employs a contrived calculation, when in fact desired terrain will vary with

user group preferences. In this regard, the criteria also show an obvious bias toward biking experience, where greater distances, connectivity, loops, varied terrain quality are sought, in contrast to walking, hiking or running experience, where shorter distances are the norm. Safety, as a central factor in user experience (a social criterion), is mentioned only briefly in connection with line-of-sight. These are a few of our concerns. **101-4, cont.**

**—To determine its utility in configuring a road and trail system that fulfills the intent of reducing impacts in the varied conditions of the preserves, the tool will have to be tested rigorously, beyond the brief demonstration exercises to date in which scores have been pre-calculated and provided to participants as “givens.”**

3. Impacts of intensity of recreational uses. The Evaluation Tool is designed to evaluate coverage impacts. For *intensity of use* impacts (e.g. increases in volume of users), the RD TPEIR states that because of the lack of historical trend data on public use of the preserve system “ . . .it is impossible to determine if and to what degree the RTMP would increase use of preserves. . . the MCOSD did not design the RTMP to increase use of the preserves. ” **101-5**

This assumption fails to acknowledge that improvements to roads and trails, in particular opening new or redesignating trails for bikers *will*, in fact, increase the volume and frequency of mountain bikers. In 2002, then-Chief Counsel of California Department of Parks and Recreation, Tim LaFranchi, opined that “. . .lifting a ban on mountain bikes (on previously closed trails) without addressing the potential impacts may be wrong. Ten or 16 years ago there may have been the ‘threat’ of one or two mountain bikes. Today the reality is that mountain bikes can quickly become the majority or at least a very high minority of trail use, suddenly adding 20% to 100% increase in a specific trail’s traffic and related impacts.” La Franchi admitted that this prediction was speculative, based on anecdotal observations, but cautiously assumed an increase of 20 to 30%.

This prediction was made 12 years ago. There has been no decline in bike demand for trail access since that time! Further, there is abundant evidence that news of a trail to be opened to bikes is broadcast widely (e.g., Coast Trail; Bill’s Trail) on the Internet. Thus it is not mere speculation to say that access to more “single-track” trails, new connectors, and more shared-use trails will induce greater use by mountain bikers and will likely displace some users to other preserves or trails. Displacement to other facilities is discussed only as a physical impact and not as an impact on the recreational experience and sense of safety of non-bikers (as in the “China Camp” syndrome).

**—The Final TPEIR should analyze at least qualitatively the impacts of *increased intensity of recreational use on the trails and roads, even though the overall environmental footprint of roads and trails is intended to be reduced. The impacts of *increased intensity* should be considered under every resource topic in the Final TPEIR, including the addition of a safety impact analysis suggested below, and provision for monitoring use must be included as a policy or BMP (i.e., “mitigation”) so that trends can be supported by data and future plans adapted accordingly.***

## II. Specific Impact Analyses Missing or Inadequate in the RD TPEIR

1. Safety. MCL and others noted that while the RTMP and Draft TPEIR list numerous system-wide policies that refer to visitor safety and issues concerning safety of sharing use of roads and trails with mountain bikes, none of these policies is supported in the RTMP by design standards or BMPs. As a consequence, the impacts of trail design to ensure safety of various user groups on shared use facilities, such as design features to limit the speed of mountain bikers, or optimum tread widths and line-of-sight to ensure safe passing, are not addressed. For example, the RTMP and RD TPEIR claim that narrowing non-essential dirt roads will yield an environmental benefit by reducing sediment production, and yet these roads currently are the only truly safe routes for shared use due to their width and typically long line-of-sight. 101-6

The response to this comment in Appendix D (RD TPEIR) explains that social impact analysis is not required by CEQA and refers the reader to possible discussion under the topic heading of *Noise*. *This response is ludicrous*, not only because it avoids any responsibility for specifically considering user safety in either the RTMP or the EIR, but refers to a topic (Noise) which has nothing to do with safety! (Are we talking about bicycle bells here?)

It is well known that CEQA Guidelines do not require analysis of “social impacts” unless one can show a consequent physical effect on the environment. This does not prevent the County from including a topic like safety as an “optional” discussion in an EIR. The RTMP *must* provide typical safety standards for design of roads and trails intended for single or shared use by mountain bikes, equestrians, and walkers. These need not be exhaustive. The RTMP cites the County of Los Angeles Trail Manual among other sources that can provide more detailed standards. We recognize that many variables enter into design for safety, and that design must be adapted to site conditions. For example, typical new trail cuts of 4 feet (by machine) will not yield a safe shared use trail under many conditions. To NOT address trail safety in either the RTMP or the impacts of design and user behavior on safety in the Final EIR is to ignore a central area of conflict and potential hazard – an issue “to be resolved.” (Page 2-3, Recirculated Draft TPEIR).

**—The Final TPEIR must include a section that directly addresses potential safety impacts where differing travel modes share facilities, including comparative speeds of user groups and the extent to which safety standards and BMPs in trail design would avoid or reduce these impacts. What impact will narrowing shared use roads to “single-track” trails have on user safety? How would the inclusion of “pinch points” in trail design, a recognized technique in design of new shared use trails in State Parks, reduce speed? Whether or not CEQA “requires” such an analysis begs the question: a CEQA Lead Agency has the option to include topics that may go beyond the minimum requirements of the CEQA Guidelines where there is sufficient public interest.**

2. Impacts on wildlife. The Recirculated Draft TPEIR has expanded its discussion of issues raised in reader comments, including the impacts of both day and night-riding and lighting 101-7

on native wildlife species. The recirculated document admits that available data on local wildlife – species, movement corridors, or roosting, nesting and nursery sites – are limited. Research that compares the effects of different user groups on wildlife is inconclusive. There is general agreement, however, on the following: 1) any introduction of recreation (access) to lands previously closed to the public may negatively impact wildlife in a variety of ways; 2) restricting or prohibiting dogs in sensitive areas will aid in minimizing disturbance to wildlife; and 3) “night lighting may have a deleterious effect on wildlife in certain situations. . . and there is need for continued studies.”

**101-7,  
cont.**

These are open ended conclusions, however. The RD TPEIR provides many BMPs in Tables 6-4 through 6-8 to address impacts on environmental resources *in general*. Discussion in the RD TPEIR on dog use of preserves lists current MCOSD policy designed to minimize impacts of dogs on wildlife. Only one (Table 6-11) makes specific reference to minimizing effects of the RTMP on habitat connectivity and migration corridors of native species of wildlife in designating the system of roads and trails, and designing new roads and trails. Neither the impact analysis nor Policy SW.24 in Table 6-11 addresses the impacts of *increased use* of roads and trails on wildlife. Therefore, MCL believes that the RD TPEIR’s claim that no significant impacts to wildlife will occur as new trails and other projects are implemented and use increases is based on inconclusive evidence.

The RD TPEIR states, presumably as a form of “mitigation,” that the RTMP provides for a multi-year wildlife monitoring program that will address gaps in wildlife data (RD TPEIR Impact BIO-4, Page 6-107 and 8).

**—Because all users can have some impact on wildlife, the Final EIR should address not just the construction and maintenance of road and trail facilities but increased use by recreationists over time, and include in the proposed multi-year wildlife monitoring program the need for documentation of wildlife activity in the preserves and trends in both day and night use of the preserves that may impact wildlife movement. The Final TPEIR should state that, based on new information, the Parks Department will make adjustments in both policy and plans as warranted, including the possibility of closing preserves to night use.**

3. Impacts of invasive plant species. The RTMP provides a comprehensive list of Best Management Practices in Table 6.5 to control the invasion of exotic species into newly disturbed areas of activity. The RD TPEIR includes most of these BMPs in Table 6-6. However, the RD TPEIR is deficient in other respects. The Biological Resources Environmental Setting identifies and maps sensitive resource in the preserves – special status species, wetlands and other sensitive habitats, etc. – but fails to describe the widespread invasive species that currently inhabit the preserves and form an important part of the baseline condition. The RD TPEIR also fails to identify the threat that these existing populations pose in any road and trail project activity, whether new construction or conversion of roads to trails, or even decommissioning.

**101-8**

—The most important invasive species and the location of their populations should be summarized and mapped in the RTMP and RD TPEIR. This information is contained in the Vegetation and Biodiversity Management Plan, but should also be acknowledged in the RTMP and RD TPEIR for purposes of impact analysis and to connect to relevant BMPs. **101-8, cont.**

—The RD TPEIR should also describe impacts of invasive plant species in any road or trail construction or maintenance activity, and should include in Table 6-6 (6) the requirement to monitor post-activity presence of invasive species for a period of three years.

4. Fire Hazard. As indicated in Table 10-1, the majority of the preserves are located in Moderate and High Fire Hazard Severity Zones (FHSZs); a relatively small area of Very High FHSZ is located within the Baltimore Canyon, Cascade Canyon, and White Hill preserves. The MCOSD's administrative Region 3 has the highest acreage of moderate fire hazard and Region 2 has the greatest area of high fire hazard. Increased human presence and activities in wildlands will also increase the risk of fire ignition and should be evaluated as a potential impact of the RTMP. **101-9**

—The RTMP and Final EIR should amend the Evaluation Tool criteria to include the relationship of proposed trails to fire hazard severity zones as a factor in evaluating projects. Increased human activity due to expanding trails or enhancing access should be analyzed as an impact on fire hazard and should include BMPs for minimizing the risk of fire during both construction activities and ongoing recreational use of the preserves.

### III. Miscellaneous Comments/Questions

1. The map of Critical Linkages within Vicinity of Preserves (Fig. 6-14) depicts large, relatively natural habitat blocks that support native biodiversity called 'Natural Landscape Blocks' and areas essential for general, system-wide ecological connectivity between them called 'Essential Connectivity Areas' or 'sticks.' (Fig. 6-15) **101-10**

—How will these critical linkages and connectivity areas factor into evaluating projects? They should be included as criteria in the Evaluation Tool (RTMP Appendix Table A.1) and weighted in view of their regional significance.

2. Policy SW.19: Redundant Roads and Trails. Redundant roads and trails that are not designated as system roads and trails will be decommissioned as time and resources allow. **101-11**

—What priority will decommissioning redundant roads and trails take compared to new trail construction?

3. Close to 500 undesignated stream crossings occur within the MCOSD's preserves. Table 11-4 provides information on stream crossings specific to each preserve, and Figures 11-1a to 11-1f display the undesignated crossings and bridge, culvert, and ford crossings within each preserve. In the Baltimore Canyon Preserve, the Hoo Koo E Koo and Southern Marin Line **101-12**

trails cross Larkspur Creek, and the Dawn Falls Trail runs immediately adjacent to Larkspur Creek, crossing some of its drainages. Roads and trails within the Gary Giacomini Preserve have numerous stream crossings, including several each on the Sylvestris Fire Road, Contour Trail, Candalero Canyon Trail, and Lagunitas Trail. **101-12, cont.**

**—To protect downstream waterways, the Final EIR should be note these (waterways listed above) as high priorities for protection.**

4. Several concepts for managing recreational use of the preserves were presented as Alternatives in the 2013 Draft TPEIR. – e.g., Time Allocated Management of Recreation Uses, and Enhanced Mountain Bicycle Facilities and Uses, including bike-only trails, and facilities for races, technical competitions, or training. Some of these concepts have been incorporated into the revised RTMP under a broad Policy SW.12, Road and Trail Connectivity. (The RD TPEIR on P. 15-4 is not entirely clear, however, as to which of these concepts are or are not included in the SW.12. We must assume that facilities for races, and technical competitions, and training for such, are *not* included.) The RD TPEIR goes on to state that because these management concepts are now part of the RTMP (and no longer Alternatives), they would be subject to all other policies, BMPs, and standards of the RTMP, including the net environmental benefit strategy. Therefore, potential environmental effects have been (adequately) assessed in Chapters 5 through 14 of the RD TPEIR. **101-13**

**—MCL has concerns about the open-ended nature and potential impacts of possible recreational activities encompassed by Policy SW.12. The RD TPEIR does not offer any evidence that regulating time (day) separation of mountain bike from other uses on single-track facilities is either feasible, safe, or without impacts. Developing trails for the exclusive use of mountain bikes will serve as an attraction that will intensify use of the preserves, an impact that the RD TPEIR should acknowledge. Holding races and technical competitions, and training for such events, have never been within the purpose of the MCOSD, and it should be made clear, possibly in Policy SW. 13 Prohibition on Dangerous Mountain Biking Activities, that *such events and activities are prohibited on all open space roads and trails.***

In conclusion, MCL appreciates the overriding goal of both RTMP and TPEIR to reduce the environmental “footprint” of the roads and trail system on the preserves, while offering appropriate opportunities for public enjoyment. Marin County Open Space Preserves already reveal a density of roads and trails on a mile per acre basis that exceeds the densities in other open space lands throughout the Bay Area. As we have shown above, however, there continue to be significant gaps in the RTMP approaches to achieving this goal and in the evaluation of impacts in the RD TPEIR. **101-14**

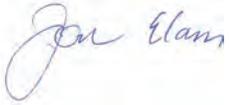
MCL appreciates the work it has taken to reach this point in planning for the open space preserves system. Over the long term, however, the open space preserves will be sustained only if the many visitors to the preserves demonstrate respect for the resources, neighboring

residents, and each other's safety and well-being (Policy SW.15 Expectation of Active Cooperation of All Road and Trail Users). At the same time, County Parks must support its policies and programs with meaningful enforcement of the rules that are fundamental to successful sharing of the roads and trails.

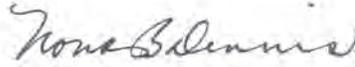
**101-14,  
cont.**

We look forward to playing an active role in implementation of the RTMP.

Sincerely yours,



Jon Elam, President



Nona Dennis, Chair, Parks and Open Space Committee

cc: Greg Zitney, Chair, and members of Marin County Parks and Open Space Commission

## Response to Letter 101

**Commenter** Nona Dennis  
September 20, 2014

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101-1 *The comment sets forth introductory comments.*

The comment provides only introductory text. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

101-2 *The comment requests that the self mitigating approach of the RTMP be explained in the TPEIR, and that references to mitigation monitoring be removed from the TPEIR.*

The requested revisions to Chapter 4 of the RD TPEIR have been completed. Please see Chapter 4, *Errata*, of this Final EIR. These modifications clarify the project description of the RTMP. They do not introduce any new policies or concepts that could result in any new or significantly increased impacts beyond those evaluated in the RD TPEIR or modify any environmental conclusions set forth in the RD TPEIR. For these reasons, no further modification of the EIR is necessary to respond to the comment.

101-3 *The comment requests that a mechanism to permit the public to review the implementation status of RTMP requirements for individual projects be provided.*

As requested by the comment, the MCOSD will develop a project development worksheet to track the implementation of RTMP policies, standards, and best management practices for individual projects. Appendix A of this Final EIR includes the proposed draft of the worksheet. The MCOSD will complete this worksheet for all implemented reconstruction, rerouting, active decommissioning, active road to trail conversion, new construction, and planned maintenance projects as defined in Tables 5.1 of the RTMP and 3-6 of the RD TPEIR. The worksheet will serve as a guide to staff in the completion of necessary studies prior to project design, in the proper use of design and construction standards, and in the implementation of best management practices during construction or maintenance. The worksheet for each project will be available to members of the public upon request.

This modification clarifies the project description of the RTMP, and increases its utility. It does not introduce any new policies or concepts that could result in any new or significantly increased impacts beyond those evaluated in the RD TPEIR, or modify any environmental conclusion set forth in the RD TPEIR. For these reasons, no further modification of the EIR is necessary to account for this modification.

101-4 *The comment provides a criticism of the Road and Trail Evaluation Tool set forth in the RTMP, and states that for such a tool to be successful, it must be rigorously tested for effectiveness in reducing environmental impacts under a variety of circumstances. The comment expresses concern that the Evaluation Tool has*

*replaced the simple metrics of the 2013 RTMP that would have required the offsetting of new roads and trails with the decommissioning of existing facilities to reduce environmental effects. The comment additionally states that the social criteria used in the model are biased toward mountain biking.*

Since the circulation of the RD TPEIR in August 2014, the development and refinement of the Road and Trail Evaluation Tool has continued.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 101-5 *The comment states that the RD TPEIR must at least qualitatively evaluate changes in the intensity of use that could occur with implementation of the RTMP. The comment also requests that an analysis of user safety be completed in the TPEIR.*

See responses to comments 96-1, 96-3, 96-6, and MR-2 in this Final TPEIR.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

- 101-6 *The comment states that the RD TPEIR must evaluate user safety in the TPEIR.*

See responses to comments 96-1, 96-3, 96-6, and MR-2 in this Final TPEIR.

The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSD Board of Directors when they consider the RTMP for approval. For a staff response to the views contained in this comment, please refer to the companion document, entitled Responses to Policy-Related Comments, which will be included in staff's report to the Commission and Board.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it question the environmental conclusions of the RD TPEIR. For these reasons, no modification of the EIR is necessary to respond to the comment. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

- 101-7 *The comment states that the RD TPEIR must evaluate the effects of increased uses arising from the RTMP in the TPEIR. The comment states that the TPEIR must state that the MCOSD will make adjustments in both policy and plans as warranted by new information as a result on ongoing studies and experience.*

For a discussion of the existing baseline, future conditions both with and without the RTMP, and the potential effects of implementing the RTMP, please see responses to comments 96-1 and 96-3 in this Final TPEIR. With respect to adjusting future policies and plans on the basis of new information, RTMP policy SW.23 states that the MCOSD will use the information gathered by the Multi-Year Wildlife Monitoring Program, as well as other sources, to amend system designations, project design, or project implementation.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 101-8 *The comment states that the RTMP and RD TPEIR should be amended to include a discussion and maps that provide setting information on the most important species of invasive plants. The comment states that the RD TPEIR should also include an analysis of the potential impacts of native plants on the implementation of the RTMP. The comment also requests a modification of Table 6-6 in the RD TPEIR to establish a post construction monitoring period for invasive plants of 3 years.*

Except for the identification of best management practices to prevent the spread of invasive plants during construction and maintenance, the RTMP does not address invasive plant management. Concurrent with the RTMP, the MCOSD is developing a Vegetation and

Biodiversity Management Plan (VBMP). The VBMP addresses invasive plants and includes a summary of regional trends, practices and science, establishes a framework for invasive plant control and integrated pest management, establishes invasive plant management project planning and implementation protocols, monitoring requirements, and best management practices related to the control of invasive plants, including nesting bird habitat. The VBMP includes a listing of nonnative plants known to exist in each of the open space preserves, and lists priority invasive plants known to exist within preserves. The MCOSD is currently working on an EIR for the VBMP, which the MCOSD expects to release to the public in early 2015.

For a discussion of the range of environmental topics assessed in the RD TPEIR, please see response to comment 96-3 in this Final TPEIR. With respect to establishing a post-disturbance monitoring period for invasive plants, please refer to Table 6-5 of the RTMP that establishes a number of best management practices to prevent the spread of invasive plants during RTMP activities. BMP Invasive Plant Management-7 establishes a minimum 3-year post project-completion monitoring requirement. Finally, the best management practices set forth in the RTMP and the VBMP have been conformed so that the language of the best management practices common to both documents is the same.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 101-9 *The comment states that the RD TPEIR should evaluate the potential impact of implementing the RTMP on the risk of fire ignition, and that the RTMP and RD TPEIR should amend the Road and Trail Evaluation Tool to include fire hazard severity zone as a criterion. The comment states that the RD TPEIR should include analyze and include BMPs to minimize the risk of fire during both construction activities and ongoing recreational use of the preserves.*

For a discussion of the existing baseline, future conditions both with and without the RTMP, and the potential effects of implementing the RTMP, please see responses to comments 96-1 and 96-3 in this Final TPEIR. With respect to amending the Road and Trail Evaluation Tool, please see response to comment MR-2 regarding the relationship between the RTMP and the TPEIR.

In response to the request that the RD TPEIR assess and suggest BMPS regarding fire risk, RTMP Policies SW.16, Prohibition of Uses, and SW.26, Control or Restrict Access to

Ignition Prevention Zones when Red-Flag Conditions Exist, permit the MCOSD to permanently close areas of high fire danger, and restrict use in otherwise open areas during periods of high fire risk. BMP Construction Contract-1 requires that all construction vehicles be equipped with fire extinguishers. Additionally, the MCOSD has adopted mandatory fire prevention procedures for contractors and permittees (MCOSD 2012). These procedures require: 1) the suspension of work during high fire danger alerts; 2) maintaining radio communications; 3) a prohibition on smoking or other sources of open flame; restrictions on vehicle movement and equipment; 4) and the suspension of certain types of equipment during high fire danger alert periods.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

101-10 *The comment requests that the MCOSD explain how the information presented in Chapter 6 of the RD TPEIR regarding critical habitat linkages and connectivity areas will be used in future project evaluation with implementation of the RTMP. The comment states that the RTMP and RD TPEIR should amend the Road and Trail Evaluation Tool to include critical habitat linkages and connectivity areas as criteria.*

For a discussion of amendment of the Road and Trail Evaluation Tool, please see response to comment MR-2 regarding the relationship between the RTMP and the TPEIR. In partial response to the comment's request that the Road and Trail Evaluation Tool be amended, RTMP Policy SW.24, Minimize Intrusions into Larger Contiguous Habitat Areas and Wildlife Corridors, directs the MCOSD to minimize the effects of road and trail actions on such resources.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 101-11 *The comment requests that the MCOSD provide information regarding the priority placed by the MCOSD on the decommissioning of redundant roads and trails.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

- 101-12 *The comment requests that the RD TPEIR identify streams within the Baltimore Canyon and Gary Giacomini Open Space Preserves to be listed as priorities for protection.*

Regarding the relationship between the RD TPEIR and the RTMP, and the appropriateness of the adding new policies to the RTMP, please see response to comment MR-2. However, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 101-13 *The comment expresses disagreement and apprehension regarding RTMP Policy SW.12, Road and Trail Connectivity. The comment requests that the RD TPEIR evaluate changes in the location and intensity of use by mountain bikers pursuant to this policy. The comment states that races, technical competitions, and training for such events should never be permitted by the MCOSD.*

Regarding the relationship between the RD TPEIR and the RTMP, and the appropriateness of the adding new policies to the RTMP, please see response to comment MR-2. For a discussion of the existing baseline, future conditions both with and without the RTMP, and the potential effects of implementing the RTMP, please see responses to comments 96-1 and 96-3 in this Final TPEIR.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with

the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

101-14 *The comment expresses appreciation for the RTMP's goal of reducing the environmental footprint of roads and trails in MCOSD open space preserves, but notes that the RTMP and RD TPEIR have significant gaps in the approach and evaluation of measures necessary to reach this goal. The comment states that visitor conduct is key to meeting this goal, and that the MCOSD must meaningfully enforce the policies and regulations set forth in the RTMP.*

Regarding the alleged deficiencies of the RD TPEIR, please see response to comments 101-2 through 101-13 of this Final EIR.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

September 22, 2014

Mr. James Raives  
 Senior Open Space Planner  
 Marin County Parks  
 3501 Civic Center Drive, Suite 260  
 San Rafael, CA 94903



Re: Recirculated Draft of the Tiered Programmatic Environmental Impact Report (RD TPEIR) for the Road and Trail Management Plan (RTMP)

Dear Mr. Raives,

The following comments are submitted on behalf of the Invasive Plants Subcommittee of Marin Conservation League’s Parks and Open Space Committee. By focusing on the impacts of the RTMP on the spread of invasive plants in Marin, this letter supplements MCL’s more comprehensive letter sent under separate cover. **102-1**

The RD TPEIR lists Significance Criteria for Biological Resources in Section 6.2.1 (Page 6-50). The list does not include a significance criterion in regard to impacts that would cause or contribute to invasive plant infestations. We propose that the Final TPEIR add the following: **102-2**

“A project impact would exceed an impact threshold if it would create a substantial likelihood that a plant species listed by the California Department of Food and Agriculture as a noxious weed, or listed by the California Invasive Plant Council as an invasive wildland plant species, would be introduced to an area where it did not previously exist, or would have its range or numbers significantly increased as a result of the project.”

As we have stated previously, the RD TPEIR does not list or map the most invasive species present on the preserves today. Without a description of the environmental baseline condition for invasive plant infestations, impacts cannot be assessed. Having a clear baseline is a core legal and analytical requirement of CEQA. **102-3**

It is obvious throughout the RD TPEIR that disturbance of the land will occur during trail construction, reconstruction, rerouting, active and passive conversion and decommissioning of trails, including access/egress roads and staging areas. The Best Management Practices (BMPs) outlined in the RD TPEIR, as well as future environmental review of individual projects, will mitigate the disruption of the environmental communities, but many potential problems still remain. **102-4**

We find that the RD TPEIR inadequately addresses the following issues:

**Erosion Control and Revegetation**

The RD TPEIR (Table 5-4, Air Quality-3: Enhanced Dust Control during Construction) states: **102-5**

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 WEB: [marinconservationleague.org](http://marinconservationleague.org)

ADDRESS: 175 N. Redwood Dr., Ste. 135  
 San Rafael, CA 94903-1977



*Hydroseed or apply nontoxic soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more).*

**102-5,  
cont.**

Comment: Hydroseeding is an effective method to control erosion and is mostly done with fast-growing, non-native grasses. Unfortunately, these grasses can establish themselves in an area and completely exclude desirable native grasses and forbs at a later time. The RD TPEIR fails to clarify who will prescribe the hydroseed mix, who will ensure that the prescribed seed mix is used, and who will be held responsible if “weed free” seed mixes are found to contain seeds of invasive plants.

As an example, a native seed mix was *prescribed* in and adjacent to a sensitive serpentine plant community at the County’s Lucas Valley Road Tunnel project about 15 years ago, but instead seed of an unusually robust Italian wildrye variety was used, and this non-native, invasive grass still persists today. It is presumed that the contractor hydroseeded the area without reference to project seed specifications and without supervision from MCOSD staff.

Guidelines for language to be included in contracts and staff informational materials need to be included in the BMPs.

The RD TPEIR (Table 6-6, Special-Status Plant-7: Revegetation with Native, Geographically Appropriate Plant Species) states: *Revegetate with annual grasses and forbs. Use of annual grasses and forbs can provide rapid vegetative cover and initial soil stabilization, and erosion control, promote habitat for native species, and provide a more desirable visual cover. Prepare a project-specific revegetation plan. MCOSD natural resource staff will develop a revegetation plan for projects as needed.*

**102-6**

Comment: Although it is not specifically described as hydroseeding, “revegetating with annual grasses and forbs” which “can provide rapid vegetative cover and soil stabilization” suggests that non-native, fast-establishing species will be used, and, depending on the size of the disturbance, probably applied by hydroseeding. As mentioned above, once such species become established, they may be impossible to eradicate/control, and native species will likely not outcompete them later. Thus, they do not “promote habitat for native species.” It is not clear whether native or non-native species will be used in the desired “rapid vegetative cover.” Will a general “construction standard” apply, or will a BMP geared toward reducing the establishment of non-native species be carried out, in order to favor the establishment of native vegetation? Unless no fast-growing, non-native plants are allowed to be used, the desired effect of the BMP, the outcome (which reads: “Ensures that disturbance of native and natural communities would be minimized to the fullest extent possible) is highly unlikely to hold true. Natural-fiber erosion-control mats should be the preferred method.

Also, stating that revegetation plans will be created “as needed” does not provide clear guidance to staff, or a clear understanding to the public, as to when such plans will be prepared. “As needed” should be changed to: “for projects involving over \_\_\_ square feet of soil disturbance, or over \_\_\_ square feet of soil disturbance in sensitive habitats.”

The expression “a more desirable visual cover” is not appropriate in the context of establishing native plants in a natural habitat! “Pretty flowers” may or may not belong in the habitat being restored. **102-6, cont.**

The RD TPEIR (Table 6-6, Special Status Plant Protection-5; Table 6-10, Water Quality-3, et al.) states: *Immediately rehabilitate areas where project actions have disturbed soil. Require areas disturbed by equipment or vehicles to be rehabilitated as quickly as possible to prevent erosion, discourage the colonization of invasive plants, and address soil compaction. Techniques include decompacting and aerating soils, recontouring soils to natural topography, stabilizing soils via erosion-control materials, revegetating areas with native plants, and removing and monitoring invasive plants.* **102-7**

Comment: In reference to revegetation after soil disturbance, the terms “immediately” and “as quickly as possible” are used in consecutive sentences. These terms need to be qualified as it is not clear what “as quickly as possible” means. Could it mean months or years? With regard to establishing native vegetation, it makes a great difference when revegetation takes place after substrate disturbance. Revegetation “immediately” after soil disturbance is, of course, preferable. Table 5-4 (see above) further states that “*previously graded areas inactive for ten days or more*” can be hydroseeded. As discussed above, unless the hydroseeding mix contains native species, this method, common on construction sites, is very detrimental to native vegetation.

The above statement does not include the phrase “Use of annual grasses and forbs can provide rapid vegetative cover and initial soil stabilization” as used in Table 6-6, Special-status Plant Protection-7. It is not clear whether “stabilizing soils via erosion-control materials” includes seeds of non-native plants that provide a rapid cover. As commented above, non-native cover-crop plants should not be used where native plants are expected to become established later.

### **Minimize soil disturbance**

**102-8**

The RD TPEIR (Table 6-5; Table 11-10, General-1: Limit Work Area Footprints in Sensitive Resource Areas; et al.) states: *Minimize soil disturbance to the greatest extent possible to reduce the potential for introducing or spreading invasive plants, to protect topsoil resources and to reduce available habitat for the establishment of new invasive plants. In particular, access roads, staging areas, and areas of temporary disturbance will be minimized in size.*

Comment: It is not clear how this will be achieved. Will this requirement be incorporated in project design specifications? Will there be a MCOSD monitor present at the locations where ground disturbance will take place? It is our experience that contractors will not necessarily heed the recommendation of minimizing soil disturbance if it hinders the efficiency of work on a project.

**Construction time constraint**

The RD TPEIR (Table 6-5, General-7: Include Standard Procedures in Construction Contracts) states: *Restrict work to periods when invasive plants are not in fruit or flower.*

**102-9**

Comment: Perhaps “work” needs to be more precisely defined as “soil disturbance.” Some invasive plants (notably broom) may be more susceptible to herbicides when in flower because that is when the plants are most actively metabolizing nutrients, so that aspect of the work should take place when broom is in flower. And in general, it is not clear why work should not occur when invasive plants are in flower or in fruit. Considering French broom (*Genista monspessulana*), for example, such a restriction would reduce by many months the period when construction can take place at a specific site. Construction activities occurring *before* invasive species release their seeds are obviously to be preferred. We suggest rephrasing this to read: “Work should be timed so as to reduce to the maximum extent possible the likelihood of causing or contributing to the spread of invasive plant species.”

**Equestrian use****102-10**

The RD TPEIR (Table 3-3, Policy SW.3, Prohibition on Off-road or Off-trail Equestrian Use) states: *Horses and pack animals must stay on system roads and trails, except when watering or resting the animal. Off-trail riding is prohibited. Riding on nonsystem roads and trails is prohibited.*

Comment: There is no discussion about the destruction of the vegetative cover of an area by horse trampling. We agree with forbidding horses and pack animals (what are they?) on certain trails, but not with the exception of letting these animals be watered and rested wherever and whenever it is convenient. Horses are large animals with metal-shod hooves that can impact habitats and their vegetation. Unless signs describing the occurrence of special-status species, sensitive communities, or other native vegetation are placed throughout the preserves near potential watering places (and these signs are heeded!), there should be designated areas where horses can be rested and watered without damage. Please change this to read: “. . . watering or resting the animal at locations designated for that purpose.”

In addition, the RD TPEIR fails to address the issue of horse manure, which should neither be allowed to enter waterways nor be left to spread invasive seeds or fertilize sensitive or less sensitive botanical resources. Manure dropping and fertilizing in the wildlands can lead to the invasion and persistence of non-native species. Picking up after ones horse should be required, as it is for dogwalkers.

**Sudden Oak Death (SOD)****102-11**

In response to comments on the previous draft of the Draft TPEIR, the RD TPEIR deals with Sudden Oak Death (SOD) (Table 6-9, BMP General 11: Management of Sudden Oak Death) and

states: *Avoid transporting SOD on shoes, bicycles, and the feet of pet dogs and horses through the use of cleaners and disinfectants.* **102-11, cont.**

Comment: The table lists practices that would reduce the risk of spreading this disease such as training park staff and educating visitors about preventing the spread of SOD.

The RD TPEIR does not explain how it will be feasible to disinfect shoes, bicycle tires, and feet of dogs and horses. It seems that such measures are not “doable,” and infeasible mitigation measures should not be included in the Final TPEIR. *Conversely*, the “cleaning of equipment, boots, truck tires, and any other exposed material after working in forest and woodland habitats, with a 10% bleach solution or other disinfectant” should be mandatory for contractors and staff (Table 6-9).

### **Monitoring invasive plant populations**

**102-12**

The RD TPEIR (Table 6-5, General-10, Road and Trail inspections, states: *Regularly inspect road and trail features and associated infrastructure to ensure they are well maintained and posing no threat to surrounding sensitive and/or special-status natural resources. Staff will record information pertaining to the status of biophysical resources that could be affected by road or trail use, maintenance, or management activities. These inspections will monitor for the spread of invasive, exotic plants that could affect sensitive and/or special-status native plant or wildlife habitats and any other changes that could create negative impacts to known sensitive and/or special-status native plant or wildlife populations in the immediate vicinity. Staff will report any findings and make recommended corrective actions if appropriate.*

Comment: It is unclear why this monitoring and reporting is limited to invasive species infestations that *could affect sensitive and/or special status species*. All invasive plants are capable of destroying recreational, watershed, and habitat values throughout parks and open space and need to be controlled.

Also, a time period for ongoing monitoring of a project site for invasive plants following both new construction and decommissioning of roads and trails needs to be included in BMPs. The document states: *Monitor areas of decommissioned roads and trails for the presence of invasive plant species for two years following decommissioning to ensure no infestations develop. If invasive species are detected at this time, corrective actions will be taken as appropriate.*

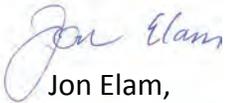
We expect the RD TPEIR to include a rigorous monitoring protocol for invasive plant species, and it must be “demanding” enough to be effective. The RD TPEIR states that *“corrective actions will be taken as appropriate”* with respect to the removal of invasive species. This is vague. There is no mention of who will be responsible for removing the weeds. It is our experience that monitoring of sites is a common practice, but follow-up with actual removal of weeds is often lacking. The document should, at a minimum, discuss whether weed removal will be performed by MDOSD staff, paid “professional weeders,” or volunteers, as removal is a vital component of the process to reduce weed infestations. Based on the use of the term “as appropriate,” what is the threshold that initiates removal and what are the criteria for terminating removal?

We recommend that monitoring of a site for invasive plants after soil disturbance should occur, at a minimum, twice a year for three years and up to five years in sensitive habitats with rare species. Monitoring plant populations – and removal of weeds – are “labor-intensive” but necessary in view of the ubiquitous extent of non-native plants that are destroying the native landscape in Marin. With the disturbance likely to be caused by the implementing the RTMP, weed conditions on the open space preserves will get worse without comprehensive measures. In order to minimize the spread and detrimental effect of invasive plants on native resources, it is important that there be true resolve and available funding to eradicate/control these plants to the greatest extent feasible. In fact, funding for individual projects should not be considered sufficient unless it includes funds for the monitoring and removal of invasive plants for a sufficient time following completion of the project. The reason Mt. Tam is overrun by invasives, especially French broom, is closely related to the construction of trails and roads many decades ago.

**102-13**

Thank you for the opportunity to comment on the RD TPEIR for the Road and Trail Management Plan. If you have questions, please refer them to Eva Buxton, Botanist, or Paul Minault, Chair, Invasive Plants Subcommittee, [mcl@marinconservationleague.org](mailto:mcl@marinconservationleague.org).

Sincerely,



Jon Elam,  
President

Cc: Greg Zitney, Chair, Marin County Parks and Open Space Commission

## Response to Letter 102

**Commenter** John Elam  
Marin Conservation League  
September 22, 2014

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102-1 *The comment provides introductory information.*

The comment provides only introductory text. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

102-2 *The comment requests that the TPEIR establish a new significance criterion that would identify a significant impact for those activities that would cause or contribute to invasive plant infestations.*

As set forth in Chapters 5 through 14 of the RD TPEIR, the environmental analyses within the document have relied upon Appendix G of the State CEQA Guidelines to establish significance criteria to guide the TPEIR's evaluation of potential effects. Section IX, *Biological Resources*, of Appendix G defines the range of biological resources that should be assessed in an environmental document. According to Section IX, invasive plants as suggested by the comment are not biological resources targeted for analysis. While Appendix G does not preclude a local agency from expanding its significance criteria to encompass additional species, or even additional environmental topics, Marin County and the MCOSED decline to do so.

Section 15064.7 of the State CEQA Guidelines establishes the procedures that local agencies must follow in adopting thresholds of significance. According to Section 15064.7(b), any new or revised local thresholds must be adopted for general use, must be adopted by ordinance, resolution, rule, or regulation, and developed through a public review process and be supported by substantial evidence. The intent of these requirements is to avoid the ad hoc imposition of inconsistently applied significance criteria as implied by the comment. Because of the multiple steps set forth in the process established by the CEQA Guidelines, and the need for a separate public hearing, the MCOSED is unable to comply with the requirements of 15064.7(b) in a timely manner within the context of the environmental review process for the RTMP.

Impacts BIO-1 through BIO-5 properly address the range of resources required by Appendix G. The comment does not question the adequacy of these analyses or the conclusions of these impact statements for biological resources.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with

the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 102-3 *The comment states that the RD TPEIR does not provide a map showing the locations of invasive plant infestations and does not describe the status of invasive plants in MCOSD open space preserves. The comment states that without this environmental baseline, impacts cannot be assessed.*

For a discussion of baseline information regarding invasive plants, please refer to the response for comment 101-8. For a response to the comment's statement that invasive plants should be evaluated in the TPEIR, please refer to response to comment 96-3(3)(c) and 102-2. CEQA holds no such requirement.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 102-4 *The comment describes the potential actions that could occur with implementation of the RTMP. The comment states that best management practices and the environmental review of future RTMP projects will result in the identification, and avoidance and/or reduction of potential adverse environmental effects, but as explained in subsequent comments, the effects of the RTMP are inadequately addressed in the RD TPEIR.*

For a discussion of the components of the RTMP, and what actions would derive from these components, see response to comment 96-3. For a discussion of the existing project baseline, see response to comment 96-1. For the specific concerns identified in this comment letter, please refer to the responses to comments 102-5 through 102-13.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 102-5 *The comment requests that best management practice Air Quality 3 – Enhanced Dust Control during Construction be amended to clarify who will prescribe the hydroseed mix, who will monitor application to ensure that the prescribed mix is applied, and who will be held responsible if “weed free” seed mixes are found to contain the seeds of invasive plants. The comment provides an example of a 15-year old Marin County project to illustrate the danger posed by improper hydroseeding.*

For a discussion of a proposed project development worksheet to track the implementation of RTMP best management practices on a project by project basis, please see response to comment 101-3, and Appendix A of this Final TPEIR.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or

substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 102-6 *The comment requests that best management practice Special-Status Plant - 7 be amended to prevent the use of non-native, fast-establishing plant species, encourage the establishment of native vegetation, favor the use of natural-fiber erosion mats, and clarify under what conditions a revegetation plan is required. The comment additionally requests that the criterion favoring a "more desirable visual cover" be deleted.*

For a discussion of a proposed project development worksheet to track the implementation of RTMP best management practices on a project by project basis, please see response to comment 101-3, and Appendix A of this Final TPEIR.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 102-7 *The comment requests that best management practices Special-Status Plant – 5 and Water Quality - 3 be amended to clarify the time period in which rehabilitation is to occur, define the properties of seed mixes and hydroseeding as requested in comments 102-5 and 102-6, and limits on the use of non-native plants to stabilize exposed soils.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 102-8 *The comment questions how best management practice General-1, Limit Work Area Footprints in Sensitive Resource Areas, would be implemented.*

For a discussion of a proposed project development worksheet to track the implementation of RTMP best management practices on a project by project basis, please see response to comment 101-3, and Appendix A of this Final TPEIR. Also, see best management practice Construction Contracts-1, set forth in Table 6.4 of the RTMP. This best management practice includes several requirements related to invasive plants that would be included in all construction contracts.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 102-9 *The comment requests that the phrase “work” be more precisely defined in best management practice General-7, Include Standard Procedures in Construction Contracts. The comment additionally requests that the work restrictions included in the BMP be revised to account for differing life histories of various species of invasive plants.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be

included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 102-10 *The comment requests that RTMP Policy SW.6, Prohibition on Off-Road or Off-Trail Equestrian Use, be modified to permit animal resting or watering only in designated areas to protect sensitive habitats and plant communities. The comment also states that the TPEIR should address the potential for pollution, the dispersal of invasive plant seeds, or a change in the fertility of areas where manure is deposited.*

Regarding the potential of the RTMP to result in an increase in the level of impact from equestrian activities, please see responses to comments 96-1 and 96-3. For a discussion of the management of equestrians in general, please refer to the response to comment 76-2. For a discussion of the potential for manure to disperse the seeds of non-native plants, see response to comment 89-5. Additionally, the Marin County Code (Section 02.02.110) prohibits any person using district lands from permitting dogs or other domestic animals, including horses, to urinate or defecate, within fifty feet of any entrance to district lands, or within one hundred feet of any water source, including wells, creeks and streams.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 102-11 *The comment states that best management practice General-11, Management of Sudden Oak Death, is infeasible with respect to requiring that bicycle tires, shoes, and the feet of dogs and horses be disinfected. The comment supports those measures in BMP General-11 that would be implemented by MCOSD and its contractors.*

Regarding the potential of the RTMP to result in an increase in the level of impact due to the spread of sudden oak death (SOD), please see responses to comments 96-1 and 96-3. Additionally, the focus of the recreational measures set forth in BMP General-11 is not disinfection by recreationists, but the education of users as suggested by comment 96-9 so that recreationists may avoid areas infected by SOD, limit use of infected areas during rainy and windy weather, and access MCOSD preserves only through designated facilities, trailheads, and parking areas.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

102-12 *The comment questions why best management practice General-10, Road and Trail Inspections, is limited to monitoring only invasive plant populations that could adversely affect special status plant and animal species. The comment states that BMP General-10 should include a time period in which monitoring should be performed after construction, maintenance, or decommissioning. The comment states that a rigorous protocol for monitoring invasive plants needs to be set forth in the RD TPEIR.*

The comment misinterprets the intent of BMP General-10. The focus of BMP General-10 is on the regular inspection of the overall MCOSD road and trail system, not only areas affected by management actions. Specific invasive plant monitoring requirements following construction, maintenance or decommissioning, including the timing and duration of monitoring, are set forth in BMPs Invasive Plants-1 through -10, and in BMP Construction Contracts-1. Additionally, please refer to the response to comment 101-3 for a discussion of MCOSD's development of a project development worksheet to monitor compliance with adopted BMPs.

For a response to the comment's statement that invasive plants should be evaluated in the TPEIR, including the identification of a "rigorous protocol", please refer to responses to comments 96-3(3)(c) and 102-2. CEQA holds no such requirement. Additionally, please refer to response to comment 101-8 regarding the extent to which the RTMP addresses invasive plant management.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

102-13 *The comment recommends monitoring periods for invasive plants in areas where management actions have resulted in soil disturbance. The comment states that implementation of the RTMP will result in the increased potential for invasive plant populations to become established and spread. The comment advocates that invasive plant management and avoidance programs be funded and implemented.*

Regarding the potential of the RTMP to result in an increase in the level of impact due to the spread of invasive plant populations, please see responses to comments 96-1, 96-3, 101-8, 102-3, and 102-4.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

**From:** [mike fottrell](#)  
**To:** [Raives, James](#)  
**Subject:** TPEIR comments  
**Date:** Monday, September 22, 2014 4:10:18 PM

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Thank you for the opportunity to comment on the TPEIR and participate in its development.

I've been a long-time bicycle enthusiast and have enjoyed riding the paved and fire roads throughout Marin and in the MCOSD fire roads in particular. I've also enjoyed biking the single-track in Tamarancho.

**103-1**

But my biggest concern about the MCOSD access is that single track trails remain pedestrian-only.

There is nothing more disturbing than a cyclist coming over a hill or around a corner from in front or behind me when I am immersed in thoughts while in the beautiful single-track trails in MCOSD. Yet it happens repeatedly, despite the signage that says "no bikes" on the single track trails where I walk.

Please do not allow mountain biking on MCOSD single-track trails.

Regards,  
Mike Fottrell  
Fairfax, CA  
[mikefhomebrew@hotmail.com](mailto:mikefhomebrew@hotmail.com)

## Response to Letter 103

**Commenter** Mike Fottrell  
September 22, 2014

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103-1 *The comment expresses support for the continued application of policies that restrict use on single-track trails to pedestrians.*

The comment expresses support for RTMP policies related to use of single-track trails. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

**Michael W. Graf  
Law Offices**

227 Behrens St.,  
El Cerrito CA 94530

Tel/Fax: 510-525-1208  
email: mwgraf@aol.com

September 22, 2014

**Via Email & Regular Mail**

James Raives  
Marin County Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903-4157  
jraives@marincounty.org

**Re: Comments on "RTMP Recirculated Draft TPEIR"**

To Whom it May Concern:

I am writing on behalf of the local chapter of the Sierra Club and concerned local citizens regarding the above referenced Recirculated Draft Tiered Program Environmental Impact Report ("DEIR") for the Road and Trail Management Plan ("Plan" or "Project") proposed by the Marin County Open Space District ("District"). **104-1**

The proposed Project establishes standards for future road and trail building, and a scoring system that will determine how new trails and roads may be chosen as future projects by the District. The DEIR purports to analyze these standards and scoring system to make findings that the Project will not have significant impacts on a host of wildlife, including numerous federally and state listed species that occur in Marin County. In our view, these findings are based on speculative and opaque assertions about how future projects will be chosen and implemented that do not provide the public a meaningful opportunity to assess the future impacts of the Project as it is implemented in the coming years in Marin County. **104-2**

Our concern in particular is that the DEIR purports to be a programmatic document to which future projects may tier in order to streamline the environmental review process, including compliance with CEQA. However, in a number of respects, as set forth more fully below, the DEIR does not provide the information necessary to ensure that such future projects will not have the potential for significant effects. Ironically, a good illustration of this can be seen in the Dawn Falls project, which is included in Appendix A of the Plan as an example of the District's successful implementation of the policies and processes set forth in the Plan that will guide future projects. The Dawn Falls project implements a trail system in the midst of Northern spotted owl nesting sites, without assessing these impacts in any way, save for a high score resulting from the trails' proximity to owls. Meanwhile, citizen observations have demonstrated that basic Best Management Practices **104-3**

(“BMPs”) relating to protecting water quality were not followed. The Dawn Falls project was approved with a categorical exemption under CEQA, despite the sensitivity of the stream habitat and adjacent owl nesting sites, without public review, and without any apparent monitoring to determine whether BMPs were being followed. **104-3, cont.**

We remained concerned that Dawn Falls is illustrative not of the future success of the Project, but instead the inevitable negative consequences of avoiding environmental review for actual projects that affect the physical environment and the wildlife that occur there in Marin County.

**1. The DEIR Does Not Provide An Adequate Description of the Proposed Project. 104-4**

CEQA requires that an EIR contain a full and accurate description of the proposed project. *See e.g. Mira Monte Homeowners Assn. v. County of Ventura* (1985) 165 Cal. App.3d 357, 366; *Santiago County Water Dist. v. County of Orange* (1981) 118 Cal. App.3d 818, 829-831; *County of Inyo v. UCB of Los Angeles* (1977) 71 Cal. App. 3d 185; 14 Cal. Code Reg. § 15124.<sup>1/</sup> As the County of Inyo court noted:

Only through an accurate view of the project may affected outsiders and public decision-makers balance the proposals benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal (i.e. the no project alternative) and weigh other alternatives in the balance. An accurate, stable and finite project description is the sine qua non of an informative and legally sufficient EIR.

71 Cal. App.3d at 192.

In this case, the DEIR describes the project as a “comprehensive management plan for the maintenance and construction of existing and new roads and trails, and for the management of uses within the MCOSD’s road and trail network.” (DEIR, p. 3-1.) The DEIR goes on to describe the existing network of trails and roads:

The RTMP would affect road and trail management actions within the open space preserves owned and managed by the MCOSD. The 34 open space preserves administered by the MCOSD range in size from 8 acres to more than 1,600 acres, and together total approximately 16,000 acres scattered throughout central and eastern Marin County. Additionally, the MCOSD holds conservation easements on approximately 3,000 acres of private lands. Visitors and community members access the preserves through a system of unpaved roads and trails from more than 335 trailheads and undesignated access points. The network of roads and trails lies primarily within the preserves, but the MCOSD also holds

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<sup>1/</sup>*See also Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners* (2001) 91 Cal. App. 4th 1344; *Stanislaus Natural Heritage Project v. County of Stanislaus* (1996) 48 Cal. App. 4th 182, 201; *Rio Vista Farm Bureau Center v. County of Solano* (1992) 5 Cal. App. 4th 351, 369-370; 14 Cal. Code Reg. § 15378(a.)

numerous public trail easements across private lands that link the preserves to surrounding communities. The nearly 249 miles of unpaved roads and trails traversing the preserves represent roughly 39 percent of the estimated 640 miles of unpaved roads and trails, on public lands, in all of Marin County (Marin County 2007).

104-4,  
cont.

DEIR, p. 3-3.

Nowhere in the description, however, does the DEIR provide an explanation for what *this* Project will entail, i.e., which new trails and roads does the Project envision. Indeed, the DEIR provides no information on the overall increase in roads and trails that are anticipated to be constructed over the next 15 years, despite the clear objective to increase public access to the open space areas through new construction and development. *See* DEIR, p. 3-18 (“The RTMP is comprehensive in its coverage and will apply to all 34 open space preserves, and guide all management activities related to roads and trails for the next 15 years.”); Plan, p. 1-6 (purpose includes increasing availability of trail experiences.)

Indeed, in responding to the public feedback stating that “[t]here should be a ‘no net increase’ in trail mileage, footprint and impacts” the District states that road and trail design standards and BMPs will apply to all management actions. *See* Plan, p. ES-8. However, the DEIR provides no information on what this increase may be. Thus, as discussed below, there is no basis for assuming that the cumulative impacts will be insignificant.

The DEIR appears to address this issue by claiming that, although the overall amount of trail and roads may increase, the environmental impacts will be less based on actions that the District will take with regards to decommissioning or upgrading existing trail segments that occur in sensitive areas. In our view there is not sufficient information in the DEIR to warrant this assertion, particularly where the number of trails and roads may substantially increase over the next 15 years. As the DEIR acknowledges, adverse impacts to wildlife may occur simply due to the existence of a trail that bisects habitat or corridors, notwithstanding the existence on paper of BMPs designed primarily to reduce construction impacts on sensitive species.

**2. The DEIR’s General Approach Does Not Allow the District’s Board to Make Findings that Future Road and Trail Projects Will Not have Potentially Significant Impacts to Wildlife in Marin County.** 104-5

We are concerned that the DEIR purports to make determinations that the future construction and realignment of trails and roads on open space lands, including increases in trail and road mileage, will have insignificant impacts to wildlife in the County:

Construction of new roads or trails, the maintenance of existing facilities, or changes in the location or intensity of use could adversely affect sensitive wildlife and plant species or their habitats located within or adjacent to a work area, or in areas of increased use. However, with implementation of the policies, procedures, and BMPs identified in the Marin Countywide

Plan and the RTMP, this impact would be *less than significant*.

**104-5,  
cont.**

DEIR, p. 6-52 (emphasis added.) This concern is heightened by DEIR’s programmatic nature, which does not assess the impacts of any particular trail or road project:

The RTMP sets forth policies, standards, and BMPs, and a method for establishing system roads and trails, and for screening subsequent individual construction, maintenance, and management actions to ensure a reduction in overall environmental effects. As such, no specific road and trail system or future projects are identified in the RTMP. Given this degree of specificity (or lack thereof), the EIR properly evaluates the proposed RTMP at a program level (CEQA Guidelines 15168), and assesses the potential indirect or secondary impacts of implementing the RTMP.

DEIR, Appendix D-7. As a result, the District appears to intend that environmental review of future trail and road projects will be tiered to the DEIR’s findings of insignificant impacts to wildlife:

As required by Section 15168(d) of the State CEQA Guidelines, when a law other than CEQA requires public notice when the agency later proposes to carry out or approve an activity within the program and to rely on the program EIR for CEQA compliance, the notice for the activity shall include a statement that: •This activity is within the scope of the program approved earlier, and • The program EIR adequately describes the activity for the purposes of CEQA. For all future subsequent road and trail projects and activities under the RTMP that are subject to CEQA, *the MCOSD anticipates the use of the CEQA streamlining provisions provided by Section 15168 of the State CEQA Guidelines as set forth above.*

DEIR, p. 3-62. (emphasis added.)

We are particularly concerned about this approach by the District, given the little information provided as to how – and in particular *where* – future projects will be implemented. CEQA allows for the use of a "tiered" review process based on an initial programmatic EIR. However, to justify tiering later projects in a streamlined process, the programmatic EIR must still present a meaningful and informative assessment of significant impacts that may occur as a result of aspects of the programmatic project. *See Stanislaus Natural Heritage Project v. County of Stanislaus* (1996) 48 Cal. App. 4th 182, 201; *id.* at 202 (“Calling it a ‘program’ does not relieve the County from having to address the significant environmental effects of that project”)

Here, the DEIR does not present coherent information that would inform how the future increase in trails and roads will avoid significant cumulative effects on wildlife. Instead, the DEIR analyzes BMPs that are largely designed to avoid *construction* impacts, while presenting a mathematical model, the “Road and Trail Evaluation Tool,” to evaluate characteristics of existing and proposed road and trail projects in determining which projects to implement over the life of the Plan. *See Plan*, pp. 5-12 - 5-13. The model separates how these characteristics into three categories:

**104-6**

- environmental (potential for natural and cultural resource impacts) **104-6, cont.**
- physical (slope, orientation to the fall line, redundancy, and the existing physical conditions that affect sustainability)
- social (potential contribution to the visitor experience)

*Id.* at p. 5-12. According to the Plan, “[e]nvironmental and physical criteria...will be added together to yield the total “biophysical” impact of a road or trail segment, or collection of segments.” *Id.* The District will then add in subjective “social criteria” that will create a total score for the project. Based on this approach, the District will choose projects to undertake, which will be listed in an annual budget report.

In our view, this mathematical scoring approach, though likely informative on some level, cannot substitute for environmental review of the impacts of a project.

For example, as the Plan and DEIR acknowledge, new trails and roads have inevitable adverse impacts to wildlife.<sup>2/</sup> Yet the DEIR provides no criteria for when such adverse impacts will be tolerated or accepted. The DEIR provides no threshold scores that would prevent a future project. Moreover, the Plan’s Appendix A also provides no example of a *new* trail or road project or how such project would be treated under the hypothetical scoring system. **104-7**

Further, as the DEIR implicitly acknowledges, the “score” for a project does not necessarily provide information about whether that project could have significant effects on a particular wildlife species or even wildlife in general. For example, in the Dawn Falls trail project, touted by the District as a successful application of the mathematical scoring approach, negative points due to impacts to the northern spotted owl as a result of the proximity of trail segments and bridges were *overridden* by positive points generated by purported erosion and drainage benefits in a number of overlapping categories, including “Worst Drainage Score”, “Worst Erosion Score,” “Number of Problem Sites,” “Drainage Condition,” and “Tread Condition Average.” These categories, all related in one way or another to the erosion issue, are characterized as outweighing the negative impacts to

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<sup>2/</sup>See DEIR, p. 6-52 (“Construction and maintenance activities on existing roads and trails have the potential to disrupt sensitive wildlife species, and to continue to degrade sensitive plants and habitats in areas where roads and trails are improperly sited. Construction of new roads and trails could adversely affect individuals of sensitive wildlife and plant species, and degrade sensitive habitats if constructed within or adjacent to such areas.”); Plan, Appendix A, p. A-1 (“Roads and trails can have a number of undesirable effects on the natural environment. They can fragment habitat, provide opportunities for the influx or spread of invasive weeds, disrupt the behavior patterns of sensitive native wildlife, and create visual scars. In addition, the compaction of soils decreases soil porosity and water infiltration, which in turn increases muddiness, water runoff, and soil erosion. Erosion and instability can result in increased sediment discharge to nearby streams, adversely impacting water quality and fish habitat.”)

Northern spotted owls by a factor of two.

As discussed, the District apparently intends to streamline the future environmental review for these projects according to the DEIR's findings of no significant effects, based in part on the mathematical scoring approach. But this would be entirely inconsistent with CEQA, which does not allow an agency to avoid the necessary environmental review based on its determination that, as a whole, a particular project will have beneficial results, even if there may be potentially significant impacts to particular resources. The District cannot make a finding that as long as a project has a "positive" overall score according to a model that allows the District to balance impacts and benefits among a suite of disparate resource items (including the inherently subjective *social* criteria), a project is *within the scope* of the DEIR and thus need not be further evaluated.

104-8

In sum, relying on this mathematical scoring as a general approach to choosing projects in the future cannot support the DEIR's finding of insignificant impacts. Instead, the mathematical model intended for future project development can at best support only the notion that, on the whole, projects may be beneficial, based on the unavoidably subjective criteria applied by the District.

In this context, two aspects of CEQA are worth considering. First, CEQA requires all project to reduce environmental impacts when it is feasible to do so and to consider project alternatives that would accomplish that goal. *See* Pub. Res. Code § 21002. In the Dawn Falls trail project, for example, the intent was to redesign the trail to avoid sediment impacts due to erosion. This project was categorically exempted from CEQA review, however, and so the District never considered alternative designs that would accomplish the erosion control objectives, while at the same time avoiding potentially significant impacts to nesting owls due to increased public access. *See e.g.*, Plan, Appendix A, p. A-1 ("Roads and trails can ...disrupt the behavior patterns of sensitive native wildlife.")

104-9

Second, to the extent the District does intend to balance competing impacts and benefits in future projects, CEQA allows for this through the adoption of a statement of overriding considerations, in which the agency determines that "specific overriding economic, legal, social, technological, or other benefits of the project outweigh the significant effects on the environment." *See* Pub. Res. Code § 21081(b). Such a result is an entirely acceptable outcome under CEQA, but requires first a full environmental review to have occurred to ensure that the agency's balancing is fully vetted by the public and by CEQA requirements.

The Project's mathematical scoring approach, while perhaps valuable for internal agency deliberation, in no way substitutes for the open public review required by CEQA for projects with the potential for significant impacts to particular wildlife resources, nor can it support the DEIR's purported finding in this instance that the Project will have insignificant impacts.

104-10

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**3. The DEIR Does Not Proceed Correctly in Analyzing the Cumulative Impacts of Future Trail and Road Projects in the County. 104-11**

In assessing the cumulative impacts of the Project, the DEIR states that its “cumulative analysis is tiered from the Marin Countywide Plan EIR (2007). (DEIR, p. 16-3.) The DEIR describes that cumulative analysis to Biological Resources in part as follows:

Land uses and development consistent with the 2007 CWP Update together with development in the county’s 11 cities and towns would contribute to a cumulative reduction in existing habitat....Cumulative development would also contribute to an incremental reduction in the amount and connectivity of existing natural communities and wildlife habitat. While mitigation measures may be available to address identified impacts on sensitive resources such as wetlands and sensitive natural communities, the cumulative loss of undeveloped habitat and possible further fragmentation of the remaining natural areas would be cumulatively significant. Development and land use activities consistent with 2007 CWP Update would result in a reduction of existing natural habitat, contribute to habitat fragmentation, and result in obstruction of movement opportunities. Aspects of the applicable policies contained in 2007 CWP Update would serve to partially address these impacts, but the conversion, fragmentation, and obstruction would be a significant unavoidable cumulative impact. The 2007 CWP Update would make a cumulatively considerable contribution to eliminating or diminishing existing wildlife habitat values in the county, and contributing to a substantial reduction in the opportunities for wildlife movement. Even with the implementation of mitigation identified in the Countywide Plan EIR, this would remain a significant unavoidable cumulative impact.

DEIR, p. 16-9.

Despite these cumulative impacts, the DEIR goes on to find that the additional incremental impact of expanding trails and roads on County open space lands would not be cumulatively considerable:

[I]mplementation of the RTMP would have a less-than-significant impact to biological resources, and the potential effects of future use management, and maintenance and construction projects with implementation of the RTMP would be less than under current conditions as new BMPs and standards were implemented, and facilities within sensitive habits were removed, re-constructed, or repaired. Therefore, the RTMP would not make a cumulatively considerable contribution to this significant and unavoidable cumulative impact. The cumulative effect of the RTMP would be less than significant.

DEIR, p. 16-10.

This conclusion that the cumulative impacts of future trail and road construction and placement is not justified in light of the informational inadequacy of the DEIR, as discussed above,

with respect to project description and analysis of impacts based on the mathematical scoring model. As discussed, the location of new trails and roads can have negative impacts on sensitive wildlife, yet the DEIR provides no information as to 1) the overall increase in trails and roads that are anticipated in the next 15 year period to accommodate increasing user demand; or 2) how the District will balance the competing environmental, physical and social criteria as part of its mathematical scoring technique. **104-11**

In order to assess whether a tiered project will contribute to new significant cumulative impacts, the lead agency must consider whether the incremental effects of the project would be considerable when viewed in the context of past, present, and probable future projects. The question is not whether there is a significant cumulative impact, but whether the effects of the project are cumulatively considerable. *See* 14 Cal. Code Reg. § 15152(f)(2); *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal. App.3d 692, 722 (court rejects agency’s finding that “since the project’s emissions are relatively minor when compared with other sources, ...the project would have no significant impact on air quality.”) *See also* *Communities For a Better Environment v. California Resources Agency* (2002) 103 Cal. App. 4th 98, 114 (“[T]he de minimus approach ...compares the incremental effect of the proposed project against the collective cumulative impact of all relevant projects. This comparative approach is contrary to CEQA section 21083 and to the Guidelines section 15355 definition of cumulative impacts, set forth above; this approach also contravenes CEQA case law.”)

In short, where significant impacts are already occurring, any additional, non-de-minimus impact must be considered cumulatively significant. Here, the DEIR’s findings that such cumulative effects will be insignificant is based on an assumption that the overall impact of the Project will be beneficial to all wildlife species, which is simply not supported in the documents and Plan provided for review.

**4. The DEIR Does Not Analyze How Monitoring May Mitigate the Potential Adverse Impacts of New Trails and Roads on Wildlife. **104-12****

The Plan and DEIR propose to adopt monitoring programs that will assist in reducing the potentially significant impacts of trail and road construction in the County.

This includes adopting after Project approval a “Multi-year Wildlife Monitoring Program” to “address gaps in the scientific documentation of wildlife in the preserves in a more systematic way.” Plan: p. 6-10.

Further, the Plan states that if “federal or state-listed species are known to be present in the project area or immediate surroundings, a qualified biologist from the MCOSD natural resource staff or outside contractor will monitor construction activities to ensure impacts to sensitive resources will be avoided. If special-status wildlife species are present within the vicinity of the project area, a more involved monitoring program might be necessary to ensure that these species do not enter the project.” Plan, p. 6-12.

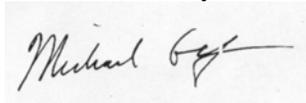
In addition, the DEIR states that the District will adopt Mitigation Monitoring and Reporting Program (MMRP), which must be designed to ensure compliance with the adopted measures during project implementation (PRC Section 21081.6). *See* DEIR, p. 1-6. (“The MMRP for this project will be prepared and circulated under separate cover for consideration by the MCOSD in conjunction with certification of the Final TPEIR.”) **104-12, cont.**

The problem we see with the District’s proposed monitoring is that the public has no chance to review the proposed protocols to determine whether or how they might rectify some of the informational inadequacies in the DEIR, as described above. In addition, the information that is provided leaves unanswered questions as to how monitoring may avoid the potentially significant impacts to wildlife of increased trail and road building.

For example, in the Dawn Falls trail project, there was no monitoring conducted by “a qualified biologist” from the District as construction commenced, despite the presence of the federally listed Northern spotted owl in the in the project area. As a result, BMPs were not followed, resulting in potential adverse impacts to the stream environment.

In this case, monitoring how and which projects are implemented is necessary to ensure that that the District’s proposed adaptive management approach will avoid significant impacts to wildlife over the 15 year life of the Plan. Yet the details of such monitoring are not provided for public review, and therefore cannot support the DEIR’s conclusions that significant effects will be avoided. Here, the District’s monitoring program must be made part of the overall Project to be reviewed under CEQA. In that case that program’s inclusion into the record after the close of the formal EIR comment period violates CEQA.<sup>3/</sup>

Sincerely,



Michael W. Graf

Comment Letter.wpd

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<sup>3/</sup>The DEIR states that “[i]n addition to the multi-year wildlife monitoring program discussed above, the MCOSD has enacted or will institute the following programs to assist in monitoring the implementation and success of policies, standards, and BMPs, and to provide information for use in the designation of system roads and trails and in the annual review of management actions and construction projects.” DEIR, p. 3-60. However, none of the programs described explains how the District will understand how its projects are affecting wildlife or whether such projects are being implemented according to the required BMPs.

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## Response to Letter 104

**Commenter** Michael W. Graf  
September 22, 2014

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104-1 *The comment provides introductory information.*

The comment provides only introductory text. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

104-2 *The comment provides a summary project description of the RTMP, and briefly describes the analytical process used in the RD TPEIR. The comment takes exception to environmental conclusions presented in the RD TPEIR with respect to special status wildlife species.*

The comment is based upon an incomplete understanding of the RTMP project's environmental baseline; inaccurate conclusions regarding the nature of the RTMP project from a CEQA perspective; and the environmental implications of implementing the RTMP. Please see responses to comments 96-1 and 96-3 for a discussion of the RTMP project's environmental baseline, the TPEIR's compliance with CEQA requirements for the contents of EIRs, and the analyses contained within them.

As developed more fully in the responses to comments 96-1 and 96-3, with respect to the environmental baseline:

- The MCOSED open space preserves currently include an extensive road and trail system, most of which the MCOSED inherited as it acquired the preserves. Most of these historic roads and trails were not designed and built to minimize impacts on sensitive resources or to promote safe and appropriate recreational opportunities. Additionally, the current, and increasing, level of use result in a range of past and ongoing adverse environmental effects.
- In conducting, past, current, and ongoing maintenance, construction, and administration of the road and trail system, the MCOSED has not relied on a comprehensive strategy to avoid or reduce adverse environmental effects. These activities, and the lack of coordination and guidance provided for them, would continue into the future even in the absence of a RTMP.

A description of the RTMP and its potential for adverse environmental effects is more fully developed in response to comment 96-3 and summarized here:

- The RTMP consists of policies, design and construction standards, best management practices, and a decision tool to aid in the identification and design of environmentally beneficial projects.

- The overarching purpose of the components of the RTMP is to avoid or reduce environmental harm during maintenance and construction, and to reduce over time the environmental footprint of existing facilities by decommissioning, maintaining, rerouting, or improving roads and trails to reduce sources of sediment and incursion into sensitive biological habitat.
- The MCOSD has in the past and will continue to maintain, construct, and manage the road and trail system. No aspect of the RTMP would expand or modify the range of activities being conducted by the MCOSD. They would continue even in the absence of the RTMP.
- Implementation of the RTMP by itself would not result in an increase in the rate or number of activities pursued by the MCOSD in any given year. The number and type of maintenance, construction, and management activities that occur from year to year is a function of the MCOSD budget, which is unaffected by the RTMP.
- The RTMP would not: expand the range of maintenance, construction, or management activities above those currently conducted by the MCOSD; increase the rate or number of such actions above levels currently initiated or completed by the MCOSD in any given time period; or provide additional funding that could result in an increase in the rate or number of activities in a given time period. The RTMP merely organizes and prioritizes maintenance, construction, and management activities with the goal of reducing environmental harm over time, and provides policies, standards, and best management practices where none currently exist to avoid or reduce environmental harm arising from the management and use of roads and trails within open space preserves.

Thus, the notion that implementation of the RTMP would result in new or significantly increased impacts to special status species of wildlife is not consistent with the degraded state of the existing environment or the goals and substance of the RTMP. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

104-3 *The comment states that the RD PEIR is proposed to act as a programmatic document to which future projects may tier in order to streamline the environmental review process. The comment states that the RD TPEIR (and by implication the underlying RTMP) is inadequate to meet this purpose. The comment cites the Dawn Falls project included in Appendix A of the RTMP as an example of this failure.*

The comment is correct in noting that the RD TPEIR in Chapter 1, Section 1.2 and Chapter 3, Section 3.12 declares itself to be a Program EIR within the meaning of Section 15168 of the State CEQA Guidelines, and that the streamlining provisions set forth in Section 15168 would be followed. The comment inaccurately concludes that the RD TPEIR and RTMP contemplate that future projects developed in compliance with the policies, design and construction standards, and best management practices would evade future environmental review pursuant to CEQA or that the RTMP proposes that operation of the road and trail evaluation tool is a substitute for future CEQA compliance for individual road and trail projects. The MCOSD will comply with the requirements of Guidelines Sections 15168 (c)

and (d) that establish a process and standards for the future environmental review of projects within a program evaluated in a program EIR. As contemplated by the Guidelines, this required future environmental review could range from a conclusion that the later proposed project is fully reviewed by the program EIR based on an Initial Study or other substantial evidence, to exemption of a project, or the preparation of a Negative Declaration or EIR. Rather than permitting future projects to escape subsequent CEQA evaluation, Section 15168 requires that future projects be individually reviewed to determine whether they have individual adverse effects that were not evaluated in the program EIR. If such effects are identified, Section 15168 (c)(1) requires that a new Initial Study be prepared leading to either an EIR or a Negative Declaration.

Nowhere in the RD TPEIR or the RTMP does the MCOSED propose to evade the process required by Section 15168 or substitute the operation of the road and trail evaluation tool for required CEQA analyses and documentation.

Regarding the level of detail presented in the RD TPEIR and the detail of subsequent analyses within the document, CEQA's general rule is that the level of detail offered by the proposed project governs the level of detail presented in the following environmental evaluation. As set forth more fully in response to comment 96-3(3)(d), Section 15146(b) of the State CEQA Guidelines establishes that "An EIR on a project such as the adoption or amendment of a comprehensive zoning ordinance or a local general plan should focus on the secondary effects that can be expected to follow from the adoption or amendment, but the EIR need not be as detailed as an EIR on the specific construction projects that might follow."

As proposed and assessed in the RD TPEIR, the RTMP is even less specific than a local general plan or a comprehensive zoning ordinance. Whereas a general plan or a zoning ordinance designates areas appropriate for existing and future developed uses, and the type and intensity of uses (including areas that are currently undeveloped), the RTMP merely imposes detailed environmentally protective standards on the ongoing maintenance and use of the road and trail system. The RTMP consists of proposed goals and policies, road and trail design and construction standards, and best management practices, together with a decision making process. No individual road or trail actions are identified or programmed in the RTMP. The RTMP does not expand the area of the preserves in which road and trail development may occur; indeed, it makes no changes to existing policy except to constrain new road and trail development near water courses and other sensitive resources and habitats.

Thus, in compliance with Section 15146(b) of the State CEQA Guidelines, the RD TPEIR focuses on the secondary effects of implementing the RTMP at a level of detail commensurate with the specificity of the RTMP project itself. The level of analytic detail urged by the comment would be contrary to the guidance provided by Section 15146(b).

The comment cites the Dawn Falls trail as an example of the inadequate nature of the policies, standards, best management practices, and project development procedures set forth in the RTMP. This conclusion arises in part from the MCOSED's use of a beta version of the road and trail evaluation tool to demonstrate how the tool might work to screen and

model the projected biophysical impacts of potential projects. This demonstration used the Dawn Falls trail project as one example of how the tool could work.

The only connection between the Dawn Falls project and the RTMP is that a beta version of the road and trail evaluation tool was presented at a public meeting to demonstrate the basic concept of the tool and how it might work, and an updated version of this demonstration was appended to the RTMP as Appendix A. The tool was not used to screen the Dawn Falls project to determine its environmental benefits or compare it to other projects to evaluate their respective benefits, or to choose the most environmentally beneficial project.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 104-4 *The comment states that the project description set forth in Chapter 3 of the RD TPEIR is not adequate. The comment additionally notes that the project description does not provide an explanation of what implementation of the RTMP would entail, and cites the lack of an identification of what new trails and roads would arise from implementation of the RTMP as a deficiency. The comment states that the RD TPEIR and RTMP fail to account for the potential impacts on wildlife of roads or trails that bisect habitat or corridors.*

See responses to comments 96-3, 101-2 and 101-3. Briefly, the RTMP consists of proposed goals and policies, road and trail design and construction standards, and best management practices, together with a decision making process. No individual road or trail actions are identified or programmed in the RTMP. No future projects are identified in the RTMP, and no policy or program within the RTMP would require their construction. The RTMP makes no changes to existing policy regarding the potential locations of roads and trails except to constrain new road and trail development near watercourses and other sensitive resources and habitats.

The goals of the RTMP are set forth on pages ES-2, 4-2, 4-6, and 4-10 of the RTMP. Of these, only the first criterion cited on page 4-10 (*meet current and future demand for access*) could remotely be conceived to call for a larger road and trail system than currently exists. However, this criterion is a restatement of policies set forth in the Marin Countywide Plan and the various policy documents previously adopted by the MCOSD. These existing policies set forth in RTMP Table 4.1 to which the MCOSD must adhere include Countywide Plan goals and policies TRL-1, TRL-1.2, TRL-1.d, TRL-2.5, TRL-2.6, TRL-2.h, and

MCOSD policy T1a. The RTMP would not modify these policies, but rather seeks to avoid or reduce the environmental effects of implementing this previous policy direction provided by the Board of Supervisors and the MCOSD Board of Directors. Thus, the construction and operation of the road and trail system, and the direction to meet future demand are not the result of the RTMP, but rather previous plans and policies adopted by the Board of Supervisors and the MCOSD Board of Directors. The primary purpose of the RTMP is to implement these previously adopted plans and policies in manner that protects sensitive resources, enhances water quality, promotes safe and cooperative recreational use of the preserve system, and provides other environmental protections.

In the context of the environmental review of the RTMP, the identification of any future road and trail development is too speculative to trigger a duty to conduct an environmental analysis of unknown and unidentified projects. Far too little can be known about the scope, location, or the types of new road and trail projects that might be proposed in the future to assist decision makers in evaluating any potential environmental tradeoffs. Rather than indulge in random speculation, the RD TPEIR assumes that impacts to biological resources could occur throughout MCOSD preserves. See RD TPEIR Chapter 4, Section 4.5.1.

With respect to the impact of future roads or trails that bisect habitat or corridors, the RD TPEIR, Impacts BIO-1 and BIO-4 in Chapter 6, Biological Resources, explicitly address this potential effect, and conclude that implementation of the suite of policies, standards, and best management practices set forth in the RTMP and the Countywide Plan would result in less-than-significant impacts. As cited in both Impacts BIO-1 and BIO-4, proposed RTMP policy SW.24 requires the MCOSD to minimize incursions into contiguous habitat areas and wildlife corridors.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 104-5 *The comment expresses the concern that the RD TPEIR will be used by the MCOSD to evade the future environmental review of individual road and trail projects, and that the RD TPEIR is inadequate to perform this function because it does not explicitly describe or evaluate future road and trail construction projects. The comment selectively quotes from the RD TPEIR to support this contention.*

With respect to requirements for future environmental review, please see response to comment 104-2 and 104-3. Regarding the need for the TPEIR to explicitly identify and evaluate future road and trail projects, refer to response to comment 104-4.

Concerning the requirements of Section 15168 of the CEQA Guidelines with respect to the environmental review requirements for future projects consistent with the project assessed in a program EIR, the comment quotes only from one section of the Guideline regarding the notice required of the MCOSD (15168(e)). Rather than seeking to evade its responsibilities, as set forth in response to comment 104-3, the MCOSD will fully comply with the entirety of the requirements of Guidelines Sections 15168 (c) and (d) that establish a process and

standards for the future environmental review of projects within a program evaluated in a program EIR.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 104-6 *The comment states that the RD TPEIR does not provide information regarding future increases in roads and trails, or analyze their effects on wildlife. The comment discusses the road and trail evaluation tool, and claims that the MCOSD intends the tool to substitute for environmental review under CEQA.*

For a discussion of the potential expansion of the road and trail system in the future, and the EIR's need to evaluate any potential increase, please refer to the response to comment 104-4. With respect to the MCOSD's intentions regarding the role of the road and trail evaluation tool, and its relation to the required CEQA analyses and documentation, please see response to comment 104-3.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 104-7 *The comment notes that the RTMP and RD TPEIR acknowledge that new road and trail projects would result in adverse effects to wildlife and quotes from Impact BIO-1 to demonstrate this acknowledgement. The comment notes that neither the RD TPEIR nor the road and trail evaluation tool provide a threshold beyond which impacts to wildlife and individual species would be unacceptable. The comment cites the Dawn Falls project as a demonstration of the failure of the RD TPEIR to assess or the evaluation tool to screen out a project with unacceptable or adverse effects to wildlife. The comment notes that the evaluation tool as presented in the Dawn Falls beta demonstration is biased in favor of erosion control and the prevention of sedimentation.*

The comment selectively quotes Impact BIO-1. The environmental conclusion identified in that analysis is that the potential effect on wildlife from the implementation of the RTMP would be less than significant, because the plan identifies policies, standards, and best management practices to avoid impacts on wildlife.

Regarding the need to provide a threshold for unacceptable wildlife impacts, three sources of regulation guide the MCOSD: the Countywide Plan, CEQA, and various state and federal laws. Pursuant to CEQA, the RD TPEIR uses Appendix G, Section IV, *Biological Resources*, of the State CEQA Guidelines to establish significance criteria. Potential effects to wildlife and other biological resources would be significant within the meaning of CEQA if these thresholds were exceeded for the RTMP or for subsequent road and trail management projects. In situations where the thresholds were exceeded, CEQA would require the

preparation of an appropriate document, either a Negative Declaration or EIR. If identified impacts to biological resources could not be mitigated below a level of significance, the MCOSD could still approve such a project upon the preparation and certification of an EIR, and preparation and adoption of Findings and a Statement of Overriding Considerations pursuant to Sections 15091 and 15093 of the State CEQA Guidelines.

In addition, both California and the United States have implemented a number of laws, rules, and regulations to protect biological resources and habitats, including the Clean Water Act, the state and federal Endangered Species Acts, the California Fish and Game Code, the International Migratory Bird Treaty Act, and many others. These regulations would require that the MCOSD consult with affected agencies, and obtain all necessary permits prior to initiating actions that could adversely affect resources within the jurisdiction of the agencies. See RD TPEIR Chapter 6, Biological Resources, Section 6.1.2 for a comprehensive discussion of these regulations, including an identification of regulated resources. At the local level, the Marin Countywide Plan provides guidance to the MCOSD in avoiding or reducing impacts to sensitive biological resources in the management of roads and trails. (See for example, Table 6-4 in the RD TPEIR.)

With respect to the Dawn Falls project as an example of the failure of the RTMP and RD TPEIR to identify and mitigate adverse effects to special status wildlife species, please refer to response to comment 104-3. The Dawn Falls Trail project is an example of a proposal to address an existing trail that has adverse effects on water quality and stream resources. The MCOSD implemented a project to reduce these effects and included appropriate measures approved by the relevant state and federal regulatory agencies to avoid impacts on special status wildlife species.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 104-8 *The comment states that the MCOSD intends to streamline the environmental review of future road and trail management actions based in part on the environmental conclusions of the RD TPEIR and the project scores produced by the road and trail evaluation tool. The comment states that the use of the road and trail evaluation tool as a substitute for analysis and documentation of a project's environmental effects is impermissible under CEQA.*

The MCOSD has no intention of using the evaluation tool in lieu of CEQA compliance, nor does the MCOSD intend to evade the full requirements of State CEQA Guidelines Section 15168 in complying with CEQA in the review of future road and trail management actions. See response to comment 104-3. The evaluation tool is a mechanism to assist decision makers in their designation of the road and trail system, their consideration of future trail projects, and their monitoring of performance against the annually readjusted baseline.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 104-9 *The comment notes two required aspects for CEQA compliance: the requirement that all projects reduce their environmental effects when it is feasible to do so, including alternatives to the proposed project; and the need to prepare an EIR and adopt a statement of overriding considerations if a project was determined to result in any significant and unavoidable impacts. The comment cites the Dawn Falls trail project as an example of the MCOSD's evasion of these requirements.*

The MCOSD will fully comply with CEQA requirements for the evaluation and documentation of the environmental effects of future projects consistent with CEQA requirements. See responses to comments 104-2 and 104-3. Regarding the Dawn Falls project, please see responses to comments 104-3 and 104-7.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 104-10 *The comment states that the mathematical scoring approach used by the road and trail evaluation tool cannot substitute for full compliance with CEQA and open public review of the environmental effects of a proposed project with potential effects to wildlife resources. The comment additionally states that the use of the road and trail evaluation tool as a substitute for analysis and documentation of a project's environmental effects is impermissible under CEQA.*

The MCOSD will not use the evaluation tool in lieu of CEQA compliance, nor does the MCOSD intend to evade the full requirements of State CEQA Guidelines Section 15168 in complying with CEQA in the review of future road and trail management actions. See response to comment 104-3. The evaluation tool is a mechanism to assist decision makers in their designation of the road and trail system, their consideration of future trail projects, and their monitoring of performance against the annually readjusted baseline.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question

the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 104-11 *The comment faults with the cumulative analysis set forth in the RD TPEIR with respect to cumulative biological resource impacts. The comment cites the cumulative impact set forth in the RD TPEIR, and then disputes whether the RTMP project would make a cumulatively considerable contribution to the identified significant and unavoidable impact.*

This comment is based upon a substantial misinterpretation of the RTMP and the implications of its implementation. For a discussion of the accurate description of the RTMP, please see responses to comments 96-3, 104-2, 104-3, and 104-4. Under an accurate description of the RTMP, implementation of the plan would reduce potential effects to special status wildlife species over existing conditions because of the operation of policies, design and construction standards, and best management practices set forth in the RTMP were now none exist. Because the implementation of the RTMP would reduce the potential level of future environmental effects with its implementation, the RTMP project would not make a cumulatively considerable contribution to the identified significant and unavoidable cumulative impact to biological resources, consistent with the direction given by Section 15130(a)(3) of the State CEQA Guidelines.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 104-12 *The comment states that the MCOSED has presented no publicly reviewable monitoring program to ensure that the policies, design and construction standards, and best management practices are implemented for road and trail management actions undertaken subsequent to approval of the RTMP. The comment identifies the Dawn Falls project as an example of where no monitoring of the implementation of the provisions of the RTMP occurred. The comment states that neither the RTMP or the RD TPEIR identify an approach for the public to monitor how and which projects are implemented in order for the public to determine the effectiveness of the RTMP in avoiding or reducing the adverse effects of future road and trail management actions.*

The RTMP TPEIR does not identify any significant impacts from the proposed project, and consequently sets forth no mitigation measures. Since the RTMP TPEIR contains no mitigation measures, and hence, does not require a mitigation and monitoring program (CEQA Guidelines Section 15097(a)), the MCOSED has proposed to develop a project development worksheet as a component of the RTMP to monitor and document an individual trail project's consistency with policy, design standards, and BMPs. In addition, the RTMP will document the application of the evaluation tool. See response to comment 101-3 and Appendix A for further information regarding this worksheet.

CEQA does not require incorporation of a mitigation monitoring and reporting program (or in this case, the project development worksheet) into the Draft TPEIR. CEQA only requires

preparation and adoption of a mitigation monitoring and reporting program at the same time as, or following, the lead agency's adoption of findings with respect to the proposed project and environmental document (State CEQA Guidelines Sections 15091(d) and 15097(a)). Under the scenario outlined in the CEQA Guidelines, the project development worksheet, acting as a mitigation monitoring and reporting program, would not need to be circulated to the public until such time as the MCOSD provides its recommendation to its Board of Directors. Thus, in providing the worksheet as an appendix to the Final TPEIR, the MCOSD has exceeded its CEQA and public review obligations.

With respect to the public review of, and participation in, the project evaluation and selection process set forth in RTMP in Chapter 5, and summarized in RD TPEIR Chapter 3, describes an open and public multi-step process for identifying, suggesting, and reviewing potential future road and trail actions. These steps include:

- Inviting the public to suggest potential road and trail projects (Initial Public Outreach, and Step 1: Solicit Road and Trail Project Proposals)
- Submitting the results of the screening process for road and trail management actions for public review (Step 3: Screen Project Proposals Using the Evaluation Tool, and Reprioritize All Projects)
- Submitting the road and trail projects identified for funding in any given year to the public for review (Step 5: Public Review of Proposal Annual Budgets, including Road and Trail Projects Recommended for Funding)
- Adopting an annual budget, including funds for road and trail management actions, at an open public hearing where the public may offer testimony (Step 6: Adoption of Annual Budgets and Commencement of Work).

Contrary to the allegation of the comment regarding a lack of participation and public review, the project development worksheet and the project evaluation and funding process offer the public many opportunities to oversee the implementation of the RTMP, and influence the location, design, and use of road and trail facilities. Thus, implementation of the RTMP would offer a substantially greater amount of public oversight and participation in road and trail management decisions than currently exists in the absence of the RTMP. In addition, any road or trail project that results in environmental effects that are new or more significant than those considered in the RTMP TPEIR, will be subject to the CEQA requirements for additional environmental review and public disclosure through a negative declaration, mitigated negative declaration, or environmental impact report, as appropriate.

With respect to Dawn Falls serving as an example of the failure of the RTMP to engage the public in the identification, design, and oversight of road and trail actions, see responses to comments 104-3 and 104-7.

As demonstrated in this and the previous responses to comments cited above, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

**From:** [Lori Greenleaf](#)  
**To:** [Raives, James](#)  
**Subject:** Comments re: Land Use & Planning /Recreation  
**Date:** Saturday, August 09, 2014 5:31:10 PM

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Dear Mr. Raives,

My husband and I have lived in Larkspur since 1992. We love it here. We live on West Baltimore and have been using the Baltimore Canyon trail since we discovered it in 1992. That is before there were stairs and signs but not before there were dogs. We have had a dog since 2007 and have taken her regularly on these trails. As you must know dog owners and runners regularly use the trail and more than (I'm guessing) 80% of them have been off leash until a very a few years ago. Now it's down to 50%, (I'm still guessing ) and I have never (worth repeating: "never" ) seen an incident where an off leash dog has been a problem. ....not with people walking on the trails,...not with other dogs,...not with destroying the environment or running off the trail. I guess it happens but I have never seen it.

105-1

My dog is a well trained certified therapy dog (with a Canine Good Citizen award). Since I am a family therapist and work with children she needs to be well trained. She walks next to me for the most part, leash or no leash. She comes to me on command even if she is occupied greeting people or other dogs.

I would like to suggest that on some parts of the trail network in Baltimore Canyon MCOSD consider allowing dogs to be off leash if they have mastered the minimal skills of coming when called, stopping when commanded, sitting and lying down on command. Most pet dogs do that. There needs to be a place where dogs can stretch their legs and "meet and greet" other dogs off their restricting leashes. The "Dog Park" in Larkspur is a sorry sight and an even sorrier place to take your dog to "run free". If there were a concentration camp yard for dogs it would look like this. Please don't restrict (and punish) the dogs that are family to us and as much a part of our community as our citizens.

Thanks for lending an ear,...

Sincerely,  
Lori Greenleaf, PhD

## Response to Letter 105

**Commenter** Lori Greenleaf  
August 9, 2014

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105-1 *The comment requests that rules requiring that dogs remain on-leash in Baltimore Canyon be relaxed.*

The comment pertains to MCOSD policies related to dog use. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

From: [Ram Gurung](#)  
To: [Raives, James](#)  
Subject: Namaste  
Date: Thursday, September 18, 2014 8:19:12 PM

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September 20, 2014

[Marin County](#) Parks and Open Space District  
3501 Civic Center Drive, Room 260  
[San Rafael](#), CA 94903

Attention: Jaimes Raives, Senior Open [Space Planner](#)

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and [Trails](#) M

I am submitting the following comments:

1. **If you care about safety, copy paste some of our key safety points.** **106-1**
2. **If your focus is environmental issues, copy paste some of our environmen**
3. Pick another [talking point](#) or use one of your own. Write your [own.is](#) good too.

Thank you again for the opportunity to comment.

Sincerely,  
Ram Gurung  
Kathmandu, Nepal

Ram Gurung  
[www.mysticlandadventurepltd.blogspot.com](http://www.mysticlandadventurepltd.blogspot.com)  
[www.mysticlandadventure.wordpress.com](http://www.mysticlandadventure.wordpress.com)  
[www.facebook.com/mysticlandadventure](http://www.facebook.com/mysticlandadventure)  
@mysticpal  
@adventuremystic  
<http://pinterest.com/mysticland/pins/>  
Phone:+977-9849473401  
skype:mysticland.adventure  
<https://www.facebook.com/ram.gurung.7902>

## Response to Letter 106

**Commenter** Ram Gurung  
September 18, 2014

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106-1 *The comment refers to suggested wording from the Access4Bikes letter template, but expresses no individual comment or concern. The comment incorporates the sections designated as MR-2 through MR-12 in the in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 through MR-12 beginning on page 3-21 of this Final TPEIR.

**From:** [Jason Holmes](#)  
**To:** [Raives, James](#)  
**Subject:** Mountain Biking  
**Date:** Monday, September 22, 2014 12:05:09 AM

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Dear James,

I have been riding Mountain bikes for over 20 years in Marin County. Please help us change the antiquated laws outlawing mountain biking in Marin. **107-1**

We are the largest user group in Marin. We ride every trail and have not caused damage. Should we gain access to single track on Mt. Tam, pt. Reyes, and the headlands we will always help maintain these trails and make them better.

We (mountain bikers) care about the environment and we clearly do not cause harm to the environment...probably the same as hiking and way less than horses. How do we know? Riders are all ready riding the trails.

Lets just make it legal so that we can coexistent finally. The sad battle between hikers and mt. bikers must end now.

If we cannot have access to all trails. Why not split the days like Tahoe does? Tahoe rim give mt bikers access on all even days of the calender. This works great for them. Or...perhaps split the trails up and just give us a few.....perhaps Northside and Nora?

Thanks!!  
Jason Holmes.  
Business Owner...Mountain biker...Marin Lover.  
**Jason Holmes**  
Realtor/ Owner  
[Holmes Burrell Real Estate](#)

Top 1% sales agent  
Cell - 415.686.0589  
Office - 415.446.9444  
[www.marinholmes.com](http://www.marinholmes.com)  
DRE License# 01355552

## Response to Letter 107

**Commenter** Jason Holmes  
September 22, 2014

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107-1 *The comment requests that laws limiting mountain biking in Marin be changed, and states that mountain biking does no more harm to the environment than other uses. This comment also suggests alternative methods of allocating time on trails between uses.*

The comment concerns existing RTMP policies about mountain bike use of trails and how to fairly allocate access for various uses. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

**From:** [Gerald Houlette](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Draft TPEIR  
**Date:** Monday, September 22, 2014 3:34:39 PM

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Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

SUBJECT: RTMP Draft TPEIR

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and I am concerned about safety. I feel that mountain bikes have an unfair and undocumented reputation for being unsafe. I ride my bike approximately 50-75 miles a week in the mountains of Marin and Sonoma Counties. I have never had accident with another trail user.

**108-1**

I feel that the most unsafe users on the mountains are the equestrians. They suffer more serious injuries and do much more damage to the trails

In order to develop the Statewide Program Environmental Impact Report for Roads and Trails Change-in-Use (certified in April 2013), California State Parks (CSP) commissioned a study on Trail Use Conflict. To date, this study (Appendix C in the DPEIR) is the most comprehensive review of available data describing trail use conflict within California, and as such should be incorporated by reference into the PEIR. The PEIR should also explicitly include this study in Table 6-2 of the Change-in-Use PEIR, "Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces."

**108-2**

Thank you for the opportunity to reply and I hope you take some of these concerns into consideration

Gerald Houlette  
32 Meadow Ave  
San Rafael Ca

## Response to Letter 108

**Commenter** Gerald Houlette  
September 22, 2014

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108-1 *The comment provides background information and asserts that equestrian uses are more dangerous than mountain biking. This issue is based on the sections designated as MR-2 through MR-4, MR-6 to MR-8, and MR-10 through MR-11 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 through MR-4, MR-6 to MR-8, and MR-10 through MR-11 beginning on page 3-21 of this Final TPEIR.

108-2 *The comment requests that the RD TPEIR include a discussion of safety and user conflicts use information from a California Department of Parks and Recreation study on trail use conflict, and that the report be incorporated by reference. This issue is based on the section designated as MR-4 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-4 beginning on page 3-23 of this Final TPEIR.

James Raives  
Marin County Open Space District  
3501 Civic Center Drive, Suite 260  
San Rafael, CA

September 22, 2014

Dear Mr. Raives,

We wish to commend the Open Space District for a comprehensive management approach to repairing and maintaining the extensive network of roads and trails in the Open Space system. As you know, SPAWN has played a critical role in restoration and advocacy for endangered species in the Lagunitas watershed, including the Coho Salmon. Since MCOSD controls a major portion of the lands and sources of sediment in the watershed, we appreciate the intention reflected in the Revised RTMP to address the impacts of the road and trail network and look forward to working with the MCOSD constructively to reduce sediment loads in endangered Coho habitat. **109-1**

In light of those interests, we wish to raise several issues in the Recirculated Draft Tiered Program EIR (RDTPEIR). CEQA requires that an EIR provide sufficient information for decision makers to make an informed and reasoned decision and to mitigate significant impacts. *Berkeley Keep Jets Over the Bay v. Board of Port Cmrs.* (2001) 91 Cal.App.4th 1344, 1355. In particular, the RDTPEIR's analysis does not provide sufficient information to evaluate the hydrological and biological impacts of the plan. **109-2**

First, the RDTPEIR relies upon and tiers from the EIR for the Marin County Countywide Plan. However, please be aware that the Countywide Plan EIR has been set aside by *Salmon Protection and Watershed Network v. County of Marin*, (Cal. Ct. App 1st Dist, March 5 2014) A137062. In particular, the Court of Appeals invalidated the analysis of the cumulative impacts to the Coho Salmon habitat as inadequate, particularly since no attempt was made to evaluate the range of impacts that could occur under the CWP. Thus, although the RDTPEIR may incorporate the CWP EIR, it may not rely on that document for analysis of cumulative impacts to Coho Salmon habitat in the San Geronimo Valley and the Lagunitas Creek watershed. As noted in that opinion, "[i]t is the cumulative impacts of the projects that most frequently lead to the decline of a species, not the individual projects." *Id.* at \*14. However, "the report fails to estimate the maximum potential impact, the range of potential impacts, or the likely net impact if the policies and implementation programs described in the 2007 CWP are applied" *Id.* at\*14. **109-3**

Thus, the EIR's conclusions concerning the impacts to the Lagunitas Creek watershed (including San Geronimo Valley) cannot be relied upon. **109-3, cont.**

Second, we are concerned that several elements of the RTMP are not well defined, making it difficult to assess the impacts of the plan. While a programmatic document may lack details of the specific actions to be taken, the management policies and practices described should be sufficiently well defined to permit the reader and decision makers to understand what is being proposed. Unfortunately, the Draft RTMP includes a number of vague policies and describes some best management practices using undefined terms. For example, TRL-2.7 simply calls for the MCOSD to "[c]ontinue to ensure that trails are responsibly maintained" while TRL-2.m requires MCOSD to "[m]aintain trails sustainably [and] [c]onsider and [i]mplement as appropriate". While the RDTPEIR is not the document in which to define such vague policies, the RDTPEIR can analyze a reasonable range of possible standards for such vague terms. For example, under "responsible" maintenance practices, maintenance might be conducted using heavy machinery or might alternately be undertaken using less invasive methods with markedly different environmental impacts. We would recommend that a range of methods be analyzed and that mitigation measures be crafted to require those methods that would not have significant environmental effects (*e.g.*, require maintenance practices adequate to avoid significant impacts such as sedimentation or destruction of native vegetation). The impacts of maintenance activities in particular should be well evaluated in the RDTPEIR, since there are likely to be no further CEQA documents prepared for such routine activities, and otherwise these environmental impacts may escape CEQA review altogether. **109-4**

Third, much like the EIR for the Countywide plan, the RDTPEIR does not adequately address the range of outcomes possible from the plan. As discussed in the RTMP, the plan may result in any outcome, from no repair and construction work being undertaken at all (if funds are not forthcoming), to a quick repair of all deficient roads and trails. However, the EIR does not describe the possible range of rates at which trails are likely to be repaired. The Open Space District has a long history of funding on which to base estimates of long it will take to repair all trails under low, medium, and high funding scenarios. We are particularly concerned that the plan as written may in fact result in maintaining conditions in Region 2 that will contribute to adverse impacts on special status species through sedimentation of riparian habitat (see below). We recommend the development of scenarios representing high, medium and low rates of implementation and that the analysis of each be carried forward throughout the document. Absent such an analysis, decision makers and the public will be hard pressed to assess whether the RTMP will have substantial effects or none at all. **109-5**

Fourth and most importantly, the RDTPEIR does not adequately analyze whether the plan, if implemented, would contribute to degradation of impaired waters and in turn have adverse impacts on the habitats in those waters. As noted in the RDTPEIR, a substantial portion of the reserves in Region 2 lie upslope of critical habitat of several endangered species in the Lagunitas Creek watershed. However, the RDTPEIR makes no attempt to determine the sediment loads discharges from Open Space lands into San Geronimo Creek, Lagunitas Creek and their tributaries either before or after implementation. Without that analysis of sediment loads after the plan is fully implemented, decision makers cannot make an informed decision as to whether the plan will result in significant impacts to hydrological resources and biological resources requiring mitigation. 109-6

#### *Hydrology and Water Resources*

The EIR does not analyze the expected levels of sedimentation from MCOSD roads and trails post-implementation in order to determine whether or not the project would “violate water quality standards or waste discharge requirements, or otherwise substantially degrade water quality.” (Impact HYD-1.) As noted in the RDTPEIR, the Lagunitas Creek and San Geronimo waters are impaired 303(d) waters with respect to sediment load. The RDTPEIR does not analyze whether the proposed management practices and prioritization scheme would be adequate to avoid contributing to violations of these standards. Without some quantification of the range of sediment loads from the road and trail network, decision makers and the public will be unable to conclude whether the plan will reduce impacts below the significance threshold.

Substantial evidence suggests that the RTMP may result in sediment export in excess of what the impaired waterways can absorb and so contribute substantially to a violation of a water quality standard. Although Table 11-5 of the RDTPEIR inaccurately suggests that sediment loads in these waters result from urban runoff, several studies have shown that sedimentation from roads and trails, including those within MCOSD lands, are a major contributor to the impairment of this waterway. A report from Stillwater Sciences estimates that unpaved roads and trails account for roughly 40% of all sediment delivery into the impaired waterways of the Lagunitas Creek watershed (i.e., of sediment not derived from in channel incision or other sources within the waterways). (Stillwater Sciences 2010, Table 4-1.) Of these unpaved roads in the watershed, roughly a third are roads and trails on MCOSD lands covered by the Draft RTMP.

More recently, the San Francisco Bay Regional Water Quality Control Board released its draft Total Maximum Daily Load (TMDL) for the Lagunitas Creek watershed. (SFRWQCB, 2014) This TMDL provides a quantitative analysis of the sediment loads within the watershed and the reductions that would be required to bring the waters into compliance with the water quality

standards. The TMDL estimates roads account for some 3,600 tons of sediment per year. (*Id.* Table 2a.) The public draft TMDL suggests that overall sediment yields from unpaved roads in the watershed needs to be reduced by at least 50% in order to meet the TMDL requirements. (*Id.*, Table 3a). While the SFBRWQCB acknowledges improvements that have been made and that some MCOSD roads may currently meet some performance standards, the EIR should nevertheless evaluate the magnitude of reductions in sediment yield that can be expected under the RTMP. Without this information, the MCOSD has no firm basis on which to evaluate whether or not the plan, if implemented as proposed, would reduce sediment loads sufficiently to avoid adverse impacts to water quality standards for Lagunitas Creek and avoid significant environmental impacts. **109-6, cont.**

The analyses of sediment yield are clearly feasible. Sediment yields both before and after the implementation of the RTMP should be assessed through road segment level yield assessments of the MCOSD lands in Region 2 within the Lagunitas Creek watershed, similar to the sediment yield analysis of Cascade Canyon conducted by Clearwater Hydrology for MCOSD in 2003. (See <http://www.clearwater-hydrology.com/stream-restoration-consulting/sediment-assessment.html> ). In addition, the EIR should evaluate the engineering and geotechnical literature to evaluate the scale of reductions that can be reasonably expected from particular best practices and mitigation methods, if employed. In particular, MCOSD should evaluate the comparative benefit of minimally invasive maintenance and construction techniques against construction methods involving heavy machinery, such as backhoes or bulldozers, as well as the effects on sediment yields from improved sediment control for construction and revegetation protocols. MCOSD could apply the resulting predictions of sedimentation reductions to the analysis conducted by Stillwater Sciences (2010) to evaluate the sediment yields for the MCOSD lands.

Without an assessment of the effectiveness of the RTMP in controlling sediment, the RDTPEIR does not provide decision makers or the public with sufficient information to determine whether there will be violations of water quality standards or whether additional measures may be needed to avoid such violations.

### *Biological Resources*

We certainly commend the proposed policies to avoid riparian resources and the commitment to provide fish-passable stream crossings. However, the same absence of rigorous assessments of the sediment yield of MCOSD lands also renders the DTPEIR's analysis of impacts to biological resources inadequate. Without an evaluation of whether sediment yields will contribute to the impairment of Lagunitas and San Geronimo creeks, the RDTPEIR does not **109-7**

provide an adequate basis for decision makers or the public to determine whether the RTMP would have significant adverse effects through habitat modifications on the habitat of endangered Coho Salmon, California Freshwater Shrimp, or California Red-Legged Frogs. (See Impact Bio-1.) Only once the sediment yields from MCOSD lands are determined can the RDTPEIR adequately assess the impacts of those sediments on these endangered species' habitats. **109-7, cont.**

The RDTPEIR should also evaluate the adequacy of the siting and alignment policies of the RTMP. Although the RTMP calls for avoidance of riparian resources with county-designated Stream Conservation Areas, these designated areas do not capture all the important biological and hydrological impacts to important areas, such as ephemeral streams, seasonal streams or drainage basins. Even areas well outside of designated SCAs may have important chemical, hydrological or thermal impacts on the characteristics of downstream waters. (See Turtle Island Restoration Network, 2013, and references therein). Marin County's SCAs generally extend up to 100 feet from main streams, but the scientific studies cited above have shown impacts to riparian habitat from as far as 300 feet from main and smaller streams. While Policy BIO-4.k calls for locating trails "appropriately" and situating trails at an "adequate distance" from streams, the EIR does not address what distances would constitute an appropriate and adequate distance and whether this policy avoids significant impacts. Thus, the EIR should also evaluate what are appropriate distances and consider additional measures regarding siting and road and trail alignment to mitigate impacts by minimizing hydrological and sediment connectivity and sediment transport to impaired waterways (*e.g.*, not merely avoiding sensitive habitat, but also avoiding those areas which drain into sensitive habitat, whether or not these areas are within a SCA). Similarly, reducing hydrological and biological impacts requires measures to reduce connectivity between paved areas and any aquatic resources, such as the use of bioswales or other measures. Finally, since the RTMP includes a prioritization mechanism for restoration projects, the EIR must also consider prioritizing erosion control projects within Region 2 and other areas with hydrological connectivity to endangered species critical habitat as a mitigation measure for impacts to biological resources. Without a rigorous analysis of sediment loads, and the chemical, thermal and biological consequences of managing MCOSD lands under the RTMP, the RDTPEIR would fail to inform decision makers and the public whether or not the plan would succeed in avoiding significant impacts to endangered species habitat. **109-8**

In conclusion, we appreciate the substantial effort that has gone into developing a comprehensive and rational plan for managing the tremendously important resources of Marin County's Open Space. We share the MCOSD's goals of protecting our valuable natural **109-9**

resources and look forward to working constructively with the district to develop a robust process for managing and maintaining these resources.

**109-9,  
cont.**

Respectfully submitted,

Doug Karpa  
Legal Program Co-Director  
Turtle Island Restoration Network  
Salmon Protection And Watershed Network  
Lagunitas, CA

Attachments and References

Salmon Protection and Watershed Network v. County of Marin, (Cal. Ct. App. 1st Dist., March 5, 2014) A137062.

Stillwater Sciences (2010) Taking action for clean water—Bay Area total maximum daily load implementation: Lagunitas Creek sediment budget. Prepared by Stillwater Sciences, Berkeley, California for San Francisco Estuary Project/Association of Bay Area Governments, Oakland, California.

San Francisco Bay Regional Water Quality Control Board (2014) Revised Proposed Basin Plan Amendment showing changes since March 20, 2014, available at [http://www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/TMDLs/lagunitascrksedimenttmdl.shtml](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/lagunitascrksedimenttmdl.shtml).

San Francisco Bay Regional Water Quality Control Board (2014) Lagunitas Creek Watershed Fine Sediment Reduction and Habitat Enhancement Plan, available at [http://www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/TMDLs/lagunitascrksedimenttmdl.shtml](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/lagunitascrksedimenttmdl.shtml).

Turtle Island Restoration Network (2013) “The Importance of Ephemeral Streams to Salmonids,” Conservation Fact Sheet 2013:01.

**Response to Letter 109**

**Commenter** Doug Karpa  
SPAWN  
September 20, 2014

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109-1 *The comment provides introductory information.*

The comment provides only introductory text. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

109-2 *The comment states that the analysis contained in the RT TPEIR lacks detail, thus precluding an adequate analysis of effects to hydrological and biological resources.*

The comment is based upon an incomplete understanding of the RTMP project's environmental baseline, and inaccurate conclusions regarding the nature of the RTMP project from a CEQA perspective and the environmental implications of implementing the RTMP. Please see responses to comments 96-1 and 96-3 for a discussion of the RTMP project's environmental baseline, and the TPEIR's compliance with CEQA requirements for the contents of EIRs and the analyses contained within them. Refer to responses to comments 96-3, 104-3, and 115-1 regarding the required level of detail of the analyses presented in the RD TPEIR.

As developed more fully in the responses to comments 96-1 and 96-3, with respect to the environmental baseline:

- The MCOSED open space preserves currently consist of an extensive road and trail system, most of which, the MCOSED inherited when it acquired the various properties. This road and trail network receives a high, and increasing, level of use, which has resulted in a range of past and ongoing adverse environmental effects.
- Past, current, and ongoing maintenance, construction, and administration of the road and trail system are conducted by the MCOSED without the benefit of a comprehensive strategy to avoid or reduce adverse environmental effects. These activities, and the lack of coordination and guidance provided for them, would continue into the future even in the absence of a RTMP.

A description of the RTMP and its potential for adverse environmental effects is more fully developed in response to comment 96-3 and summarized here:

- The RTMP consists of policies, design and construction standards, best management practices, and a decision-making process to aid in the identification and design of environmentally beneficial projects.

- The overarching purpose of the RTMP is to avoid or reduce environmental damage caused by maintenance, construction, and use of the road and trail network, and to reduce over time the environmental footprint of existing facilities by decommissioning, maintaining, rerouting, or improving roads and trails to reduce sources of sediment and incursion into sensitive biological habitats.
- The MCOSD has in the past and will continue to maintain, construct, and manage the road and trail system. No aspect of the RTMP would expand or modify the range of activities being conducted by the MCOSD. They would continue even in the absence of the RTMP.
- Implementation of the RTMP by itself would not result in an increase in the rate or number of activities pursued by the MCOSD in any given year. The number and type of maintenance, construction, and management activities that occur from year to year is a function of the MCOSD budget, which is unaffected by the RTMP.
- The RTMP would not: expand the range of maintenance, construction, or management activities above those currently conducted by the MCOSD; increase the rate or number of such actions above levels currently initiated or completed by the MCOSD in any given time period; or provide additional funding that could result in an increase in the rate or number of activities in a given time period. The RTMP merely organizes and prioritizes maintenance, construction, and management activities with the goal of reducing environmental harm over time, and provides policies, standards, and best management practices where none currently exist to avoid or reduce environmental harm arising from the management and use of roads and trails within open space preserves.

Thus, the notion that implementation of the RTMP would result in new or significantly increased impacts to hydrological and biological resources is not consistent with the degraded state of the existing environment or the goals and substance of the RTMP. As set forth above, and in response to comment 96-3, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused by the proposed project. Any questions raised by this comment on the environmental conclusions associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

109-3 *The comment states that a recent court decision has set aside the Countywide Plan EIR with respect to the San Geronimo Valley and the Lagunitas Creek watershed. The comment states that, to the extent that the RTMP TPEIR tiers from, and relies upon, the cumulative impacts analysis contained within the Countywide Plan EIR, the cumulative analyses of hydrologic and biologic resources are invalid with respect to the San Geronimo Valley and the Lagunitas Creek watershed.*

The comment is correct. However, it is important to note that the appellate court decision only set aside the Countywide Plan EIR with respect to hydrologic and biological resources within the San Geronimo Valley and the Lagunitas Creek watershed. Subsequent to the preparation of the RD TPEIR, the San Francisco Bay Regional Water Quality Control Board (RWQCB) issued a Total Maximum Daily Load (TMDL) order for the Lagunitas Creek watershed. Although the TMDL order was approved by the RWQCB, it will not become

fully effective until approval by the State Water Resources Control Board, the State Office of Administrative Law, and the U.S. EPA. Nonetheless, the findings of the TMDL order and its supporting studies represent the best science available with which to evaluate the potential impacts of actions that may influence sediment yield and the effects of sedimentation on the aquatic biological resources within the Lagunitas Creek watershed.

As noted in the TMDL order:

The goals of the Lagunitas Creek Sediment Reduction and Habitat Enhancement Plan (Plan) are as follows:

- To restore an annual spawning run within the Lagunitas Creek watershed of 1300-or-more adult coho salmon, achieved for at least twelve consecutive years.
- For native fish and aquatic wildlife species to be in good condition at the individual, population, and community levels.
- To protect and enhance the aesthetic and recreational values of the creek and its tributaries.

The main focus of this Plan is habitat enhancement, because habitat loss and simplification appears to be a primary cause of the declines of watershed populations of coho salmon, steelhead, and California freshwater shrimp. The Plan also establishes a regulatory program to reduce sediment delivery to channels resulting from road-related erosion, a necessary condition to support recovery of listed species and achieve water quality objectives for sediment and settleable material. Other significant land-use related sediment sources are already being reduced substantially through existing regulatory programs and/or natural recovery processes.

The only significant nonpoint source that is not effectively controlled through existing programs and/or natural recovery processes is sediment discharge from roads. This gap applies only to publicly-owned roads, primarily unpaved roads under the jurisdiction of the State Department of Parks and Recreation in S.P. Taylor State Park and/or the U.S. National Park Service within the Golden Gate National Recreation Area. Paved public roads, almost all under the jurisdiction of the County of Marin, also may contribute significant amounts of sediment to channels, although at lower rates.

With regard to the unpaved public roads, reasonable assurances are in place through a memorandum of understanding (MOU) - for the maintenance and management of unpaved roads – that has been agreed to by all of the public agencies within the project area with jurisdiction over roads. Through this MOU, substantial progress has been made to control and reduce sediment delivery to channels. The Marin Open Space District and the Marin Municipal Water District already achieve the performance standard for unpaved roads under their jurisdiction in the Lagunitas Creek watershed (*emphasis added*).

To ensure that effective sediment source controls are implemented on all public roads - unpaved and paved - consistent with the State Nonpoint Source Program,

WDRs, or a conditional waiver of WDRs, are required to meet the road sediment delivery performance standard (Table 4.2). Whether through adoption of a conditional waiver of WDRs or adoption of WDRs, the required actions are as follows:

3. All public agencies with jurisdiction over roads within the project area must adopt and implement road maintenance guidelines to protect aquatic habitat, water quality, and salmonid fisheries (*such as the RTMP*); conduct a biennial training program for road maintenance staff, and biennially submit a report that documents implementation and/or recommends adaptive updates to the maintenance practices. (SFB RWQCB 2014a)

The staff report prepared for the RWQCB's June 2014 hearing additionally notes:

In evaluating the nature and scope of a regulatory program to control sediment delivery from roads, we note that substantial progress has been made within the past decade in reducing sediment delivery from unpaved roads located on lands managed by the Marin County Open Space District within the San Geronimo Creek watershed. These roads represent about one-third of the total length of unpaved roads within the TMDL project area (27 miles, as estimated by Lynx Technologies, 2007, unpublished data). We commend the Open Space District for implementing treatments at all priority erosion sites that could deliver to channel reaches that provide habitat for steelhead and/or coho salmon. We also commend the California Department of Fish and Wildlife, which provided substantial grant funding and technical support. (SFB RWQCB 2014b)

In response to this new information, the cumulative analysis set forth in the RD TPEIR, Chapter 16 is supplemented as set forth in Chapter 4, *Errata*, of this Final TPEIR. This additional information provides further support for the existing conclusions of the RD TPEIR that implementation of the RTMP would have a less than cumulatively considerable contribution to cumulative impacts to hydrologic and biological resource impacts, including within the San Geronimo Valley and the Lagunitas Creek watershed.

This additional information would merely clarify and confirm the existing analysis, and no recirculation of the TPEIR would be required to permit additional public review of these revised cumulative analyses and environmental conclusions. Consistent with the requirements of Section 15088.5 of the State CEQA Guidelines that govern the recirculation of EIRs prior to their certification, the changes to the cumulative analysis referenced above would not result in the identification of:

- . A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
- . A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
- . A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.

Additionally, since these changes to the cumulative analysis merely confirm the previous environmental conclusions, they indicate that the RD TPEIR was adequate and not conclusory in nature, and that it allowed for meaningful public review and comment, and thus no recirculation would be necessary.

As set forth above, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the potential impacts associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 109-4 *The comment states that the RTMP project described in the RD TPEIR is poorly defined. The comment cites a policy and an implementation program to demonstrate this lack of definition: Countywide Plan Policy TRL-2.7, and implementation program TRL-2.m.*

The Marin Countywide Plan defines a “policy” to be “A statement derived from a goal that represents the jurisdiction’s adopted position and guides action by decision-making bodies.” The Countywide Plan defines an implementation “program” to be “A specific implementation measure to carry out goals and policies of the Countywide Plan.” Since both Policy TRL-2.7 and implementation program TRL-2m are set forth in the Countywide Plan, they, together with the other Countywide Plan goals, policies, and implementation programs set forth in RD TPEIR Table 3-2 and RTMP Table 4.1, form the policy foundation upon which the RTMP is constructed. It is the role of the RTMP to refine this generalized policy direction by providing detailed road and trail systemwide policies, design and construction standards, and best management practices. Thus, the RTMP sets forth the detailed implementation of the generalized policies and programs of the previously adopted Countywide Plan and the MCOSD’s Policy Review Initiative. Relevant RTMP policies and best management practices are discussed in the following paragraphs.

The comment is accurate in that the degree and extent of potential soil and vegetation disturbance could vary depending upon the type of maintenance activity and equipment used. Specific maintenance methods and equipment will vary dependent upon site conditions and needs, access and staging constraints, and whether in-house crews or hired contractors are providing the services. Without undue speculation, this program EIR cannot identify how variances in maintenance activities will occur under the RTMP. Therefore, the components of the RTMP must address the potential disturbance to vegetation and native soils regardless of the type of equipment used or extent of activity required. To further define policies TRL-2.7 and implementation program TRL-2.m, the RTMP provides specific policies, construction standards, and best management practices that explicitly address the potential for water quality impacts that could result from road and trail maintenance activities disturbing existing vegetation and native soils, whether it be by operating large equipment, such as dozers or excavators, or by less intrusive means such as hand labor.

Policy T2a of the MCOSD Policy Review Initiative requires that the MCOSD use best management practices (BMPs) in the design, construction, and maintenance of trails. In current construction practices, BMPs are typically understood to be sediment source and transport control measures, including exclusion fencing, to protect vegetation and limit soil

disturbance, linear sediment control barriers, such as fiber rolls, straw wattles, silt fencing, and coir logs to prevent sediment from being released beyond the activity site, and various other treatment measures including sand and gravel check dams and temporary sediment basins to control, capture, and treat stormwater runoff from the site. In accordance with this policy, site specific BMPs would be identified during design and implemented as part of any maintenance or construction activity, regardless of the range or level of activity. Additionally, the RTMP identifies specific BMPs and construction approaches to avoid or reduce potential impacts from sedimentation and other forms of pollution during trail construction and maintenance activities as described in Table 11-10 of the RD TPEIR and summarized here. These include:

- **BMP General-1, Limit Work Area Footprints in Sensitive Resource Areas**, requires any new trail construction or management to minimize the work area to the size of the project area, access roads and staging areas. It also requires marking the ingress/egress, staging, and project footprint areas to protect sensitive resources. This is typically done with exclusion fencing.
- **BMP General-2, Modify Construction-Related Vegetation Management Methods in and Near Wetlands, Riparian Vegetation**, establishes a buffer of 100 feet between any construction activity and wetland and tidally influenced areas restricting vegetation management activities; prohibits soil disturbing activities without additional permits; and requires development of a Storm Water Pollution Prevention Plan (SWPPP) and identification and implementation of erosion and sediment control BMPs to reduce the potential for sediment or other pollutants to be released to sensitive areas by using methods including weed-free straw, hydromulch, geofabrics, wattles (linear barriers), sediment traps, check dams, drainage swales, and sand bag dikes.
- **BMP General – 3, Minimize Potential for Erosion**, requires maintaining erosion and sediment control devices during ground disturbing activities associated with road and trail activities including rice straw, hydromulch, geofabrics, wattles, sediment traps, check dams, drainage swales, and sandbag dikes. This policy also requires immediate rehabilitation of disturbed soil areas, including decompaction, aeration, recontouring, stabilizing via erosion control materials, and revegetating.
- **BMP General – 6, Prevent or Reduce Potential**, for Pollution by prohibiting and restricting equipment refueling, fluid leakage, equipment maintenance, and road surfacing activities near wetlands and requiring proper spill prevention and containment methods be implemented during any road and trail activities that would involve mechanical equipment.
- **BMP General – 7, Include Standard Procedures in Construction Contracts**, to ensure that the MCOSD requires the implementation of all the water quality protection BMPs by outside contractors conducting work on behalf of the district. These BMPs include the 100 foot wetland and tidally influenced buffer restrictions and implementation of a SWPPP similar to BMP General -2, minimizing the disturbance footprint to the minimum area required to accomplish the work, and maintaining erosion and sediment control devices during ground disturbing activities and until all disturbed soils have been stabilized (i.e. rice straw, hydromulch,

geofabrics, wattles, sediment traps, check dams, drainage swales, and sand bag dikes) similar to BMP General -3.

- **BMP Water Quality-2: Temporary Erosion and Sediment Control**, requires that temporary sediment control practices be implemented when new trail construction or existing trail improvements, including maintenance, result in greater than one acre of disturbance, or when the disturbance is close to a sensitive resource or has the potential to discharge a significant amount of sediments or pollutants to surface waters. Measures include temporary exclusion fencing to limit disturbance, linear sediment barriers, applying mulch or fabrics to disturbed soils, covering soil and material stockpiles, and following specific procedures to prevent sediment introduction into surface waters when dewatering a site or diverting a waterway.
- **Policy Water Quality – 4, Preventing or Reducing the Potential for Pollution**, restricts equipment refueling and maintenance to areas away from wetlands, and requires staff training in the safe handling and storage of pollutants, and provides for the use of appropriate spill response equipment.
- **Policy Water Quality – 6, Grading Windows**, restricts grading activities to the drier months of May 15 to October 15 to reduce the likelihood of storm water intercepting disturbed sediments from trail maintenance activities and carrying polluted water past the BMPs and into wetlands or surface waters.
- **Water Quality-8, Proper Disposal of Excess Materials**, requires that any excess soil or other construction or maintenance materials be disposed of at an appropriate site away from sensitive resources.
- **Water Quality-9, Sidecasting Construction Material**, avoids sidecasting material when it has the potential to reach surface waters by following the Fishnet 4C Guidelines (2007).

Trail maintenance practices can vary from small scale actions to more extensive soil disturbance using large heavy equipment; however, rather than try and segregate the maintenance activity types by method and scale and then apply different water quality protection policies to each, the BMPs apply the same water quality protection requirements to all methods regardless of the type or scale. Additionally, there are specific policies in the RTMP, as described above, that protect water quality and water resources by requiring implementation of BMPs for projects where there is more than an acre of disturbance and/or the work has the potential to introduce soil or other pollutants to a sensitive area or surface waters. These specific policies would apply equally to routine maintenance whether maintenance involved a dozer regrading and constructing rolling dips along an existing fire road or field crews installing a rocked ford crossing along an earthen trail.

As indicated in the preceding discussion, the comment misinterprets the import of the cited policy and implementation program to the RTMP. The purpose of the RTMP is to provide the definition of these generalized policies by setting forth systemwide policies, road and trail construction standards, and best management practices that in total result in a set of detailed requirements for all road and trail projects to reduce and avoid sedimentation and erosion.

As noted in the response to comment 109-2, the underlying assumptions of this comment rely upon a fundamental misunderstanding of the role of the environmental baseline in the

environmental assessment process as outlined above. As stated in the response to comments 96-1, 96-3, 101-2, 101-3, 104-4, and 109-2, the existing environment within the MCOSED's open space preserves is substantially degraded in terms of the amount of sediment generated, the eroded or otherwise poor conditions of many roads and trails, and species composition, range, and behavior. The intent of the RTMP is to provide an organized framework of policies, design and construction standards, and best management practices to avoid or reduce potential environmental harm to a range of resources where no standards now exist. That the RTMP does not go as far as the authors desire in remediating the effects of past and ongoing actions is not a requirement of CEQA. As noted in the response to comment 96-1, CEQA requires an evaluation of the substantial adverse effects of implementing the project on the existing environment (CEQA Guidelines Section 15002(g)). The clear direction of this Guideline is to prevent agencies from characterizing existing environmental conditions, no matter how degraded, as impacts of a proposed project, and the Guideline exempts project proponents from being required to remedy existing environmental deficiencies under the guise of CEQA. In the case of the MCOSED's open space preserves, the existing environment is substantially degraded, and the practices and uses that led to such degradation would continue into the future in the absence of the RTMP. The RTMP would provide the MCOSED with specific policies, standards, and practices that would be beneficial to the existing environment where none now exist, and the notion that the RTMP does not go far enough in remediating past and existing conditions is not a CEQA issue, but rather one of policy.

As set forth above, and in responses to comments 96-1, 96-3 and 109-2, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the environmental conclusions associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

The comment does reveal an editing error in the description of Countywide Plan implementation program TRL-2.m. As set forth in the Countywide Plan, the program reads:

**TRL-2.m Maintain Trails in a Sustainable Manner.**

Consider and implement as appropriate:

- Using natural materials
- Using longer-lasting materials
- Using recycled materials
- Reducing or avoiding use of chemicals
- Scheduling maintenance activities to avoid disturbing the nesting and breeding seasons of sensitive species
- Exploring alternatives to fossil fuels for maintenance vehicles and equipment
- Rebuilding and/or realigning trails with chronic maintenance problems
- Seasonal trail closures
- Removal of invasive exotic plants

Table 3-1 is corrected in Chapter 4, *Errata*, of this RD TPEIR. This correction clarifies the project description of the RTMP. It does not introduce any new policies or concepts that could result in any new or significantly increased impacts beyond those evaluated in the RD TPEIR or modify any environmental conclusions set forth in the RD TPEIR. For these reasons, no further modification of the EIR is necessary to account for this correction.

- 109-5 *The comment states the RD TPEIR should provide a detailed analysis of a range of outcomes from implementing the RTMP based on projected funding in future years. The comment expresses concern that projects necessary to reduce the effects of existing and ongoing levels of sedimentation and erosion in the Lagunitas Creek watershed will not be prioritized in the implementation of the RTMP.*

Implementation of the RTMP by itself would not result in an increase in the rate or number of activities pursued by the MCOSED in any given year. The number and type of maintenance, construction, and management activities that occur from year to year is a function of the MCOSED budget, which is unaffected by the RTMP. Indeed, as noted in response to comment 96-1, MCOSED's budget has decreased over time, thereby forcing the agency to defer maintenance and previously programmed maintenance projects. The RTMP does not address or influence the level of funding for the MCOSED.

However, as noted in the RD TPEIR, in November 2012, the voters of Marin County adopted local Measure A to amend the sales tax collected within the county by ¼ cent for the benefit of parks, open space, and farmland preservation. According to its text, Measure A would fund projects to: protect or restore natural resources; reduce erosion and sedimentation; restore streams and creeks; repair, maintain, and/or replace deteriorating facilities and infrastructure; and implement trail projects to avoid or reduce existing levels of a broad range of environmental effects. Thus, independently of the RTMP, the additional funding provided with adoption of Measure A has increased the capacity of the MCOSED to initiate and complete road and trail maintenance, construction, and management projects. This increase in maintenance, construction, and management is occurring irrespective of whether the RTMP is adopted or not. (RD TPEIR, pps. 4-7 to 4-8)

Though it may be that the MCOSED will pursue additional road and trail management projects due to increased funding, the selection of individual projects to pursue is directed by the RTMP's open, public process for selecting and prioritizing projects. The RTMP in Chapter 5 (as summarized in RD TPEIR Chapter 3) describes an open and public multi-step process for identifying, suggesting, and reviewing potential future road and trail actions. These steps include:

- Inviting the public to suggest potential road and trail actions (Initial Public Outreach, and Step 1: Solicit Road and Trail Project Proposals)
- Submitting the results of the screening process for road and trail management actions for public review (Step 3: Screen Project Proposals Using the Evaluation Tool, and Reprioritize All Projects)
- Submitting the road and trail projects identified for funding in any given year to the public for review (Step 5: Public Review of Proposal Annual Budgets, including Road and Trail Projects Recommended for Funding)

- Adopting an annual budget, including funds for road and trail management actions, at an open public hearing where the public may offer testimony (Step 6: Adoption of Annual Budgets and Commencement of Work).

The project evaluation and funding process offers the public many opportunities to oversee the implementation of the RTMP, and influence the location, design, and use of road and trail facilities. Implementation of the RTMP would offer a substantially greater amount of public oversight and participation in road and trail management decisions than currently exists in the absence of the RTMP. Further, the RTMP is not a circulation plan; it does not specify the facilities contained within the designated road and trail system, nor does it specify the location, design, or permitted uses of any individual future project or projects. None of the components of the RTMP, acting either individually or in concert with one another, permit the MCOSD to engage in any maintenance, construction, or management action that was not previously permitted under existing regulations and policies that govern the MCOSD.

Even though it may be possible to forecast future spending levels as suggested by the comment, it is not possible to translate a spending forecast into specific road and trail management actions that could be implemented during any given period of time. As set forth above, the RTMP does not define the designated road and trail system or identify any specific individual management projects within the designated road and trail system. Coupling this uncertainty with the vagaries of a public process would invite an undue level of speculation into the analysis as recommended in the comment. Section 15145 of the State CEQA Guidelines discourages speculation in the preparation of EIRs.

For more information, please refer to responses to comments 96-3, 101-2, 101-3, 104-4, and 109-2.

As set forth above and in responses to comments 96-3, 101-2, 101-3, 104-4, and 109-2, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the environmental conclusions associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 109-6 *The comment states that the RD TPEIR does not adequately analyze the potential impacts to hydrologic and biological resources under the RTMP given the absence of quantitative analysis and reporting on current and future sediment yield and loading from the road and trail systems within the MCOSD preserves, with particular emphasis on the Lagunitas Creek watershed.*

See responses to comments 96-3, 101-2, 101-3, and 104-4, 109-2, and 109-4. The existing environment in MCOSD preserves with respect to sedimentation and erosion, is substantially degraded in terms of the amount of sediment generated, the eroded or otherwise poor conditions of many roads and trails, and species composition, range, and behavior. The intent of the RTMP is to provide an organized framework of policies, design and construction standards, and BMPs in order to avoid or reduce existing and potential environmental harm to a range of resources where no standards now exist. To suggest that

the imposition of rigorous requirements to control sedimentation and erosion would result in greater levels of sedimentation and erosion than currently exist does not stand to reason.

Although the analysis of sediment yields for existing conditions is feasible, as set forth in response to comment 109-5, the implementation of the RTMP by itself would not result in a predictable number of road and trail water quality improvement actions pursued by the MCOSD in any given year, since these activities will be a function of the MCOSD annual budget, which is unaffected by the RTMP. With no means to accurately estimate the number of road and trail segments that would remain in their current condition, be improved upon, or eliminated in the future, there is no way to quantitatively analyze future sediment yields as a result of implementation of the RTMP. This type of analysis is better suited to a more focused project planning effort, similar to the 2003 Sediment Yield Assessment and Parkland Trail Improvement Plan conducted by Clearwater Hydrology on Cascade Canyon for the MCOSD and referred to in the comment (<http://clearwater-hydrology.com/stream-restoration-consulting/sediment-assessment.html>).

The comment is correct that the Regional Water Quality Control Board issued a final sediment TMDL order (RESOLUTION No. R2-2014-0027) in June 2014 for the Lagunitas Creek Watershed that aims for a 50 percent reduction in sediment loads from all publicly owned roads within the watershed. It also mandates that all public agencies within the watershed adopt and implement road maintenance guidelines to protect water quality and aquatic habitat and salmonid fisheries, which is what the RTMP is intended to do. In addition, the TMDL requires biennial training for road maintenance staff and biennial reporting on implementation and updates of maintenance practices. The TMDL order clearly states that the MCOSD already achieves the performance standards for unpaved roads under their jurisdiction in the Lagunitas Creek watershed, and implementation of the RTMP would be expected to only further enhance compliance with the TMDL.

The final TMDL order for Lagunitas Creek was not addressed in the circulated RD TPEIR due to the timing of its release. As requested by the comment, the TMDL order is discussed in Chapter 11 of the RD TPEIR to include language summarizing the aspects of this order relevant to the RTMP. Please see Chapter 4, *Errata*, of this Final EIR. These modifications clarify the environmental setting of Chapter 11. They do not introduce any new policies or concepts that could result in any new or significantly increased impacts beyond those evaluated in the RD TPEIR or modify any environmental conclusions set forth in the RD TPEIR. For these reasons, no further modification of the EIR is necessary to respond to this portion of the comment.

Similar to response to Comment 109-4, this comment requires a high degree of speculation to predict disturbances from construction equipment that would be used for road and trail projects, which negates the ability to apply sediment yield predictions or the quantify the effectiveness of reductions measures. The BMPs provided in the RTMP are in line with industry standards and are general enough to allow for new water quality protection technologies and BMP applications to be incorporated as they are vetted in the industry. Additionally, the BMPs and water quality protection policies are to be applied evenly to soil disturbance activities regardless of the degree of methods used. As stated above, the suggestion that applying the BMPs and maintenance practices outlined in the RTMP would

result in greater levels of sedimentation yield and delivery than what currently exists is incongruous.

As set forth above and in responses to comments 96-3, 101-2, 101-3, and 104-4, 109-2, and 109-4 the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative which avoids or substantially reduces an impact caused by the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 109-7 *The comment states that without determining the sediment yield of MCOSD open space preserves in the Lagunitas Creek watershed, the TPEIR cannot accurately assess the impacts to several species of fish and amphibians that could occur with implementation of the RTMP.*

See responses to comments 96-3, 101-2, 101-3, 104-4, 109-2, 109-4, and 109-6. The existing environment in MCOSD preserves with respect sedimentation and erosion, and for all wildlife species, including aquatic species, is substantially degraded in terms of the amount of sediment generated, the eroded or otherwise poor conditions of many roads and trails, and species composition, range, and behavior. The intent of the RTMP is to provide an organized framework of policies, design and construction standards, and best management practices to avoid or reduce existing and potential environmental harm where no standards now exist. Additionally, as noted in response to comment 109-6, the San Francisco Bay Regional Water Quality Control Board considers the MCOSD to be in compliance with the requirements of the recently adopted TMDL order for the Lagunitas Creek Watershed. To suggest that the imposition of rigorous requirements to control sedimentation and erosion would result in greater levels of sedimentation and erosion than currently exist does not stand to reason.

As set forth above and in responses to comments 96-3, 101-2, 101-3, 104-4, 109-2, 109-4, and 109-6, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the environmental conclusions associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 109-8 *The comment states that the RD TPEIR does not adequately address appropriate trail and road setback distances along riparian zones, drainages and sensitive resource areas necessary to avoid potential impacts to waterways, regardless if they occur within a Marin County Stream Conservation Area (SCA)*

For information regarding the MCOSD's status in improving and maintaining roads and trails within the San Geronimo Valley and the Lagunitas Creek watershed, please refer to the response to comment 109-3. The RWQCB considers that existing MCOSD actions already achieve the performance standard for unpaved roads under their jurisdiction in the Lagunitas Creek watershed (RWQCB 2014a). The policies, design and construction standards, and best management practices proposed in the RTMP would enhance existing actions to further

reduce sediment yields and benefit aquatic habitat and species within the Lagunitas Creek watershed and throughout the MCOSD open space preserves.

The relative desirability and effectiveness of mandatory setbacks versus the implementation of construction standards and best management practices are discussed in the following sections.

Appropriate creek and riparian setback distances vary depending upon the type of installation proposed and its potential to redirect or increase stormwater runoff or disturb native soils during construction and operation. Individual policies for creek setbacks within Marin County vary depending upon which city, county, or similar agency imposes the setback for a specified installation. For example, creek setbacks range from 20 feet for structures in some cities, up to 100 feet for SCAs under the jurisdiction of Marin County. (<http://www.marincounty.org/depts/pw/divisions/mcstoppp/general-public/creeks-and-watersheds>).

Road and trail impacts to riparian and wetland areas and the drainages that feed them are often the result of hardened surfaces leading to increased runoff and erosion, undersized or poorly placed crossings, and steeply sloped alignments or bank cuts. The MCOSD inherited an extensive road and trail system of which a large portion runs adjacent to or across sensitive creeks and streams, and these roads and trails were not necessarily built with environmental or water quality protections in mind. In general, most of the MCOSD roads and trails were often built to conveniently follow historic road alignments along riparian zones, with resultant ongoing water quality issues (Fishnet 4C 2004). Despite the poor locations of many existing roads and trails, the Fishnet 4C literature advocates that road-related water quality impacts can be corrected via three key maintenance elements - 1) road surface drainage; 2) stream crossings; and 3) slope stability. All of these elements are incorporated into the policies, standards and BMPs of the RTMP in order to avoid or reduce environmental harm during road and trail maintenance, construction, and operation.

Applying a blanket creek setback policy to MCOSD trail and road maintenance would be less effective than applying the RTMP standards and BMPs addressing improved road surface drainage, stream crossings, and slope stability, particularly to road and trails already in existence. As an example, trail maintenance consistent with RTMP requirements along a high priority degraded trail could include the addition of rolling dips and a bridged crossing to improve water quality, whereas if a creek setback policy were to be followed, the same trail segment could require decommissioning and relocation further from the riparian zone. These two actions would likely result in a large amount of new disturbance and subsequent generation of sediment. Given the steep nature of many of the preserves and the numerous ephemeral and intermittent drainages within them, it would also be highly limiting to public access and use of such preserves if roads and trails had to avoid all drainages by a certain distance rather than incorporate BMPs and standard practices into trail construction and maintenance to protect stream function and water quality. Additionally, any trail maintenance, construction or restoration project that would take place within the banks or ordinary high water mark of a creek, wetland or waterway will require extensive agency review and approval including the California Department of Fish and Wildlife, the US Army Corps of Engineers and the San Francisco Regional Water Quality Control Board, and in

cases where there are potential effects to species listed under the Federal Endangered Species Act, the US Fish and Wildlife Service and NOAA.

Reducing connectivity between paved areas and any aquatic resources, as suggested in the comment, with the use of bioswales or other measures is addressed in the RTMP via Policy SW.28 that requires all new parking areas or large areas of impermeable surfaces use permeable paving or an equivalent to provide for infiltration in lieu of increased runoff.

The MCOSD understands the importance of protecting special status species and their critical habitat; however, it is not required that the RD TPEIR prioritize erosion control projects within watersheds that support certain endangered species. Additionally, as noted above, the MCOSD has achieved the performance standard for unpaved roads required by the Lagunitas Creek Watershed TMDL (RWQCB 2014a), and therefore, is not required to prioritize projects within that watershed as mitigation. Under the RTMP, there will be a public process to help prioritize and select restoration projects to implement as funding becomes available, providing the public, including SPAWN, with future opportunities to influence the selection of priority projects and reiterate the importance of addressing water quality and environmental improvements in regions and watershed areas that support endangered species.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the potential impacts associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

109-9 *The comment states appreciation to the MCOSD for developing a comprehensive and rational program to manage important resources in the MCOSD's open space preserves. The comment states SPAWN's commitment to working with the MCOSD to faithfully implement the RTMP.*

The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSD Board of Directors when they consider the RTMP for approval. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Clinton Kellner  
10 Andreas Court  
Novato, California 94945  
September 22, 2014

James Raives, Senior Open Space Planner  
Marin County Parks  
3501 Civic Center Dr., Suite 260  
San Rafael, CA 94903

Subject: Comments on the Recirculated Draft Tiered Program Road and Trail Management Plan Environmental Impact Report

Dear James:

This letter conveys my comments on the Recirculated Draft Tiered Program Road and Trail Management Plan Environmental Impact Report (document). These comments are intended to be constructive to assist with protecting the resources of the open space preserves as Parks addresses the many competing needs of managing such biologically valuable areas. **110-1**

Comment 1: two locally rare plant species: *Lewisia rediviva*, and *Calycadenia truncata* and 2 invertebrates: the serpentine cypress wood-boring beetle (*Trachykele hartmani*) and serpentine cypress long-horned beetle (*Vandykea tuberculata*) should be added to Table 6-1. **110-2**

Comment 2: The document references the listing status of plants as devised by the California Native Plant Society (CNPS). The CNPS listing had been replaced by the listing of the California Rare Plant Rank (RPR) several years ago. The document should be updated.

Comment 3: Regarding the habitat associations of the species listed in Table 6-1:

- a) The mimic tryonia occurs in pickleweed of salt or brackish marshes – not freshwater marsh.
- b) Marin knotweed is a saltmarsh species – it does not occur in swamps.
- c) Marin elfin butterfly is not a serpentine endemic – it might occur wherever its food plant *Sedum spathulifolium* occurs.

Comment 4: The special status invertebrates are listed in Table 6-1 but the non-listed special (Federal list of endangered or threatened species) invertebrates need to be added to Appendix C such as the Tiburon microblind harvestman, Tomales isopod, Marin elfin butterfly, mimic tryonia, and others.

Comment 5: The special-status San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*) does not occur in Marin County. The subspecies of dusky-footed woodrat known from Marin County is a common subspecies of woodrat.

Comment 6: Section 6.2.1 Significance Criteria – should include species listed in Table 6.1 and any species that meets the criteria for inclusion into table 6.1 which seems to include species only known from Marin County in a few locations (perhaps as few as 1 – 3), species with California Rare Plant Rank listing status (List 1 – List 4), on the List of Special Animals maintained by the California **110-3**

- Department of Fish and Wildlife, federally or state listed or candidate for such listing, and listed as a California **110-3, cont.**
- Comment 7: Appendix C does not include special-status plants. Relying on Table 6-2 is not adequate because the species are not listed alphabetically and it is easy to omit species. A listing of all of the special-status plants is needed in the EIR. **110-4**
- Comment 8: Figure 6-8 shows San Pablo song sparrow (*Melospiza melodia samuelis*) as occurring at Roy's Redwoods, French Ranch, and Gary Giacomini open space preserves. Although very unlikely, this species may have been observed there. Habitat for San Pablo song sparrow typically occurs in salt marshes and this observation should be deleted from Figure 6-8. **110-5**
- Comment 9: American badgers occur on Mt. Burdell according to David Herlocker and my observations. The Marin blind harvestman (*Calicina diminua*) and Ubeck's gnaphosid spider (*Talanites ubicki*) also occur on Mt. Burdell according to the California Natural Diversity Data Base. These species should be added to Figure 6-10.
- Comment 10: The Tiburon microblind harvestman (*Microcina tiburona*) is only known from the Tiburon Peninsula, including Ring Mountain Preserve. It should be added to Figure 6-12.
- Comment 11: Two species of rare wood-boring beetles feed on Sargent's cypress and should be added to Figure 6-8 for the Gary Giacomini Open Space Preserve. These species are: serpentine cypress wood-boring beetle (*Trachykele hartmani*) and serpentine cypress long-horned beetle (*Vandykea tuberculata*).
- Comment 12: For Pacific herring (*Clupea pallasii*) The document needs to make clear that the avoidance window is Dec 1 to March 1. The wording is unclear. **110-6**
- Comment 13: In Appendix C, the Mission blue butterfly is referenced as occurring only on the San Francisco Peninsula. It also occurs in the Marin Headlands.
- Comment 14: In Appendix C, the grasshopper sparrow (*Ammodramus savannarum*) is known from Mt. Burdell Open Space Preserve.
- Comment 15: Special-status species should be defined. At the end of Appendix C is a listing of different categories that could be used for defining a special-status species. That list does not include the California Department of Fish and Wildlife's Special Animals List. The rare invertebrates that occur in Marin County are only on the List of Special Animals and therefore presence on this list of Special Animals should be one of the criterion for a Special-status Species in this EIR.
- Comment 16: This comment refers to the General BMP 5, second bullet on Pg 6-63. The following text should be inserted at the beginning of that BMP "If appropriate, allow native plant colonization of disturbed areas to prevent genetic contamination from propagules that are not from local stock. Otherwise" Ddevelop a native seed mix for erosion control if revegetation needs are too extensive for natural revegetation. Develop the seed mixture on a project-by-project basis based on the observed mixture of native and naturalized plants in and near the impact area. Where possible, ensure that seeds are collected locally (i.e., within the same watershed or preserve as the impact), or obtained from a reputable native plant nursery specializing in seed that is collected from local sources. **110-7**

Thank you for considering these comments. Please contact me if you have any questions.

Sincerely,



Clinton Kellner, Ph.D.  
(510) 376-5702

## Response to Letter 110

**Commenter** Clinton Kellner  
September 20, 2014

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110-1 *The comment provides introductory information.*

The comment provides only introductory text. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

110-2 *The comment provides a list of five suggested corrections to Table 6-1 in Chapter 6, Biological Resources.*

The requested revisions to Chapter 6 of the RD TPEIR have been completed. Please see Chapter 4, *Errata*, of this Final EIR. These modifications clarify the biological resources environmental setting presented in the TPEIR. They do not introduce any new information, policies, or concepts that could result in any new or significantly increased impacts beyond those evaluated in the RD TPEIR or modify any environmental conclusions set forth in the RD TPEIR. For these reasons, no further modification of the EIR is necessary to respond to the comment.

110-3 *The comment requests that the TPEIR modify significance criterion IVa to expand the types of special status species considered.*

As set forth in Chapters 5 through 14 of the RD TPEIR, the environmental analyses within the document have relied upon Appendix G of the State CEQA Guidelines to establish significance criteria to guide the TPEIR's evaluation of potential effects. Section IV, *Biological Resources*, of Appendix G defines the range of biological resources that should be assessed in an environmental document. According to Section IV, the sensitive species as suggested by the comment are not biological resources targeted for analysis. While Appendix G does not preclude a local agency from expanding its significance criteria to encompass additional species, or even additional environmental topics, Marin County and the MCOSD decline to do so.

Section 15064.7 of the State CEQA Guidelines establishes the procedures that local agencies must follow in adopting thresholds of significance. According to Section 15064.7(b), any new or revised local thresholds must be adopted for general use, must be adopted by ordinance, resolution, rule, or regulation, and developed through a public review process and be supported by substantial evidence. The intent of these requirements is to avoid the ad hoc imposition of inconsistently applied significance criteria as implied by the comment. Because of the multiple steps set forth in the process established by the CEQA Guidelines, and the need for a separate public hearing, the MCOSD is unable to comply with the requirements of 15064.7(b) in a timely manner within the context of the environmental review process for the RTMP.

Impacts BIO-1 through BIO-5 properly address the range of resources required by Appendix G. The comment does not question the adequacy of these analyses or the conclusions of these impact statements for biological resources.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the environmental conclusions associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 110-4 *The comment states that Appendix C, Biological Resources Appendix, does not contain a list of special-status plant species.*

The requested revisions to Appendix C have been completed. Please see Chapter 4, *Errata*, of this Final EIR. These modifications clarify the biological resources environmental setting presented in the TPEIR. They do not introduce any new information, policies, or concepts that could result in any new or significantly increased impacts beyond those evaluated in the RD TPEIR or modify any environmental conclusions set forth in the RD TPEIR. For these reasons, no further modification of the EIR is necessary to respond to the comment.

- 110-5 *The comment requests that Figure 6-8 in Chapter 6, Biological Resources, of the RD TPEIR be revised to remove the occurrences of San Pablo song sparrow in inland open space preserves. The comment additionally requests that Figures 6-8, 6-10, and 6-12 be modified to include several additional species.*

The California Natural Diversity Data Base (CNDDDB) provided the information that served as the basis of Figures 6-1 through 6-12 of the RD TPEIR. That the occurrences for the species cited in the comment are listed in the CNDDDB, or conversely not listed at all, was reconfirmed on November 10, 2014. Because this information is still listed in the CNDDDB, no modification of Figures 6-1 to 6-12 is necessary. However, such expert personal observations will be used by the MCOSD during the design and review of individual future projects implemented by the district.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the environmental conclusions associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 110-6 *The comment provides a list of four suggested corrections to RD TPEIR Appendix C, Biological Resources Appendix.*

The requested revisions to Appendix C of the RD TPEIR have been completed. Please see Chapter 4, *Errata*, of this Final EIR. These modifications clarify the biological resources environmental setting presented in the TPEIR. They do not introduce any new information, policies, or concepts that could result in any new or significantly increased impacts beyond those evaluated in the RD TPEIR or modify any environmental conclusions set forth in the

RD TPEIR. For these reasons, no further modification of the EIR is necessary to respond to the comment.

- 110-7 *The comment suggests modifications to the text of Best Management Practice General-5, Modify Construction Methods Relating to Soil Disturbance, Restrict Use of Offsite Soil, Aggregate, or Other Construction Materials as cited in Table 6-5 of the RD TPEIR (Table 6.1 of the RTMP).*

Table 6-5 accurately quotes the cited BMP as set forth in Table 6.1 of the RTMP. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the environmental conclusions associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the MCOSD modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

**From:** [Chris Kenton](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP Comment  
**Date:** Monday, September 22, 2014 4:28:58 PM

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Mr. Raives—

As a long-time resident of Fairfax, I have a strong interest in the RTMP, and have attended several of the meetings and workshops. During one workshop, I raised a concern with Linda Dahl that I have yet to see addressed, including in the recirculated draft, and it represents what I think is a critical weakness in the plan.

Although I have faith in the engineering aspects of the RTMP, particularly the plan for fire roads like Repack—which are particularly critical for a box canyon like the Cascades—there is a fundamental benchmark missing in the formulation of the project goals.

**111-1**

One of the three core objectives of the RTMP states:

### **Reduce the environmental impact of roads and trails on sensitive resources, habitats, riparian areas, native and special status plant and animal species**

This sounds laudable, but without any existing benchmark for what “Sustainability” means, this is an extremely vague objective. What level of impact are we trying to attain? Zero impact is obviously not achievable in light of the other goals regarding recreational use. So if we’re very successful in reducing impact over the next few years, what happens when those reductions have diminishing returns, or no more reduction is possible? How will we know the desired objective has been achieved?

Given the highly politicized nature of access, and the conflicts among different groups, it seems like the RTMP should include some way to measure not just usage, but actual environmental impact and what it means for sustainability. How many hikers, bikers, equestrians can be accommodated on a given trail in an average year? Should we be limiting access, or alternating access on different days, different months?

I’d like to understand why such a vague objective is maintained at the core of the RTMP plan.

Thank you,

**Christopher Kenton**  
CEO  
415.302.1318

socialrep  
[www.socialrep.com](http://www.socialrep.com)

## Response to Letter 111

**Commenter** Chris Kenton  
September 22, 2014

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111-1 *The comment questions whether the environmental objectives provided in the draft RTMP can be implemented without some specificity as to what is to be achieved, and a method for measuring progress.*

The comment pertains to the draft RTMP. The phrase quoted in the comment is an intentionally broad statement of a goal to provide direction to the more detailed programs that follow. The explicit policies, design and construction standards, best management practices, and project evaluation tools and processes that would be used to meet the cited goal are set forth in Chapters 4, 5, and 6 of the RTMP.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

**From:** [mikannim@gmail.com](mailto:mikannim@gmail.com)  
**To:** [Raives, James](#)  
**Subject:** Road and Trail Management Plan/ Policy SW9 through SW11  
**Date:** Monday, September 22, 2014 1:57:57 PM

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Minna Kim would like information about:

I am a member of the Canyon community in the Cascade Canyon area. We have been walking our dogs in the Elliott Preserve for many years without incident. Fairfax had been given the use of this acreage from Floyd Elliott for our recreation and enjoyment in nature. We have done a great job of taking care and respecting it. We do not want the rules of no dogs off leash and 6 foot leashes only and no dogs in water. Katie Rice and Linda Dahl have met with us to see for themselves. This quiet neighborhood does not need or warrant all of these overly strict rules. It seems like its a vehicle for excess ticketing to gain revenue for the MCOSD. It is important to listen to the people who live in the neighborhood you want to restrict with rules and regulations. Hal Brown specifically said that there was not enough information to warrant this type of regulation and that it was being left open for more input from the community. We have repeatedly given input to no avail. We do not want to be ignored especially since it will affect us deeply. We walk our dogs every day!

112-1

## Response to Letter 112

**Commenter** Minna Kim  
September 22, 2014

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112-1 *The comment objects to rules requiring that dogs remain on-leash in the Elliott Nature Preserve.*

The comment pertains to MCOSD policies related to dog use. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

**From:** [Rebecca Langhurst](#)  
**To:** [Raives, James](#)  
**Cc:** [Mwgraf@aol.com](#)  
**Subject:** Formal Comments for Submission regarding Marin County Open Space - Road Trail and Management Project (RTMP) and Environmental Impact Report  
**Date:** Monday, September 22, 2014 3:31:41 PM  
**Attachments:** [Appendix A + Dawn Falls.pdf](#)

Dear Mr. Raives,

I am writing to formally submit formal comments to the Draft TPEIR and RRTMP.

The Road Trail and Management Plan is vague, encompassing 34 preserves in Marin County Open Space involving listed threatened and endangered species protected under the Endangered Species Act (ESA) and affects a vast array of other wildlife, wildlife habitat and could potentially impact wildlife corridors, streams, and water quality. In the EIR Biological Resource Index, several listed species of concern will have high impacts - the Northern Spotted Owl, Steelhead, Coho, the red legged frog, among many others. Protection for Biological Resources is an issue of concern with anticipated increased trail usage in wildlife habitat. **113-1**

How will the public be able to review the merits of each individual project under this plan, to know what wildlife is affected project by project? **113-2**

How can the public assess whether or not Best Management Practices (BMP) are being followed unless the details of each project under the plan are made publicly available with a specific timeline?

How can the public know what listed species are involved in each individual project under the plan to ensure that all agencies with jurisdiction of the RTMP provide appropriate Section 7 consultations to protect endangered and threatened species? **113-3**

Will each individual project under the plan undergo a CEQA process? **113-4**

While this plan improves and makes trails more accessible in open space, what is being done to minimize impact to wildlife and their habitat? **113-5**

How will Cumulative Impact be assessed on the various listed and unlisted species on such a vast plan? **113-6**

I would like to propose that the following remedies be considered:

**THE RTMP NEEDS TO BE REVISED:**

Each project in the 34 preserves under the RTMP plan should be listed separately. **113-7**

A finalized version of each project under the plan should be made available on the MCOS website, including all the details of the project, whether bridges are being built, what federal agencies are involved, and what species and habitat, listed and unlisted will be impacted.

Each finalized project should undergo an individual CEQA review and be placed on the MCOS website for public review, including the date it is submitted to CEQA, so there is full public disclosure. **113-8**

In appropriate jurisdictions involving threatened or endangered species, Section 7 consults should be performed and additional mitigation measures should be implemented regarding every listed species under the ESA. **113-9**

Prior to any further action on the part of the County of Marin and the Board of Supervisors, a finalized version of the entire RTMP should be submitted to all federal agencies with **113-10**

jurisdictions in the RTMP, who are obligated to provide Section 7 consultations on the entire plan, with specific assessment made project by project to determine the **Cumulative Impact on listed species. A Biological Assessment and Biological Opinion should be submitted before the finalization of the the EIR and final approval of the RTMP is sent to the Board of Supervisors for approval.**

**113-10,  
cont.**

The public should have the opportunity to see this finalized version with Cumulative Impacts assessed, to properly comment on the EIR.

The EIR should be revised and recirculated once again to provide for these above changes and provide full public disclosure of details and specifics.

### **Example of the Dawn Falls Project**

**113-11**

In Appendix A, the RTMP outlines a scoring system, which will be used by the District to decide on whether and where to plan new trails, or remove old ones.

The scoring system clearly attempts to address sensitive resources; see for example, p. A-5, which summarizes how scores for proximity to Northern Spotted habitat would be measured.

#### **Scoring based on number of intersections within buffer zones, each intersection is weighted twice:**

**0 = No intersections in owl buffer zones**

**2 = 1 intersection of owl buffer zone**

**4 = 2 intersection of owl buffer zones**

**6 = 3 intersection of owl buffer zones**

**8 = 4 intersection of owl buffer zones**

**10 = 5+ intersections of owl buffer zones**

The plan promotes the Dawn Falls trail project, which is currently underway, as an example of how the scoring would work.

I would like to address the problems with the current Dawn Falls Project. Further documentation containing videos and photos of these problems will be sent by separate emails to be included in my comment.

The Dawn Falls project is not an example of success, but instead an example of failure, and illustrates a process that has huge implications for the RTMP. If this scoring system is adopted, potential negative impacts could occur County wide if this current plan is approved without addressing its pitfalls.

The Dawn Falls Trail Project in Larkspur is a creek restoration project on Baltimore Canyon on Marin County Open Space (MCOS) and involves established critical habitat for the Northern Spotted Owl, which is listed as threatened under the ESA, and the Larkspur Creek is steelhead habitat.

The Larkspur Creek is highly eroded, and this is project is beneficial to restore the Larkspur Creek and is positive.

The finalized project was not in the public domain. It was not listed on the Marin County Open Space website, as other projects are listed.

Both Marin County Open Space and California Fish and Wildlife received categorical

exemptions from CEQA.

**113-11,  
cont.**

Because the public was not aware of the finalized project, they could not challenge the CAT EX's.

To receive a categorical exemption under CEQA (15301) the area on which the project is located cannot be environmentally sensitive.

With two listed species under the ESA, the validity of this exemption is in question, and should not have been granted.

On the JARPA application the Larkspur Creek was mischaracterized as a "ephemeral stream" when on every Marin County Map it is listed as a Blue Line Perennial Stream and surveys from California Fish and Wildlife recommend that it be managed as steelhead habitat.

Four bridges are being built, and much of the work is being done in the direct habitat of the Northern Spotted Owl, and numerous established pairs dotting the trail. (See Appendix, A page 10 and 11) (see attached video)

The Army Corp of Engineers did not make the appropriate consults to US Fish and Wildlife for the Northern Spotted Owl nor to National Marine Fisheries Services (NMFS) regarding steelhead habitat.

Best Management Practices (BMP) were not followed at the start of the project, and California Fish and Wildlife Service (CFWS) had to intervene to remedy this, because a violation of the contract between CFWS and MCOS had occurred. This included driving vehicles in the creek bed, storing cement bags on the direct creek bed edge not fully contained, with bags leaking cement near stream edge. All in the vicinity of habitat for the owl near the Ladybug bridge. (See supporting emails with videos.)

The scoring presented in the Dawn Falls Trail Project, which the county plans to use for the entire RTMP plan, shows that the highest impact possible, a "10" would impact the Northern Spotted Owls on the Dawn Falls Trail Project.

This finding did not alter the project to put in place protections for the owls, or even to de-commission the project, until alternatives could be considered, such as not building in the direct habitat of the owls, or making the trail less accessible for erosion by limiting access, or other design alternatives that would protect this listed species, and avoid any work in their area, and provide a buffer zone.

If MCOS sees the Dawn Falls Project as a success, and this scoring plan is implemented in the RTMP, I expect the following to occur with this upcoming plan:

- No disclosure
- No public input or review
- inappropriate Categorical Exemptions granted in critical habitat of listed species and sensitive environmental areas without challenge (because not made public during CEQA process)
- streamlining of projects
- possible "take" "harm" and "harassment" of threatened and endangered species, and ESA violations under the Federal Endangered Species Act - because Cumulative Impact is unknown, and appropriate agencies not consulted for strict

mitigation measures

-If the specifics of the project are not made available to the public, there is no oversight to be sure BMP are being implemented.

113-11,  
cont.

The Dawn Falls Project is an example that this system is not working and needs disclosure and additional oversight.

How does the MCOS respond to the statements above?

It is my recommendation that this RTMP needs to be revised and recirculated, so that the residents of Marin County, and environmental groups of concern, have full disclosure into each particular project under the RTMP.

113-12

Every finalized project should be made public on the MCOS website under the RTMP and should receive a CEQA review.

To ensure that threatened and endangered species are protected, the public should be able to review that the appropriate measures are being taken to ensure their survival and protection. Best Management practices are not a high enough threshold when listed species are involved. Stronger mitigation measures, biological monitors, and appropriate buffer zones should be implemented.

Increased access means that increased protection should be implemented to protect wildlife habitat.

Trails with listed species, like the Dawn Falls Trail, should begin a process of review, and limitations and restrictions should be considered and implemented to protect them.

Dogs should not have access when listed species are involved.

Simple alternatives, like fencing in sensitive areas, or creeks with high erosion, could be considered and cost very little.

County wide - Proper signs educating the public to respect wildlife, stay out of streams, and perhaps closures during nesting season could be considered in areas of sensitive critical habitat.

Marin County has roughly 550 pairs of Northern Spotted Owls. The California Fish and Wildlife Service has received a petition by EPIC to upgrade their status from "threatened" to "endangered". The results of this decision will take place this year. Only roughly 3000 pairs total are left in Northern California, the Pacific Northwest and Canada. In Marin County, the threats to these owls are different than Washington State or Oregon, where logging and loss of habitat is their biggest threat. Trail development and management, proximity to private property and county lands, and rodenticides are their main threats, in addition to threats from the Barred Owl. **Although the protected forests in Marin County are not as widely threatened by logging, they are under continual pressure from urban development, intense recreational use, and habitat change from diseases such as Sudden Oak Death. According to PRBO (Point Reyes Bird Observatory, now Point Blue) noise and human traffic are great threats to the Northern Spotted Owl.**

113-13

I would like to see that this plan addresses the above concerns, and especially in regard to the NSO.

Whether or not the work on the Dawn Falls trail will result in the "take" "harassment" 113-14

or "harm" of the Northern Spotted Owls under the ESA remains to be seen.

With the upcoming RTMP, great attention will be on this project and the implications on the Dawn Falls Trail, and for all of Marin County Open Space. **113-15**

Sincerely,

Rebecca Langhurst  
Resident San Anselmo  
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[415-785-8181](tel:415-785-8181) home

Note: Additional emails with videos and photos documenting the above Dawn Falls Project will be arriving before the 4:30pm deadline.

Can you please include them with my written comments for documentation.

## Response to Letter 113

**Commenter** Rebecca Langhurst  
September 20, 2014

113-1 *The comment states that the RTMP is vague, and additionally provides a summary of the MCOSD preserve system and sensitive wildlife species within the preserves.*

The comment provides only introductory text. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

113-2 *The comment questions how the public will be able to review the merits of proposed road and trail actions, and how the public will be able to monitor whether the MCOSD is faithfully implementing the best management practices set forth in the RTMP.*

As requested by the comment, the MCOSD will develop a project development worksheet to track the implementation of RTMP policies, standards, and best management practices for individual projects. Please see Appendix A of this Final EIR for a draft of this worksheet. The MCOSD will complete this worksheet for all implemented reconstruction, rerouting, active decommissioning, active road to trail conversion, new construction, and planned maintenance projects as defined in Tables 5.1 of the RTMP and 3-6 of the RD TPEIR. The worksheet will serve as a guide to MCOSD staff in the completion of necessary studies prior to project design, in the proper use of design and construction standards, and in the implementation of best management practices during construction or maintenance. Upon request, the MCOSD will make the worksheet for each project available for public review.

This modification clarifies the project description of the RTMP, and increases its utility. It does not introduce any new policies or concepts that could result in any new or significantly increased impacts beyond those evaluated in the RD TPEIR, or modify any environmental conclusion set forth in the RD TPEIR. For these reasons, no further modification of the EIR is necessary to account for this modification.

With respect to the public review of, and participation in, the project evaluation and selection process set forth in RTMP in Chapter 5, and summarized in RD TPEIR Chapter 3, describes an open and public multi-step process for identifying, suggesting, and reviewing potential future road and trail actions. These steps include:

- Inviting the public to suggest potential road and trail projects (Initial Public Outreach, and Step 1: Solicit Road and Trail Project Proposals)
- Submitting the results of the screening process for road and trail management actions for public review (Step 3: Screen Project Proposals Using the Evaluation Tool, and Reprioritize All Projects)
- Submitting the road and trail projects identified for funding in any given year to the public for review (Step 5: Public Review of Proposal Annual Budgets, including Road and Trail Projects Recommended for Funding)

- Adopting an annual budget, including funds for road and trail management actions, at an open public hearing where the public may offer testimony (Step 6: Adoption of Annual Budgets and Commencement of Work).

The project development worksheet and the project evaluation and funding process offer the public many opportunities to oversee the implementation of the RTMP, and influence the location, design, and use of road and trail facilities. Thus, implementation of the RTMP would offer a substantially greater amount of public oversight and participation in road and trail management decisions than currently exists in the absence of the RTMP.

For additional information regarding the project development worksheet and public participation in the project evaluation process, please refer to the responses to comments 101-3 and 104-12.

As demonstrated in this and the previous responses to comments cited above, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 113-3 *The comment questions how the public will be informed of what listed species are potentially affected for each management action and that the MCOSD has properly consulted with regulatory agencies.*

Upon adoption of the RTMP, each potential management action will be subject to the best management practices set forth in the RTMP. As set forth in Table 6-5 of the RD TPEIR, the following BMPs would require the identification of sensitive wildlife resources and consultation with the appropriate regulatory agency: Special Status Wildlife-1 through -6, and -10; Special Status Plant-1 through -3. The results of implementing these BMPs and the MCOSD's compliance with them would be reported in the publicly available project development worksheet discussed in response to comment 113-2.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 113-4 *The comment questions whether future road and trail management actions will be required to comply with CEQA.*

The MCOSD will comply with the requirements of State CEQA Guidelines Sections 15168 (c) and (d) that establish a process and standards for the future environmental review of projects within a program evaluated in a program EIR. As contemplated by the Guidelines, this required future environmental review could range from a conclusion that the later proposed project is fully reviewed by the program EIR based on an Initial Study or other substantial evidence, or the preparation of a Negative Declaration or EIR. Rather than

permitting future projects to escape subsequent CEQA evaluation, Section 15168 requires that future projects be individually reviewed to determine whether they have individual adverse effects that were not evaluated in the program EIR. If such effects are identified, Section 15168 (c)(1) requires that a new initial study be prepared leading to either an EIR or a Negative Declaration.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 113-5 *The comment questions what aspects of the RTMP minimize the impacts of future road and trail use and management actions on wildlife.*

Impact BIO-1 in Chapter 6, *Biological Resources*, of the RD TPEIR evaluates the potential effects of implementing the RTMP on wildlife. The analysis set forth in Impact BIO-1 lists the policies, standards, and best management practices of the RTMP that would minimize impacts to wildlife in Tables 6-4 through 6-8. Please refer to those tables for a detailed listing of the policies standards, and best management practices, and a discussion of how each cited element of the RTMP would avoid or reduce potential effects to wildlife.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 113-6 *The comment questions how the cumulative impact of the RTMP would be assessed for wildlife.*

The cumulative impacts of implementing the RTMP, including those to biological resources, are set forth in Chapter 16, *Required CEQA Topics*, Section 16.1, Cumulative Impacts of the RD TPEIR. Please refer to that section for a discussion of the methodology employed by the TPEIR to evaluate cumulative impacts.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 113-7 *The comment suggests that the RTMP be revised to list all future road and trail projects throughout the MCOSSD preserves, and that the details of each project be posted on the MCOSSD website.*

The implication of this comment is that the RTMP is essentially a road and trail circulation plan that identifies the location and types of new road and trail facilities, which it is not. Because the RTMP does not define the designated road and trail system or identify any specific individual management projects within the designated road and trail system, it is not possible to provide the information requested by the comment.

This notion expressed in the comment of the nature of the RTMP gives rise to a substantial misunderstanding of what the RTMP is and what it is not. This misunderstanding in turn results in a misperception of the types and magnitudes of impacts that would be engendered by the implementation of the RTMP.

Please see responses to comments 96-1 and 96-3 for a discussion of the RTMP project's environmental baseline, and the TPEIR's compliance with CEQA requirements for the contents of EIRs and analyses contained within them.

As developed more fully in the responses to comments 96-1 and 96-3, with respect to the environmental baseline:

- The MCOSD open space preserves currently consist of an extensive road and trail system, most of which, the MCOSD inherited when it acquired the various properties. This road and trail network receives a high, and increasing, level of use, which has resulted in a range of past and ongoing adverse environmental effects.
- Past, current, and ongoing maintenance, construction, and administration of the road and trail system are conducted by the MCOSD without the benefit of a comprehensive strategy to avoid or reduce adverse environmental effects. These activities, and the lack of coordination and guidance provided for them, would continue into the future even in the absence of a RTMP.

A description of the RTMP and its potential for adverse environmental effects is more fully developed in response to comment 96-3 and summarized here:

- The RTMP consists of policies, design and construction standards, best management practices, and a decision tool to aid in the identification and design of environmentally beneficial projects.
- The overarching purpose of the components of the RTMP is to avoid or reduce environmental harm from road and trail maintenance and construction projects, and to reduce over time the environmental footprint of existing facilities by decommissioning, maintaining, rerouting, or improving roads and trails to reduce sources of sediment and incursion into sensitive biological habitat.
- The MCOSD has in the past and will continue to maintain, construct, and manage the road and trail system. No aspect of the RTMP would expand or modify the range of activities being conducted by the MCOSD. They would continue even in the absence of the RTMP.
- Implementation of the RTMP by itself would not result in an increase in the rate or number of activities pursued by the MCOSD in any given year. The number and type of maintenance, construction, and management activities that occur from year to year is a function of the MCOSD budget, which is unaffected by the RTMP.

- The RTMP would not: expand the range of maintenance, construction, or management activities above those currently conducted by the MCOSD; increase the rate or number of such actions above levels currently initiated or completed by the MCOSD in any given time period; or provide additional funding that could result in an increase in the rate or number of activities in a given time period. The RTMP merely organizes and prioritizes maintenance, construction, and management activities with the goal of reducing environmental harm over time, and provides policies, standards, and best management practices, where none currently exist, to avoid or reduce environmental harm arising from the management and use of roads and trails within open space preserves.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 113-8 *The comment states that for each future project undertaken with implementation of the RTMP, the MCOSD should comply with CEQA.*

Please refer to response to comment 113-4. The MCOSD will comply with CEQA in its review and consideration of future road and trail projects.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 113-9 *The comment states that where required by state or federal regulations, the MCOSD should consult with the appropriate regulatory agency to ensure that state or federal processes and requirements are met, and that appropriate mitigation is identified and implemented.*

See responses to comments 104-7, 113-3, and 122-14.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 113-10 *The comment states that the RTMP should be revised, and that the RD TPEIR should likewise be revised to assess the impacts to wildlife in aggregate from the future construction and/or maintenance of road and trail projects. The comment further states that the RTMP and the RD TPEIR should be submitted to state and federal resource agencies for review, together with a biological assessment so that the agencies may issue a biological opinion.*

Regarding the need to assess individual future projects that may be subject to the requirements imposed by the RTMP, please see responses to comments 96-1, 96-3, 101-2, 101-3, 104-2, 104-4, 109-5, 113-6, and 113-7. The RTMP does not identify or require any future project. The RTMP merely imposes standards and requirements that would be imposed should the MCOSD choose to pursue unknown future road and trail management actions. Thus, the actions requested by the comment are based on an inaccurate understanding of the nature of the RTMP and its environmental implications, and no revisions to the RD TPEIR would be necessary to respond to the comment.

In the context of the environmental review of the RTMP, the identification of any future road and trail development is too speculative to trigger the duty to conduct an environmental analysis of unknown and unidentified projects. Far too little can be known about the scope, location, or the types of new road and trail projects that might be proposed in the future to assist decision makers in evaluating any potential environmental tradeoffs. Rather than indulge in random speculation, the RD TPEIR assumes that impacts to biological resources could occur throughout MCOSD preserves. See RD TPEIR Chapter 4, Section 4.5.1.

The RTMP, and both the Draft TPEIR and RD TPEIR were circulated to both state and federal resource agencies for review and comment. As documented in Section 3.1 of this Final TPEIR, no comments from state or federal agencies were received by the MCOSD. Additionally, a consultation pursuant to Section 7 of the federal Endangered Species Act is required for any direct federal action, permit, or funding. The RTMP is not a federal action, nor did it receive federal funds or a federal permit. Therefore, no federal endangered species consultation is required for the RTMP. Any future road and trail project that receives federal funds or requires a federal permit could be subject to such a consultation at the discretion of the federal agency granting the funds or issuing the permit.

As set forth above and in responses to comments 96-1, 96-3, 101-2, 101-3, 104-2, 104-4, 109-5, 113-6, and 113-7, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the environmental conclusions associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 113-11 *The comment states that a previously approved project, the Dawn Falls trail, demonstrates that failure of the RTMP, including its component policies, design and construction standards, best management practices, and project development procedures. The comment provides 26 photographs and movies to support this contention. The comment does not raise issues related to the content or conclusions of the RD TPEIR.*

The comment's conclusion regarding the utility of the RTMP arises in part from the MCOSD's use of a beta version of the road and trail evaluation tool to demonstrate how the tool might work to screen potential projects in order to identify and pursue those that are most environmentally beneficial. This demonstration used the Dawn Falls trail project as one example of how the tool could work.

Since the MCOSD is implementing the Dawn Falls trail project prior to the adoption of the RTMP, it cannot be used as an example of an RTMP project; nevertheless, the MCOSD conducted biological and geotechnical studies similar to those required by the RTMP's best management practices. Similarly, the MCOSD implemented appropriate measures to avoid impacts water quality and biological resources, in manor approved by state and federal regulatory and resource agencies.

The only connection between the Dawn Falls project and the RTMP is that a beta version of the road and trail evaluation tool was presented at a public meeting to demonstrate the basic concept of the tool and how it might work, using the Dawn Falls project as an example, and an updated version of this demonstration was appended to the RTMP as Appendix A. The tool was not used to screen the Dawn Falls project to determine its environmental benefits or compare it to other projects to evaluate their respective benefits.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

113-12 *The comment states that the RTMP should be revised, and that the RD TPEIR should likewise be revised to assess the impacts to wildlife in aggregate from the future construction and/or maintenance of road and trail projects. The comment advocates that both documents should be recirculated for public review and comment. The comment offers a number of policy suggestions to increase protection of wildlife and wildlife habitat, including limiting access or management actions on trails in sensitive habitat areas, limiting access by dogs in sensitive habitat areas, and using fencing and signage to limit access to sensitive habitats.*

For the need to revise and the RTMP and RD TPEIR, please refer to response to comment 113-10. The response to this comment concludes that revision and recirculation of the TPEIR is unnecessary and unwarranted.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the MCOSD modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the Commission and Board letters. In the event that the Board intends to follow this and/or other recommendations, the district staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

113-13 *The comment requests that the RTMP include policies and requirements to protect the northern spotted owl. The comment raises no issues or concerns with the content or conclusions of the RD TPEIR.*

Impact BIO-1 in Chapter 6, *Biological Resources*, of the RD TPEIR evaluates the potential effects of implementing the RTMP on wildlife. The analysis set forth in Impact BIO-1 lists the policies, standards, and best management practices of the RTMP that would minimize impacts to wildlife in Tables 6-4 through 6-8. Many of these RTMP components apply to the northern spotted owl, including Policies SW. 23 and SW.24, and best management practice Special Status Wildlife-4. Please refer to those tables for a detailed listing of the policies standards, and best management practices, and a discussion of how each cited element of the RTMP would avoid or reduce potential effects to wildlife.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 113-14 *The comment states an opinion regarding the potential for a “take” of the northern spotted owl related to the Dawn Falls trail project. The comment raises no issues or concerns with the content or conclusions of the RD TPEIR.*

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 113-15 *The comment states that the Dawn Falls trail project will focus a great deal of attention on the MCOSED and the implementation of the RTMP. The comment raises no issues or concerns with the content or conclusions of the RD TPEIR.*

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

From: [Abby Minot](#)  
To: [Raives, James](#)  
Subject: RTMP TPEIR  
Date: Thursday, September 18, 2014 8:26:48 PM

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Dear Mr. Raives,

Thanks for all the time and care you have put into the trails program for Marin County Open Space. I spend a lot of time on the trails, and I get a lot of pleasure from being able to do that. As a mountain biker and hiker living and voting in Marin since 1993, I wanted to contact you to let you know the trail policies of MCOSD matter a lot to me. Please do your best to expand mountain bike access, since there are fewer trails open to bikes than to hikers and horses.

114-1

Sincerely,

Abby Minot  
mobile: 415 601-9601  
[abbyminot@gmail.com](mailto:abbyminot@gmail.com)

## Response to Letter 114

**Commenter** Abby Minot  
September 18, 2014

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114-1 *The comment describes the importance of mountain biking, and requests that access to trails be expanded for mountain bikers.*

The comment provides background information and opinions about mountain biking. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

**From:** [nancy nakai](#)  
**To:** [Raives, James](#)  
**Subject:** RD TPEIR Comments  
**Date:** Monday, September 08, 2014 10:29:35 AM

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Dear MCOSD,

I have read with interest the Draft Tiered Program Environmental Impact Report, the Road and Management Plan. I went to the Larkspur Library and perused a hard copy of the document. Page by page I read with interest about Region 1, where I reside. **115-1**

I live adjacent to the King Mountain Open Space and have dealt for over twenty years with the good and bad news of living as KMOS' neighbor. With this RD TPEIR, some of my concerns remain unanswered as the EIR is so very vague in nature.

Specifically:

1. Section, "Guiding Principles", pages 4-6. "Management actions will encourage respect for private property and adjacent property owners and land use." How? Specifically, what will encouraged respect look like? Not starting construction at 7am? Limiting the number of diesel trucks on site at any given time? How? **115-2**

2. Of King Mountain's 107.5 acres - most of it steep terrain - 66.5% of its land is adjacent to residences. As an urban interface zone, the easier-to-reach areas of the KMOS are often used well before dawn and well after, often well into the night. There is no consistent monitoring of the KMOS, nor is there a means to close it down after dark, or in case of red flag alerts. People simply walk through the opening. Will this get better or worse during and after the Road Plan? **115-3**

As part of Region 1, it also experiences the highest use of any region for pedestrian hikers as well as dogs. There is a stated problem of dog waste and off-leash dogs, not to mention loud, inconsiderate individuals who disregard any reasonable behavior as they set off their car alarms at 5am, scream at their dogs, or speak at full-volume pitch to friends parking far away down the street. They can occasionally awaken the entire Sycamore Canyon neighborhood that abuts the KMOS. As roads and trails are improved, the good news is that fire fighters and/or police could access more remote areas in case of emergency. However, the bad news is that increased access to more remote areas can only exacerbate the problem of "illegal" use of the KMOS. How will the MCOSD specifically ensure that the open spaces will not become areas for early am or late pm hikers, party camp fires, motorized dirt bikes, etc.? Create a locked access? Signs encouraging quiet? Picking up after dogs? Keeping dogs on leash? More disposal cans for dog waste? The EIR is vague.

3. Within the last year, major improvements have been made to eliminating high grasses and some of the Acacia trees and Scotch broom on the KMOS. When construction begins, will **115-4**

there be fire-fighting measures available on-hand during the process? Also, once construction ends, is there a plan in place to continue the high grass/broom/acacia removal along the new roads and trails on an annual basis? THE EIR states no plan.

**115-4,  
cont.**

4. Finally, with the improvement of the condition of the urban interface areas on the KMOS, has there been a policy made to also maintain the KMOS-boundary-to-city street setback? It is my understanding that property owners in Larkspur must maintain the condition along any of its borders that are adjacent to city streets. Right now, along Willow Avenue in Larkspur, the KMOS property setback-from-street is just one lit, discarded cigarette away from a big problem. There is nothing in the EIR about the KMOS' responsibility to maintain a safe corridor along its residential boundaries now, or once access is improved due to better roads.

**115-5**

I look forward to seeing my questions answered in the EIR. My concerns are not mine alone. The problem of growing KMOS use has been experienced by neighbors in the form of hikers' cars blocking driveways or blocking the fire road, piles of smelly dog waste laying every five feet along the access roads, dogs pooping on private property before they even arrive at the actual open space, not to mention the teen smoking/drinking parties or the pre-dawn or post-dusk active use of the KMOS. What solutions have you to assist us that see, hear and smell the problems every day?

**115-6**

Sincerely,  
Nancy Nakai

## Response to Letter 115

**Commenter** Nancy Nakai  
September 8, 2014

115-1 *The comment provides introductory text and states that the RD TPEIR is vague in nature.*

Regarding the specificity of the project description and analyses contained in the RD TPEIR, please refer to the response to comment 104-3. Summarily, CEQA's general rule is that the level of detail offered by the proposed project governs the level of detail presented in the EIR. Thus, in compliance with Section 15146(b) of the State CEQA Guidelines, the RD TPEIR focuses on the secondary effects of implementing the RTMP at a level of detail commensurate with the specificity of the RTMP project itself.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

115-2 *The comment references the guiding principles cited on page 4-6 of the RTMP, and specifically references the principle, "Management actions will encourage respect for private property and adjacent property owners and land use". The comment questions how the MCOSD intends to implement this principle.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

115-3 *The comment cites a number of bothersome and unsanitary practices by users of the King Mountain Open Space Preserve. The comment foresees both potentially positive and negative outcomes for these practices with implementation of the RTMP. The comment questions how the MCOSD intends to prevent the negative practices identified by the comment.*

Although the comment references the RD TPEIR, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion

document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

- 115-4 *The comment describes recent improvements in the control of fire-prone vegetation and invasive plants. The comment questions whether these improvements will continue with implementation of the RTMP.*

Although the comment references the RD TPEIR, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

- 115-5 *The comment discusses the conduct of and responsibility for maintenance of the interface between MCOSD open space preserves and road rights of way. The comment also cites increased fire risk in unmaintained interface areas.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 115-6 *The comment reiterates a description of bothersome and unsanitary practices by users of the King Mountain Open Space Preserve, and requests that the MCOSD state how it intends to prevent the occurrence of these practices in the future.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

From: [larry nigro](#)  
To: [Raives, James](#)  
Subject: RTMP comments  
Date: Sunday, September 21, 2014 6:54:10 PM

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Comments of revised RTMP

My two major concerns for the revised RTMP focuses on S3 in Chapter 4 and the general lack of acknowledgement of the importance of trail location.

1. S3 The Open Space has correctly chosen to allow pedestrian use of non-system trails that have been inventoried. This is a change. But the Open Space missed an opportunity by not also expanding this change to include horses and bikes. For years the Open Space has chosen to not follow existing trail regulations that require a determination on whether to adopt trails on land they acquire into the system. It would be unfair and short-sighted to now close those trails which should have been adopted years ago.

116-1

Many of these trails provide key connectors for both the horse and mountain bike and have been maintained and loved for years. To say that they will be closed simply because bikes or horses use them without any determination of their value to the community is short-sighted and weakens the RTMP document. Keeping these trails open and receiving input and support from the user groups in maintaining and improving them is an environmental issue. Creation of new trails would be costly and result in greater disruption to the land. I have used a social trail for years to commute to my work. I have had no problems. In fact Ms. Dahl, at a meeting, said that Open Space was going to provide me a trail to get to my job where I teach school. Well I found a perfectly fine trail years ago. Closures of these trails without a described public process would result in more trail users being alienated from the Open Space and may drive some to chose to build non-system trails. Simply calling them pedestrian paths does not make it so. Please remove part d of S3. Please acknowledge the potential of these trails to meet many of the goals defined in the RTMP.

Another environmental issue in this vein is the lack of acknowledgement of the importance of trail location. The RTMP survey lacks information on how many users access the trails without use of a car or by carpooling. Trails need to be located near schools and places of work for bicyclists and hikers and near stables for horseback riders. Many people like myself use trails to go to work. Currently, my superintendent, myself and another teacher use open space to commute to our small school district. Providing trails that encourage commuting on Open Space allows use without having to provide parking and lessens the carbon footprint of the entire county.

116-2

Please acknowledge the environmental importance of trail placement.

Thanks for listening to the community and revising the documents.

Sincerely,

Larry Nigro and Molly Donahue  
Fairfax CA

## Response to Letter 116

**Commenter** Larry Nigro  
September 21, 2014

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116-1 *The comment expresses support for the use of social trails by all users, and requests that the MCOSD incorporate them into its system and to continue to allow use of them. It further requests MCOSD to remove Part d of Policy SW.3.*

The comment addresses RTMP policies related to the use of social trails. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

116-2 *The comment requests that the TPEIR acknowledge that trail placement affects the ability of some users to access trails directly from their homes and workplaces, thus reducing vehicle trips, parking impacts, and air pollutant and GHG emissions.*

While trail location with respect to commute routes is not a stated goal or policy of the MCOSD, trail users are free to suggest such routes in the trail design and evaluation process discussed in Chapter 5 of the RTMP. Policy P2 of the MCOSD Policy Review Initiative set forth in RTMP Table 4.1 would indirectly further the intent of this comment by providing multiple, convenient access points to open space preserves.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

September 22, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, room 260  
San Rafael, CA 94903

Attention: Mr. James Raives, Senior Open Space Planner

Dear James:

Thank you for the opportunity to comment on the Road and Trail Management Plan – Recirculated Draft Tiered Program Environmental Impact Report (RD TPEIR). As a member of the MCL Board of Directors, I fully support our recommendations to you regarding this Report. However, as a private citizen, I wish to make several comments.

1. Evaluation Tool. I witnessed a trial application of this tool at the Commission meeting last week and was shocked that the results were pre-calculated to result in “enhanced access,” which translates to multi-use. Further, the standards for multi-use are pre-calculated, too, to be in the 5-8’ wide range which, we have seen in Marin County, result in displacement of the slower moving trail visitor. In the evaluation tool criteria, neither safety “bmps” nor displacement of other users were factored in, although department staff mentioned safety concerns in introductory remarks. **117-1**

2. Fire hazard. As a resident of one of the most fire prone areas in Marin (Cascade Canyon, Fairfax) I, and other neighbors, have grave concerns about any increase in visitor traffic, especially any change in fire road status to more narrow trails. Also, many of us are already concerned with the level of night riding on illegal trails, and day time riding openly on signs clearly marked: No bikes. Any increase in the intensity of bike traffic would be a negative to this preserve and increase the threat of fire and the safety of slower users. **117-2**

3. Races and technical competitions, and training for this events. These uses should be prohibited from all open space roads and trails. Any developing of trails for exclusive mtn. bike use threatened wildlife, and only invites more out of the area visitation and increases the intensity of use. And, specifically, in Cascade Canyon, no Thanksgiving Ride should occur. **117-3**

4. Wildlife. I wholeheartedly support the installation of wildlife cameras and the gathering of data. The plan should make allowances to modify uses based on data as it is received including banning night riding of bikes. **117-4**

Lastly, at last week’s Commission meeting after the commission members completed the exercise for trail/road change, comments from department staff to the effect that they would find this new trail design to be a “good ride,” a “fun ride”, a “performance ride.” All these phrases are absolutely bike centric. What happened to the survey results stating that 70% of all Marin residents are hikers and equestrians? Most of the residents don’t want a “performance ride.” And, equestrians want a safe ride. The exercise is taking on a feeling of creating more bike access. **117-5**

Many thanks, and appreciate your hard work on this.

Sincerely,

*Linda*

Linda J. Novy

Cc: Mr. Greg Zitney, Chair, Parks and Open Space Commission

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## Response to Letter 117

**Commenter** Linda Novy  
September 22, 2014

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- 117-1 *The comment expresses concern with the evaluation tool contained in the RTMP, particularly with the fact it seems to be “pre-calculated” to result in a recommendation for “enhanced access,” and factors such as safety bmp’s and displacement of other users.*

The comment pertains to the evaluation tool presented in the RTMP. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

- 117-2 *The comment expresses concern about fire hazards in the Cascade Canyon area, and the effect on fire safety of changes in fire road status, increases in night riding, and illegal access by bikes on trails not signed for their use.*

Fire hazards are evaluated in Impact HAZ-4 in Chapter 10, *Hazards and Hazardous Materials*, of the RD TPEIR. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

- 117-3 *The comment requests that races and technical competitions, including the Appetite Ride, be prohibited from all open space roads and trails.*

Policy SW.13 of the RTMP prohibits dangerous operations by mountain bikers. Policy SW.16 permits the MCOSD to prohibit or restrict uses the compromise safety. Special Use policies SP-1 and SP-3 require that all organized events obtain a permit from the MCOSD prior to the event, and prohibit unofficial, non-sponsored group activities involving more than 15 participants.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question

the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

- 117-4 *The comment expresses support for the use of wildlife cameras to gather data, and requests that the data from these cameras be used to ban night bike riding.*

The comment expresses an opinion about the use of wildlife cameras and night mountain bike riding. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

- 117-5 *The comment expresses concern regarding bike-centric comments made by staff at a Parks and Open Space Commission meeting to present the Evaluation Tool.*

The comment pertains to staff comments at a public meeting. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

**Letter 118, Page 1**

James Raives,

Comments for the RTMP:

I have been a Marin resident and Mountain Biker for over 20 years. I use the trail system from the Southern Marin headlands to Big Rock and everything in between at least once a week all through the year. In my 20 plus years of riding, I have had no serious incidents with hikers or equestrians. Part of avoiding the "crowds" is knowing when and where to ride. Proper trail etiquette also minimizes the chance of conflict. I like the idea of having separate trails, and allocating specific days / times for biking on certain trails. I certainly take advantage of the Tamarancho trail system knowing there is no chance of conflict on the trails. I have also ridden the Tahoe Rim Trail on bike designated days which seems to be a reasonable model for all parties.

**118-1**

I regularly enjoy the expanded access and opportunities bikes have been granted over the past ten years in Marin such as the Coastal Trail from Pantoll to Muir Beach, Diaz Ridge, and Big Rock. I think we have a great chance with the RTMP to expand the network of trails for bikes to create more interesting routes throughout Marin. I appreciate the opportunity to have input in the process and look forward to enjoying even more bike accessible trails in the future. Biking has allowed me to share my love for the outdoors with my two sons and given me a chance to teach them to appreciate and respect the wonderful resources we have here in our backyard.

Respectively,

Sean O'Day

352 Chapman Drive

Corte Madera

## Response to Letter 118

**Commenter** Sean O'Day  
September 22, 2014

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118-1 *The comment expresses appreciation for the opportunities available to use open space trails for mountain biking, and requests that these opportunities be expanded in the future. It also states that user education and implementing alternative means for providing access to multiple uses may reduce conflicts.*

The comment provides opinions about mountain biking and optional methods for reducing conflicts between trail users. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

**From:** [madwork@comcast.net](mailto:madwork@comcast.net)  
**To:** [Raives, James](#)  
**Subject:** REVISED ROAD AND TRAIL MANAGEMENT PLAN NOW AVAILABLE  
**Date:** Saturday, August 09, 2014 3:58:25 PM

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Denis Poggio would like information about:

Please email me the direct link to the revised plan because your notice does not provide direct access to the report. I clicked on the link and here's what comes up.

**119-1**

Revised Road and Trail Management Plan Now Available  
POSTED ON: AUGUST 8, 2014

In our continuing efforts to reduce the environmental impacts from roads and trails, Marin County Parks (including the Marin County Open Space District) is releasing a revised Draft Road and Trail Management Plan (RTMP). The plan includes revised measures and programs to enhance water quality, protect biological resources, and improve visitor experience and safety. Along with the revised plan, we are recirculating the Draft Tiered Program Environmental Impact Report (TPEIR) for a 45-day public comment period, as described in the Notice of Availability. Visit the RTMP webpage for more information and to view or download the revised Draft RTMP and the Draft TPEIR.

## Response to Letter 119

**Commenter** Denis Poggio  
August 09, 2014

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119-1 *The comment requests a direct link for access to the Draft Road and Trail Management Plan and the Draft Tiered Program Environmental Impact Report.*

MCOSD staff provided the link to the author of the comment. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

**Christopher Ruedy**  
**PO Box 482**  
**Woodacre, CA 94973**  
[Christopher.ruedy@gmail.com](mailto:Christopher.ruedy@gmail.com)

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Jaimes Raives, Senior Open Space Planner

9/22/2014

Dear Mr. Raives,

The process of creating the RTMP has been a long one and I thank you for the opportunity to comment on the current draft of the Plan and its PEIR. I live in Woodacre and the open spaces that define Marin are of utmost importance to me for both their value as conserved wildlife habitat and the recreational enjoyment opportunities they provide.

**120-1**

In general, I feel the District is leaning too far to one side of its split mission statement by adding additional restrictions on recreation and trail building to what has been longstanding (and generally successful) environmental policy. If any species, regardless of status, have been lost or their numbers are known to be on the decline, then that information, along with probable causes, should be made a part of the Plan and its PEIR. When this process began a few years ago, the public was told that the main basis for policy would be the carrying capacity of the lands of MCOSD; now however, we see a tightening of regulation without a corresponding effect on carrying capacity. Indeed, the plan calls for the tightest restrictions on future trail expansion in the preserves with the most carrying capacity to spare for such growth. What makes this especially concerning is the well known and documented (as part of this plan) change in demographics regarding types of recreational uses since the formation of the District, some 4 decades ago.

Marin County is defined by open spaces, unbuilt ridgelines, and free-running streams. The notion that any new trail building should somehow reduce impacts even further to such an already incredibly well-conserved environment, is to prevent responsible growth and to send a message that this land is too good even for its own would-be stewards. If MCOSD were the only manager of public lands in Marin, this would be more understandable but that is hardly the case. Marin is home to numerous California State Parks, National Parks, and a uniquely large water district and is also one of the few California counties to have Congressionally designated Wilderness; as such, Marin is not a place in need of more restrictive zoning at the cost of growing opportunities for responsible, non-

motorized, trail-based recreation. As an avid mountain biker I am frustrated by a severe lack of reasonable riding opportunities in my home county; I speak for many when I say that I would much rather ride my bike where I live than spend hours driving to other states or counties. The PEIR has no section to address the impacts of current and future trail restrictions *outside* the boundaries of the preserves. Driving to other areas is one such impact worth addressing, especially in this era of gridlock and emissions.

**120-1,  
cont.**

**120-2**

I have participated in the mock trail designation exercise and while I appreciate the ability of different users to get together and agree on outcomes in this exercise, it only goes after the very lowest hanging fruit. In order to provide satisfactory, responsible, and reasonable trail access to Marin’s mountain bikers, land managers and the public should be prepared for environmental scores to go slightly up rather than require all scores to decrease. Again, carrying capacity should be the dictating parameter here, not across-the-board mandatory reductions in a score. If scores must be used to quantify the merits of a given project, then perhaps we should include all environmental impact reductions the District has achieved, such as the retirement of lands from logging and grazing, or the blocked development of planned multilane highways and condo complexes. We have in Marin justified paving over areas for ball courts, digging holes for swimming pools, and grading many acres for athletic fields, not to mention accepted that huge amounts of water will be required to maintain this recreational infrastructure; did any of these projects achieve a reduction in impacts to the land on which they were built?

**120-3**

In all the pages of the RTMP and its PEIR, I find no suggestions for places to responsibly ride my bike on narrow trails; I find scant areas that dogs may run under voice control. No mention is made of how far I should drive to find these rare areas, or to which county I should move if these are the activities I wish to engage in near my home. In a county full of land managed by state and federal agencies, MCOSD should be the most responsive manager of public land to the needs of the residents of Marin. By providing opportunities for narrow trail cycling and off-leash dog walking, the District can actually improve the lives of ALL Marin residents, by taking cars off the road and also by giving trail users more space in which to spread out and enjoy trails in their own way.

**120-4**

In addition to my general comments, I have some specific comments listed below.

**120-5**

- For potential impacts of trail use, the Reviewed Literature listed in Table 6-2 should include “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” This is good scientific study and analysis of trail impact of different trail users and as such can not be justifiably omitted from this PEIR.

- The reference to literature from the International Mountain Biking

**120-6**

Association remains inadequate. If the RTMP and its PEIR aim to deal realistically with mountain bikers as users, much is already known about how to do it and these recommendations should be incorporated:

**120-6,  
cont.**

- Design trails that provide the experience that trail users seek to reduce their desire to venture off-trail.
- Locate trails away from rare plants and animals and from sensitive or critical habitats of other species. Involve resource professionals in designing and approving new trail alignments
- Keep trails narrow to reduce the total area of intensive tread disturbance, slow trail users, and minimize vegetation and soil impacts.
- Locate trails on side-hills where possible. Constructing a side-hill trail requires greater initial vegetation and soil disturbance but sloping topography above and below the trail bench will clearly define the tread and concentrate traffic on it. Trails in flatter terrain or along the fall line may involve less initial disturbance but allow excessive future tread widening and off-tread trampling, which favor non-native plants.
- Discourage or prohibit off-trail travel. Informal trails created by off-trail travel frequently have steep grades and fall-line alignments that quickly erode, particularly in the absence of tread maintenance. Exceptions include areas of solid rock or non-vegetated cobble.
- Design trails with sustainable grades and avoid fall-line alignments.
- Use grade reversals to remove water from trail treads. Grade reversals are permanent and sustainable – when designed into a trail’s alignment they remain 100 percent effective and rarely require maintenance.

As this Plan and PEIR move forward to adoption and we begin the regional discussions of the trail network, it will be important to have the best possible guiding documents in place from which to work. The RTMP and PEIR have come a long way but are not yet the best they can be. I say this as a knowledgeable observer of trails and their usage in Marin, not as a member of a specific user group. I have attempted to give you a “big picture” point of view and I hope that helps the District finalize these documents with a goal of accomplishing what is required by Marin’s citizens, rather than imposing an ideal that may not improve the experience of all of Marin’s trail users.

**120-7**

Thank you again for the chance to participate and comment as this process nears completion.

Christopher Ruedy  
Woodacre

## Response to Letter 120

**Commenter** Christopher Reudy  
September 20, 2014

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120-1 *The comment provides introductory text and states that the RTMP is biased in favor of resource protection rather than increasing recreation opportunities, specifically for mountain bikers. The comment additionally requests that the TPEIR describe threats to wildlife species in MCOSD open space preserves.*

With respect to the status of wildlife within MCOSD preserves, Section 6.1.1 of Chapter 6, *Biological Resources*, of the RD TPEIR discusses the existing conditions of biological resources within open space preserves. As discussed in responses to comments 96-1 and 96-3, the biological resources of MCOSD open space preserves are in a degraded condition. Please refer to RD TPEIR Chapter 6, and responses to comments 96-1 and 96-3 for more information. The comment does not dispute any of the impacts assessed in the RD TPEIR or the environmental conclusions of the document.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

120-2 *The comment states that the RD TPEIR needs to evaluate the environmental impacts of recreationists travelling to other destinations outside of MCOSD open space preserves to pursue recreational activities.*

Section 16-1 of Chapter 16, *Required CEQA Analyses*, evaluates the potential cumulative effects of implementing the RTMP, including those to transportation, air quality and greenhouse gas emissions. Projected vehicle trips, including those resulting from recreational travel, are included in the traffic and air emissions models used in evaluating cumulative effects to transportation, air quality and greenhouse gas emissions. Thus, no additional information or analysis would need to be added to the TPEIR to address the comment.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with

the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 120-3 *The comment states disagreement with the RTMP's strategy of implementing an overall reduction in road, trail and visitor impacts.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSED Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 120-4 *The comment advocates that the MCOSED provide increased opportunities for mountain bike riding on narrow trails and areas for off-leash dogs, rather than fewer. The comment states that increased local opportunities would reduce traffic congestion.*

For a discussion of the travel effects of implementing the RTMP, please refer to the response to comment 120-2. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSED Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 120-5 *The comment states that the TPEIR should include in Table 6-2 the background and findings of a report entitled "Assessing and Understanding Trail Degradation: Results from the Big South Fork River National River and Recreation Area".*

For a discussion of the Big South Fork Report, please refer to responses to comments MR-7 and MR-8. The conclusion of these two responses is that the RTMP and the RD TPEIR include specific information regarding road and trail facilities and environmental factors

consistent with the recommendations for sustainable trails identified in the Big South Fork Report, assess the environmental factors suggested in the report, and incorporate appropriate best management practices.

As set forth in the responses to MR-7 and MR-8, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 120-6 *The comment states that the RTMP and RD TPEIR fail to include best management practices identified by the International Mountain Biking Association to reduce the environmental effects of mountain bike riding.*

For a discussion of the IMBA best management practices, please refer to response to comment MR-9. The conclusion of response MR-9 is that the majority of the IMBA best management practices identified in the comment are already incorporated into the policies, design and construction standards, and BMPs summarized in Chapter 3, Project Description, of the RD TPEIR (Sections 3.7 and 3.9), and set forth in detail in Chapters 4 and 6 of the RTMP.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 120-7 *The comment summarizes a disagreement with the focus of the RTMP, and states, that while much improved, the RTMP and TPEIR should be modified as cited in comments 120-2 through 120-6 to improve decision making.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

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REAL ESTATE  
LAND USE  
BUSINESS LAW  
ESTATE PLANNING

September 22, 2014

VIA EMAIL: [jraives@marincounty.org](mailto:jraives@marincounty.org)

James Raives  
Marin County Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903-4157

Re: Public Comments to the Recirculated Draft Tiered Program Environmental Impact Report (RDTPEIR)

Dear Mr. Raives:

Our firm represents Access4Bikes, a non-profit corporation, whose mission is to represent the interests of recreational mountain bikers in Marin County. We have the following comments to the Recirculated Draft Tiered Program Environmental Impact Report (RDTPEIR), dated August 2014 prepared for the Marin County Open Space District (MCOSD):

121-1

**I. RDTPEIR is Inconsistent with the Marin Countywide Plan**

1. **Marin Countywide Plan (MCP) Goal TRL-1** makes expressly makes clear the goal is to “expand the public trail system for *all* groups . . .” [Emphasis added]. RDTPEIR 1-9. The Road and Trail Management Plan (RTMP) must be consistent with MCP Goal TRL-1, and does not appear to be consistent because of the disproportionate consideration and weight given to net environmental impacts when considering improvements or changes to the road and trail system in the MCOSD.

121-2

2. **MCP Goal TRL-1.2** calls for “acquiring additional trails” and “enhancing public trail use opportunities for *all* user groups . . .” [Emphasis added]. RDTPEIR 1-9. The RTMP must be consistent with MCP Goal TRL-1.2.

Mr. Raives  
 September 22, 2014  
 Page 2 of 5

**II. General Comment: The RDTPEIR Demonstrates an Overall Bias in Favor of Hikers and Equestrians Over Mountain Biker Users In Trail Use and Access.** 121-3

3. **General Comment.** “The RDTPEIR provides an assessment of the RTMP, released September 26, 2013, and modified through July 2014. The RTMP is intended to be the MCOSD’s key vehicle for striking the appropriate balance between resource protection and public use, and to provide guidance for sustainable maintenance of road and trails.” RDTPEIR 3-1. In general, the RDTPEIR supports policies weighted toward resource protection and is not sufficiently balanced with the joint goal of public use. Further, the RDTPEIR is weighted in favor of hikers and equestrians over mountain bike riders despite the statistical insignificance of equestrians (0.4% of all users) in comparison to mountain bike riders (23% of all users). RDTPEIR 3-22. This is a general overall comment and specific examples of inappropriate imbalance of the stated goals of the RTMP are elaborated in additional comments below.

4. **General Comment.** One of the stated goals of the RTMP is to “improve the visitor experience.” RTMP Chapter. 1. Again, generally, there is no clear plan to expand trails for the benefit of mountain bikers and to the contrary the RDTPEIR calls for reduction of redundant trail systems. RDTPEIR 3-17. “System wide, almost one-third of the roads and trails on the preserves are redundant.” RDTPEIR 3-21. There appears to be neither a clear methodology to determine whether a road or trail is not redundant nor a fair and open public process identified in the RTMP to determine if and when a road or trail is decommissioned, which likely will result in reduction road/trail opportunities for mountain biker users. 121-4

**III. Specific Comments to RDTPEIR**

5. **Table 6-2 Summary of Literature Reviewed Addressing Potential Impacts of Trail Use in Public Parks and Open Spaces.”** The RTPEIR cites studies concluding that bikes do not have significant impact on soils and vegetation different from other uses, yet singles out bike use on trails without justification in a disparate manner from other trail users, and limits use in comparison to the demographic population of bike users. Examples of supporting literature in the RDTPEIR include: 121-5

A. “Marion and Wimpey [ ] note that mountain biking did not appear to have significantly different impacts on vegetation or soils than other forms of use.” [Emphasis added]. This study makes clear that bikers should have equal access to all trails as other users, using environmental impact as criteria. RDTPEIR 6-34.

Mr. Raives  
September 22, 2014  
Page 3 of 5

B. “Published studies of the effects of night lighting on wildlife generally conclude that there is limited scientific understanding of the ecological impacts of night lighting.” [Emphasis added]. RDTPEIR 6-35.

121-5,  
cont.

C. “[T]here is little consensus in the literature as to whether any one particular use is more damaging than another.” RDTPEIR 6-36.

D. RDTPEIR failed to reference a 2006 United States Department of the Interior report titled, “Assessing and Understanding Trail Degradation: Results from Big South Fork National River and Recreational Area.” This report concluded:

1. Found no significant differences between the vegetation and soil impacts from hiking and mountain biking.
2. Many studies demonstrate that trampling by a horse is more destructive to vegetation than trampling by foot.
3. Trampling and erosional impacts caused by horses have been found to be significantly higher than hikers, llamas, mountain bikes and even off-road motorcycles.
4. Data reveals horse and ATV trails to be substantially more impacted than the hiking and bike trails.”

E. **Failure to Reference California State Park Trail Use Conflict Study, dated June 2012.** This Trail Use Conflict Study (TUCS), which did not conclude that mountain bike riding is dangerous to other users, stated: “The ability to exercise and enjoy nature in the outdoors is *critical* to the physical and mental health of California’s population.” [Emphasis added]. The California State Parks (CSP) mission and policy is to “encourage hiking, horseback riding and bicycling as important contributions to the health and welfare of the state’s population.” (Pub. Res. Code §§5070-5077.8). One of the main goals of the California State Parks is to “provide the *maximum opportunities* for the public use of trails by encouraging the appropriate expansion of multi-use trails.” [Emphasis added]. The TUCS concluded that “complaints and controversy about other trail users are common,” and “actual incidents, including those involving accidents, between trail users are relatively rare.” Further, “design of trails to accommodate multiple use helps to avoid or reduce conflict,” and “user education and outreach are key methods to avoid or reduce conflict.” The RDTPEIR fails to include this resource and consider its empirical data and conclusions.

121-6

6. **Policy SW.2. System Roads and Trails.** RDTPEIR 3-32. This policy arbitrarily only considers roads and trails in existence on or *before* November 2011. Such an arbitrary cut-off date precludes from consideration any trails that may meet the objectives

121-7

Mr. Raives  
 September 22, 2014  
 Page 4 of 5

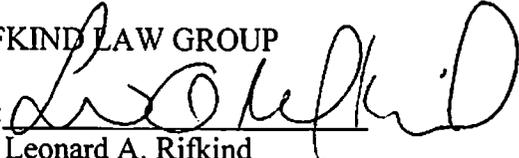
- of the RTMP. In sum, there should be no cut-off date for any existing road or trail to be considered part of the MCOSD system of roads and trails. 121-7, cont.
7. **Policy SW.3. Social Trails. RDTPEIR 3-33.** Social trails are subject to decommission if their volume of use increases or are used by equestrians or bikers. Social trails used by bikers should only be considered for decommission after a full public process. 121-8
8. **Policy SW.12. Road and Trail Connectivity.** Consideration of time separation to achieve and provide trail connectivity for all users is an excellent policy. 121-9
9. **Policy SW.13. Prohibition on Dangerous Mountain Biking. RDTPEIR 3-35.** It is prejudicial to describe a particular user group as “dangerous” as any hiker, equestrian or biker could behave in an unsafe manner. As indicated in Comment 5(E) above, the TUCS concluded that “Actual incidents, including those involving accidents, between trail users are relatively rare.” Accordingly, the phrase “dangerous mountain biking” is not based upon any statistical or scientific evidence. Additionally, Marin County Open Space District Ordinance 02.04.040 already addresses speed, as well as rights of way. In sum, the RDTPEIR should delete any reference to “dangerous” mountain bike riding and continue to base general safety upon local ordinance, state and federal law. There is no need for additional safety legislation in the RTMP. 121-10
10. **Policy SW.16. Prohibition of Uses. RDTPEIR 3-35.** This policy provides for express bias in favor of equestrians who may be entitled to exclusive trail use near stables. Alternatively, other far larger user groups then equally should have exclusive use areas. Compare Policy SW.17: Displacement of Existing Trail Users, which calls for preventing displacement of equestrians and pedestrians when accommodating trail access and trail connections for bikers. 121-11
11. **Policies SP-1/S-2: Lease/License/Other Form of Approval Required for Land Management or Utility Activities. RDTPEIR 3-42.** This policy calls for all service providers requesting access to open space preserve will be required to obtain a lease, license or other form of approval from the MCOSD. Access4Bikes is informed that MCOSD has been *inconsistent* in its enforcement of this policy, showing a bias or favoritism towards equestrians and against bike users and bike organizations. If a policy is to be adopted all users and users groups are entitled to equal protection under the law. Any fees and conditions for user permits must be subject to the public process. 121-12
12. **Policy SP-3: Prohibition on Unofficial, Nonsponsored Group Activities. RDTPEIR 3-43.** This policy requires a permit for any outdoor recreation even involving more than 15 people, and is facially unconstitutional in violation of the First Amendment. Often groups of riders more than 15 may assemble or aggregate informally, and to require a permit appears to be overzealous regulation. 121-13

Mr. Raives  
 September 22, 2014  
 Page 5 of 5

- 13. Table 3-8 Policy Implications of RTMP Chapter 5, Road and Trail Decision-Making Process. RTMP Pg. No. 5-10, RDTPEIR 3-54, 3-55.** This section of the RTMP makes clear that “considerations of net environmental impacts and sustainability will receive disproportionate weight” in MCOSD’s annual consideration of prioritized road and trail projects submitted in each year’s draft budget. Such disproportionate weight violates the MCP Goal TRL-1 to expand the public trail system for all user groups. A more balanced approach is necessary. The MCOSD will use a “mathematical model” to evaluate road and trail projects on an annual basis that are weighted disproportionately in favor of reducing net environmental impacts. Such a model is neither identified in the RDTPEIR nor explained how it will be implemented. 121-14
- 14. Best Management Practices (BMP). RDTPEIR 3-56, 57.** The RDTPEIR merely lists categories of areas that are considered BMP, but provides no information or other specifics. The listing of categories of BMP’s is meaningless. RDTPEIR should cross-reference the tables where such BMP’s are set forth and detailed. 121-15
- 15. Implications of System wide and Special Use Policies. Section 4.5.2 RDTPEIR 4-7.** The RDTPEIR states, “. . . MCOSD did not design the RTMP to increase use of the preserves, rather it is intended to reduce the existing level of resource impacts from road and trail system and to improve visitor experience and visitor safety.” This statement shows the imbalance of the RDTPEIR in favor of reducing net environmental impacts at the expense of preventing and developing the preserves for the public’s reasonable demands for access and facilities, particularly underserving the needs of 23% of the MCOSD’s users—mountain bikers. Measure A specifically calls for improving trail enjoyment and recreation. RDTPEIR 4-8. 121-16
- 16. Analysis Methodology. Section 5.2.2 RDTPEIR 5-11.** Again, the RDTPEIR states expressly, the RTMP is not designed to increase visitation . . . “ This shows the RTMP has been written and prepared in an unbalanced manner in favor of reducing environmental impacts at the expense of user demand. 121-17

Thank you for including these comments in the appropriate appendix to the RDTPEIR.

Very truly yours,

RIFKIND LAW GROUP  
 By:   
 Leonard A. Rifkind

LAR/fw  
 cc: Access4Bikes

## Response to Letter 121

**Commenter** Leonard Rifkind  
September 20, 2014

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121-1 *The comment provides introductory information.*

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

121-2 *The comment states that the RTMP is inconsistent with Marin Countywide Plan Goal TRL-1 because the RTMP gives disproportionate weight to net environmental impacts.*

The comment identifies Table 1-1 of the RD TPEIR as the source of the cited Countywide Plan policies set forth in the RD TPEIR. Table 1-1 is a summary of a more comprehensive table set forth as Table 4.1 in the RTMP. Additionally, the comment is only a partial quote of the TRL-1, which requires expansion of the trail network “where appropriate.” Because the only tie to the TPEIR is Table 1-1, and the TPEIR itself is not a project that requires General Plan consistency, this comment pertains only to the RTMP and its consistency with the Countywide Plan.

The MCOSED Board of Directors is responsible for determining the consistency of the RTMP with the Countywide Plan. The California General Plan Guidelines set forth the following general rule of consistency determinations as established by the State Attorney General: “An action, program, or project is consistent with the general plan if, considering all its aspects, it will further the objectives and policies of the general plan and not obstruct their attainment.” (General Plan Guidelines 2003). Within this guidance, only the Board of Directors may determine the consistency of the proposed RTMP with the Countywide Plan.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSED Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 121-3 *The comment states that the RTMP is biased in favor of resource protection rather than increasing recreation opportunities, specifically for mountain bikers.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 121-4 *The comment states that the RTMP is biased in favor of resource protection rather than increasing recreation opportunities, specifically for mountain bikers. The comment cites policies regarding the disposition of redundant roads and trails as violating the RTMP's stated policy of "improve the visitor experience".*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 121-5 *The comment states that the TPEIR should include in Table 6-2 the background and findings of a report entitled "Assessing and Understanding Trail Degradation: Results from the Big South Fork River National River and Recreation Area".*

For a discussion of the Big South Fork Report, please refer to responses to comments MR-7 and MR-8. The conclusion of these two responses is that the RTMP and the RD TPEIR include MCOSD-specific information regarding the facility and environmental factors necessary for sustainable trails identified in the Big South Fork Report, assess the environmental factors suggested in the Report, and incorporate appropriate best management practices that have not previously been adopted by the MCOSD into the

RTMP. Regarding the relative impacts of equestrian activities, please see response to comment MR-10.

As set forth in the responses to MR-7, MR-8 and MR-10, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

121-6 *The comment states that the TPEIR should include in Table 6-2 the findings of a trail use conflict study prepared by California State Parks.*

For a response to this comment, please refer to responses to comments MR-2 and MR-4.

As set forth in the responses to MR-2 and MR-4, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

121-7 *The comment expresses disagreement with RTMP policy SW.2, System Road and Trails.*

The comment identifies a policy dispute regarding which roads and trails qualify for consideration as system roads and trails. The comment disagrees with the cutoff date identified in the policy. No issues regarding the TPEIR are raised by the comment.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this

and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 121-8 *In reference to RTMP Policy SW.3, Social Trails, the comment requests that decisions to decommission social trails be made after a full public process.*

The comment identifies a suggestion for implementing policy SW.3. No issues regarding the TPEIR are raised by the comment.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 121-9 *The comment expresses agreement with RTMP policy SW.12, Road and Trail Connectivity.*

The comment agrees with the substance of Policy SW.12. No issues regarding the TPEIR are raised by the comment.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

- 121-10 *The comment disagrees with RTMP policy SW.13, Prohibition on Dangerous Mountain Biking.*

For a response to this comment, please refer to responses to comments MR-2, MR-3, and MR-4.

As set forth in the responses to MR-2, MR-3 and MR-4, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD

TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 121-11 *The comment disagrees with RTMP policy SW.16, Prohibition of Uses, and states that the policy is biased in favor of equestrians.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

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- 121-12 *The comment states that the MCOSD inconsistently applies RTMP Special Use policies SP-1 and SP-2, and that its enforcement is biased against mountain bikers.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

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- 121-13 *The comment disagrees with RTMP Special Use Policy SP-3 that prohibits unofficial, unsponsored activities involving more than 15 participants.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

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- 121-14 *The comment expresses concern with the use of the road and trail decision making tool in informing road and trail decisions, and disagrees with the perceived RTMP bias in favor of increasing the sustainability and reducing the net environmental effects of the road and trail system. The comment states that the road and trail decision making tool is not described in the RD TPEIR.*

Section 3.8.5 in Chapter 3, Project Description, of the RD TPEIR provides a description of the road and trail evaluation tool. The RTMP's strategy of "net reduction in environmental impacts" is set forth in Section 3.8.6 of RD TPEIR Chapter 3.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

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- 121-15 *The comment states that the RD RPEIR does not cross-reference the best management practices summarized in Section 3.9.2 of the RD TPEIR.*

The requested revisions to Chapter 3 of the RD TPEIR have been completed. Please see Chapter 4, *Errata*, of this Final EIR. These modifications clarify the project description of the RTMP. They do not introduce any new policies or concepts that could result in any new

or significantly increased impacts beyond those evaluated in the RD TPEIR or modify any environmental conclusions set forth in the RD TPEIR. For these reasons, no further modification of the EIR is necessary to respond to the comment.

- 121-16 *The comment expresses disagreement with the perceived bias of the RTMP in favor of resource protection, rather than the expansion of recreational opportunities for mountain bikers.*

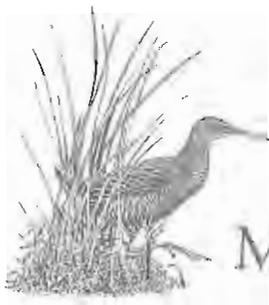
The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

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- 121-17 *The comment cites text in Section 5.2.2 of the RD TPEIR describing the assumptions used in the modeling and assessment of the effects to air quality that could arise from implementation of the RTMP. The comment states that these assumptions demonstrate the bias of the RTMP in favor of resource protection, rather than the expansion of recreational opportunities for mountain bikers.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

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## Marin Audubon Society

P.O. Box 599 | MILL VALLEY, CA 94942-0599 | MARINAUDUBON.ORG

September 22, 2014

James Raives  
Marin County Open Space District  
23501 Civic Center Drive  
San Rafael, CA 94903

RE: COMMENTS ON THE DRAFT TIERED PROGRAMMATIC EIR AND DRAFT ROAD AND TRAILS PLAN

Dear Mr. Raives:

Thank you for the opportunity to comment on the Draft Road and Trails Management Plan (RTMP) and Recirculated Draft Tiered Programmatic Environmental Impact Report (DEIR) for the Plan. We appreciate the new information and analyses in the DEIR, but deficiencies remain. The inclusion of scientific studies on recreational uses that potentially impact wildlife and other natural resources are useful additions, as are new provisions for monitoring and reporting. The DEIR still suffers from; inadequate analyses of impacts and mitigation measures, uncertainty that the policies would be implemented and inaccurate assessment of the significance of impacts. Our comments focus on natural resource protection, deficiencies in the recommended policies, potential impacts on wildlife, effectiveness of the Plan in protecting resources and the proposed process for deciding on and evaluating road/trails projects. Changes need to be made to the RTMP to reduce significant impacts to a less than significant level.

122-1

### CEQA Analysis Inadequate

As stated in our comments on the previous documents, CEQA guidelines indicate that “a program EIR provides occasion for a more exhaustive consideration of effects and alternatives than ...an EIR on an individual project.” While there is additional information on wildlife (studies), a table listing habitats with one or two species that depend on these habitats, and a new tool for evaluating subsequent projects, there is still an insufficient basis from which to tier when evaluating subsequent activities.

122-2

Some of the policies that are relied upon to address impacts would be beneficial but others are not. The policies are incomplete because they do not address a major ecological component of the preserves. The effectiveness of even the beneficial policies is uncertain at best because voluntary compliance is relied upon for implementation.

The DEIR and the Plan focus on vegetative habitats and special status species. Considering that most of the lands that are now in the MCOSD's care are there because they have important natural resources, the district should make every effort to protect

ALL of the wildlife species in the preserves, including special status, migratory and commonly occurring species. The MCOSD management standard should be much higher than just protecting the bare minimum of vegetation, wetlands and riparian habitats and special status species. There is occasional mention of additional habitats, as well as table 6.1 which lists some wildlife species , but none are adequate for decision-making purposes under CEQA.

**122-2,  
cont.**

The DEIR states (p. 1-11) that “the environmental analysis for this EIR is tiered from the DEIR for the Countywide Plan” This cannot be considered an adequate document from which to tier environmental analysis for the RTMP for several reasons. An RTMP was not even considered at the time the CWP EIR was approved by the supervisors, so they did not anticipate the changed environmental conditions, particularly the increased public uses, that have taken place between then and now. Secondly, there have been several legal actions against the CWP on environmental grounds. To our knowledge these actions have not been resolved between the parties so that the document cannot be considered legally adequate to tier subsequent documents from. In addition, if, as the DEIR states, the county adopted a Mitigation Monitoring Plan (MMP) “that would reduce the level of identified potential effects” and that MMP is being relied on as mitigation for the RTMP, it should be considered part of the project and be presented in the RTMP EIR so that it can be reviewed for adequacy.

**122-3**

Impact Significance

As with the previous DEIR, the minimal analyses of many of the potential adverse impacts and the failure to analyze wildlife impacts, allows the erroneous assessment that many impacts would be less-than-significant. No project impacts are considered to be significant.

**122-4**

The inadequate discussion of wildlife and identification of the impacts of the project on said wildlife continue to be a major flaws. Without some basic information about wildlife that depend on the preserves, it will be impossible to tier off of this Programmatic EIR so that potential impacts to species are accurately identified and considered in subsequent individual projects.

Bicycles, horses, walkers, and dogs, ALL potentially impact vegetative habitats and wildlife. Yet each of the impacts resulting from these uses are reduced to a less-than-significant level by relying on policies, BMPs, monitoring, and regulations and laws. As discussed below, impact analyses are cursory, inadequate and do not justify conclusions of less-than-significant for many of these impacts. Nor do the other measures put forward to address impacts – the decision-making process, monitoring surveys, evaluation tool and web based reporting system - reasonably ensure that impacts of the project from increased public uses, would be reduced to less than significant. The primary question, the effectiveness of the policies intended to protect natural resources and carry out the objectives of the project, is not addressed at all.

Cumulative Impact Analysis

The impacts of bicycles, walkers, dogs, night use/lights and other uses must be considered and evaluated together - in combination with each other – not only, as the DEIR presents, in comparison with each other. Wildlife and plants are subject to impacts from all of these uses. They cannot select which one is less damaging. Considering the data and the analyses in the scientific studies, these impacts, particularly when it is anticipated that they will increase over time, must be evaluated as being adverse and significant to wildlife, vegetative species and habitats. This should be identified and discussed as a significant cumulative impact.

122-5

#### Goals, Purposes and Objectives

*Maintaining a sustainable system of road and trails...reducing environmental impacts of roads and trails and improving visitor experience....* are stated as goals and objectives in different sections of the DEIR. The EIR should discuss how these goals/objectives will be accomplished as the Plan is implemented. .

122-6

It appears from the listing and discussions in the DEIR that the MCOSD is intending to balance these goals. The RTP (p. 3-17) states “the RTMP would be the MCOSD key vehicle for striking the appropriate balance between resource protection and public use....” This violates the resource protection provisions of Measure A. The highest ranked responsibility in the voter-approved Measure A is resource protection, followed by road and trails system maintenance and improvements and enhancement of recreation . The DEIR and the RTMP should clearly state this goal and purpose and revise the Plan accordingly.

Questions need to be answered: How will reducing environmental impacts be prioritized in the evaluation of trail and road projects? If the intensity of visitor uses varies with the associated activity, will there be different standards of evaluating impacts to wildlife and habitat in accommodating the various uses?. For example, improving visitor experience for cyclists and dog walkers could be quite different for visitors who want to walk quietly in the woods or to observe birds and other wildlife. Maintaining certain trails could conflict with the goal of reducing environmental impacts which may, in some situations, best be served by limiting or removing public access.

Even a very minor repair of one trail could be claimed as satisfying this vague goal/objective of “reducing environmental impacts.” The DEIR should discuss specific actions to implement this goal so that a meaningful and verifiable reduction is actually achieved. How can it be determined that impacts would be reduced when there is not sufficient information about the current status and impacts and habitat needs of endangered or migratory or other native wildlife species?

#### Impact of Increased Intensity of Recreational Uses

The analysis of the future intensity of visitor use (p. 4-9) recognizes that as a result of the RTMP, visitor use could change, due to designation and/or decommissioning of roads and trails; construction of new trails or other facilities and/or modifications to allowable uses or new unauthorized uses. There is no meaningful discussion of the increased uses as adverse impacts. Instead, the reader is directed to Chapters 5 through 14 for

122-7

discussions of changes. We can find no meaningful discussion of this potential impact in those chapters either.

122-7,  
cont.

CEQA is intended to be a disclosure document. The DEIR should provide a comprehensive discussion in one location, not piecemealed throughout the document

Just because the RTMP is designed to lessen the footprint over time, does not mean that will happen. It is unrealistic to think that uses will be reduced or that users adverse behavior will change.

The number and intensity of users should be anticipated to increase given the historical increase in recent years. As a result, physical conditions on trails that may be in poor condition now, would be expected to improve with RTMP projects, further increasing the public interest and ability to use them. More trails will be legally open due to deletion of the policy to remove an equal length of trail for each section of new trail constructed.,

Some of the policies are inadequate, particularly with respect to impacts on wildlife. There is a long history of violations the types of which will increase as users increase because there is no known comprehensive public education and enforcement program offered in the RTMP. In view of the above, and probably other factors, the increase in intensity of visitor use must be evaluated as significant.

The issue of night lighting is a new impact, raised by a commenter, that has emerged with the growing interest of biking at night. Studies confirm that night lighting may have a deleterious effect on wildlife. The precautionary principle dictates that night lighting not be allowed in preserves in order to reduce potential impacts to wildlife and natural resources and to avoid safety risks. Impacts of night lighting should be added to the list of individual and cumulative impacts for evaluation.

122-8

#### Mitigation Measures

Avoidance of impacts is the first preference to address impacts in CEQA. The DEIR should address how each potential adverse impact could or would be avoided, not just reduced. The MCOSED should strive to avoid impacts and protect all native species and their habitats. Potential impacts to wildlife should be specifically identified and discussed.

122-9

As mitigation, the DEIR should address limiting trail use seasonally. Closing trails and rerouting trails (or sections thereof) should be a means of protecting resources in specific areas to protect specific resources.

Reporting and studies, as are proposed in the DEIR and RTMP as mitigation, do not suffice as mitigation. They may provide essential information necessary to take effective action, but mitigation requires action to compensate for impacts.

As noted above, if the Mitigation Monitoring Plan, adopted by the county for the CWP

is being relied on for this DEIR, then it must be presented in this document so it can be reviewed by the public and decision-makers for accuracy, and current relevance.

122-9,  
cont.

Sensitive Resource Area, Sensitive Natural Resources, Sensitive Species

122-10

The DEIR contains many references to sensitive resources including sensitive areas, sensitive species, and sensitive habitats. These terms are used throughout the document but we can find no definitions of them that would inform the reader of their meaning in the context of these documents.

Sensitive Resource Area is one of three Visitor Management Areas developed by the MCOSD to address resource conditions and visitor experience. From the discussion in the DEIR, the MCOSD's primary interest is visitor experience and ease of management. Only two of the six preserve regions have portions designated as Sensitive Resource Areas. The Sensitive Resource Areas seem to have more to do with management and little to do with protecting sensitive resources. If they did, they would designate many more areas that have endangered and other special status species as Sensitive Resource Areas. The only areas identified as sensitive resource areas are parts of Bolinas Lagoon, Giacomini Preserve, Cascade Canyon.

The EIR should provide an explanation of how the surprisingly few areas designated as Sensitive Resource Areas were so chosen, and the criteria that led to their selection. Why were all areas with special status species are not so designated? How is the goal of reducing impacts to natural resources furthered by the current designations?

The DEIR uses the terms sensitive habitats and sensitive species with no explanation of either, except that wetlands and riparian habitats are identified as sensitive in BIO-4. These are not the only sensitive habitats. All native habitats, particularly those declining nationally or those with limited ranges, should be defined and included. A listing of habitats included under that definition should be presented. Likewise, what species are sensitive and which are not. How is that determination made?

It would be helpful to have definitions of these terms under Frequently Used Terms (page 4-10) as well as in relevant specific sections.

Net Reduction in Environmental Impacts VS Removal of Trails

122-11

This RTMP revises the previous approach for reducing trail impacts that would have required removal of an equal area of existing road and trails for each area of new trail constructed in most zones (except 1). This change is a significant weakening in approach, is not in compliance with the goals and policies that call for lessening environmental impacts and footprint. The previous approach should be restored because there is a direct and clear environmental mitigation benefit to compensate for the habitat impacts of a new trail. What would be included in achieving and reporting a "net reduction in environmental impacts" is not at all clear. This policy change appears to be the result of pressure from some user groups.

An area of trail impact is not a “proxy” for resource effects, as described on page 4-8 of the DEIR. It is the evidence of direct destruction of vegetative habitat and it, as well, provides opportunities for substantially wider areas of adverse impacts on resources. A trail is made by removing vegetation and it allows people, dogs, horses, etc. to move into habitats with ease causing disturbance from their presence, noise etc, from the trail and from any users or pets that may go off trail. The policies, process and tool referred to do not ensure a decrease in the environmental footprint. They fail to consider wildlife impacts and provide no assurance that any trail would be decommissioned. The reader is referred to Chapters 5 through 14 for further discussion. The discussions in those chapters are not adequate either. The EIR should provide a comprehensive discussion of its impacts on wildlife and vegetative resources in one place. .

**122-11,  
cont.**

If the goals of the RTMP and intent of the voters is to be followed, the previous approach of removing trail per trail should be reinstated.

#### FAILURE TO ADEQUATELY ADDRESS WILDLIFE

After observing that the vegetative richness of the MCOSD Preserves supports a wide variety of species that depend on native habitats, the DEIR justifies not providing even a basic discussion because the “habitats and mobility of wildlife, the collection of wildlife data is difficult and time consuming. ...consequently there is insufficient documentation regarding the presence of wildlife in the preserves on which to make informed decisions about trail use” and therefore must rely on data on plant communities to define habitats.. This is not an adequate justification for ignoring this essential ecological component.

**122-12**

To not address wildlife because it is costly or there are no scientific studies is a fatal flaw. CEQA does not require scientific studies, and there are MANY resources, from scientists and citizen scientists, available to obtain information, particularly for birds. It is not enough to address the vegetation because focusing only on the vegetation ignores the inter-connected relationship of species within food webs necessary to support the species within it, and ignores species that do not depend on specific vegetative species or on vegetation at all. For example, ground dwelling species may not require very specific plant species and shorebirds, rock wren, do not depend on vegetation at all..

While large predators may need and occupy large areas, many bird and other wildlife species are adapted to live in specific habitat types. There are many sources of information that can be relied upon to provide needed information. Several years ago, the MCOSD contracted with then Point Reyes Bird Observatory to produce an analysis of bird habitats in the Preserves. The information provided in this document should be included and discussed. In addition to the Natural Diversity Data Base, which incidentally is notoriously uncurrent; there is a knowledgeable naturalist, David Herlocker, on staff, as well as the USFWS Recovery Plans and CDFW data (both of which are available on-line), Audubon Christmas Bird Counts (which we can provide), and the website eBird.. There are many biologists and experienced non-professionals in Marin who are knowledgeable and expert in identifying species that live in MCOSD preserves, and in fact, many non-scientist birders are more expert in identifying species

than many scientists. . Any and all of these sources could and should be consulted as sources for wildlife data and incorporated into the RTMP and DEIR.

122-12,  
cont.

The FEIR should answer how it can accurately be determined that impacts on species would be reduced when most of the native resident and migratory wildlife populations that depend on district lands are not even identified or discussed. It would be impossible to even identify and evaluate impacts when there is so little information provided about wildlife.

Failure to Address Native Wildlife Species

Table 6-1 is a start but it is not adequate. It consists of a long list of vegetative communities with an example of one wildlife species known to use some of the habitats. It may be sufficient to address vegetative communities but it is not adequate to reflect wildlife populations that depend on the preserves. A table cannot convey complexity of the ecological systems. A discussion is needed.

122-13

Wildlife are an integral part of the preserve lands depending on and interacting with other species in the habitats, not just vegetation. There should, at minimum, be a discussion of the habitat types on the preserves and of the species that depend on them. Many species that are protected by federal laws and acts are not listed on the table, although the laws themselves are discussed. For example, golden eagle and other raptors are not listed nor are any migratory waterfowl, shorebirds and many species of migratory landbirds also protected by the Migratory Bird Treaty Act. Many of these species depend on the preserve lands, traveling thousands of miles to reach this destination to nest. Other species, including many woodpeckers, rely on preserve ecosystems. The use of preserves by these species should be discussed.

Special status fish, steelhead and other fish species that use the upper reaches of the estuary on or adjacent to MCOSD Rush Creek preserves and parks in the Corte Madera Creek Watershed, should also be addressed.

Need for Endangered Species Consultation

The discussion of the Federal Endangered Species Act gives a brief description of the responsibilities of the federal agencies for endangered, threatened and other special status species. As discussed in the 2013, *Tidal Marsh Recovery Plan*, the USFWS encourages habitat improvements that benefit special status species in order that more common species not become endangered in the future. Because this Plan has the potential to impact species under the jurisdiction of the USFWS and NMFS, we recommend that the MCOSD request a consultation with these agencies before the plan is adopted, in order to clarify recommendations and avoid problems later.

122-14

MAPS

Map 1

Baltimore Canyon should be identified and shown as having Spotted Owls.

122-15

Region 4 Ridgeways Rail, (formerly California Clapper Rail) has been observed along Black John Slough during surveys for a restoration project implemented by MAS several years ago. (Jules Evens)

**122-15,  
cont.**

## ANALYSIS OF IMPACTS

BIO – 1 Adverse effect either directly or thought habitat modification, on any candidate, sensitive or special status species.

**122-16**

Clearly the RTMP, the construction and increased uses that it makes possible and encourages, have the potential to affect the resource values of the preserves. Some trails will be wider, flatter and more easily accessible and, therefore, attract more use. The potential impacts of these uses become even more significant when considered together with the existing residential, recreational and commercial uses. The discussion acknowledges that the “maintenance of existing facilities or changes in the location or intensity of use could adversely affect sensitive wildlife within or adjacent to the work area ....or in areas of increased use.” These impacts must be considered significant because there is not even a minimal assurance that the proposed measures intended to address or mitigate the increased uses would be reduced to a less than significant level.

### Reliance on Voluntary Compliance

The Plan relies on users voluntarily complying with policies and on BMPs to avoid or reduce impacts to biological resources. Various federal and state laws and regulations are also cited (P. 6-53) as reducing impacts to less than significant levels. We have no problem with the BMPs. The MCOSED trail crews do a fine job constructing and maintaining trails and BMPs appear thorough.

It is completely unrealistic, however, for the MCOSED to rely on the public complying with policies restricting their use when many of these users have aggressively and publically announced their intent to continue to do as they please, walk their dogs, ride bikes and walk where they wish, on or off-trail where they argue they are entitled to go. They have already demonstrated their approach by ignoring signs, destroying signs and fences, going off trails through sensitive habitats, spraying herbicides (at Bahia) and other damaging activities. In the absence of meaningful enforcement and protection, the impacts of increased damaging uses on natural resources, wildlife and habitats, must be recognized as significant.

We recommend a two step approach. The EIR should evaluate the adequacy of relevant policies, how policy restrictions will be implemented and enforced to a level that assures the impact is reduced to a less than significant level. The discussion should address measures that would increase the effectiveness of the policies, particularly enforcement and restrictions on trail use. We suggest at least the following be considered:

- 1) signs to ensure the public is informed about restrictions (dogs on leash, no biked etc.) and the reason for the restrictions
- 2) a public education program, beyond that which exists now, to inform the public about the importance of the habitat,

- 3) management measures such as fencing, trail closures, and  
 4) a comprehensive enforcement program. The DEIR should provide information on how it would be ensure the policies will be enforced. An effective enforcement program should include monitoring, frequent ranger visits with enforcement authorities, issuing citations and fines substantial enough to deter repeated offenses , and other appropriate components.

The second consideration is the adequacy of the policies that are being relied upon to reduce impacts. Most of the policies are from existing already approved documents. We focus our comments, questions and recommendations below on policies that are not already adopted, but on proposed policies that can be changed to improve protection of resources:

*TRL-2.1 Protect sensitive habitat and natural resources* – Sensitive habitats or sensitive resources are referenced in many locations in the Plan and policies, yet we could not find a definition. Only wetlands and streams are called out as sensitive? A definition of sensitive habitats should be included.

*TRL-2a Wetlands are identified as sensitive habitats* – As above, what are the sensitive habitats? All of the native habitats, oak woodlands, redwood forests, grasslands, chaparral, and others on the MCOSD preserves should be identified and discussed. .

*SW-2 – System Road and Trails designate a system of trails constructed as of November 2011. States that they “may” improve, reroute, convert, improve, or decommission system roads according to the policies and requirements as time and resources allow..* This policy is vague and cannot be depended on to improve resource impacts. It should be revised to state that the MCOSD WILL improve, decommission etc.

We continue to object to the November 2011 date because it significantly increases the trail mileage, and hence the adverse impacts, by allowing the many trails that were constructed without authorization prior to that date, to remain. Trails created by wildlife usually are detectible. All unauthorized trails should be removed, no matter when constructed.

*SW-3 Social Trails, defined as narrow footpaths that were not constructed by the MCOSDt. will continue to exist – not subject to closure or decommissioning –allows for social trails to continue as long as they are not compromising public safety, disrupting vegetation nor wildlife erosion or other impacts.* We disagree with this policy. It is our long-standing policy that all unauthorized trails constructed by people even before November 2011 should be decommissioned unless it is determined that they are less impacting than legal trails. This policy also allows a substantial increase in legalized trails with resulting significant impacts. The discussion on page 4-9 says continued existence of social trails will not be subject to unacceptable erosion, used by equestrians or bikers or compromise public safety. If trails can be regulated for these activities, why can they not be removed? Impacts to wildlife and habitat appear to be a lesser priority and not considered.

SW-4 *Overall Reduction, trail and visitor impacts claims will have less impact to compared to the network or existing trails. Nov 2011 claims will maximize the reduction of road, trail and visitor impacts in sensitive resource areas.* It is not at all clear that this policy will lead to less impact and reduced trails. It is not clear how the MCOSD will implement and keep track of the proposed vague overall trail reductions, if they do occur, or how the public will be able to be informed of the tally. The EIR should discuss how the MCOSD will ensure this overall reduction in impacts will actually occur.

MAS supports requiring an equal length of existing trail be removed as the clearest and most dependable means of ensuring impacts of trails and trail use are reduced. This policy calling for an "overall" reduction in trail and visitor impacts is so vague and will be difficult, if not impossible, to measure. Also, the impacts of concern identified in the policy, donot even include wildlife or habitats. Therefore, we consider this revised policy to be ineffective and strongly recommend it be changed.

SW-7 *Encourages pedestrians to remain on trails.* Encouraging is not strong enough. To protect habitat is specific locations, off trail use should be prohibited and measures should be taken to inform the public and enforce the restriction.

SW-8 This is weakened by the removal of "strongly" from pedestrian activities

SW-10 *Dogs should be leashed in preserves currently designed for "leash only."* To protect habitats and species, we recommend that dogs be leashed on all trails in all preserves. Other preserves besides the three mentioned also have sensitive resources and some, including Baltimore Canyon, are signed as on-leash area, presumably due to the presence of Spotted Owl in this preserve. Criteria should be developed as to where dogs should not be allowed and why. Restrictions should be noted on signs and follow-up enforcement enacted.

SW-11 - *Dogs on roads in sensitive resource areas – dogs under voice control.* Few if any dogs can be relied on to obey commands, assuming owners issue such commands, which is, in itself, uncertain. Few dogs, if any, can be relied upon to respond to voice control. The MCOSD The MCOSD should consider designated some preserves, or sections thereof, as no dog areas to protect natural resources.

SW-13 *Prohibits Dangerous Mountain Biking activity.* This policy and the others related to mountain biking relate only to public safety. None of them address impacts on wildlife or damage to habitat. A new policy should be added or this policy expanded to prohibit adverse impacts to wildlife and wildlife habitat.

SW-19 *Redundant roads and trails* – The revised language sounds like there must be the highest maintenance costs and the worse profile for environmental impacts. Must there be both? Does this mean that environmental impacts could be ignored if they are deemed less costly to maintain? Protecting natural resources should have the highest priority and this should include removing redundant trails because they destroy and fragment habitat

and disrupt movement corridors for wildlife. Trails are defined by having no vegetation and removal of the vegetation disrupts vegetative habitats, destroys food sources, allows predators to move into habitats, removes cover and allows people often with dogs and bikes, to move into habitats.

**122-16,  
cont.**

SE-22 *Protect high value vegetation.* The provisions in this policy to prevent disturbance to vegetation should be extended to wildlife habitats that are not necessarily dependent on the presence of specific vegetation.

SW- 23 *Identify High Value Biological Resources s.* The effectiveness and indeed the entire meaning of this policy is changed for the worse by replacing “protect high value biological resources” with “identify high value biological resources. We strongly recommend changing the directive to “Identify and protect...” Identifying resources does nothing much. To protect the resources, action must be taken, The EIR should define what is considered a high value habitat.

SW-24 *“Minimize intrusion into larger contiguous habitat areas and wildlife corridors” In designing the system of roads and trails, the MCVOSD will minimize the adverse effects on sensitive vegetation as well as habitat connectivity and migration corridors for all native species. of wildlife.”* This is the most comprehensive policy for wildlife and habitat but it has several major deficiencies. Protecting movement corridors between habitats is vital, but the habitats themselves must be protected, and the policies do not ensure that. “Minimize” assumes impacts will occur. Change the policy to “Avoid and minimize intrusion into habitats...” It should not just be areas of “sensitive vegetation” that are protected. Birds and other wildlife move along riparian corridors, but these are not the only corridors. And it is not just larger contiguous areas that should be protected, even reduced and small areas provide important habitat for significant species (e.g. Baltimore Canyon). The reference to “larger contiguous” should be deleted. This is the only policy that makes any reference to “all species of wildlife.” The reference should be expanded beyond protecting migration corridors and connectivity to protecting the habitats.

#### Wildlife Monitoring Program

The MCVOSD will design and conduct a multi-year wildlife monitoring program to address gaps in studies and “will use the results to support its future management of its preserves” and enhance land management and stewardship decisions,” to protect wildlife and to make refinements in the system.

We appreciate the addition of a monitoring program for wildlife, but this is vague description and follow-up actions that would actually protect wildlife appear uncertain. In fact, it is not even certain there would be any actions.

Information on how the data will be compiled and used to amend and update the RTMP, to-protect wildlife and habitats is needed. Would species be surveyed or preserves? What is the planned timing? Would all preserves and species be surveyed? How long is it expected the monitoring would continue and when would be be completed? Would the

monitoring consist of surveys or would data on impacts from uses/activities be collected and the data analyzed?

**122-16,  
cont.**

How will the public be able to access the information? Is the plan to use night cameras recently announced part of this monitoring? If so, we note that night cameras will not be effective in gathering data on birds. How would surveys on birds be conducted?

Surveys should be considered a first step in management program to protect wildlife. They must be followed up by actions, that are based on gained understanding of the species and the habitat needs of the species, and that change management so that species can continue to survive and flourish.

How the monitoring surveys used to inform and modify the RTMP and enhance stewardship for wildlife should be described. Is the MCOSD committing to taking action to address and correct problems and avoid and reduce impacts? Will the RTMP be modified or are only isolated changes preserve by preserve anticipated? When can action be expected to amend and update the RTP with the information collected? Could management actions include seasonal or permanent trail closures? Could dogs be prohibited from certain trails? What process would be used to make these anticipated changes.

There is not even a commitment that damaging uses, if found, would be prohibited or to implement any measure to effectively mitigate its adverse effects. There is only a statement that the studies will “assist the MCOSD in its prioritizations and ranking of ...projects.”

With the lack information provided so far, deficiencies in the policies, and even the apparent lack of commitment to take action as a result of the monitoring program, BIO-1 must be considered to be significant. Additional information and mitigation must be required.

*BIO – 2 Impacts to riparian or other sensitive natural communities  
(criterion IV-b)*

**122-17**

Potential impacts to riparian or other sensitive natural communities but, as with other impacts, mitigation for these impacts is dismissed an unnecessary, “with implementation of the policies, procedures and BMPs.”

Potential impacts to streambeds, creeks are lakes are erroneously dismissed in this discussion by relying, again, on policies and on regulatory permits. We strongly disagree that the information provided in Tables 6-4 through 6-9 can be relied upon to reduce or avoid adverse impacts in the aggregate. As discussed earlier, policies in themselves cannot be relied upon as mitigation because there is no certainly they will be complied with without effective education and enforcement. Nor can permits from regulatory agencies be relied upon. Their jurisdictions are limited and their responsibilities do not

necessarily address all of the adverse impacts of a proposed project, e.g. the Dawn Falls Trail (see discussion below).

122-17,  
cont.

Wetlands and riparian habitats are clearly recognized as important statewide and nationally. Sensitive natural communities” are not defined. What are the “other sensitive natural communities”? Impacts to those other habitats should also be considered and discussed

There are many other habitats that support vegetation and wildlife species that are declining, rare or unusual nationally, regionally and even locally. These too warrant attention and protection. And there are also wildlife species that are present locally or regionally and should be protected. For example, chaparral is restricted to the Mediterranean climate of the west coast; coast redwoods are also limited to the West Coast of our country; grasslands are declining throughout the country, oak savannah habitats are also rare. These habitats should also be addressed and protected by the MCOSD. The MCOSD should be more protective than is required by laws and should enhancing and restoring habitats.

The list on page 6-92 and 93 of leash-only preserves as stated due to the presence of habitat for special status species. This list omits Baltimore Canyon which is habitat for spotted owl and is well signed as on-leash and Ring Mountain which support endangered plants. The list should be revised to include all leash-only preserves , and a discussion should address any other preserves where there are special status or other species that could be adversely impacted by dogs that are not included on the list

#### Reporting System

MVOSD has a web-based incident reporting system that permits the public to “easily provide information on the district road and trail use and problems including use. A web-based incident reporting system is mentioned on page 6-96. The DEIR should provide more information on how this system operates, particularly how reports are responded to, i.e. immediately or after-the-fact, and how the data collected is acted upon i.e. enforcement and management.

BIO-2 must be considered to be a significant impact because no mitigation is provided for the anticipated increased uses in the preserves.

#### BIO -4 *Affect on movement or migration corridors or native wildlife nursery sites*

122-18

The possibility of increased use is again unacceptably addressed by relying on policies, permitting and wildlife monitoring, none of which would provide effective mitigation for project impacts. No information is provided in the DEIR or the RTMP about the location of wildlife corridors, although the preserves undoubtedly support many such corridors.

Minimizing intrusion into larger contiguous habitat is only part of what is needed. Intrusion between and among smaller habitats also should be avoided and minimized. In particular, redundant trails should be examined for adverse impacts to wildlife movement because they may be located near or cross movement corridors.

**122-18,  
cont.**

The significance of BIO-4 must be considered significant because inadequate information if provided about movement corridors, increased use of trails is anticipated that will exacerbate fragmenting of habitats, and the policy that would assure the removal of some trails has been deleted.

OK TO HERE

### ROAD AND TRAIL DECISION-MAKING PROCESS

**122-19**

The RTMP and DEIR identifies a six-step decision-making process that involves public input and evaluation of impacts/benefits. A guiding principle that projects be the result of an objective and transparent decision-making process that includes an initial outreach and solicitation of projects, screening for consistency with policies and reprioritizing using the evaluation tool. We have a number of questions about the process, steps in the process and how decisions are or will be made.

The six step process is defined as involving the public in identifying road and trail projects. Notices should be placed on trails and roads and on the MVOUSD's website to ensure that they reach the general public that are not connected to organized groups, to inform them both of steps in the process and later when specific trail/road is being considered for action.

How does environmental review fit into the process?. CEQA and permitting from federal and state agencies are the legal processes that the public should be informed about. The project category discussion states that multiple small stewardship projects must take place on a daily basis and daily basis and are typically exempt from CEQA. environmental review. The DEIR should describe what is criteria is being used to identify a "small stewardship project." The DEIR should describe the kinds of projects dfor which a Categorical Exemption, a Negative Declaration or that would require a full EIR.

This EIR should describe what criteria are MCOSD using to decide whether individual project are categorically exempt, or need more thorough environmental review. For example, are these decisions based on length of improvements; how is the potential for increasing access considered in the evaluation of impacts? How is the presence and potential impacts on special status species and habitat considered n the decision? What activities are considered maintenance? What kind of projects, if any, will the MCOSD require that an EIR be prepared?

How about decommissioning a trail that would reduce adverse impact, building a new trail, or trail repair in an upland or work have some benefits but possibly adverse impacts increased use and increased impacts.

122-19,  
cont.

It is essential that the environmental review documents also be placed on the MCOSD's website and a notice placed on-site, to inform the public about the proposal in time to submit comments.

#### EVALUATION TOOL

The Evaluation Tool is part of the Road and Trails Plan Annual Decision Making Process is presented (page 54-12). It is described as a mathematical tool to evaluate the environmental (potential for natural and cultural) physical and social characteristics. We have a number of problems with this tool. We are concerned that this tool is simplistic and inadequate to evaluate the actual biological and physical impacts of a project. Conveying adverse impacts in terms of a mathematical calculation may appear to be objective but . reducing complex ecosystems to numbers is difficult, if not impossible, and appears to hbe flawed as a decision-making tool fopr anubmer of reasons discussed below.

122-20

The evaluation of vegetative habitat is too restrictive. It focuses on importance and level of intactness which is not necessarily relevant to undefined, It oversimplifies complex ecosystems and reduces them to a few boxes that only address streams, wetlands and endangered species are the only ones mentioned. The "Criterion Preserve Trail Density" implies that existing trail density should be preserved which is not what the Rational for the Criterion says. The social value discussion focuses on physical aspects of the trail system whereas intensity of use, dogs off leash are also values that adversely impact visitor experience.

The physical aspects are well covered, but the criteria are for vegetation, fish, Spotted Owl and special status species only. Rationales speak to habitats for rare wildlife, extreme sensitivity for impacts to Spotted owl, impacts of roads/trails on fish bearing streams, but how the habitat needs of those wildlife species or others that depend on the habitats, even those that are noted as criteria, is not clear.

An evaluation system such as this is only as good as the data entered. What wildlife data is being entered? ith nonein the DERI we have little confidence that adequatge data would be included. Only spottend owls, no other end sp status species. How about , endangered Salt Marsh Harvest Mouse our Ridgway's rail and migratory species?

Evaluating the completed tool for the Dawn Trail project, presented in the RTMP, the project described to reduce sediment discharges and improve visitor experience and access. It involves the installation of several new bridges, presumably to improve access, and various measures to reduce erosion. The stream improvements will undoubtedly have value to reduce erosion and possibly improve conditions for fish, although it is unclear that this is a fish bearing stream. But the value of the work for the spotted owl population is less clear. The project has the potential to encourage increased public use because of

the improved trail conditions and possibly increased use that could impact the owl's food source and disturb the owl itself.

**122-20,  
cont.**

It is unclear how impacts to the spotted owl were evaluated as part of the tool. The discussion seems to indicate that the stream improvements (physical criteria), will outweigh impacts on the spotted owl. In spite of the fact that the score for Spotted owl impacts would raise to 10, this project was approved by regulatory agencies which appeared to focus primarily on the stream impacts. The need for the new bridges and trail segment is unclear. There is no indication of how or whether potential direct and indirect impacts to the owl were considered in deciding on the project components. The project bridges and new section of trail could impact the primary prey species for spotted owl, Wood rat, or result in increased direct disturbance to the owls themselves. The benefits would be to the stream resources, access and perhaps visitor experience. The score for spotted owl is 10 – it is not clear how or whether that very high score was considered and weighed with the other benefits/impacts to limit the project and its possible adverse impacts to spotted owl.

We do not consider that this is a thorough or valid decision-making tool that considered, in the case of the Dawn Falls project, the broad range and complexity of potential impacts and most importantly, did not consider avoidance or minimization of impacts. We expect that similar issues would be raised at sites of other projects as well.

Using a numerical score is not and should not be the basis for making decisions in environmentally sensitive habitats. CEQA requires adequate information be provided. It is completely unclear whether her sections of it even should have been built at all. Were closing any section of this trail, or other trails in this canyon, considered, as alternatives. These are the kinds of issues environmental review should address. We recommend that this tool not be relied upon.

Design Considerations

Page 6-11 of the RTMP states that “efforts will be made during project planning and design to maintain that habitat where possible. If actively breeding birds are known from the area ...vegetation that could provide nesting and protective habitat will be preserved to the maximum extent possible.” Special Status Species will be relocated if impacts unavoidable. This is not just a design consideration, it is a habitat and species protection consideration and this response is not acceptable.

**122-21**

The DEIR should address federal laws that protect breeding birds as directives to avoid impacts during nesting season. MCOSED should commit to avoiding impacts to special status species - not moving them. Why would avoidance measures not be used including delaying construction until after nesting season? We can't conceive of an unavoidable situation that would require moving a special status species on preserve lands.

Invasive Plant Species

**122-22**

Calls for monitoring for two years to ensure no infestations develop. Two years is not sufficient monitoring. Invasive species can return, or new ones can invade, after five years. Monitoring should be longer.

**122-22,  
cont.**

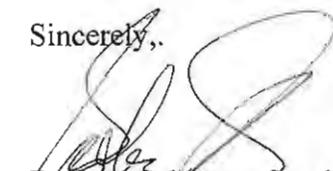
PROJECT ALTERNATIVES

Alternative 3 is identified as the environmentally superior alternative because it would allow pedestrian use only in Sensitive Resource Areas. These Areas, as noted earlier, are only a small portion of the preserve areas. We recommend that an alternative be developed that provides for more protective restrictions to apply in more more areas of all preserves, particularly those that support special status species,

**122-23**

Thank you for responding to our concerns.

Sincerely,



Barbara Salzman, Co-chair  
Conservation Committee



Phil Peterson, Co-chair  
Conservation Colmmittee

## Response to Letter 122

**Commenter** Barbara Salzman  
Marin Audubon Society  
September 20, 2014

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122-1 *The comment states that the RD TPEIR does not adequately analyze the impacts of implementing the RTMP and in identifying mitigation measures, does not ensure that RTMP policies that would reduce or avoid environmental effects, and provides inaccurate impact conclusions.*

The comment is based upon an incomplete understanding of the RTMP project's environmental baseline, and inaccurate conclusions regarding the nature of the RTMP project from a CEQA perspective and the environmental implications of implementing the RTMP. Please see responses to comments 96-1 and 96-3 for a discussion of the RTMP project's environmental baseline, and the TPEIR's compliance with CEQA requirements for the contents of EIRs and the analyses contained within them. Refer to responses to comments 96-3, 104-3, and 115-1 regarding the required level of detail of the analyses presented in the RD TPEIR.

As developed more fully in the responses to comments 96-1 and 96-3, with respect to the environmental baseline:

- The MCOSD open preserves currently consist of an extensive road and trail system, most of which, the MCOSD inherited when it acquired the various properties. This road and trail network receives a high, and increasing, level of use, which has resulted in a range of past and ongoing adverse environmental effects.
- Past, current, and ongoing maintenance, construction, and administration of the road and trail system are conducted by the MCOSD without the benefit of a comprehensive strategy to avoid or reduce adverse environmental effects. These activities, and the lack of coordination and guidance provided for them, would continue into the future even in the absence of a RTMP.

A description of the RTMP and its potential for adverse environmental effects is more fully developed in response to comment 96-3 and summarized here:

- The RTMP consists of policies, design and construction standards, best management practices, and a decision tool to aid in the identification and design of environmentally beneficial projects.
- The overarching purpose of the components of the RTMP is to avoid or reduce environmental harm during maintenance and construction, and to reduce, over time, the environmental footprint of existing facilities by decommissioning, maintaining, rerouting, or improving roads and trails to reduce sources of sediment and incursion into sensitive biological habitats.
- The MCOSD has in the past and will continue to maintain, construct, and manage the road and trail system. No aspect of the RTMP would expand or modify the range of activities being conducted by the MCOSD. These activities would continue even in the absence of the RTMP.

- Implementation of the RTMP by itself would not result in an increase in the rate or number of activities pursued by the MCOSD in any given year. The number and type of maintenance, construction, and management activities that occur from year to year is a function of the MCOSD budget, which is unaffected by the RTMP.
- The RTMP would not: expand the range of maintenance, construction, or management activities above those currently conducted by the MCOSD; increase the rate or number of such actions above levels currently initiated or completed by the MCOSD in any given time period; or provide additional funding that could result in an increase in the rate or number of activities in a given time period. The RTMP merely organizes and prioritizes maintenance, construction, and management activities with the goal of reducing environmental harm over time, and provides policies, standards, and best management practices where none currently exist to avoid or reduce environmental harm arising from the management and use of roads and trails within open space preserves.

Also, see responses to comments 104-3, 104-4, 104-5, and 122-2 through 122-23.

Thus, the notion that implementation of the RTMP would result in new or significantly increased impacts to biological resources is not consistent with the degraded state of the existing environment or the goals and substance of the RTMP. As set forth above, and in response to comment 96-3, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the environmental conclusions associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

122-2 *The comment states that the RD TPEIR is inadequate because RTMP policies are incomplete in their coverage, and no mechanism of the RTMP requires their implementation. The comment states that the RTMP should protect all wildlife species, and the impact of implementing the RTMP should be assessed for all wildlife species. The comment states that the TPEIR is not adequate to permit the use of tiering of the CEQA review for future road and trail management actions that may occur after the approval and implementation of the RTMP.*

Regarding the comment's assertion that the policies, design and construction standards, and best management practices of RTMP are not comprehensive in their coverage, and that the TPEIR is inadequate because it does not expand upon the components of the RTMP, please refer to response to comment 96-2 regarding the relationship between the RTMP and the TPEIR.

With respect to the adoption of a mechanism in the RTMP that would document the compliance of the MCOSD with the provisions of the RTMP, and provide the public with information regarding that compliance, please see response to comment 101-3. The MCOSD will develop a project development worksheet as described in Appendix A of this Final TPEIR.

Regarding the need for the TPEIR to assess all wildlife species, please refer to responses to comments 96-3, 96-4 and 104-2. CEQA imposes no duty to act as requested by the comment.

In reference to the comment's statement that the TPEIR is not adequate to permit the use of tiering in the environmental review of future road and trail management actions, please refer to responses to comments 104-3 and 104-5. As set forth in those responses, consistent with the requirements of Section 15168 of the State CEQA Guidelines, the MCOSD intends to use the tiering concept where appropriate as one of a variety of strategies to meet the District's CEQA obligations for the environmental review of future road and trail management actions.

As set forth above, and in responses to comments 96-2, 96-3, 96-4, 101-3, 104-2, 101-3, and 101-5, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the environmental conclusions associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 122-3 *The comment states that the TPEIR may not be tiered from the EIR for the Countywide Plan because neither the Countywide Plan nor its EIR contemplated the preparation of a Road and Trail Management Plan or the increase in the use of MCOSD roads and trails since adoption of the Countywide Plan. The comment additionally states that the TPEIR may not be tiered from the Countywide Plan EIR because of the uncertain legal status of that EIR.*

As set forth in Section 1.4 of the RD TPEIR, the Marin Countywide Plan adopted numerous policies and implementation programs that govern the conduct of the MCOSD in administering and maintaining its open space preserves, including the management of roads and trails. As documented in Table 1-1 of the RD TPEIR, these Countywide Plan policies and programs are found in the Natural Systems and Agriculture Element under the headings of "Open Space" and "Trails". That these Countywide Plan policies and programs contemplated the continued evolution of MCOSD policies, regulations, and standards to meet changing conditions with the open space preserves is established by Goal OS-1 and implementation program OS-1.i. Because the Countywide Plan has adopted a series of goals, policies, and programs regulating the management of open space, and roads and trails, and the RTMP is a vehicle for the MCOSD to implement the policy direction of the Countywide Plan, the RTMP is a Countywide Plan implementation measure. Thus, tiering of the RTMP TPEIR as set forth in State CEQA Guidelines Section 15152 is appropriate.

With respect to the legal status of the Countywide Plan EIR, please refer to comment 109-3. The response includes an update to the cumulative analysis presented in the RD TPEIR with supplemental information regarding the San Geronimo Valley and the Lagunitas Creek watershed. As set forth in the response to this comment, the MCOSD is already meeting TMDL objectives within the San Geronimo Valley and the Lagunitas Creek watershed. Implementation of the RTMP would meet the requirements of the RWQCB's TMDL order to adopt road maintenance guidelines, and would continue and enhance the district's

ongoing efforts to reduce sediment yield from MCOSD roads and trails, and benefit aquatic habitat and species.

In response to this new information, the cumulative analysis set forth in the RD TPEIR, Chapter 16 is supplemented as set forth in Chapter 4, *Errata*, of this Final TPEIR. This additional information provides further support for the existing conclusions of the RD TPEIR that implementation of the RTMP would have a less than cumulatively considerable contribution to cumulative impacts to hydrologic and biological resource impacts, including within the San Geronimo Valley and the Lagunitas Creek watershed. This additional information would merely clarify and confirm the existing analysis, and no recirculation of the TPEIR would be required to permit additional public review of these cumulative analyses and environmental conclusions.

As set forth above, and in response to comment 109-3, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the potential impacts associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 122-4 *The comment states that the RD TPEIR is inadequate because it fails to address all wildlife species, and provides cursory setting information regarding wildlife within MCOSD open space preserves. The comment reiterates that the TPEIR is inadequate for use in tiering subsequent environmental documents. The comment state that the TPEIR inadequately addresses the potential effects of the increased use of MCOSD open space preserves, and fails to consider the impacts of various types of uses.*

As set forth in responses to comments 122-1 and 122-2, this series of arguments regarding the inadequacy of the RD TPEIR is based upon a misunderstanding of the existing environment and uses within MCOSD open space preserves, and of the RTMP itself. These misunderstandings and mischaracterizations lead to inaccurate conclusions regarding the nature of the RTMP project from a CEQA perspective and the environmental implications of implementing the RTMP.

Regarding the need for the TPEIR to assess all wildlife species, please refer to responses to comments 96-3, 96-4 and 104-3. CEQA imposes no duty to act as requested by the comment.

In reference to the required level of detail necessary in establishing the environmental setting and the subsequent analyses to support subsequent tiering, see responses to comments 96-3 and 104-3. The responses to these comments finds that the level of detail required to set forth the environmental baseline and conduct subsequent environmental analyses is dictated by the level of definition of the project itself. Thus, under the standard imposed by Section 15146(b) of the State CEQA Guidelines, the RD TPEIR focuses on the secondary effects of implementing the RTMP commensurate with the level of detail presented by the RTMP itself.

In response to the comment regarding the increased use of MCOSD preserves and the RTMP's role in encouraging increases in use, please refer to the response to comment 96-3.

As noted in that response, the RD TPEIR has anticipated and properly documented the potential effects of increased intensity of use given the nature of the RTMP project, the degree of specificity required of the TPEIR, and CEQA's discouragement of speculation in the analysis of potential impacts.

Regarding the potential impacts of various use types, please refer to response to comment 96-4. This response indicates that the effects of off-leash dogs, equestrians, mountain bikes, and night riding are set forth on pages 6-31 through 6-40 and in Impact BIO-2 of the RD TPEIR.

As set forth above, and in responses to the cited comments, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the environmental conclusions associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 122-5 *The comment states that the RD TPEIR must evaluate the aggregate effects of various recreational uses on all species of wildlife and plants. The comments states that impacts from these sources will increase over time and the TPEIR must consider them to be adverse and significant.*

Please refer to the responses to comments 122-1, 122-2, and 122-4, and all of the other responses to comments incorporated into these responses. Briefly, all of the activities cited in the comment are existing uses that have increased in popularity in the past, and by all forecasts, will continue to do so in the future with or without implementation of the RTMP. As noted in responses to comments 96-3 and 122-4, the RD TPEIR evaluates such uses in Impact BIO-1, and determines that no aspect of the RTMP would increase such uses in the future in and of itself. Thus, the RD TPEIR has anticipated and properly documented the potential effects of increased intensity of use given the nature of the RTMP project, the degree of specificity required of the TPEIR, and CEQA's discouragement of speculation in the analysis of potential impacts.

As set forth above, and in responses to the cited comments, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the environmental conclusions associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 122-6 *The comment questions the hierarchy of goals set forth in the RTMP, and states that a balancing of multiple goals in administering the RTMP would violate the text of Measure A, which prioritizes resource protection over other goals. The comment questions the operation of the "net reduction of environmental impacts" strategy set forth in the RTMP. The comment states that varying user groups may have different expectations for road and trail experiences.*

Regarding the priority of goals in the RTMP as quoted in the RD TPEIR, please see response to comment 96-2. Because this comment raises no issues related to the

environmental analysis or conclusions set forth in the RD TPEIR, no modification of the TPEIR would be necessary to respond to this aspect of the comment.

Regarding the operation of the “net reduction of environmental impacts” strategy set forth in the RTMP, please refer to Chapter 5 of the RTMP and a discussion of the development processes for roads and trails, and the road and trail evaluation tool. See RD TPEIR, Chapter 3, *Project Description*, Sections 3.8.5 and 3.8.6 for a description of the process and tool from a CEQA perspective. Table 3-8 excerpts the operational aspects of the tool that support the net reduction strategy. These discussions also provide information regarding the scoring of future road and trail management actions to achieve a net reduction in impacts. Because the information requested by the comment is already incorporated into the RD TPEIR, no modification of the TPEIR would be necessary to respond to this aspect of the comment.

Concerning the differing expectations of various types of trail users, please review the response to comment 96-8. As set forth in the response to that comments, user expectations are a social effect that need not be evaluated in a CEQA document such as the RD TPEIR.

As set forth above, and in responses to the cited comments, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the environmental conclusions associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 122-7 *The comment states that the RD TPEIR needs to evaluate the intensity of visitor use in one unified discussion. The comment expresses skepticism that the “net reduction in environmental impact” strategy will be realized in practice. The comment cites a history of use violations that have resulted in adverse environmental effects.*

For a discussion of the RTMP’s effect on use levels and subsequent environmental effects, please refer to the responses to comments 96-3, 122-2, 122-3, 122-4, and 122-5.

Regarding the operation of the “net reduction of environmental impacts” strategy set forth in the RTMP, see response to comment 122-6. Whether this strategy succeeds over time is an opinion cited in the comment, and not an issue to be assessed in the TPEIR. Please see response to comment 96-2 for the differing roles of the RTMP and the RD TPEIR.

Concerning illegal activities, see response to comment 96-5.

As set forth above, and in responses to the cited comments, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the environmental conclusions associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

122-8 *The comment states that the RTMP should establish a policy to prohibit night riding within MCOSED preserves. The comment states that the RD TPEIR should evaluate the potential effects of this use.*

As discussed in responses to comments 122-4 and 122-5, the RD TPEIR does provide setting information and an impact analysis of night riding, in pages 6-31 through 6-40 and in Impact BIO-2 of the RD TPEIR.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the environmental conclusions associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the MCOSED modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the Commission and Board letters. In the event that the Board intends to follow this and/or other recommendations, the district staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

122-9 *The comment states that the RD TPEIR should propose mitigation measures to avoid or reduce environmental impacts. The comment makes suggestions of appropriate mitigation measures.*

As set forth in responses to comments 122-1 and 122-2, these comments regarding the need for mitigation to be identified in the RD TPEIR misconstrue the nature of the RTMP itself. The RTMP consists of a series of mitigation measures designed to remedy existing adverse environmental conditions to the extent possible, and to prevent future road and trail management actions from resulting in new environmental effects or reducing the level of such effects if they cannot be avoided. These misunderstandings and mischaracterizations lead to inaccurate conclusions regarding the nature of the RTMP project from a CEQA perspective and the environmental implications of implementing the RTMP. The RTMP would establish standards and required procedures to remediate existing adverse environmental conditions and avoid new effects. No such standards or procedures currently exist. Thus, the notion that implementation of the RTMP would result in new or significantly increased impacts to biological resources is not consistent with the degraded state of the existing environment or the goals and substance of the RTMP.

With respect to the suggested mitigation measures (seasonal closures, rerouting trails), the measures are explicitly permitted by RTMP policies or required by best management practices set forth in the RTMP. See policies SW.2, SW.3, SW.16, SW.19, SW.20, SW.22, SW.23, SW.24, SW.27, and SW.28. These policies are reflected in the appropriate impact analyses set forth in Chapters 6, *Biological Resources*, and 7, *Cultural and Historic Resources*, of the RD TPEIR.

Concerning the Countywide Plan EIR and the mitigation measures identified in that document, the RTMP is designed to expand upon and further those measures by providing more detailed policies, design and construction standards, and best management practices.

Similar to the policy direction of the Countywide Plan discussed in response to comment 109-4, the generalized mitigation measures adopted in the Countywide Plan EIR provide direction and context for the more detailed measures developed for subsequent projects such as the RTMP that are consistent with the Countywide Plan.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the environmental conclusions associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the MCOSD modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the Commission and Board letters. In the event that the Board intends to follow this and/or other recommendations, the district staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

122-10 *The comment expresses confusion over the terms “sensitive resource area,” “sensitive natural resources,” and “sensitive species”. The comment additionally requests an explanation the purpose of the visitor management area identified as “Sensitive Resource Area,” and how the MCOSD assigned this designation to areas within the open space preserves.*

As requested by the comment, these terms are defined in Chapter 4 of the RD TPEIR. Please see Chapter 4, *Errata*, of this Final EIR. These modifications clarify the project description of the RTMP. They do not introduce any new policies or concepts that could result in any new or significantly increased impacts beyond those evaluated in the RD TPEIR or modify any environmental conclusions set forth in the RD TPEIR. For these reasons, no further modification of the EIR is necessary to respond to the comment.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

For a staff assessment of the policy considerations contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the Commission and Board letters.

122-11 *The comment states dissatisfaction with modifications made in the RTMP between the October 2013 Draft RTMP and the August 2014 Draft RTMP that resulted in the removal of visitor use management zones and their policies requiring offsetting trail decommissioning to compensate for the development of new roads or trails. Instead, required offsets were replaced with the concept of “net environmental benefit”. The comment states that the RD TPEIR should evaluate the potential impacts of this change.*

Regarding the comment's request that the TPEIR assess any change in impacts between the previous draft of the RTMP (October 1, 2013) and the current draft (August 1, 2014), and the relative likelihood of success of each of the iterations of the RTMP, please refer to response to comment 96-3. That response discusses CEQA requirements for the determination of significant environmental impacts as set forth in State CEQA Guidelines Sections 15002(g) and 15382. The instruction of these sections of the Guidelines is that an EIR should evaluate the potential effects of a project in relation to existing physical environmental conditions. This direction does not require or contemplate that an environmental analysis would be conducted relative to the effects of various iterations of a project. Rather, the suggestion of the comment would be considered improper practice.

As set forth in that discussion, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the environmental conclusions associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

The MCOSD acknowledges the policy concerns expressed in the comment. The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSD Board of Directors when they consider the RTMP for approval. For a staff response to the policy concern contained in this comment, please refer to the companion document, entitled *Responses to Policy-Related Comments*, which will be included in staff's report to the Commission and Board.

122-12 *The comment reiterates that the assessment of impacts to wildlife is deficient in the RD TPEIR. The comment suggests several sources of information that may be used to inform a revised analysis of wildlife impacts.*

Please refer to the responses to comments 122-1, 122-2, 122-4, 122-9, and all of the other responses to comments incorporated into these responses. In many respects, the RTMP consists of a series of mitigation measures designed to remedy existing adverse environmental conditions to the extent possible, and to prevent future road and trail management actions from resulting in new environmental effects or reducing the level of such effects if they cannot be avoided. The RTMP would establish standards and required procedures to remediate existing adverse environmental conditions and avoid new effects. No such standards or procedures currently exist. Thus, the notion that implementation of the RTMP would result in new or significantly increased impacts to biological resources is not consistent with the degraded state of the existing environment or the goals and substance of the RTMP.

As set forth above and in the referenced comment responses, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the environmental conclusions associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 122-13 *The comment reiterates that the assessment of impacts to wildlife is deficient in the RD TPEIR. The comment cites Table 6-1 of the RD TPEIR as providing an introduction to the wildlife potentially present in MCOSD preserves, but requests more detailed information.*

Appendix C of the RD TPEIR presents the information requested by the comment. This appendix has been updated in response to other comments received on the RD TPEIR. Please refer to Chapter 4, *Errata*, of this Final EIR for a revision to Appendix C.

As set forth above, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it question the environmental conclusions of the RD TPEIR. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 122-14 *The comment requests that the MCOSD refer the RTMP to the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service for review prior to adopting the RTMP.*

See response to comment 113-10. The RTMP and/or RD TPEIR were circulated to the following state agencies: Resources Agency; California Coastal Commission; Department of Fish and Wildlife, Region 3; Cal Fire; Department of Parks and Recreation; San Francisco Bay Conservation and Development Commission; Department of Water Resources; California Highway Patrol; Caltrans, District 4; Air Resources Board; Air Resources Board, Transportation Projects; Regional Water Quality Control Board, Region 2; Department of Toxic Substances Control; Native American Heritage Commission. Federal agencies which received a notice of availability or were directly sent a copy of the RTMP and/or the RD TPEIR were: U.S. Fish and Wildlife Service; National Marine Fisheries Service; U.S. Army Corps of Engineers, San Francisco District, and National Park Service. No comments on the RTMP or RD TPEIR were received from any state or federal government agency.

As set forth above, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it unrefutedly question the environmental conclusions of the RD TPEIR. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 122-15 *The comment requests that Figures 6-7 and 6-10 of the RD TPEIR be modified to include the occurrences of Northern Spotted Owl in Baltimore Canyon, and Ridgeway's Rail (formerly California Clapper Rail) along Black John Slough.*

Figures 6-7 and 6-10 in Chapter 6, Biological Resources, of the RD TPEIR were based on information obtained from the California Natural Diversity Data Base (CNDDB). A check of the database on November 10, 2014 indicates that neither occurrence is listed in the CNDDB. For this reason, no modification of the two maps is necessary. However, such expert personal observations will be used by the MCOSD during the design and review of individual future projects implemented by the district.

As set forth above, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the environmental conclusions associated with the

proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

122-16 *The comment questions the environmental conclusion of Impact BIO-1 that implementation of the policies, design and construction standards, and best management practices would result in the identified environmental impact being less than significant. The comment relies upon several notions in support of this assertion: the RTMP would result in substantial new effects due to the future construction and/or maintenance of roads and trails; the implementation of the cited components of the RTMP are voluntary on the district; several policies cited in the comment are not as effective as desired or defective; and the wildlife monitoring program set forth in the RTMP and RD TPEIR would not result in concrete action by the MCOSD.*

Concerning the potential environmental effects of implementing the RTMP, and the likelihood of its resulting in substantial adverse effects, please refer to the responses to comments 96-3, 122-1, and 122-2, and all other responses cited in the responses to those comments. The notion that implementation of the RTMP would result in new or significantly increased impacts to biological resources is not consistent with the degraded state of the existing environment or the goals and substance of the RTMP.

With respect to the adoption of a mechanism in the RTMP that would document the required compliance of the MCOSD with the provisions of the RTMP, and provide the public with information regarding that compliance, please see responses to comments 101-3 and 122-2. The MCOSD will develop a project development worksheet, a draft of which is provided in Appendix A of this Final TPEIR.

Regarding the effectiveness of the policies cited in the comment and the suggestions for amendment of Countywide Plan policies, TRL-2.1 and TRL-2.a, both are existing Marin County goals and policies set forth in the Marin Countywide Plan that affect the operations of the Marin County Open Space District. The MCOSD does not propose to amend the Countywide Plan in the RTMP, and in fact, has no authority to do so. The sole authority to amend the Countywide Plan rests with the Marin County Board of Supervisors. Thus, the MCOSD is unable to comply with the request set forth in the comment. Should Marin Audubon Society wish to amend the Countywide Plan as suggested, the group would need to make application to Marin County through the Community Development Agency, located at 3501 Civic Center Drive, San Rafael, California 94903.

Concerning the cited policies from the RTMP, the comment recommends that the district modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the Commission and Board letters. In the event that the Board intends to follow this and/or other recommendations, the district staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

With respect to the wildlife monitoring program and adjusting future policies and plans on the basis of new information, RTMP policy SW.23 states that the MCOSD will use the information gathered by the Multi-Year Wildlife Monitoring Program, as well as other sources, to amend system designations, project design, or project implementation.

The analysis and conclusion of Impact BIO-1 do not rely solely upon any single component of the RTMP. Rather, the impact conclusion is a reasoned and substantiated judgment regarding the aggregate effectiveness of all of the components of the RTMP cited in Impact BIO-1 within the context of the potential effects of the RTMP compared to existing environmental conditions. (For more information regarding CEQA requirements for impact analysis and the state of the existing environment, please refer to response to comment 96-3). Although comment 122-16 provides potential amendments to a number of RTMP policies, it does not similarly question the effectiveness of the RTMP design and construction standards, or best management practices as set forth in Tables 6-5 through 6-8 of the RD TPEIR, or provide amendments that could increase their effectiveness. Thus, comment 122-16 offers no information that would refute the environmental conclusion of Impact BIO-1 regarding the aggregate effectiveness of the RTMP in reducing any potential effects on protected wildlife species below a level of significance. As noted in response to comment 96-3, to the extent that the RTMP would provide specific policies, standards, and practices that would be beneficial to the existing environment where none now exist, the notion that the RTMP does not go far enough in remediating past and existing conditions is not a CEQA issue but rather one of policy.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the environmental conclusions associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, portions of the comment recommend that the MCOSD modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the Commission and Board letters. In the event that the Board intends to follow this and/or other recommendations, the district staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

122-17 *The comment questions the environmental conclusion of Impact BIO-2 that implementation of the policies, design and construction standards, and best management practices would result in the identified environmental impact being less than significant. The comment relies upon several notions in support of this assertion: the RTMP would result in substantial new effects due to the future construction and/or maintenance of roads and trails; the RTMP would result in significant increases in the use of open space preserves; the implementation of the cited components of the RTMP are voluntary on the District; and several policies cited in the comment are not as effective as desired. The comment states that the impact should address a number of important natural communities, not just wetlands and riparian habitats. The comment requests additional information regarding the recently implemented MCOSD incident reporting system referenced in Section 3.10, Chapter 3, Project Description, of the RD TPEIR, including its operation, and how the MCOSD responds to reported incidents. The comment references the Dawn Falls project as an example of the failure of RTMP policies in avoiding adverse environmental effects.*

Concerning the potential environmental effects of implementing the RTMP, and its likelihood of resulting in substantial adverse effects, or in increased use of preserves, please refer to the responses to comments 96-3, 122-1, and 122-2, and all other responses cited in

the responses to those comments. The notion that implementation of the RTMP would result in new or significantly increased impacts to biological resources is not consistent with the degraded state of the existing environment or the goals and substance of the RTMP.

With respect to the adoption of a mechanism in the RTMP that would document the required compliance of the MCOSD with the provisions of the RTMP, and provide the public with information regarding that compliance, please see responses to comments 101-3 and 122-2. The MCOSD will develop a project development worksheet, a draft of which is provided in Appendix A of this Final TPEIR.

Impact BIO-2 does evaluate potential effects to sensitive habitats in addition to wetlands and riparian areas. In the environmental analysis section of Impact BIO-2, the assessment considers oak woodlands, and serpentine and ultra-mafic soils habitats.

Regarding the list of leash only preserves on pages 6-92 through 6-93, the RD TPEIR lists the existing preserves that are leash only due to lack of unpaved roads, where current policy allows for dogs to be off leash and under voice control, or where MCOSD has adopted a leash only requirement for the preserve. The RTMP adds to these leash only areas, all areas designated as a Sensitive Resource Area. The comment identifies two different preserves, Ring Mountain and Baltimore Canyon, which should be added to the list of current leash only preserves. Ring Mountain is already on the list – please see RTMP TPEIR p. 6-92. Since the Dawn Falls Trail, in Baltimore Canyon, is not an unpaved road, it is signed with a leash requirement. However, there are existing roads within the preserve where dogs are allowed off leash and under voice command.

Regarding the incident reporting system cited in the comment, the MCOSD implemented this system during spring/summer 2014, and is cited in the RD TPEIR solely for informational purposes. No impacts would arise from operation of the reporting system, nor does any impact conclusion depend upon operation of the reporting system to reduce or avoid impacts. Thus, the effectiveness of the system, or its lack, has no bearing on the TPEIR.

Concerning the Dawn Falls trail project as a failure of the RTMP, please see responses to comments 104-3 and 113-11. The conclusion of these responses is that the Dawn Falls trail project is not an example of the failure of the RTMP.

The analysis and conclusion of Impact BIO-2 do not rely solely upon any single component of the RTMP. Rather, the impact conclusion is a reasoned and substantiated judgment regarding the aggregate effectiveness of all of the components of the RTMP cited in Impact BIO-2 within the context of the potential effects of the RTMP compared to existing environmental conditions. (For more information regarding CEQA requirements for impact analysis and the state of the existing environment, please refer to response to comment 96-3). Although previous comment 122-16 provides potential amendments to a number of RTMP policies, it does not similarly question the effectiveness of the RTMP design and construction standards, or best management practices as set forth in Tables 6-5 through 6-8 of the RD TPEIR, or provide amendments that could increase their effectiveness. Thus, neither comment 122-16 or 122-17 provide information that would refute the environmental conclusion of Impact BIO-2 regarding the aggregate effectiveness of the RTMP in reducing

any potential effects on protected habitats below a level of significance. As noted in response to comment 96-3, to the extent that the RTMP would provide specific policies, standards, and practices that would be beneficial to the existing environment where none now exist, the notion that the RTMP does not go far enough in remediating past and existing conditions is not a CEQA issue but rather one of policy.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the environmental conclusions associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

122-18 *The comment questions the environmental conclusion of Impact BIO-4 that implementation of the policies, design and construction standards, and best management practices would result in the identified environmental impact being less than significant. The comment relies upon several notions in support of this assertion: the RTMP would result in substantial new effects due to the future construction and/or maintenance of roads and trails; the RTMP would result in significant increases in the use of open space preserves; the implementation of the cited components of the RTMP are voluntary on the district; and several policies cited in the comment are not as effective as desired. The comment states that no information regarding wildlife corridors within MCOSED preserves is provided in the RD TPEIR*

Concerning the potential environmental effects of implementing the RTMP, and the likelihood of its resulting in substantial adverse effects or in increased use of preserves, please refer to the responses to comments 96-3, 122-1, and 122-2, and all other responses cited in the responses to those comments. The notion that implementation of the RTMP would result in new or significantly increased impacts to biological resources is not consistent with the degraded state of the existing environment or the goals and substance of the RTMP.

With respect to the adoption of a mechanism in the RTMP that would document the required compliance of the MCOSED with the provisions of the RTMP, and provide the public with information regarding that compliance, please see responses to comments 101-3 and 122-2. The MCOSED will develop a project development worksheet, a draft of which is included in Appendix A of this Final TPEIR.

The RD TPEIR does identify migration corridors in the vicinity of open space preserves. Figures 6-14 and 6-15 provide information regarding critical habitat linkages and essential habitat connectivity within and adjacent to open space preserves. The digital information that underlies these generalized maps will be used by the MCOSED in the project evaluation tool used to identify and plan road and trail management projects.

The analysis and conclusion of Impact BIO-4 do not rely solely upon any single component of the RTMP. Rather, the impact conclusion is a reasoned and substantiated judgment regarding the aggregate effectiveness of all of the components of the RTMP cited in Impact BIO-4 within the context of the potential effects of the RTMP compared to existing environmental conditions. (For more information regarding CEQA requirements for impact analysis and the state of the existing environment, please refer to response to comment 96-

3). Although previous comment 122-16 provides potential amendments to a number of RTMP policies, it does not similarly question the effectiveness of the RTMP design and construction standards, or best management practices as set forth in Tables 6-5 through 6-9, and 6-11 of the RD TPEIR, or provide amendments that could increase their effectiveness. Thus, neither comment 122-16 or 122-18 provide information that would refute the environmental conclusion of Impact BIO-4 regarding the aggregate effectiveness of the RTMP in reducing any potential effects on protected habitats below a level of significance. As noted in response to comment 96-3, to the extent that the RTMP would provide specific policies, standards, and practices that would be beneficial to the existing environment where none now exist, the notion that the RTMP does not go far enough in remediating past and existing conditions is not a CEQA issue but rather one of policy.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused by the proposed project. Any questions raised by this comment on the environmental conclusions associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

122-19 *The comment questions whether and how the MCOSD will comply with CEQA requirements in the planning and review of future road and trail management projects, and whether the district will obtain necessary permits from state and federal regulatory agencies. The comment requests that the criteria used to identify a project from CEQA be identified. The comment requests that environmental documents for all projects be posted on the MCOSD website.*

For a discussion of how the MCOSD intends to comply with CEQA for future projects, please refer to response to comment 104-3. The response to comment 104-3 concludes that rather than permitting future MCOSD projects to escape subsequent CEQA evaluation, CEQA requires that future projects be individually reviewed to determine whether they have individual adverse effects that were not evaluated in the program EIR.

With respect to identifying projects exempt from CEQA requirements, the MCOSD will follow the guidance provided by the State CEQA Guidelines Sections 15060, 15061, 15063, and 15168. Summarily, these Guideline sections require a multi-step process of the MCOSD to determine 1) if CEQA applies to the proposed activity, and whether 2) the project is exempt from CEQA. If CEQA applies to the project and it is not exempt, the MCOSD is required to prepare an Initial Study. Depending upon the results of the Initial Study, the MCOSD may conclude that the later proposed project is fully reviewed by the program EIR or prepare a Negative Declaration or EIR.

Regarding the criteria used by the MCOSD to determine whether an individual project is exempt from CEQA, the district will rely upon the standards for statutory exemptions and categorical exemptions as set forth in Sections 15060 – 15285 and 15300 – 15332, respectively. Typical exemption categories that may be relied upon by the MCOSD would be those for emergency projects (15269), maintenance of existing facilities (15301) replacement of existing facilities (15302) and minor alterations to land (15304). Note however, that the use of all of the cited exemptions, except for emergency projects, is limited to those projects

that would not result in cumulative impacts, significant project impacts due to unique circumstances, or that would result in adverse effects to historical resources.

With respect to whether the MCOSD will obtain necessary state and federal permits from resource management agencies, a number of best management practices under the BMP headings of General, Special-Status Wildlife, Special-Status Plants, Construction Contracts, and Water Quality require obtaining state and federal resource permits, and implementing all measures identified in the permits. Additionally, there is nothing in the RTMP that would (or could) provide the MCOSD with the authority to proceed with a specific project without appropriate permits from local, state, and federal agencies.

Sections 15062, 15072, and 15085 of the State CEQA Guidelines govern the publication of notices announcing the availability or disposition of exemptions, Negative Declarations and Environmental Impact Reports. All three sections identify mandatory methods of providing notice; all three also permit and encourage the posting of notices on the web as an additional method of notice that can be employed. No aspect of CEQA would prevent the MCOSD from posting CEQA documents on its website should it choose to do so.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

122-20 *The comment cites a number of alleged technical deficiencies present in the road and trail evaluation tool presented in the RTMP. The comment states that CEQA provides the proper vehicle for making project decisions in environmentally sensitive areas. The comment identifies the Dawn Falls trail project as an example of the failure of the evaluation tool.*

The comment raises no issues related to the analyses or environmental conclusions set forth in the RD TPEIR.

For a discussion of the alleged technical deficiencies of the evaluation tool, see responses to comments 96-11, 104-3, and 113-11.

For a discussion of the use of the road and trail evaluation tool in lieu of complying with CEQA, please refer to responses to comments 104-3, 104-6, and 104-7. The MCOSD has no intention of substituting the road and trail evaluation tool for CEQA compliance.

Concerning the Dawn Falls trail project as a failure of the RTMP, please see responses to comments 104-3 and 113-11. The conclusion of these responses is that the Dawn Falls trail project is not an example of the failure of the RTMP.

The comment expresses the views of the authors, and does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it question the environmental conclusions of the RD TPEIR. For these reasons, no modification of the EIR is necessary to respond to the comment.

For a staff assessment of the policy considerations contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the Commission and Board letters.

- 122-21 *The comment cites the BMP titled “Design Considerations” on page 6-11 of the RTMP as unacceptably permitting incursions into the habitats of sensitive species or their nesting sites. The comment states that the RD PEIR should address federal laws that protect breeding birds. The comment questions why the RTMP would not provide policies or other components that would require the avoidance of breeding birds by delaying the onset of project construction.*

The RD PEIR describes the federal laws protecting breeding birds on pages 6-42 through 6-44.

Regarding methods to avoid disturbing nesting birds, the RTMP describes “Construction Timing Windows” for nesting birds on page 6-10, and establishes a number of detailed best management practices to protect special-status and nesting bird species. See Table 6.3 of the RTMP for the details of the following BMPs: Special-Status Wildlife-3 through -6, and -9.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it question the environmental conclusions of the RD TPEIR. For these reasons, no modification of the EIR is necessary to respond to the comment.

- 122-22 *The comment requests that the monitoring provisions of RTMP best management practices for invasive plants be extended to 5 years.*

See responses to comments 101-8 and 102-13.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it question the environmental conclusions of the RD TPEIR. For these reasons, no modification of the EIR is necessary to respond to the comment.

For a staff assessment of the policy consideration contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the Commission and Board letters.

- 122-23 *The comment requests the preparation of an additional project alternative that would increase both the areal extent and the effectiveness of resource protection.*

As set forth in the RD TPEIR, Section 15126.6 of the California Environmental Quality Act (CEQA) Guidelines requires that an Environmental Impact Report (EIR) describe and comparatively evaluate a range of reasonable alternatives to a project, or location of the project, that would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the project’s significant effects. The range of alternatives evaluated in the following analysis is dictated by the range of project significant impacts identified in the RD TPEIR, and evaluated alternatives are limited to those that would reduce or eliminate environmental impacts.

For the RD TPEIR, the impact analysis does not result in any significant impacts that would result from the implementation of the RTMP. For the reasoning behind these conclusions see response to comment 96-3. To summarize the findings of that response, in the case of the MCOSD's open space preserves, the existing environment is substantially degraded, and the practices and uses that led to such degradation would continue into the future in the absence of the RTMP. To the extent that the RTMP would provide specific policies, standards, and practices that would be beneficial to the existing environment where none now exist, the notion that the RTMP does not go far enough in remediating past and existing conditions is not a CEQA issue, but rather one of policy.

CEQA does not require that policy alternatives be evaluated in an EIR. Rather, according to Section 15166.6, the alternatives evaluation is limited to those that would reduce or avoid adverse environmental effects. The comment requests that a policy alternative be evaluated. Therefore, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an unrefuted alternative that avoids or substantially reduces an impact caused the proposed project. Any questions raised by this comment on the environmental conclusions associated with the proposed project have been refuted by this response. For these reasons, no modification of the EIR is necessary to respond to the comment.

**From:** [Ernst Schmidt](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP RD TPEIR Comments  
**Date:** Monday, September 22, 2014 10:12:05 AM

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Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Berkeley and ride in Marin and surrounding trails frequently. Mountain biking is an important part of our life as a family of 4. My kids love exploring nature on the bike, it is a great family activity that we can do together all year around.

123-1

I am submitting the following comments:

Safety is of course extremely important. Trail design has a huge impact on trail safety for both multi-use and single purpose trails. Trails do not have to be designed for high speed to be fun to ride, quite to the contrary. Well designed trails have good flow and naturally require riders to reduce speed through sections with limited visibility making them safe for multi-use purpose.

Our environment and the preservation of it is critical. Mountain biking is a very good way for kids to get out there and appreciate nature ensuring that the next generation cares about our environment. The argument that mountain biking is destructive to trails is without foundation. Mountain bikers have proven to be a strong force in trail construction and maintenance.

Mountain bikers represent a very large population of trail users and it is important that our concerns are considered in your planning efforts.

Thank you again for the opportunity to comment.

Sincerely,

Ernst Schmidt  
961 Hilldale Ave  
Berkeley, CA 94708

## Response to Letter 123

**Commenter** Ernst Schmidt  
September 22, 2014

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123-1 *The comment provides opinions regarding trail design and safety, the importance of mountain biking in introducing children to nature, and the limited effects of mountain biking on trail degradation.*

The comment provides opinions regarding a number of issues related to mountain biking and trail design. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

From: [m slate@wtb.com](mailto:m slate@wtb.com)  
To: [Raives, James](#)  
Subject: Policy SW.13  
Date: Saturday, September 20, 2014 7:50:15 AM

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Mark Slate would like information about:  
Dear Mr. Raives,

A sincere thanks for the opportunity to comment here. I live proximate to Marin County Open Space regulated trails. I hike as much as ride bikes, though I have been in the business of providing bicycle parts for trail use for more than 30 years. After all of this time and experience I am extremely sensitive to group use in places of contention. Mutual respect is key. **124-1**

While I agree that Mountain Biking can be dangerous I know that people with little or no bicycle riding experience on unpaved paths tend to think that bicycles are often exceeding their control limits. This is a perception problem.

I would like to suggest that section SW.13: Prohibition on Dangerous Mountain Biking be re-worded. **124-2**

<< Policy SW.13: Prohibition on DANGEROUS Mountain Biking Activities. Mountain biking activities that exceed the established speed limit, are RECKLESS, OR POSE A DANGER to the rider or to other road and trail users, are prohibited.>>

The words DANGEROUS - RECKLESS, OR POSE A DANGER are subjective.

Perhaps a better wording could be:  
<< Policy SW.13: Prohibition on OFFENSIVE Mountain Biking Activities. Mountain biking activities that exceed the established speed limit, are OFFENSIVE to other road and trail users, are prohibited.>>

My revised wording is less than perfect but at least does not suppose that a mountain bike rider is out of control if he or she offends other trail users.

As always I hope for all trail users to have a rewarding experience. Marin County is a great place to live and it would be nice if we all realized how lucky we are to be here.

All the best, sincerely,  
Mark Slate

## Response to Letter 124

**Commenter** Mark Slate  
September 20, 2014

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124-1 *The comment provides introductory information, and states that many safety concerns by non-bikers are based on inaccurate perceptions.*

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

The MCOSD acknowledges the views expressed in the comment. The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSD Board of Directors when they consider the RTMP for approval.

124-2 *The comment suggests a revision to the wording of RTMP policy SW.13.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

**From:** [Ace Thelin](#)  
**To:** [Raives, James](#)  
**Subject:** RD TPEIR RTMP  
**Date:** Wednesday, August 20, 2014 1:09:12 PM

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I am concerned about the Bulldozer work that has been done in the Gary Giacomini Open Space Preserve. Specifically the use of Bulldozers on roads that are being turned back into trails. The work is recompacting the soil in a way that is destructive to the long term health of the forest. It is not preventing erosion. The work is WAY TO HEAVY for what it is trying to accomplish. There is a complex understanding of Ecology here that is difficult for people to grasp. PLEASE be willing to look at this issue. Would you or someone immersed in this issue Please make the time to walk the Forest and have a sincere chat about the best approach for further work. We need to learn from the work we have already done.

125-1

Sincerely,

Andrew Thelin  
Forest Knolls  
415-419-9332

## Response to Letter 125

**Commenter** Andrew Thelin  
August 20, 2014

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125-1 *The comment requests that more consideration be given to the effects on the environment of the use of heavy equipment in converting roads to trails, and cites an example of inappropriate heavy equipment use in the Gary Giacomini Open Space Preserve.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, it expresses concern regarding a current maintenance project being conducted by the MCOSD in the Gary Giacomini Open Space Preserve. Though not required by CEQA, the MCOSD offers the following response to the comment:

- There is a maxim among trail managers that states, roughly “if it takes heavy equipment to build a road or trail, it takes heavy equipment to fix it.” When roads now under the jurisdiction of the MCOSD were initially built, the volumes of soil displaced were large because of the type of equipment used, and this fact has to be considered when the MCOSD looks to repair the erosion caused by that displacement. In many cases, fill slopes for legacy roads were created by a bulldozer, and stream crossings were packed down by a bulldozer. Heavy equipment, a dozer and excavator, are needed to pull back and recompact the hundreds of cubic yards of soil that were initially displaced when these roads were created, and in most cases this soil remains “perched” above streams, thereby leading to sedimentation during storms.
- One management problem the MCOSD has is that many of the legacy roads created from the 1930s to the 1970s and inherited by the MCOSD do not appear to the eye to be “roads.” They are used as trails, and the vegetation that covers them adds to this appearance. But in most cases they are quickly built logging or haul roads that were later abandoned. Geomorphic assessments, however, identify these old roads and the erosion problems inherent to them. These assessments also prescribe fixes that necessitate heavy equipment.

- The comment suggests that the MCOSD not use heavy equipment to do this work. In addition to the conditions created by past heavy equipment use that need to be addressed, the prescription or treatment plans and specifications call for heavy equipment to achieve compaction levels necessary to prevent future erosion. It has been suggested that the MCOSD use shovels and picks to do this work. Not only would that take massive hand crews, but hand methods couldn't achieve the compaction levels that a dozer's weight or excavator's bucket can achieve to repack the slopes so that they will not erode again. When an MCOSD trail crew builds a water bar with hand tools, it is degraded by user traffic (horse, hiker, bike or truck) over each winter, and must be repaired the next year. Rolling dips built by heavy equipment are designed not just to inhibit erosion, but to mimic natural hillslope function, and they do not easily fall apart. Thus, the use of heavy equipment would result in long-term environmental benefits.
- Lastly, the comment identifies this work as "inappropriate." The use of heavy equipment in remedial road management has been implemented successfully on public and private lands from California to British Columbia - basically wherever there are salmonid runs threatened by erosion from roads and trails. The selective use of heavy equipment has been embraced by land management agencies, regulators, and fisheries biologists as effective and appropriate for treating the problem of chronic erosion from roads and trails. The work is not done without environmental review. The work in Giacomini Open Space Preserve cited in the comment was evaluated in a Mitigated Negative Declaration prepared and certified by the California Department of Fish and Wildlife.

The comment pertains to environmental effects of the current and ongoing use of heavy equipment in open space areas. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

**From:** [Wajnowski, Gregory \(GE Corporate\)](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP RD TPEIR Comments  
**Date:** Monday, September 22, 2014 10:11:49 AM

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Dear Mr. Raives:

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and frequently mountain bike in our wonderful open spaces. I also hike these same trails, so can appreciate the point of view of different users. Also, my son is also actively involved in a therapeutic horse riding program, so I spend a good deal of time around horses. I believe there is enough space for all of these activities to be pursued in a manner that maximizes enjoyment, safety and environmental protection for all.

**126-1**

I would appreciate it if we could remove the emotions and opinions from the debate, and try to reach conclusions regarding policies that are based on fact instead of conjecture or the one-off experience of particular individuals. No one that I know who rides regularly is against safety or the ability of hikers and equestrians to enjoy the open spaces. Nor would any of us be against measures designed to preserve the environment, protect against soil erosion, etc. But there needs to be balance, and fact-based decisions. Also, it would help to look at a variety of options, many of which have worked well elsewhere. For example, on the Tahoe Rim Trail, bikers are limited to odd- (or even-) numbered days so that there are days during which the trails are free of bikes entirely. Have we considered piloting a similar program in Marin? Also, many of the people I ride with would happily pay for a permit, the funds of which could be used to maintain trails open to bikers. Again, I'm not sure this has been considered.

All I would ask for is a balanced discussion and approach without the emotional theatrics, and to date I have not seen that.

Best regards, Greg

## Response to Letter 126

**Commenter** Gregory Wajnowsky  
September 22, 2014

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126-1 *The comment expresses the opinion that there is sufficient capacity to allow all activities to use trails, and requests that facts be used to make policy decisions. It also identifies management techniques that permit an equitable distribution of access for various classes of trail users, and suggests that such a system be considered for use in Marin County.*

The comment recommends management techniques for providing an equitable distribution of access to various trail uses. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

From: [Mike Wardenburg](#)  
To: [Raives, James](#)  
Subject: PEIR  
Date: Monday, September 22, 2014 9:54:30 AM

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Dear Jaimes Raives, Senior Open Space Planner

Dear Mr. Raives,

Thank you for the opportunity to comment on the PEIR for the Roads and Trails Management Plan. I live in Marin and have been riding MTB's for 20 years.

Having ridden every trail in Marin, I am 100% certain that mountain bikers care just as much about the environment as any hiker or horse. The fact is that a bicycle does not cause any more harm to the trails or environment than a hiker or a horse.

127-1

Thank you again for the opportunity to comment.

Mike Wardenburg

Novato Ca. 415 257 2110

## Response to Letter 127

**Commenter** Mike Wardenburg  
September 22, 2014

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127-1 *The comment states that mountain bikers have as much concern for the environment as other users, and that bicycles do not do more harm to trails than other users.*

In addition to providing some background information, the comment asserts that mountain bikes do no more harm to trails than other trail uses. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

The MCOSD acknowledges the views expressed in the comment. The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSD Board of Directors when they consider the RTMP for approval.

**From:** [Donald Watson](#)  
**To:** [Raives, James](#)  
**Subject:** RTMP  
**Date:** Friday, August 08, 2014 7:30:02 PM

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I just recently received the RTMP which outlines various aspects as to what will happen with the open spaces within Marin County. I didn't see it specifically addressed, but I would like to bring up a subject that created a lot of controversy in our development. I live at 48 Canyon Oak Dr, in San Rafael. My house directly borders the open space area just south of Jerry Russom Park. The open space is governed by Marin County Parks Preservation and Recreation Dept. The Jerry Russom field is still maintained by the City of San Rafael. Each year in late April or May, the Conservation Corp. has cut the tall weeds behind our property to create a "safety zone" for fire protection. This year that did not happen because of a concern for "nesting birds". In one letter, we are told we had to cut the safety zone and in a following letter we were told the area could not be cut due to the nesting bird problem. It was a case of "dammed if you do and dammed if you don't". After myself and several of my neighbors wrote letters to the Open Space Administration trying to clarify the situation, we finally were able to get the Open Space District to cut the safety zone in late June. We want to obey the law and also protect our homes so we need a policy to address this situation. Is this RTMP program going to address this? I would be happy to talk to anyone in your office that wants clarification on this issue.

**128-1**

Donald Watson  
48 Canyon Oak Dr,  
San Rafael, CA 94903  
bigdee99@comcast.net  
(415) 479 7335

## Response to Letter 128

**Commenter** Donald Watson  
August 8, 2014

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128-1 *The comment inquires whether the RTMP contains a policy related to the cutting of grass on public lands for fire protection versus protecting nesting birds.*

The RTMP does not address any fuel reduction for fire protection purposes. Concurrent with the RTMP, the MCOSD is developing a Vegetation and Biodiversity Management Plan (VBMP). The VBMP addresses fuel reduction (including grass cutting) for fire protection and includes best management practices to protect wildlife, including nesting bird habitat. The MCOSD is currently working on an EIR for the VBMP, which the MCOSD expects to release to the public in early 2015.

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

**From:** [eweissarch@gmail.com](mailto:eweissarch@gmail.com) on behalf of [Earle Weiss](#)  
**To:** [Raives, James](#)  
**Cc:** [Mike McDermott](#); [Mike Wardenburg](#); [Greg, Selina & Zachery Wajnowshi](#); [Bryan Costello](#); [Costello Chris](#); [Robert Simon](#); [Alissa VanLeuven](#); [David Lawrence](#); [Richard Lawrence](#)  
**Subject:** Re: Comments due Monday (tomorrow), Forward to your mtb friends  
**Date:** Monday, September 22, 2014 3:03:38 PM

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Dear Mr. Raives:

I can understand how hikers can be started by bikes on the trail. As an avid mountain biker, I do not want to see hikers, or horses, any more than they want to see me. Even in the best cases, it is not an ideal mix.

129-1

As you know, the number of bikers is steadily increasing, putting even more strain on the trail system. A similar situation was occurring in Bend, Oregon. Their solution was to separate hikers and horses by allowing local bike groups, to establish 'bike only trails'. To avoid incurring cost, Bend allowed the local bike groups to resurrect old trails, and in some cases, under strict supervision, build new trails. Bend is now a world class destination for both bikers and hikers.

Often erosion and environmental damage is cited as an argument against bike trails. It should be noted that bikers hate bad trails, and where allowed, spend many hours in trail improvement and maintenance. A good example is the Tamarancho system; bikers build and maintain the trails which are largely separate from the hiking trails. Many, many volunteer hours are spent in keeping bike trails safe and sustainable.

129-2

Our streets now feature dedicated bike lanes. Given the volume of bikes, our recreation areas should have dedicated bike trails as well. Given the enthusiasm from local High School teams, Bike Shops, and other bike groups, there would be no shortage of volunteer work to make this happen. All we need is permission.

129-3

Sincerely,

Earle Weiss, Larkspur

## Response to Letter 129

**Commenter** Earle Weiss  
September 22, 2014

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129-1 *The comment states that mountain bikes, bikers, and equestrians are incompatible uses, and that single use facilities should be developed for bikes.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

129-2 *The comment states that, rather than being a source of trail damage, mountain bike riders are trail stewards. The comment cites Tamarancho as an example.*

The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

The MCOSD acknowledges the views expressed in the comment. The views conveyed by the comment will be presented to the Parks and Open Space Commission and the MCOSD Board of Directors when they consider the RTMP for approval.

129-3 *The comment states that since streets have dedicated bike lanes, so should the MCOSD have dedicated bike trails to serve an increasing ridership and to benefit from the volunteer efforts of riders.*

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment. For a staff assessment of the policy suggestions contained in this comment, please refer to the companion document, entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors.

From: [Suzanne de groot](#)  
To: [Raives, James](#)  
Date: Monday, September 22, 2014 10:52:12 PM

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Marin County Parks and Open Space District  
3501 Civic Center Drive, room 260  
San Rafael, CA 94903

Attention: Mr. James Raives, Senior Open Space Planner

Dear Mr. Raives,

Thank you for the opportunity to comment on the Road and Trail Management Plan –  
Recirculated Draft

Tiered Program Environmental Impact Report (RD TPEIR).

1. Evaluation Tool. In the evaluation tool criteria, neither safety “bmps” nor displacement of other users were factored in. **130-1**
2. Fire hazard. As a resident of one of the most fire prone areas in Marin (Cascade Canyon, Fairfax) I, and other neighbors, have grave concerns about any increase in visitor traffic, especially any change in fire road status to more narrow trails. Also, many of us are already concerned with the level of night riding on illegal trails, and day time riding openly on signs clearly marked "No bikes". Any increase in the intensity of bike traffic would be a negative to this preserve and increase the threat of fire and the safety of slower users, not mention increased danger to animals and children from speeding(and yes, they do) riders. **130-2**
3. Races and technical competitions, and training for this events. These uses should be prohibited from all open space roads and trails. Any developing of trails for exclusive mountain. bike use threatened wildlife(as well as domestic pets), and only invites more out of the area visitation and increases the intensity of use. And, specifically, in Cascade Canyon, no Thanksgiving Ride should occur. **130-3**
4. Wildlife. I wholeheartedly support the installation of wildlife cameras and the gathering of data. The plan should make allowances to modify use based on data as it is received including banning night riding of bikes. **130-4**
5. Policy SW 15. I support this policy for active participation of all users in legal uses of the preserves. **130-5**

Those user groups who do not comply with regulations, should not be extended any additional opportunities for new or modified trails for their benefit. A transparent process is needed where citations, warnings, observations, etc. are compiled and published monthly.

Thank you again for your hard work on this plan,

Sincerely,  
*Suzanne De Groot*  
629 Cascade  
Drive Fairfax, CA

## Response to Letter 130

**Commenter** Suzanne De Groot  
September 22, 2014

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This comment was received by the MCOSD after the closure of public comment period on September 22, 2014. Although CEQA does not require that the MCOSD respond to late comments (State CEQA Guidelines Section 15207), the MCOSD is responding to this and other late comments in order to fully reply to all who commented.

130-1 *The comment criticizes the evaluation tool presented in the RTMP.*

The comment pertains to the evaluation tool presented in the RTMP. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

130-2 *The comment expresses concern about fire hazards in the Cascade Canyon area, and the effect on fire safety of changes in fire road status, increases in night riding, and illegal access by bikes on trails not signed for their use.*

Fire hazards are evaluated in Impact HAZ-4 in Chapter 10, *Hazards and Hazardous Materials*, of the RD TPEIR. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 130-3 *The comment requests that races and technical competitions, including the Appetite Ride, be prohibited from all open space roads and trails.*

Policy SW.13 of the RTMP prohibits dangerous operations by mountain bikers. Policy SW.16 permits the MCOSD to prohibit or restrict uses that compromise safety. Special Use policies SP-1 and SP-3 require that all organized events obtain a permit from the MCOSD prior to the event, and prohibit unofficial, non-sponsored group activities involving more than 15 participants.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused by the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 130-4 *The comment expresses support for the use of wildlife cameras to gather data, and requests that the data from these cameras be used to ban night bike riding.*

The comment expresses an opinion about the use of wildlife cameras and night mountain bike riding. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused by the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 130-5 *The comment supports RTMP Policy SW.15 regarding MCOSD expectations for the active cooperation of users and groups, and ties the provision of additional recreational opportunities to the demonstrated cooperation of user groups.*

The comment expresses support for RTMP Policy SW.15. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.



# Friends of Corte Madera Creek Watershed

P.O. Box 415 • Larkspur • California 94977

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September 22, 2014

**Letter 131, Page 1**

James Ravas  
Marin County Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael CA 94903-4157  
[jraives@marincounty.org](mailto:jraives@marincounty.org)

Re: RTMP and RDTPEIR Comments

Dear Mr. Ravas,

This letter contains Friends of Corte Madera Creek Watershed's criticisms on the Road and Trail Management Plan Recirculated Draft Tiered Program Environmental Impact Report. As with the DTPEIR, because the RDTPEIR finds that the policies and BMP's contained in and related to the RTMP will reduce the RTMP's impacts on the OSD's preserves to below a significant level, it is necessary to address both the RTMP and the RDTPEIR in this letter. Unfortunately, while we are aware that Marin County Parks has invested considerable effort in revising the RTMP to address the concerns of the public, the current draft of the RTMP still has many shortcomings.

## **The RTMP Needs A Monitoring Program To Measure Implementation of Policies, BMPs, and Standards** **131-1**

The RDTPEIR finds repeatedly that implementation of the policies, BMPs, and standards of the RTMP would avoid, or reduce to an insignificant level, adverse effects to the resources of the preserves. But the RTMP does not contain a program to monitor the implementation of these provisions in the day-to-day management of the preserves; and the RDTPEIR doesn't analyze the likelihood of these policies being implemented successfully, e.g., whether the limited financial resources of the MCOSD would allow for successful implementation.

The Marin Conservation League put it well in their comments on the DTPEIR: "The TPEIR needs to explain how [the system-wide policies] will be applied, along with standards and BMPs, to ensure that impacts of future projects will indeed be mitigated." What is the standard for implementation of the various policies many of which are vaguely worded? The RDTPEIR should analyze this issue and provide guidance on how rigorously the RTMP's provisions need to be implemented and followed to guarantee that adverse effects are reduced to below-significant level.

Implementing BMPs and standards may be straightforward when planning and executing new projects, but it is unclear how the MCOSD will implement the policies that govern much of the day-to-day management of the preserves. The no-significant-impact/zero-mitigation RDTPEIR seems to rest on an untested assumption that having policies, BMPs, and design standards will result in impacts being reduced to a less-than-significant, taking for granted the fact that these provisions will be implemented. This assumption should be examined more thoroughly in the Final TPEIR and the RTMP should have a monitoring program to measure how well policies, BMPs, and standards are being implemented and adhered to.

## **RDTPEIR Should Analyze Impacts of the Road and Trails System Designation Process**

**131-2**

The RDTPEIR does not address possible impacts from the process of determining the designated system of roads and trails. RTMP Chapter 5, Road and Trail Decision-Making Process, says that the process will determine, "the road and trail system it will designate, manage, and maintain." But the RTMP does not address the issue of changes in use on illegal, unmaintained trails that may be legalized through the designation process, i.e., the increase of use of these trails. The RDTPEIR assumes that users will follow rules concerning trail use to a degree, which will eliminate impacts

of prohibited uses. If that is the case, the RDTPEIR should explain how designating illegal trails as legal will not result in adverse effects from the increase in use on those trails by the balance of users which adhere to the preserves' rules. **131-2, cont.**

There is also no guidance of any kind in the RTMP Policy SW.2 (System Roads and Trails) concerning total size of the future designated system. How is it possible to measure potential cumulative effects of the RTMP if the size of the future designated road and trail system is not discussed in any detail? The size and extent of the future road and trail system will affect the degree to which the MCOSD can implement the many policies of the RTMP. This should be addressed in the RDTPEIR and in the RTMP. **131-3**

**Policy SW.3 (Social Trails) Should Prohibit Creation of Social Trails and Discourage Social Trail Use** **131-4**  
Policy SW.3 (Social Trails) allows the continued existence, pedestrian use, and future creation of social trails. It provides for the potential decommissioning of these trails in certain instances all of which rely on some kind of monitoring of these trails. The RDTPEIR does not explain how this policy does not result in a significant adverse effect on the preserves' resources. And there are few measures in the RTMP that provide for the monitoring of these trails. Even if the RTMP recognizes that social trails will continue to exist after the designation of system trails and roads is complete, there should be a stronger policy governing the use of social trails.

**The RTMP Should Address Enforcement Issues**

The RTMP contains a number of policies prohibiting uses that have a negative impact on the preserves but it contains very little about enforcement of these policies. The RD TPEIR should analyze what level of enforcement will be necessary to prevent the effects these prohibited uses could have on the preserves. Prohibitions will be toothless if there are not substantial enforcement measures in place and some way of monitoring the success of these measures. The web-based incident reporting system might provide useful information, but it will not prevent any of these prohibited uses from occurring. **131-5**

**Lack of Knowledge On Wildlife Resources Should Be Addressed**

The MCOSD lacks sufficient knowledge of the wildlife populations, corridors, and migration routes to make informed decisions in the system roads and trails designation process and manage the system effectively. The lack of wildlife information will limit the effectiveness of the criteria-based tool. The addition of a monitoring program to the RTMP is a step in the right direction. But the monitoring program needs to be outlined in much greater detail. The RTMP and RDTPEIR should also address how the gap in wildlife documentation will be dealt with in the system designation process. **131-6**

Sincerely,



Sandra Guldman, President

## Response to Letter 131

**Commenter** Sandra Guldman  
Friends of Corte Madera Creek Watershed  
September 22, 2014

This comment was received by the MCOSD after the closure of public comment period on September 22, 2014. Although CEQA does not require that the MCOSD respond to late comments (State CEQA Guidelines Section 15207), the MCOSD is responding to this and other late comments in order to fully reply to all who commented.

131-1 *The comment requests that a monitoring program be adopted to ensure and assess the implementation of the RTMP's policies, design and construction standards, and best management practices.*

As requested by the comment, the MCOSD will develop a project development worksheet as a component of the RTMP to track the implementation of RTMP policies, standards, and best management practices for individual projects. Please see Appendix A of this Final EIR for a draft of this worksheet. The MCOSD will complete this worksheet for all implemented reconstruction, rerouting, active decommissioning, active road to trail conversion, new construction, and planned maintenance projects as defined in Tables 5.1 of the RTMP and 3-6 of the RD TPEIR. The worksheet will serve as a guide to MCOSD staff in the completion of necessary studies prior to project design, in the proper use of design and construction standards, and in the implementation of best management practices during construction or maintenance. The worksheet for each project will be available to members of the public upon request. For additional information, please refer to the responses to comments 101-3 and 104-12.

This modification clarifies the project description of the RTMP, and increases its utility. The comment does not identify any new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused by the proposed project, nor does it question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

131-2 *The comment states that the RD TPEIR should analyze potential impacts arising from the road and trail designation process. The comment correctly states that the designation process may result in the inclusion of what are now illegal trails into the designated system. The comment speculates that the levels of use may increase after the re-designation of such trails from illegal to legal, and that the TPEIR should evaluate this potential.*

The roads and trails that will be considered for inclusion in the designated system already exist. As set forth in RTMP policy SW.2, the MCOSD will consider roads and trails that existed in November 2011 for inclusion in the designated system. By definition, these roads and trails would be considered to make up a portion of the existing setting. As a component of the existing setting, the selection of a subset of these existing roads and trails for continued maintenance and repair would not by itself result in any new adverse

environmental effects. Indeed, the intent of the RTMP is to focus the limited ability of the MCOSD on the reduction in adverse environmental effects generated by roads and trails within the MCOSD's open space preserves. For further discussion of the existing baseline, future conditions both with and without the RTMP, and the potential effects of implementing the RTMP, please see responses to comments 96-1 and 96-3 in this Final TPEIR.

As set forth in comment 96-1 and the MCOSD's response to comment 96-1, the use of MCOSD preserves has increased over time, and would continue increasing in the absence of the RTMP. Regarding the potential for increases in the intensity of use with implementation of the RTMP, the RTMP does not specify the facilities contained within the designated road and trail system, nor does it specify the location, design, or permitted uses of any individual future project or projects. None of the components of the RTMP, acting either individually or in concert with one another, permit the MCOSD to engage in any maintenance, construction, or management action that was not previously permitted under existing regulations and policies that govern the MCOSD. That implementation of the RTMP could shift the location and intensity of uses is considered in the RD TPEIR in Section 4.5 in concept and in Chapters 5 -14 for each issue area. As noted in Section 4.5 of the RD TPEIR, the analysis assumes that coverage impacts (such as those to biological resources) could occur anywhere within any of the MCOSD's 34 open space preserves. Regarding potential changes in the intensity or location of uses, Section 4.5 of the RD TPEIR additionally notes that:

Because of the lack of historical trend data on public use of the preserve system and the difficulty in distinguishing between other factors (e.g., population growth or changes in regional recreation patterns) that may increase use, it is impossible to determine if and to what degree the RTMP would result in increased use of the preserves. It is possible that an improved road and trail system could attract new users, but any assumption about the magnitude of this increase would be speculative. Additionally, the MCOSD did not design the RTMP to increase use of the preserves, rather it is intended to reduce the existing level of resource impacts from the road and trail system and to improve visitor experience and visitor safety. However, in order to comprehensively address potential environmental impacts from the RTMP, the RD TPEIR assumes that the location of activities could change from those that existed on January 31, 2011. The potential environmental effects of this displacement within MCOSD preserves are evaluated in Chapters 5 through 14 of this RD TPEIR.

Thus, the RD TPEIR has anticipated and properly documented the potential effects of increased intensity given the nature of the RTMP project, the degree of specificity required of the TPEIR, and CEQA's discouragement of speculation in the analysis of potential impacts (State CEQA Guidelines Section 15145).

Additionally, the designation of the road and trail system is a discretionary action that is subject to CEQA. As such, the MCOSD will tier its environmental review of the proposed designation from the RTMP TPEIR. If the MCOSD determines that the environmental effects from the designation of a road and trail system result in new or more significant

impacts beyond those considered in this TPEIR, it will evaluate the environmental effects of the designation through a negative declaration or environmental impact report, as appropriate.

As set forth in the previous discussion and responses to comments 96-1 and 96-3, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

131-3 *The comment states that RTMP does not provide guidance regarding the ultimate size of the designated road and trail system, and that this makes it impossible for the TPEIR to accurately assess the potential impacts of implementing the RTMP.*

The comment is correct. However, the implication of this comment that the RTMP is essentially a road and trail circulation plan that identifies the location and types of new road and trail facilities gives rise to a substantial misunderstanding of what the RTMP is and what it is not. This misunderstanding in turn results in a misperception of the types and magnitudes of impacts that would be engendered by the implementation of the RTMP.

Please see responses to comments 96-1 and 96-3 for a discussion of the RTMP project's environmental baseline, and the TPEIR's compliance with CEQA requirements for the contents of EIRs and analyses contained within them.

As developed more fully in the responses to comments 96-1 and 96-3, with respect to the environmental baseline:

- An extensive road and trail system currently exists within the MCOSD open space preserves, most of which the MCOSD inherited when it acquired the various parcels. These facilities have high, and increasing, levels of use, which have resulted in a range of past and ongoing adverse environmental effects.
- Past, current, and ongoing maintenance, construction, and administration of the road and trail system are conducted by the MCOSD without a comprehensive strategy to avoid or reduce adverse environmental effects. These activities without a comprehensive strategy would continue into the future without the RTMP.

A description of the RTMP and its potential for adverse environmental effects is more fully developed in response to comment 96-3 and summarized here:

- The RTMP consists of policies, design and construction standards, best management practices, and a decision tool to aid in the identification and design of environmentally beneficial projects.
- The overarching purpose of the components of the RTMP is to avoid or reduce environmental harm during maintenance and construction, and to reduce over time the environmental footprint of existing facilities by decommissioning, maintaining, rerouting, or improving roads and trails to reduce sources of sediment and incursion into sensitive biological habitat.

- The MCOSD has in the past and will continue to maintain, construct, and manage the road and trail system. No aspect of the RTMP would expand or modify the range of activities being conducted by the MCOSD. They would continue even in the absence of the RTMP.
- Implementation of the RTMP by itself would not result in an increase in the rate or number of activities pursued by the MCOSD in any given year. The number and type of maintenance, construction, and management activities that occur from year to year is a function of the MCOSD budget, which is unaffected by the RTMP.
- The RTMP would not: expand the range of maintenance, construction, or management activities above those currently conducted by the MCOSD; increase the rate or number of such actions above levels currently initiated or completed by the MCOSD in any given time period; or provide additional funding that could result in an increase in the rate or number of activities in a given time period. The RTMP merely organizes and prioritizes maintenance, construction, and management activities with the goal of reducing environmental harm over time, and provides policies, standards, and best management practices where none currently exist to avoid or reduce environmental harm arising from the management and use of roads and trails within open space preserves.

Thus, the notion that implementation of the RTMP would result in new or significantly increased impacts from a larger road and trail system is not consistent with the degraded state of the existing environment or the goals and substance of the RTMP. As set forth above, and in response to comment 96-3, the comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

131-4 *The comment disagrees with RTMP policy SW.3 regarding existing social trails, and states that the TPEIR should evaluate the potential effects of implementing this policy.*

The comment selectively cites the components of policy SW.3. Policy SW.3 merely recognizes that social trails currently exist and that new social trails may be created in the future through no action of the MCOSD both with and without approval and/or implementation of the RTMP. The policy merely seeks to establish the conditions under which social trails would be subject to action by the MCOSD. As stated in the RTMP, existing and future social trails would be subject to closure or decommissioning under the following circumstances: if they result in unacceptable levels of erosion, or damage or disruption to plants and wildlife; their volume of use increases and/or they are used by equestrians or bikers. Thus, social trails that generate adverse environmental effects would be closed or decommissioned.

Additionally, many of the social trails regulated under policy SW.3 are existing. CEQA does not require an evaluation of the environmental effects of existing conditions; rather, the act requires that the potential effects of a project on the existing environment be assessed. Since many of the social trails exist, they would be considered as part of the existing environmental conditions with MCOSD's open space preserves. For additional information about CEQA

requirements to regarding existing conditions and the environmental analysis of projects, please refer to the responses to comments 96-1 and 96-3.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 131-5 *The comment states that the RTMP should address enforcement issues. The comment states that the RD TPEIR should determine the proper amount of enforcement necessary to ensure that illegal or prohibited activities do not result in adverse environmental effects.*

The level of enforcement provided by the MCOSD is a function of the funding for such activities as annually budgeted by the Board of Directors. Should the public perceive that the level of enforcement is insufficient to assure user safety or prevent illegal activities that result in environmental harm, they may seek to increase the budget for enforcement in succeeding years. The issue of the level of enforcement of existing rules and regulations regarding user conduct is not within the purview of CEQA. See responses to comments 96-1, 96-3, 96-6, and MR-2 in this Final TPEIR.

As noted in the RD TPEIR (p. 3-60), the MCOSD has implemented a web-based incident reporting system to permit the public to easily provide information to the district regarding road and trail problems, including use violations and observed trail degradation. The form is available at:

<https://forms.marincounty.org:8443/lc/content/xfafoms/profiles/PKOSIncidentRpt1.1.html>

The comment requests that additional content be added to the RTMP. The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

Rather, the comment recommends that the District modify the proposed project to include new or different policies and practices. The views conveyed by this comment will be assessed in a companion document entitled *Analysis of Policy-Related Comments*, which will be

included as an attachment to the letters submitted to the Parks and Open Space Commission and the MCOSD Board of Directors. In the event that the Board intends to follow this and/or other recommendations, staff will assess the effect of the inclusion of new or different policies on the conclusions contained in the EIR.

- 131-6 *The comment notes that the MCOSD lacks comprehensive information regarding wildlife within its open space preserves. The comment requests that the RD TPEIR evaluate the potential for environmental effects engendered by this lack of information during the process to designate the road and trail system.*

See responses to comments 96-1, 96-3, and 131-3. Additionally, the MCOSD is pursuing a Multi-year wildlife monitoring program in the RTMP as discussed in Section 3.9.2 of the RD TPEIR, and Chapter 6 of the RTMP. The MCOSD will incorporate the information generated by this program into its road and trail decision making process and management actions.

The comment does not identify any unrefuted new or significantly increased impacts beyond those evaluated in the RD TPEIR, nor does it propose an alternative that avoids or substantially reduces an impact caused the proposed project, nor does it unrefutedly question the environmental conclusions of the RD TPEIR as to the potential impacts associated with the proposed project. For these reasons, no modification of the EIR is necessary to respond to the comment.

**From:** Meylan Construction joe@meylanconstruction.com  
**Subject:** Road and trail management plan  
**Date:** September 28, 2014 at 11:49 PM  
**To:** Raives, James JRaives@marincounty.org

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September 27, 2014

Marin County Parks and Open Space District  
3501 Civic Center Drive, Room 260  
San Rafael, CA 94903

Attention: Mr.Raives

Dear Mr Raives,

I greatly appreciate your consideration of my request to improve the access for all citizens including equestrians, hikers and Mt bikers in the development on the PEIR for the Roads and Trail Management Plan. I have lived in Marin for over 30 years and not only voted for measure A several years ago, I conducted many conversations with friends, neighbors, coworkers and fellow outdoor enthusiast to support the county open space and parks. I hope that my support will yield the benefits and improvements promised.

132-1

I grew up in rural Walnut Creek riding horses and roaming the hills of the open space surrounding our home. I move to Marin because I appreciated how the mountains and wilderness were protected from development. While I cannot afford to own a horse, I still enjoy hiking the local trails whenever I can, as do my wife and children and know that spending time in nature is import to having balance in life and appreciation of the world we live in.

During my life in Marin I have come to realize that the best way to access and enjoy the open space is via Mt bikes. I am significantly disappointed by the lack of balance that favors hikers and horses over bicycles. Studies by the Department of the Interior, California State Parks and even the Sierra Club consistently prove that Mt biking has no more negative impact on the environment than hikers and is significantly less damaging than riding horses. We are constantly vilified unjustly. No doubt there have been cyclist who go too fast, or pass hikers or horses unsafely and I am aware of illegal trails built by cyclist, and they give the rest of us a bad name. The number of secondary trails created by hikers out numbers the ones from cyclist 10 to 1, the amount of damage caused by horses vs bikes is probably greater than that, yet the proportion of trails available to cyclist is the inverse. Why are trails available to only hiker and horses and not bicycles, yet there are no trails that only allow Mt bikes? The rational used for current policies must be same that required African Americans to have to sit in back of the bus.

Because we have to drive to other counties to ride on single track trails, I am constantly asked by the local residents “ why is Mt biking against the law in Marin?” When I go back to Walnut Creek and ride the open space there I wonder why we can’t have trails in Marin. The same for Southern California, the Sierras, Oregon and Utah. There is proof that all three groups can co exist.

The local Mt bikers should get credit for saving China Camp and have given the Boy Scout camp at Tamarancho a second life. We are even willing to pay for the cost of building and maintaining the trails, iust look at the support for the new bike park at Stafford Lake. Sales of Mt bikes and accessories

support the local economy, not to mention the tax base.

**132-1,  
cont.**

I plead with you to base your Road and Trail Management Plan on the facts and results of the many studies completed by the Federal and State government, environmental groups and agencies and other counties and local governments rather than the hysteria of the few vocal residents. Please help make this a great place to live and to raise future healthy generations.

I acknowledge that your task is not easy and appreciate the opportunity to comment.

Sincerely,

Joe Meylan and family  
150 Willow Ave  
Corte Madera CA 94925  
(415) 924-5109  
joe@meylanconstruction.com

## Response to Letter 132

**Commenter** Joe Meylan  
September 27, 2014

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This comment was received by the MCOSD after the closure of public comment period on September 22, 2014. Although CEQA does not require that the MCOSD respond to late comments (State CEQA Guidelines Section 15207), the MCOSD is responding to this and other late comments in order to fully reply to all who commented.

132-1 *The comment voices support for improved access for all uses on open space trails. It also asserts that mountain bikes are no more dangerous and create no more environmental damage than other uses. It requests that other sources of information on these subjects be included in the RTMP. It requests that more access to trails be provided for mountain bikes. These issues are based in part on the sections designated as MR-2 through MR-4, MR-6 to MR-8, and MR-10 through MR-12 in the comment letter template prepared by Access4Bikes.*

For a response to these comments, please refer to the master responses to the Access4Bikes template for comments MR-2 through MR-4, MR-6 to MR-8, and MR-10 through MR-12 beginning on page 3-21 of this Final TPEIR

4.1 CHANGES TO THE ENVIRONMENTAL IMPACT REPORT

This chapter sets forth all substantive changes to the Environmental Impact Report (TPEIR) that occurred after publication of the Recirculated Draft TPEIR (RD TPEIR). Such changes update or correct misinformation or errors in the text, as well as changes made in response to public and agency comment on the RD TPEIR. Within this chapter, additions to text are indicated by underlining; deletions of text are designated by ~~striking through~~.

The chapter and section references are ordered as they appear in RD TPEIR. If a RD TPEIR chapter or section does not appear in this Chapter 4, no corrections or modifications were necessary. There would be no change in the residual significance of identified impacts with the updated information presented below, and no further modification of the TPEIR would be necessary.

3 PROJECT DESCRIPTION

3.7 ROAD AND TRAIL VISITOR USE POLICIES AND MANAGEMENT (RTMP CHAPTER 4)

3.7.2 Policies Directing the Management Of Road And Trails within The MCOSD Preserves

Table 3-2 Countywide Plan and Existing MCOSD Policies Governing MCOSD Roads and Trails

Marin Countywide Plan  
*Natural Systems & Agricultural Element - Trails*

TRL-2.m: Maintain Trails in a Sustainable Manner.

Consider and implement as appropriate:

- Using natural materials
- Using longer-lasting materials
- Using recycled materials
- Reducing or avoiding use of chemicals
- Scheduling maintenance activities to avoid disturbing the nesting and breeding seasons of sensitive species
- Exploring alternatives to fossil fuels for maintenance vehicles and equipment
- Rebuilding and/or realigning trails with chronic maintenance problems
- Seasonal trail closures
- Removal of invasive exotic plants

### **3.9 ROAD AND TRAIL STANDARDS AND BEST MANAGEMENT PRACTICES (RTMP CHAPTER 6)**

#### **3.9.2 Best Management Practices**

Consistent with the MCOSED Strategic Plan (2008), one of the goals of the RTMP is to reduce the environmental impact of roads and trails on sensitive resources, habitats, riparian areas, native and special status plant and animal species. To achieve this goal, the Strategic Plan recommends BMPs to reduce sedimentation from roads and trails, to preserve in-stream habitat and protect populations of rare and threatened or endangered fish species, and to protect water quality.

As defined by the RTMP, a BMP is a practice, or combination of practices, that have been determined to be most effective and practicable in preventing or reducing the amount of pollution generated, or the level of environmental harm created, from an activity to a level compatible with environmental goals and regulatory standards. Within the context of this definition, the RTMP provides a programmatic set of BMPs for all road and trail management activities.

Prior to any road and trail management work, the MCOSED will secure all applicable authorizations and permits from federal, state, and local resource and regulatory agencies. When required, this process will typically result in implementation of measures to protect natural and cultural resources, protect air and water quality, and reduce construction nuisance effects (e.g., dust and noise). These requirements will be in addition to RTMP BMPs. Where these measures overlap, the more protective measure will apply.

For projects not requiring permits or regulatory involvement, the RTMP BMPs will be implemented to protect sensitive resources. The BMPs will standardize practices when planning, designing, and constructing any road and trail management action. The RTMP BMPs will address following categories<sup>1</sup>:

- General Requirements
  - Construction Contracts Procedures
  - Worker Training
  - Inspections
  - Project Footprint limitations
  - Vegetation Management
  - Erosion Control
  - Trash Control
  - Soil Disturbance
  - Offsite Soil, Aggregate, or Other Construction Materials
  - Prevent or Reduce Potential for Pollution
- Sensitive Natural Resource
  - Modify Management Practices Near Sensitive Natural Resources

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<sup>1</sup> For detailed information regarding the requirements of the BMPs, please refer to Chapter 6, *Road and Trail Standards and Best Management Practices*, specifically the Section of Chapter 6 entitled, *Best Management Practices*, and Tables 6.1 through 6.11 of that Chapter.

- Biological Resources
  - Road and Trail Construction – General
  - Road and Trail Maintenance – General
  - Road and Trail Decommissioning – General
  - Special Status Wildlife Protection
  - Special Status Plant Protection
  - Invasive Plant Management
  - Construction Contracts
- Cultural Resources
  - Cultural Resources Protection
- Hydrology and Water Quality
  - Water Quality Protection and Erosion Control
  - Road and Trail Damage and Water Quality
- Geological Hazards
  - Protection against Geological Hazards
- Air Quality
  - Road and Trail Air Quality
- Noise
  - Road and Trail Construction Noise

## 4 INTRODUCTION TO THE ENVIRONMENTAL ANALYSIS

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### 4.6 ~~SELF MITIGATION IN THE RTMP PRESENTATION OF MITIGATION IN THIS RD RTMP~~

As drafted, The RTMP is intended to reduce adverse environmental conditions within and adjacent to MCOSD open space preserves over time related to road and trail facilities and use. The RTMP consists of policies, road and trail construction standards, best management practices, and a decision making tool and process that together would result in a lower level of environmental effects than existed in January 2011 or than currently exist as of the date of this Final TPEIR. As confirmed by the analysis presented in this TPEIR, the implementation of the RTMP's beneficial or protective measures in the decommissioning, maintenance, construction, or management of MCOSD roads and trails would necessarily result in a reduction in environmental harm or adverse environmental conditions. Thus, for all potentially significant impacts, the RTMP has identified measures that act to mitigate potential effects. In this way, the various components of the RTMP act as mitigation measures as defined by Section 15370 of the State CEQA Guidelines.

To ensure that all required polices, standards, and best management practices are implemented in the planning, evaluation, design, construction of subsequent road and trail projects, the MCOSD will develop a project development worksheet, a draft of which is in Appendix A of this Final TPEIR.

The MCOSD will complete this worksheet for all implemented reconstruction, rerouting, active decommissioning, active road to trail conversion, new construction, and planned maintenance projects as defined in Tables 5.1 of the RTMP and 3-6 of the RD TPEIR. The worksheet will serve as a guide to MCOSD staff in the completion of necessary studies prior to project design, in the proper use of design and construction standards, and in the implementation of best management practices during construction or maintenance.

The completion status of the worksheets will vary with the development stage of each project. For projects in the design phase, many of the necessary environmental studies will be noted on the worksheet to be in process, as will the application of design standards. As the project is fully designed and construction is completed, the worksheet will become fully completed. As designed, the worksheet will be accompanied by completed studies, design plans, construction contracts, field monitoring reports, and inspection records. Upon request, the worksheet and all supporting materials will be available for public review from the MCOSD.

~~Mitigation measures are identified in this report to reduce the identified impacts below a level of significance. Where implementation of more than one mitigation measure is needed to reduce an impact below a level of significance, all required mitigation measures are presented and described.~~

~~Mitigation measures in this RD TPEIR are formulated to be consistent with the strategy as set forth in State CEQA Guidelines Section 15370 as follows:~~

- Avoiding the impact altogether by not taking a certain action or parts of an action
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation
- Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action
- Compensating for the impact by replacing or providing substitute resources or environments

## 4.7 FREQUENTLY USED TERMS

### Conversions and Equivalencies

- 1 acre = 43,560 square feet
- 1 square mile = 640 acres
- 1 mile = 5,280 feet

**Implementation** - This term implies that something is constructed and becomes operational, or a policy or procedure is enacted and becomes effective.

**Project Area** - The RTMP project area includes all 34 MCOSD open space preserves. For more information regarding the location and area of the project, see Chapter 3, *Project Description*.

**No Impact (NI)** – No impact is a category of impact where there would be no change in the environment as the result of implementing the project, typically because an environmental resource

is not present in the project area, or the project does not emit, use, or generate substances that would affect an environmental resource.

**Less-than-Significant Impact (LS)** - A less-than-significant impact is an impact that would not result in a substantial and adverse change in the environment and would not require mitigation.

**Significant Impact (PS)** - CEQA (PRC Section 21068) defines a significant impact as that which has “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project.” Levels of significance can vary by project, based on the change in the existing physical condition and the “...substantial body of opinion that considers or will consider the effect to be adverse...” The State CEQA Guidelines provide a list of consequences that would normally be regarded as having a significant effect on the environment. This RD TPEIR uses the CEQA definition of significant impacts together with the local environmental standards established by the regional and local agencies. ~~Mitigation measures are proposed, when feasible, to reduce the magnitude of significant impacts. No significant impacts that would result from implementation of the RTMP are identified in this RD TPEIR.~~

**Significant and Unavoidable Impact (SU)** - A significant and unavoidable impact is one that would result in a substantial adverse effect on the environment which could not be mitigated to a less-than-significant level. A project could still proceed with significant unavoidable impacts, but the County would then be required to prepare a Statement of Overriding Considerations, pursuant to State CEQA Guidelines Section 15093, that would explain why the MCOSD would proceed with the project despite the occurrence of the impacts. No significant and unavoidable impacts are identified in this RD TPEIR ~~to~~ that would result from implementation of the RTMP.

**Sensitive Natural Resources** – Any sensitive resource area as defined below, any habitat for sensitive species as defined below, or any native resident or migratory wildlife corridor or native wildlife nursery site, including any riparian habitat, wetland, or other sensitive natural community identified in local or regional plans, policies, regulations, or designation by the California Department of Fish and Wildlife, US Fish and Wildlife Service, or the US Army Corps of Engineers.

**Sensitive Resource Area** - A Visitor Use Management Area as described in Chapter 4 of the RTMP.

**Sensitive Species** – any plant or animal species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or National Marine Fisheries Service.

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## 6 BIOLOGICAL RESOURCES

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### 6.1 SETTING

The environmental and regulatory setting of the MCOSD's open space preserves with respect to biological resources is described below.

#### 6.1.1 Environmental Setting

The 34 open space preserves managed by the MCOSD range in size from 8 acres to more than 1,600 acres, and together total almost 16,000 acres scattered throughout central and eastern Marin County. Additionally the MCOSD holds conservation easements on approximately 3,000 acres of private lands that provide important wildlife corridors, public access, and other connections to the MCOSD preserves and other protected open space. Together, the open space preserves and easements are referred to here as the "Project Area."

Visitors and community members access the preserves through a system of unpaved roads and trails from more than 335 trailheads. The network of roads and trails lies primarily within the preserves, but the MCOSD also holds numerous public trail easements across private lands that link preserves to surrounding communities. The nearly 249 miles<sup>2</sup> of unpaved roads and trails traversing the preserves represent roughly 39 percent of the estimated 640 miles of unpaved roads and trails in all of Marin County (Marin County 2007). These preserves have been managed to protect environmental resources and allow for public use, which consists mainly of hiking, mountain biking, horseback riding, and dog walking (including off-leash use on most fire roads). Additionally, the public uses an unidentifiable number of social trails and illegally built trails to access the preserves. Most of the preserves are open at night with some limited use occurring at that time. All of the preserves are currently managed consistent with the 2007 Marin Countywide Plan, existing MCOSD policy (including the 2005 Policy Review Initiative), the Marin County and the MCOSD adopted code, and management plans for individual preserves. Finally, the MCOSD routinely maintains its road and trails consistent with all legal and planning requirements and regularly builds new trails based on recommendations in its management plans and priorities identified by the Board of Directors.

Some of the numerous narrow trails used for recreation are well designed and laid out, but others have evolved over time from informal use, and are irregularly maintained by staff. Many are associated with resource protection concerns and were not intended to support the level of recreational use they currently receive. Other uses of the preserves include access to and maintenance of various utilities, including water transmission lines, water storage tanks, electrical cables, sewage transmission pipes, telephone cables, and cellular towers. In addition, the various fire departments and districts have created a series of primary fuel breaks, shaded fuel breaks, and defensible space zones within the preserves.

Land uses surrounding the various preserves include private residences, other public conservation lands, agricultural lands, and some undeveloped land and commercial/mixed use. Many of the

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<sup>2</sup> This represents the most current calculation of total miles of roads and trails managed as part of the MCOSD system. The *Road and Trail Inventory* (Best et al. 2011) used an earlier calculation of 201 total miles; and other analyses have used other calculations.

preserves are located adjacent to other large open space and recreational lands, including Golden Gate National Recreation Area and Point Reyes National Seashore (both managed by the National Park Service), various California state parks, open space lands managed by the Marin Municipal Water District and the North Marin Water District, and local city parks. These preserves provide important linkages in large blocks of habitat and recreational open space that increase the importance of the habitats collectively.

For planning purposes, the 34 MCOSD preserves are divided into six regions as listed below and as shown in Figure 3-2 of Chapter 3, *Project Description*. The regions are located in different areas of Marin County, have varying adjacent lands uses, and correspond roughly with biomes of the San Francisco Bay area:

- Region 1: Baltimore Canyon, King Mountain, Blithedale Summit, Camino Alto, Horse Hill, Alto Bowl
- Region 2: French Ranch, Maurice Thorner Memorial, Roy's Redwoods, Gary Giacomini, Loma Alta, White Hill, Cascade Canyon
- Region 3: Indian Valley, Lucas Valley, Loma Verde, Pacheco Valle, Ignacio Valley
- Region 4: Mount Burdell, Rush Creek, Little Mountain, Verissimo Hills, Indian Tree, Deer Island
- Region 5: Terra Linda/Sleepy Hollow Divide, Santa Margarita Island, Santa Venetia Marsh, San Pedro Mountain, Bald Hill
- Region 6: Ring Mountain, Old Saint Hilary's, Bothin Marsh, Bolinas Lagoon, Tiburon Ridge

The preserves are characterized as having high biodiversity (Howell et al. 2007; Howell 1986). The full taxonomic richness of MCOSD lands is not well understood at this time, so many more species of wildlife, lichens, mosses, fungi, and insects are likely to occur on these lands than are currently known. (More complete surveys conducted on Marin Municipal Water District lands have identified more than 900 species of vascular plants and at least 400 species of vertebrates [MMWD 2009]).

Marin County supports 171 rare plants, including 17 known from nowhere else in the world; 51 of these have been documented from MCOSD lands (Calflora 2012, Howell et al. 2007). Marin western flax (*Hesperolinon congestum*), Tiburon paintbrush (*Castilleja affinis* ssp. *neglecta*), and Tiburon buckwheat (*Eriogonum luteolum* var. *caninum*) are serpentine endemics that are closely associated with Tiburon mariposa lily (*Calochortus tiburonensis*), a species known to occur only on serpentine grasslands in the Ring Mountain Preserve. A list of all special-status plant species documented within three miles of all 34 preserves and their potential to occur within the preserves themselves is included in Appendix C.

Diverse vegetation communities and open space contribute to high-quality wildlife habitat within the preserves. Eleven special-status wildlife species have been documented from MCOSD lands. Northern spotted owls (*Strix occidentalis caurina*) are found within dense, old-growth forests, while shaded streams buffered from erosion by natural vegetation within preserves provide habitat for salmonids, such as steelhead (*Oncorhynchus mykiss irideus*), coho salmon (*Oncorhynchus kisutch*), and chinook salmon (*Oncorhynchus tshawytscha*) (see "Hydrologic Resources," below). Perennial wetlands and open waters provide breeding habitat for the endangered California red-legged frog (*Rana draytonii*), while California clapper rail (*Rallus longirostris obsoletus*), California black rail (*Laterallus jamaicensis*), and salt marsh harvest mouse (*Reithrodontomys raviventris halicoetes*) occupy marshes in Richardson and San Pablo Bays. A list of all special-status plant and wildlife species documented within three miles of all 34 preserves and their potential to occur within the preserves themselves is

included in Appendix C. This list also includes special-status species not recorded in the CNDDDB, but which are known to occur in Marin County, including California Rare Plant Rank (CRPR; Rank) 4 species and other plants that do not have a federal or state listing status or a CRPR ranking, as well as additional wildlife species that occur on the CDFW Special Animals List. For guidance on which areas where special-status species best management practices are likely to be necessary, maps of special-status plant and wildlife occurrences found within a three-mile radius of each of the six regions identified in the RTMP are provided in this report (see Figures 6-1a-f and 6-2a-f). These maps do not include occurrences of Rank 4 or locally rare plants, or several invertebrates that occur only on the Special Animals List, due to a lack of available occurrence information. Critical habitats are provided as Figure 6-3.

Special-status species include those plant and wildlife species that have been formally listed as endangered or threatened, or are candidates for such listing under the federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). These acts afford protection to both listed and proposed species. California Department of Fish and Wildlife (CDFW, formerly California Department of Fish and Game [CDFG]) Species of Special Concern, which are species that face extirpation in California if current population and habitat trends continue, U.S. Fish and Wildlife Service (USFWS) Birds of Conservation Concern, and CDFW special-status invertebrates are also all considered special-status species. Although CDFW Species of Special Concern and special-status invertebrates generally have no special legal status, they are given consideration under this CEQA analysis for completeness.

In addition to regulations for special-status species, most birds in the United States are protected by the Migratory Bird Treaty Act of 1918. Under this legislation, destroying active nests, eggs, and young are illegal. Plant species on California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (Inventory) with California Rare Plant Ranks of 1 and 2 are also considered special-status plant species and must be considered under CEQA. Rank 3 species are those for which CNPS needs additional information and Rank 4 species are those with a limited distribution. Rank 3 and 4 species are considered special-status if they have an extremely limited distribution in California, or are specifically considered to be of local significance by county, regional, or other plans or experienced botanists. Additionally, species that are not considered federal or state listed and do not have a California Rare Plant Rank may be evaluated for impact significance.

The assessment of potentially occurring special-status species within the MCOSD preserves was expanded to include several invertebrates which do not have a federal or state rarity ranking, but occur on the California Special Animals List (CDFW 2014). “Special Animals” is a term used to describe all animal taxa tracked by the CNDDDB regardless of their legal or protection status. While very little information is known about most of these species, they are included here for completeness.

The potential occurrence of special-status species in the Project Area was evaluated by first determining what special-status species occur in the vicinity of the preserves through a literature and database search. Database searches for known occurrences of special-status species focused on species found within a three-mile radius of the Project Area, by RTMP region. The following sources were reviewed to determine the potential occurrence of special-status plant and wildlife species:

- California Natural Diversity Database (CNDDDB) records (CDFW 2013a, 2014)

- United States Fish and Wildlife Service (USFWS) quadrangle species lists (USFWS 2013a)
- California Native Plant Society (CNPS) Inventory records (CNPS 2013, 2014)
- CDFG publication “California’s Wildlife, Volumes I-III” (Zeiner et al. 1990)
- CDFG publication “Amphibians and Reptile Species of Special Concern in California” (Jennings 2004)
- California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California (Shuford and Gardali 2008)
- A Field Guide to Western Reptiles and Amphibians (Stebbins 2003)
- Fairy Shrimps of California’s Puddles, Pools and Playas (Erikson and Belk 1999)
- University of California at Davis Information Center for the Environment Distribution Maps for Fishes in California (2013)
- National Marine Fisheries Service Distribution Maps for California Salmonid Species (2013)

The preserves contain a wide variety of habitats that are described in Table 6-1, which shows all land cover types occurring within the MCOSD road and trail network and their associated special-status plants and wildlife. The land cover types were generated from data provided in the MCOSD Classification of Vegetation Associations report (Buck and Evans 2010). This report identifies a host of very specific vegetation associations that were aggregated into similar land cover types for the purposes of this analysis. Appendix C shows which vegetation associations are included in the various land cover types. While this table is not exhaustive and only focused surveys can determine actual presence or absence of a given species, this table can be used by MCOSD staff to determine which special-status species have the highest likelihood to be present in given habitat types. As a result and to ensure that potential impacts to special-status plants and wildlife species are avoided to the maximum extent possible, it is assumed in this document that special-status species are potentially present in all suitable land cover types, whether or not there are documented occurrences of that species in a particular area. The RTMP includes proposals for wildlife surveys and best management practices (BMP) that will identify and avoid significant impacts to special-status plant and wildlife species. Additionally, this approach means that MCOSD may identify and document previously unknown occurrences of special-status species.

Similarly, existing and proposed RTMP policies and BMPs intended to avoid impacts to natural habitats and special-status species will also encompass protections and avoidance measures for non-special status native wildlife.

<b>Table 6-1 Land Cover Types and Associated Potential Special-status Plant and Wildlife Species</b>					
<b>Habitat Association</b>	<b>Scientific Name</b>	<b>Common Name</b>	<b>Federal Status</b>	<b>State Status</b>	<b>Other</b>
<u>Bogs and fens, coastal bluff scrub, coastal dunes, coastal scrub, marshes and swamps</u>	<u><i>Stellaria littoralis</i></u>	<u>beach starwort</u>			<u>CRPR 4</u>

Table 6-1 Land Cover Types and Associated Potential Special-status Plant and Wildlife Species					
Habitat Association	Scientific Name	Common Name	Federal Status	State Status	Other
<u>Bogs and fens, lower montane coniferous forest, seeps and streambanks, usually on serpentine substrates.</u>	<u><i>Cypripedium californicum</i></u>	<u>California lady's slipper</u>			<u>CRPR 4</u>
Brackish water, marsh/bays	<u><i>Encyclogobius newberryi</i></u>	<u>Tidewater goby</u>	<u>Endangered</u>	<u>Special concern</u>	
	<u><i>Pogonichtys macrolepidotus</i></u>	<u>Sacramento splittail</u>		<u>Special concern</u>	
<u>Broadleafed forest, chaparral, coastal prairie. Valley and foothill grassland, vernal pools, in vernal mesic areas.</u>	<u><i>Perideridia gairdneri</i> ssp. <i>gairdneri</i></u>	<u>Garidner's yampah</u>			<u>CRPR 4</u>
<u>Broadleafed upland forest and chaparral, in mesic, shady areas.</u>	<u><i>Ribes victoris</i></u>	<u>Victor's gooseberry</u>			<u>CRPR 4</u>
<u>Broadleafed upland forest, cismontane woodland, North Coast coniferous forest, riparian woodland.</u>	<u><i>Elymus californicus</i></u>	<u>California bottle-brush grass</u>			<u>CRPR 4</u>
<u>Broadleafed upland forest, coastal bluff scrub, coastal prairie, coastal scrub.</u>	<u><i>Arabis blepharophylla</i></u>	<u>Coast rockcress</u>			<u>CRPR 4</u>
<u>Broadleafed upland forest, lower montane coniferous forest, North Coast coniferous forest, upper montane coniferous forest.</u>	<u><i>Pityopus californica</i></u>	<u>California pinefoot</u>			<u>CRPR 4</u>
Chaparral	<u><i>Sidalcea hickmanii</i> ssp. <i>viridis</i></u>	<u>Marin checkerbloom</u>			<u>CRPR 1B</u>
	<u><i>Ceanothus gloriosus</i> var. <i>exaltatus</i></u>	<u>glory brush</u>			<u>CRPR 4</u>
	<u><i>Ceanothus gloriosus</i> var. <i>gloriosus</i></u>	<u>Point Reyes ceanothus</u>			<u>CRPR 4</u>
<u>Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland.</u>	<u><i>Dichondra occidentalis</i></u>	<u>western dichondra</u>			<u>CRPR 4</u>
<u>Chaparral, cismontane woodland, serpentine soils.</u>	<u><i>Aspidotis carlotta-halliae</i></u>	<u>Carlotta Hall's lace fern</u>			<u>CRPR 4, Limited distribution</u>
<u>Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland. Often on serpentine and volcanic substrates, open, gravelly areas.</u>	<u><i>Astragalus breweri</i></u>	<u>Brewer's milk-vetch</u>			<u>CRPR 4, Limited distribution</u>
<u>Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland.</u>	<u><i>Leptosiphon acicularis</i></u>	<u>bristly leptosiphon</u>			<u>CRPR 4</u>

**Table 6-1 Land Cover Types and Associated Potential Special-status Plant and Wildlife Species**

Habitat Association	Scientific Name	Common Name	Federal Status	State Status	Other
<u>Chaparral, cismontane woodland, valley and foothill grassland. Adobe substrates.</u>	<u><i>Navarretia cotulifolia</i></u>	<u>cotula navarretia</u>			<u>CRPR 4</u>
<u>Chaparral, coastal dunes, coastal scrub, valley and foothill grassland. Often on serpentine or granite substrates, sometimes roadsides.</u>	<u><i>Erysimum franciscanum</i></u>	<u>San Francisco wallflower</u>			<u>CRPR 4</u>
Chaparral, foothill woodland, valley grassland, wetland-riparian in wetlands	<i>Navarretia cotulifolia</i>	Featherleaf navarretia			<u>CRPR 4</u> , Limited distribution
<u>Chaparral, lower montane coniferous forest, valley and foothill grassland on serpentine substrates.</u>	<u><i>Calystegia collina</i> ssp. <i>oxyphylla</i></u>	<u>Mt. Saint Helena morning-glory</u>			<u>CRPR 4</u>
Chaparral, mixed evergreen forest	<i>Toxicoscordion fontanum</i>	Marsh zigadenus			<u>CRPR 4</u> , Limited distribution
Chaparral, mixed evergreen forest Foothill woodland, yellow pine forest, red fir forest, lodgepole forest, subalpine forest, mixed evergreen forest, wetland-riparian, serpentine soils	<i>Navarretia heterodoxa</i>	Calistoga navaretia			Locally rare
Chaparral, northern coastal scrub, coastal sage scrub	<i>Calandrinia breweri</i>	Brewer's redmaids			<u>CRPR 4</u> , Limited distribution
Chaparral, valley grassland serpentine endemic	<i>Calamagrostis ophitidis</i>	Serpentine reed grass			<u>CRPR 4</u> , Limited distribution
Chaparral, Valley Grassland, Yellow Pine Forest, Mixed Evergreen Forest Serpentine endemic	<i>Calochortus umbellatus</i>	Oakland star-tulip			<u>CRPR 4</u> , Limited distribution
Chaparral, yellow pine forest, pinyon-juniper woodland	<i>Fremontodendron californicum</i>	California fremontia			Locally rare
Chaparral/grassland	<i>Arctostaphylos montana</i>	Mt. Tamalpais manzanita	Special concern		<u>CRPR 1B</u>
	<i>Hesperolinon congestum</i>	Marin western flax	Threatened	Threatened	<u>CRPR 1B</u>
	<i>Streptanthus glandulosus</i> ssp. <i>pulchellus</i>	Mt. Tamalpais jewelflower			<u>CRPR 1B</u>
	<i>Lessingia micradenia</i> var. <i>micradenia</i>	Mt. Tamalpais lessingia	Special concern		<u>CRPR 1B</u>
Chaparral/serpentine	<i>Ceanothus masonii</i>	Mason's ceanothus			<u>CRPR 1B</u>

<b>Table 6-1 Land Cover Types and Associated Potential Special-status Plant and Wildlife Species</b>					
<b>Habitat Association</b>	<b>Scientific Name</b>	<b>Common Name</b>	<b>Federal Status</b>	<b>State Status</b>	<b>Other</b>
Cismontane grasslands, Valley and foothill grass-land chaparral	<i>Asclepias fascicularis</i>	Narrow leaf milkweed			Locally rare
<u>Cliffs and slopes, cool and north-facing</u>	<i>Callophrys mossii marinensis</i>	<u>Marin elfin</u>			<u>Locally rare</u>
Closed-cone pine forest, mixed evergreen forest, foothill woodland, wetland-riparian serpentine endemic	<i>Triteleia peduncularis</i>	Long-rayed brodiaea			Locally rare
<u>Coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal dunes, coastal prairie, coastal scrub, valley and foothill grassland. Usually sandy substrates.</u>	<i>Leptosiphon grandiflorus</i>	<u>large-flowered leptosiphon</u>			<u>CRPR 4</u>
<u>Coastal bluff scrub, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest.</u>	<i>Piperia michaelii</i>	<u>Michael's rein orchid</u>			<u>CRPR 4</u>
<u>Coastal bluff scrub, coastal dunes</u>	<i>Astragalus nuttallii var. nuttallii</i>	<u>ocean bluff milk-vetch</u>			<u>CRPR 4</u>
Coastal bluff scrub, coastal prairie	<i>Leptosiphon acicularis</i>	Bristly linanthus			<u>CRPR 4</u>
Coastal bluff scrub/coastal scrub/ grassland	<i>Grindelia hirsutula var. maritima</i>	San Francisco gumplant			<u>CRPR 1B</u>
<u>Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pools margins.</u>	<i>Castilleja ambigua var. ambigua</i>	<u>johnny-nip</u>			<u>CRPR 4</u>
Coastal bluff scrub/outcrops	<i>Gilia capitata ssp. tomentosa</i>	Wooly-headed gilia			<u>CRPR 1B</u>
Coastal bluff scrub/woodland/ grassland	<i>Amsinckia lunaris</i>	Bent-flowered fiddleneck			<u>CRPR 1B</u>
Coastal dunes	<i>Gilia millefoliata</i>	Dark-eyed gilia			<u>CRPR 1B</u>
	<i>Layia carnosia</i>	Beach layia	Endangered	Endangered	<u>CRPR 1B</u>
Coastal prairie, chaparral, foothill woodland	<i>Linanthus acicularis</i> = <i>Leptosiphon acicularis</i>	Bristly leptosiphon			<u>CRPR 4</u> , Limited distribution
Coastal prairie, chaparral, valley grassland serpentine soils	<i>Eriogonum luteolum var. caninum</i>	Tiburon buckwheat			<u>CRPR 1B</u>
<u>Coastal prairie, coastal scrub, meadows and seeps, North Coast coniferous forest.</u>	<i>Calochortus uniflorus</i>	<u>pink star-tulip</u>			<u>CRPR 4</u>

**Table 6-1 Land Cover Types and Associated Potential Special-status Plant and Wildlife Species**

Habitat Association	Scientific Name	Common Name	Federal Status	State Status	Other
<u>Coastal prairie, lower montane coniferous forest, meadows and seeps, mesic areas.</u>	<i>Iris longipetala</i>	<u>coast iris</u>			<u>CRPR 4</u>
Coastal prairie, mixed evergreen forest	<i>Trifolium albopurpureum</i> var. <i>dichotomum</i>	Branched Indian clover			Locally rare
Coastal salt marsh	<i>Cordylanthus mollis</i> ssp. <i>mollis</i>	Soft bird's beak	Endangered	Rare	<u>CRPR 1B</u>
	<i>Laterallus jamaicensis coturniculus</i>	California black rail		Threatened	Fully protected
	<i>Reithrodontomys raviventris</i>	Salt marsh harvest mouse	Endangered	Endangered	Fully protected
Coastal salt marsh, wetland-riparian salt-marsh	<i>Cordylanthus maritimus</i> ssp. <i>palustris</i>	Point Reyes bird's beak			<u>CRPR 1B</u>
Coastal scrub/grassland from Point Reyes	<i>Zapus trinotatus orarius</i>	Point Reyes jumping mouse		Special concern	
Coastal scrub/prairie on Angel Island	<i>Scapanus latimanus insularis</i>	Angel Island mole		Special concern	
Coastal scrub/prairie/grassland	<i>Fritillaria liliacea</i>	fragrant fritillary	Special concern		<u>CRPR 1B</u>
Coastal/bay shorelines and open water	<i>Phalacrocorax auritus</i>	Double crested cormorant (nesting)			Protected Nesting
Colonial nester in large trees	<i>Ardea alba</i>	Great egret rookery			Protected rookery
Colonial nester in trees, cliffsides, marshes	<i>Ardea herodias</i>	Great blue heron rookery			Protected rookery
	<i>Egretta thula</i>	Snowy egret rookery			Protected rookery
	<i>Nycticorax nycticorax</i>	Black-crowned night heron rookery			Protected rookery
Coniferous forest/chaparral	<i>Arctostaphylos virgata</i>	Marin manzanita			<u>CRPR 1B</u>
	<i>Navarretia rosulata</i>	Marin County navarettia			<u>CRPR 1B</u>
	<i>Streptanthus batrachopus</i>	Tamalpais jewel-flower			<u>CRPR 1B</u>
Coniferous forests	<i>Kopsiopsis bookeri</i>	Coast ground cone			<u>CRPR 1B</u>
Dry slopes, rocks, ledges along rivers	<i>Erigeron foliosus</i> var. <i>franciscensis</i>	San Francisco leafy fleabane			Locally rare
Dunes/marshes/swamps	<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>	Marsh milk vetch			<u>CRPR 1B</u>
<u>Foothill woodland, chaparral, yellow pine forest, occasionally on serpentine substrates.</u>	<i>Calycadenia truncata</i>	<u>rosin weed</u>			<u>Locally rare</u>

<b>Table 6-1 Land Cover Types and Associated Potential Special-status Plant and Wildlife Species</b>					
<b>Habitat Association</b>	<b>Scientific Name</b>	<b>Common Name</b>	<b>Federal Status</b>	<b>State Status</b>	<b>Other</b>
Forest and woodland	<i>Strix occidentalis caurina</i>	Northern spotted owl	Threatened		
Forest floor along coast.	<i>Fissidens pauperculus</i>	Minute pocket-moss			CRPR 1B
Forest/chaparral	<i>Cirsium hydrophilum</i> var. <i>vaseyi</i>	Mt. Tamalpais thistle			<u>CRPR 1B</u>
Forest/chaparral/woodland	<i>Amorpha californica</i> var. <i>napensis</i>	Indigo bush			<u>CRPR 1B</u>
	<i>Dirca occidentalis</i>	Western leatherwood			<u>CRPR 1B</u>
Forest/steeps	<i>Pleuropogon hooverianus</i>	North Coast semaphore grass		Threatened	<u>CRPR 1B</u>
Forests/woodlands/grasslands	<i>Accipiter cooperii</i>	Cooper's hawk		Special concern	
	<i>Accipiter striatus</i>	Sharp-shinned hawk		Special concern	
Forests/woodlands/grasslands and streamsides	<i>Rana draytonii</i>	California red-legged frog	Threatened	Special concern	
Freshwater					
Freshwater marsh and surrounding fields	<i>Agelaius tricolor</i>	Tricolored blackbird nesting colony		Special concern	
Freshwater marsh/ponds	<i>Caecidotea tomalensis</i>	Tomales isopod			Locally rare
<u>Lower montane coniferous forest, meadows and seeps, North Coast coniferous forest, riparian forest.</u>	<i>Pleuropogon refractus</i>	<u>nodding semaphore grass</u>			<u>CRPR 4</u>
Freshwater streams with undercut banks	<i>Syncaris pacifica</i>	California freshwater shrimp	Endangered	Endangered	
<u>Marshes and swamps, bogs and fens, mesic meadows and seeps.</u>	<i>Carex buxbaumii</i>	<u>Buxbaum's sedge</u>			<u>CRPR 4</u>
Meadows/seeps/marshes/swamps	<i>Plagiobothrys glaber</i>	Hairless popcorn flower			<u>CRPR 1A</u>
Mid- to high-elevation montane and coniferous forests, often associated with Forest openings and edges	<i>Contopus cooperi</i>	Olive-sided flycatcher		<u>Special concern</u>	
Mixed evergreen forest, foothill woodland	<i>Thermopsis macrophylla</i>	Common false lupine			<u>CRPR 1B</u>
	<i>Thermopsis macrophylla</i> var. <i>macrophylla</i>	Robust false lupine			<u>CRPR 1B</u>
Mixed evergreen forest, yellow pine forest	<i>Monardella purpurea</i>	Coyote mint			Locally rare

**Table 6-1 Land Cover Types and Associated Potential Special-status Plant and Wildlife Species**

Habitat Association	Scientific Name	Common Name	Federal Status	State Status	Other
Near shore marsh habitat	<i>Enhydra lutris nereis</i>	Southern sea otter	Threatened		Fully protected
Nesting in grassland/marshland with trees	<i>Elanus leucurus</i>	White-tailed kite nesting			Fully protected
Nesting in marsh and low shrubs	<i>Circus cyaneus</i>	Northern harrier nesting		Special concern	
Nesting in trees associated with water bodies	<i>Pandion haliaetus</i>	Osprey nesting		Special concern	
Nesting in willows and riparian cover	<i>Dendroica petechia brewsteri</i>	Yellow warbler nesting		Special concern	
North coastal coniferous forest, closed-cone pine forest, redwood forest, douglas-fir forest, mixed evergreen forest, foothill woodland	<i>Elymus californicus</i>	California bottle brush grass			<u>CRPR 4</u> , Limited distribution
North coastal coniferous forest, mixed evergreen forest, yellow pine forest, wetland-riparian along streambanks	<i>Lilium pardalinum</i>	Leopard lily			Limited distribution
Northern oak woodland, foothill woodland, chaparral, coastal prairie	<i>Streptanthus glandulosus</i>	Bristly jewelflower			Locally rare
Northern oak woodland, foothill woodland, chaparral, coastal prairie	<i>Streptanthus glandulosus ssp. secundus</i>	One sided jewelflower			Locally rare
Open areas, grasslands/scrublands	<i>Taxidea taxus</i>	American badger			Special concern
Open grasslands/scrub	<i>Ammodramus savannarum</i>	Grasshopper sparrow			Locally rare (PRBO)
	<i>Asio flammeus</i>	Short-eared owl		Special concern	
	<i>Athene cunicularia</i>	Burrowing owl burrow sites		Special concern	
Open ocean, beaches	<i>Eumetopias jubatus</i>	Steller sea lion	Threatened		
Overwinters in blue gum eucalyptus	<i>Danaus plexippus</i>	Monarch butterfly ( <u>winter roosts</u> )			Locally rare
Redwood forest, mixed evergreen forest, Douglass-fir forest, yellow pine forest	<i>Rhododendron macrophyllum</i>	Coast rhododendron			Locally rare
Rocky intertidal zone and ocean waters	<i>Haliotis cracherodii</i>	Black abalone	Candidate		
	<i>Haliotis sorenseni</i>	White abalone	Endangered		
Roosts in protected locations	<i>Antrozous pallidus</i>	Pallid bat		Special concern	
	<i>Corynorhinus townsendii townsendii</i>	Townsend's western big-eared bat		Special concern	
	<i>Lasirus cinereus</i>	Hoary bat			

Table 6-1 Land Cover Types and Associated Potential Special-status Plant and Wildlife Species					
Habitat Association	Scientific Name	Common Name	Federal Status	State Status	Other
	<i>Myotis evotis</i>	Long-eared myotis bat			
	<i>Myotis thysanodes</i>	Fringed myotis bat			
	<i>Myotis volans</i>	Long-legged myotis bat			
	<i>Myotis yumanensis</i>	Yuma myotis bat			
Salt and brackish marsh	<i>Rallus longirostris obsoletus</i>	California clapper rail	Endangered	Endangered	
	<i>Geothlypis trichas sinuosa</i>	Salt marsh common yellowthroat			
	<i>Tryonia imitator</i>	Mimic tryonia			Locally rare
Salt marsh	<i>Melospiza melodia samuelis</i>	San Pablo song sparrow		Special concern	
<u>Salt marsh, coastal salt or brackish swamps.</u>	<u><i>Polygonum marinense</i></u>	<u>Marin knotweed</u>			<u>CRPR 3</u>
Scrub/grassland with larval host	<i>Speyeria zerene myrtleae</i>	Myrtle's silverspot	Endangered		
Serpentine					
	<i>Talanites ubicki</i>	Ubick's gnaphosid spider			Locally rare
	<i>Trachykele hartmani</i>	<u>Serpentine cypress wood-boring beetle</u>			Locally rare
	<i>Vandykea tuberculata</i>	<u>Serpentine cypress long-horned beetle</u>			Locally rare
	<i>Allium lacunosum</i>	Pitted onion			Locally rare
Serpentine grassland	<i>Calochortus tiburonensis</i>	Tiburon Mariposa lily	Threatened	Threatened	<u>CRPR 1B</u>
	<i>Castilleja affinis ssp. neglecta</i>	Tiburon Indian paintbrush	Threatened	Threatened	<u>CRPR 1B</u>
	<i>Adela oplerella</i>	<u>Opler's longhorn moth</u>			Locally rare
Serpentine outcrops near spring/seeps	<i>Microcina tiburona</i>	Tiburon micro-blind harvestman			
Shrubs/grasslands with lupine host	<i>Plebejus icarioides missionensis</i>	Mission blue butterfly	Endangered		
Spawns in freshwater streams	<i>Oncorhynchus kisutch</i>	Coho salmon	Endangered	Threatened / endangered	
	<i>Oncorhynchus tshawytscha</i>	Chinook salmon	Threatened	Threatened	
	<i>Oncorhynchus mykiss irideus</i>	Steelhead trout	Threatened	Special concern	
Streams with rocky substrate	<i>Rana boylei</i>	Foothill yellow-legged frog		Special concern	

**Table 6-1 Land Cover Types and Associated Potential Special-status Plant and Wildlife Species**

Habitat Association	Scientific Name	Common Name	Federal Status	State Status	Other
Streams/ponds/lakes	<i>Actinemys marmorata</i> ( <i>Clemmys marmorata</i> )	Northwestern pond turtle		Special concern	
Terrestrial wet, very moist sites	<i>Vespericola marinensis</i>	Marin hesperian			<u>Locally rare</u>
Tributaries of Tomales Bay	<i>Lavinia symmetricus</i> <i>ssp. symmetricus</i>	Tomales roach		Special Concern	
Valley grassland	<i>Streptanthus glandulosus</i> <i>ssp. niger</i>	Tiburon jewelflower	Endangered	Endangered	<u>CRPR 1B</u>
	<i>Monolopia major</i>	Cupped monolopia			Locally rare
Valley grassland, foothill woodland	<i>California macrophylla</i>	Round leaved phyllary			<u>CRPR 1B</u>
Valley grassland, foothill woodland, redwood forest, freshwater wetlands, wetland-riparian in vernal pools	<i>Ranunculus lobbii</i>	Lobb's buttercup			<u>CRPR 4</u> , Limited distribution
Valley grassland, yellow pine forest, northern coastal scrub, serpentine endemic	<i>Lessingia hololeuca</i>	Wooly headed lessingia			More info needed
<u>Wetlands, roadsides, broadleafed upland forest, coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal prairie, coastal scrub, meadows and seeps, marshes and swamps, North Coast coniferous forest, valley and foothill grassland.</u>	<i>Hosackia gracilis</i>	<u>harlequin lotus</u>			<u>CRPR 4</u>
Woodland/seeps/pools/grassland/ forest	<i>Navarretia leucocephala</i> <i>ssp. bakeri</i>	Baker's navarretia			<u>CRPR 1B</u>
Yellow pine forest, red fir forest, lodgepole forest, subalpine forest, chaparral	<i>Ceanothus velutinus</i>	Tobacco brush			Locally rare
	<i>Ceanothus velutinus</i> <i>var. hookeri</i>	Hooker's tobacco brush			Locally rare
<u>Yellow pine forest, sagebrush scrub, foothill woodland, mixed evergreen forest, pinyon-juniper woodland. Slopes. Occasionally on serpentine substrates.</u>	<i>Levisia rediviva</i>	<u>bitterroot</u>			<u>Locally rare</u>
No information	<i>Entostodon kochii</i>	Koch's cord moss			<u>CRPR 1B</u>
	<i>Calicina diminua</i>	Marin blind harvestman			

<b>Table 6-1 Land Cover Types and Associated Potential Special-status Plant and Wildlife Species</b>					
<b>Habitat Association</b>	<b>Scientific Name</b>	<b>Common Name</b>	<b>Federal Status</b>	<b>State Status</b>	<b>Other</b>
	<i>Melichthoferia elongata</i>	Elongate copper moss			<u>CRPR 2</u>
	<i>Trachusa gummifera</i>	Leaf cutter bee			
	<i>Erigeron biolettii</i>	Streamside daisy			<u>CRPR 3</u>
	<i>Parnassia palustris</i>	California grass of Parnassus			Locally rare
Other categories include the following: <u>CRPR = California Rare Plant Rank</u> 1A = Seriously endangered in California 1B = Rare, threatened, or endangered in California and elsewhere 2 = Rare or endangered in California, more common elsewhere 4 = Plants of limited distribution Fully protected = Rare or facing possible extinction and receiving additional protections under federal or state law Locally rare = Considered by local experts to be unique or unusual on MCOSD preserves and in Marin County PRBO = Point Reyes Bird Observatory Conservation Science, Bird Species of Special Concern					

## **COMPARISON OF IMPACTS OF PEDESTRIAN TRAFFIC, HORSEBACK RIDING, AND MOUNTAIN BIKING (PAGE 6-36)**

### ***Environmental Impacts***

The studies assessed in this literature review reach a consensus in that trail use may have adverse impacts on the environment, particularly when trail use is on degraded, unsuitable, or undeveloped areas or during periods where an area may be more vulnerable to erosion (Chavez et al 1993, White et al 1996, Wilson and Seney 1994, Thurston and Reader 1994). They also agree that when comparing public lands to undeveloped, non-accessible lands, any introduction of recreation may negatively impact wildlife (Reed and Merenlender 2008). In one study, multiple comparisons showed that horses and hikers (hooves and feet) made more sediment available than wheels (motorcycles and off-road bicycles) and that this effect was most pronounced on wet trails (Wilson and Seney 1994). Another study concluded that at a similar intensity of activity, the short-term impacts of mountain biking and hiking may not differ greatly in undisturbed deciduous forest habitat (Thurston and Reader 2001). A 2006 study assessing mountain bike impacts in the southwestern U.S. found that impacts to designated mountain bike trails, such as user-increased trail width, were similar or less than impacts to hiking trails and less than impacts to equestrian or off-highway vehicle trails (White et al 2006). There are impacts common to hiking, biking, and horseback riding, but there is little consensus in the literature as to whether any one particular use is more damaging than another (Pickering et al 2008).

## 11 HYDROLOGY AND WATER QUALITY

### 11.1.2 Regulatory Setting

The following summarizes federal, state, and regional laws and requirements established to protect surface and groundwater resources and water quality that will need to be considered when implementing various elements of the RTMP. Additional regulations related to the protection of sensitive water resources including streams, lakes, and riparian habitat are discussed in Chapter 6, *Biological Resources*, of this Draft TPEIR.

### FEDERAL REGULATIONS

#### *Federal Clean Water Act*

The 1972 Clean Water Act (CWA) regulates discharges into waters of the United States, including a range of potential point and non-point sources of water-transported pollutants and fill into stream channels and wetlands. The purpose of the CWA is to restore and maintain the chemical, physical and biological integrity of the nation's waters through pollution prevention and elimination. There are several CWA programs that protect water quality resources and include the following:

- Section 404 requires a permit from the United States Army Corps of Engineers (Corps) prior to any dredge or fill materials being placed into waters of the United States or adjacent wetlands
- Section 401 requires a water quality certificate from the Regional Water Quality Control Board for any federal authorized activity that may result in a discharge to a water body
- Section 402(p) established the National Pollutant Discharge Elimination System (NPDES) and is administered by the state under the supervision of the EPA, and establishes effluent water discharge limitations to protect water quality for beneficial uses
- Section 303(d) requires states to identify impaired waters and establish Total Maximum Daily Loads (TMDLs) for those waters

The current San Francisco Regional Water Quality Control Board Basin Plan provides Water Quality Attainment Strategies and TMDLs for Marin County's Central and Coastal Basins, which include Richardson and Tomales Bays. Pathogens are a target of the TMDL program for each of these bays, due to fecal coliform bacteria levels exceeding water quality objectives for shellfish harvesting and water contact recreational uses. In addition, the Regional Water Quality Control Board ~~is developing sediment TMDLs for the Lagunitas watershed~~ issued a final order (Resolution No. R2-2014-0027) in June 2014 for a sediment TMDL and plan titled the Lagunitas Creek Sediment Reduction and Habitat Enhancement Plan in order to reduce erosion and sediment delivery in the Lagunitas Creek Watershed to levels closer to natural background levels and enhance habitat to support coho salmon, steelhead, and California freshwater shrimp (SFRWQCB 2014). Loads from roads within the watershed were estimated to be 3,600 metric tons per year to Lagunitas Creek above Devils Gulch and 4,000 metric tons per year upstream of Olema Creek, with a 50 percent reduction in road contributions designated as necessary to achieve the allowable TMDL. This order mandated that all public agencies with jurisdiction over roads within the watershed must adopt and implement road maintenance guidelines to protect aquatic habitat, water quality and salmonid fisheries, conduct a

biennial training program for road maintenance staff, and biennially submit a report that documents implementation and/or recommends adaptive updates to the maintenance practices. The order also verified that the MCOSD already achieves the performance standards for unpaved roads under their jurisdiction in the Lagunitas Creek watershed.

The countywide Marin County Stormwater Pollution Prevention Program (MCSTOPPP) is assisting in efforts to reduce pathogens in stormwater runoff by working with equestrian facilities, implementing educational outreach, and monitoring the maintenance of pet waste dispensers (SF RWQCB 2013; Marin County 2012c). Section 402(p) of the CWA requires a NPDES permit for stormwater discharges from municipal separate storm water systems, industrial activities, construction activities, and designated dischargers that are considered significant contributors of pollutants to waters of the United States. The General NPDES Permit for discharges associated with construction activities (Order No. 99-08-DWQ) regulates stormwater discharge from construction project land disturbance for stormwater discharge from sites equal to or greater than one acre. The SWRCB adopted Order No. 2009-0009-DWQ (NPDES No. CAS000002), which supersedes Order No. 99-08-DWQ and became effective on July 1, 2010. The General Permit under Order NO. 2009-0009-DWQ contains significant differences from the prior permit. The existing permit required dischargers to file a Notice of Intent (NOI) to be covered under the permit and to:

- Develop and implement an adequate Stormwater Pollution Prevention Plan (SWPPP) with BMPs that prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving off site into receiving waters
- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the nation
- Perform inspections of all best management practices (BMP)

As of July 1, 2010, in addition to the above, permit requirements include several modified elements, including:

- Three Risk-Based variations based on both project sediment potential and receiving water
- More minimum BMPs and monitoring requirements
- Required effluent monitoring and reporting for pH and turbidity in stormwater discharges for Risk Level 3 and 2 sites
- Additional receiving water monitoring for some Risk Level 3 dischargers;
- Requirements for a Rain Event Action Plan to protect exposed portions of some sites within 48 hours
- Options for small construction sites (greater than one to less than five acres) to apply for a low rainfall erosivity waiver
- Annual reporting for all projects enrolled for more than one continuous three-month period
- Specific training/certification requirements for key personnel performing the compliance
- Post-construction stormwater management requirements for projects located outside of jurisdictions covered by a standard urban stormwater management plan or Phase I or Phase II permits.

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## 16 REQUIRED CEQA ANALYSES

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### 16.1 CUMULATIVE IMPACTS

#### 16.1.2 Tiering From the Cumulative Impacts Analysis of the Countywide Plan EIR

“Tiering” refers to the relationship between a program-level EIR (where long-range programmatic cumulative impacts are the focus of the environmental analysis) and subsequent environmental analyses such as this subject document, which focus primarily on issues unique to a smaller project within the larger program or plan. Through tiering a subsequent environmental analysis can incorporate, by reference, discussion that summarizes general environmental data found in the program EIR that establishes cumulative impacts and mitigation measures, the planning context, and/or the regulatory background. These broad-based issues need not be reevaluated subsequently, having been previously identified and evaluated at the program stage.

In the case of the RTMP, the cumulative analysis for this EIR is tiered from the Marin Countywide Plan EIR (2007) as discussed in Chapter 1, *Introduction*, of this EIR. Because of the legal status of the Marin Countywide Plan EIR with respect to the San Geronimo Valley and the Lagunitas Creek watershed, supplementary information has been provided within the evaluations of the cumulative impacts of Hydrology, Water Quality, and Flood Hazards, and Biological Resources. None of the environmental conclusions set forth in the RD TPEIR have been modified for these resource areas.

#### 16.1.3 Summary of the Cumulative Impacts Analysis of the Countywide Plan EIR

The Countywide Plan EIR presents an assessment of the countywide and cumulative impacts associated with conservation and development in Marin County, including open space and trails. Environmental issue areas listed below in the order present in the Countywide Plan EIR are assessed for cumulative impacts.

### HYDROLOGY, WATER QUALITY, AND FLOOD HAZARDS

Land uses and development consistent with the 2007 CWP Update, together with development in the county’s 11 cities and towns would result in cumulative hydrology and water resource impacts. Marin County, therefore, is the geographic area considered for hydrology cumulative impacts. In many locations, surface and groundwater resources of Marin County flow between incorporated and unincorporated areas. Impacts to water quality and increases in flood flow rates (i.e., peak flow rates) are a cumulative result of various types of activities (e.g., common urban chemical use, automobile traffic, and added impervious surface area) in both incorporated and unincorporated Marin County. Flooding impacts would occur on a watershed basis, whereas water quality impacts may be compounded within the receiving waters to which multiple watersheds flow. These receiving waters include San Francisco, San Pablo, Richardson, and Tomales Bays and the Pacific Ocean.

Construction projects in the unincorporated area of the county together with construction in the 11 cities and towns could cumulatively impact water quality. For example, if multiple construction projects occurred in the same watershed, the projects could cumulatively impair water quality if a storm event carried sediment, hydrocarbons, and other common construction site pollutants from the projects into receiving waters. The result would be excessive sediment loading that would reduce flood flow capacity locally and downstream in flood channels. In-stream ecology would be adversely

affected if chemical pollutants from construction projects were to impair water quality. Such impacts would be reduced by compliance with existing County requirements, including the Marin County Stormwater Pollution Prevention Program (MCSTOPPP) and the National Pollution Discharge Elimination System (NPDES) permitting process. Under the General Construction permit issued pursuant to the NPDES program, construction sites larger than one acre are required to implement construction-related best management practices (BMP).

Subsequent to the preparation of the RD TPEIR, the San Francisco Bay Regional Water Quality Control Board (RWQCB) issued a Total Maximum Daily Load (TMDL) order for the Lagunitas Creek watershed. Although the TMDL order was approved by the RWQCB, it will not become fully effective until approval by the State Water Resources Control Board, the State Office of Administrative Law, and the U.S. EPA. Nonetheless, the findings of the TMDL order and its supporting studies represent the best science available with which to evaluate the potential impacts of actions that may influence sediment yield and the effects of sedimentation on the aquatic biological resources within the Lagunitas Creek watershed.

As noted in the TMDL order:

The goals of the Lagunitas Creek Sediment Reduction and Habitat Enhancement Plan (Plan) are as follows:

- To restore an annual spawning run within the Lagunitas Creek watershed of 1300-or-more adult coho salmon, achieved for at least twelve consecutive years.
- For native fish and aquatic wildlife species to be in good condition at the individual, population, and community levels.
- To protect and enhance the aesthetic and recreational values of the creek and its tributaries.

The main focus of this plan is habitat enhancement, because habitat loss and simplification appears to be a primary cause of the declines of watershed populations of coho salmon, steelhead, and California freshwater shrimp. The plan also establishes a regulatory program to reduce sediment delivery to channels resulting from road-related erosion, a necessary condition to support recovery of listed species and achieve water quality objectives for sediment and settleable material. Other significant land-use related sediment sources are already being reduced substantially through existing regulatory programs and/or natural recovery processes.

The only significant nonpoint source that is not effectively controlled through existing programs and/or natural recovery processes is sediment discharge from roads. This gap applies only to publicly-owned roads, primarily unpaved roads under the jurisdiction of the State Department of Parks and Recreation in S.P. Taylor State Park and/or the U.S. National Park Service within the Golden Gate National Recreation Area. Paved public roads, almost all under the jurisdiction of the County of Marin, also may contribute significant amounts of sediment to channels, although at lower rates.

With regard to the unpaved public roads, reasonable assurances are in place through a memorandum of understanding (MOU) - for the maintenance and management of unpaved roads – that has been agreed to by all of the public agencies within the project area with jurisdiction over roads. Through this MOU, substantial progress has been made to control

and reduce sediment delivery to channels. The Marin Open Space District and the Marin Municipal Water District already achieve the performance standard for unpaved roads under their jurisdiction in the Lagunitas Creek watershed.

To ensure that effective sediment source controls are implemented on all public roads - unpaved and paved - consistent with the State Nonpoint Source Program, WDRs, or a conditional waiver of WDRs, are required to meet the road sediment delivery performance standard (Table 4.2). Whether through adoption of a conditional waiver of WDRs or adoption of WDRs, the required actions are as follows:

3. All public agencies with jurisdiction over roads within the project area must adopt and implement road maintenance guidelines to protect aquatic habitat, water quality, and salmonid fisheries (such as the RTMP); conduct a biennial training program for road maintenance staff, and biennially submit a report that documents implementation and/or recommends adaptive updates to the maintenance practices. (SFB RWQCB 2014a)

The staff report prepared for the RWQCB's June 2014 hearing additionally notes:

In evaluating the nature and scope of a regulatory program to control sediment delivery from roads, we note that substantial progress has been made within the past decade in reducing sediment delivery from unpaved roads located on lands managed by the Marin County Open Space District within the San Geronimo Creek watershed. These roads represent about one-third of the total length of unpaved roads within the TMDL project area (27 miles, as estimated by Lynx Technologies, 2007, unpublished data). We commend the Open Space District for implementing treatments at all priority erosion sites that could deliver to channel reaches that provide habitat for steelhead and/or coho salmon. We also commend the California Department of Fish and Wildlife, which provided substantial grant funding and technical support. (SFB RWQCB 2014b)

If no peak flow controls are incorporated into new developments, the increased amount of impervious surfaces within a watershed would cumulatively increase flood flows. The increased peak flows would not only be a result of increased impervious surface area within the watershed, but also from installation of stormdrain systems that route stormwater runoff more quickly to stream channels. Increases in peak flows can scour channel beds and increase both erosion and downstream sedimentation. Sedimentation would reduce channel capacities and could further exacerbate flooding problems.

Cumulative hydrology impacts would result from development within Marin County. Mitigation identified in the CWP EIR would reduce the contribution of the 2007 CWP Update to this cumulative impact to a level that is less than significant.

Thus, the MCOSD is already meeting TMDL objectives within the San Geronimo Valley and the Lagunitas Creek watershed. Implementation of the RTMP meets the requirements of the TMDL order to adopt road maintenance guidelines, and would continue and enhance the district's ongoing efforts to reduce sediment yield from MCOSD roads and trails, and benefit aquatic habitat and species. With this addition, as documented in Chapter 11, *Hydrology and Water Quality*, of this RD TPEIR, implementation of the RTMP would have no impact, or a less-than-significant impact to various aspects of hydrology and water quality. With the implementation of the RTMP systemwide

policies SW.30 and SW.31, all impacts would be less than significant, and the potential effects of future maintenance and construction projects with implementation of the RTMP would be less than under current conditions as new BMPs and standards were implemented, and facilities contributing to erosion and other adverse water quality effects were removed, re-constructed, or repaired. Therefore, the RTMP would not make a cumulatively considerable contribution to this less-than-significant cumulative impact. The cumulative effect of the RTMP would be less than significant.

## **BIOLOGICAL RESOURCES**

Land uses and development consistent with the 2007 CWP Update together with development in the county's 11 cities and towns would contribute to a cumulative reduction in existing habitat. Marin County, therefore, is the geographic area considered for biological resources cumulative impacts. Much of the anticipated future development would be concentrated in existing urbanized areas of the City-Centered Corridor, although sensitive resources may be present in some locations where future development may be proposed.

The overall cumulative effect of development would be dependent on the degree to which significant biological and wetland resources are protected or mitigated for as part of individual development projects throughout the county. This includes preservation of areas of sensitive natural communities, protection of essential habitat for special status plant and animal species, and avoidance of wetlands. With respect to special status-species and sensitive natural communities, these would be less-than-significant cumulative impacts. With implementation of the policies in the 2007 CWP Update and the mitigation measures prescribed for these impacts, the 2007 CWP Update contribution to these impacts would be less than cumulatively considerable.

Cumulative development would also contribute to an incremental reduction in the amount and connectivity of existing natural communities and wildlife habitat. While mitigation measures may be available to address identified impacts on sensitive resources such as wetlands and sensitive natural communities, the cumulative loss of undeveloped habitat and possible further fragmentation of the remaining natural areas would be cumulatively significant. Development and land use activities consistent with 2007 CWP Update would result in a reduction of existing natural habitat, contribute to habitat fragmentation, and result in obstruction of movement opportunities. Aspects of the applicable policies contained in 2007 CWP Update would serve to partially address these impacts, but the conversion, fragmentation, and obstruction would be a significant unavoidable cumulative impact.

Subsequent to the preparation of the RD TPEIR, the San Francisco Bay Regional Water Quality Control Board (RWQCB) issued a Total Maximum Daily Load (TMDL) order for the Lagunitas Creek watershed. Although the TMDL order was approved by the RWQCB, it will not become fully effective until approval by the State Water Resources Control Board, the State Office of Administrative Law, and the U.S. EPA. Nonetheless, the findings of the TMDL order and its supporting studies represent the best science available with which to evaluate the potential impacts of actions that may influence sediment yield and the effects of sedimentation on the aquatic biological resources within the Lagunitas Creek watershed.

As noted in the TMDL order:

The goals of the Lagunitas Creek Sediment Reduction and Habitat Enhancement Plan (Plan) are as follows:

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3. All public agencies with jurisdiction over roads within the project area must adopt and implement road maintenance guidelines to protect aquatic habitat, water quality, and salmonid fisheries (such as the RTMP); conduct a biennial training program for road maintenance staff, and biennially submit a report that documents implementation and/or recommends adaptive updates to the maintenance practices. (SFB RWQCB 2014a)

The staff report prepared for the RWQCB's June 2014 hearing additionally notes:

In evaluating the nature and scope of a regulatory program to control sediment delivery from roads, we note that substantial progress has been made within the past decade in reducing sediment delivery from unpaved roads located on lands managed by the Marin County Open Space District within the San Geronimo Creek watershed. These roads represent about one-third of the total length of unpaved roads within the TMDL project area (27 miles, as estimated by Lynx Technologies, 2007, unpublished data). We commend the Open Space District for implementing treatments at all priority erosion sites that could deliver to channel reaches that provide habitat for steelhead and/or coho salmon. We also commend the California Department of Fish and Wildlife, which provided substantial grant funding and technical support. (SFB RWQCB 2014b)

The 2007 CWP Update would make a cumulatively considerable contribution to eliminating or diminishing existing wildlife habitat values in the county, and contributing to a substantial reduction in the opportunities for wildlife movement. Even with the implementation of mitigation identified in the Countywide Plan EIR, this would remain a significant unavoidable cumulative impact.

Thus, the MCOSD is already meeting TMDL objectives within the San Geronimo Valley and the Lagunitas Creek watershed. Implementation of the RTMP meet the requirements of the TMDL order to adopt road maintenance guidelines, and would continue and enhance the District's ongoing efforts to reduce sediment yield from MCOSD roads and trails, and benefit aquatic habitat and species. With this addition, as documented in Chapter 6, *Biological Resources*, of this RD TPEIR, implementation of the RTMP would have a less-than-significant impact to biological resources, and the potential effects of future use management, and maintenance and construction projects with implementation of the RTMP would be less than under current conditions as new BMPs and standards were implemented, and facilities within sensitive habits were removed, re-constructed, or repaired. Therefore, the RTMP would not make a cumulatively considerable contribution to this significant and unavoidable cumulative impact. The cumulative effect of the RTMP would be less than significant.

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## **APPENDIX C – BIOLOGICAL RESOURCES APPENDIX**

Appendix C as revised follows this page.

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APPENDIX C

(Revised)

Biological Resource Appendix

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**Appendix C.** Potential for special-status plant and wildlife species to occur in the Marin County Open Space District (MCOSD) preserves. List compiled from the U.S. Fish and Wildlife Service (USFWS) Species Lists for Marin County and a search of the California Department of Fish and Wildlife (CDFW) Natural Diversity Database (CDFW 2013) for the San Quentin, Novato, Petaluma Point, Petaluma River, Petaluma, San Geronimo, San Rafael, Bolinas, Point Bonita, San Francisco, Double Point, Inverness, and Point Reyes NE North USGS 7.5' quadrangles, and a review of other CDFW lists and publications.

<b>Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves</b>				
<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
<b>MAMMALS</b>				
salt-marsh wandering shrew <i>Sorex vagrans halicoetes</i>	SSC	Confined to small remnant stands of salt marsh found around the southern arm of the San Francisco Bay in San Mateo, Santa Clara, Alameda and Contra Costa counties. Inhabits salt marshes that provide dense cover with driftwood and other debris for resting and nesting, and continuous ground moisture. Known elevational range is from 6 to 9 feet.	<b>No Potential.</b> The MCOSD preserves are located outside the current known range of this subspecies.	No further actions are recommended for this species.
Suisun shrew <i>Sorex ornatus sinuosus</i>	SSC	Tidal marshes of the northern shores of San Pablo and Suisun Bays. Require dense low-lying cover and driftweed and other litter above the mean high tide line for nesting and foraging.	<b>Unlikely.</b> Suitable habitat is present in portions of the MCOSD, including Santa Venetia Marsh. However, the western extent of this subspecies' restricted range is Sonoma Creek, Sonoma County. Additionally, there are no documented occurrences of this species in or adjacent to the MCOSD preserves.	No further actions are recommended for this species.
fringed myotis <i>Myotis thysanodes</i>	WBWG High	Associated with a wide variety of habitats including mixed coniferous- deciduous forest and redwoods/sequoia groves. Buildings, mines, and large snags are important day and night roosts.	<b>Moderate Potential.</b> The MCOSD preserves are within the known range of this species and suitable habitat is present. This species has a moderate potential to occur in forest and woodland habitats where water is present. Additionally, this species is likely to occur in areas that provide rock outcrops and crevices for roosting.	Work windows or pre-construction surveys.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
long-legged myotis <i>Myotis volans</i>	WBWG High	Generally associated with woodlands and forested habitats. Large hollow trees, rock crevices and buildings are important day roosts. Other roosts include caves, mines and buildings.	<b>Moderate Potential.</b> The MCOSD is within the known range of this species and suitable habitat is present. This species has a moderate potential to occur in forest and woodland habitats. Additionally, this species is likely to occur in areas that provide rock outcrops and crevices for roosting.	Work windows or pre-construction surveys.
silver-haired bat <i>Lasionycteris noctivagans</i>	WBWG Medium	Summer habitats include coastal and montane coniferous forests, valley foothill woodlands, pinyon-juniper woodlands, and valley foothill and montane riparian habitats. This species is primarily a forest dweller, feeding over streams, ponds, and open brushy areas. It roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark.	<b>High Potential.</b> The MCOSD is within the known range of this species and suitable habitat is present. This species has a high potential to occur in forest, woodland, and riparian habitats. It may also occur in open brushy areas when foraging. Additionally, this species is likely to occur in areas that provide rock outcrops and crevices for roosting. There are multiple occurrences of this species within Marin County (CDFW 2013).	Work windows or pre-construction surveys.
western red bat <i>Lasiurus blossevillii</i>	SSC, WBWG High	This species is typically solitary, roosting primarily in the foliage of trees or shrubs. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas.	<b>Moderate Potential.</b> Trees within many MCOSD preserves likely provide suitable roosting habitat for the species. This species is broadly distributed across the state and has a moderate potential to occur in forests, woodlands, and edge habitats adjacent to streams or open fields.	Work windows or pre-construction surveys.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
hoary bat <i>Lasiurus cinereus</i>	WBWG Medium	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	<b>High Potential.</b> This species has a high potential to occur in open habitats, including grasslands, and also along edge habitats with trees suitable for roosting. The species requires water due to its poor urine concentrating abilities and therefore may be found at locations with freshwater ponds and streams. There are multiple occurrences of this species within Marin County (CDFW 2013).	Work windows or pre-construction surveys.
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	SSC, WBWG High	Primarily found in rural settings in a wide variety of habitats including oak woodlands and mixed coniferous- deciduous forest. Day roosts highly associated with caves and mines. Building roost sites must be cave like. Very sensitive to human disturbance.	<b>High Potential.</b> The MCOSD is within the known range of this species and suitable habitat is present. This species has a high potential to occur in forest, woodland, and riparian habitats. It may also occur in open brushy areas when foraging. Additionally, this species is likely to occur in areas that provide rock outcrops and crevices for roosting. This species will likely avoid areas with moderate levels of human disturbance. There are multiple occurrences of this species within Marin County (CDFW 2013).	Work windows or pre-construction surveys.
pallid bat <i>Antrozous pallidus</i>	SSC, WBWG High	Occupies a variety of habitats at low elevation including grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting.	<b>High Potential.</b> This species occupies a variety of habitats and may occur almost anywhere in the MCOSD. This species has been documented in the vicinity of Lucas Valley and Little Mountain (CDFW 2013).	Work windows or pre-construction surveys.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

Species	Status*	Habitat	Potential For Occurrence	Recommendations
Point Reyes mountain beaver <i>Aplodontia rufa phaea</i>	SSC	The Point Reyes mountain beaver is only known to occur in western Marin County, almost entirely within Point Reyes National Seashore.	<b>Moderate Potential.</b> The MCOSD preserve are located within the current known range of this subspecies. The nearest documented occurrence of this species is 0.25 miles west of Gary Giacomini (CDFW 2013).	Prior to ground disturbance, surveys for this species should be conducted within Gary Giacomini and French Ranch preserves in moist, well drained, slopes vegetated with an overstory tangle of shrubs, and a dense understory of sword fern, bracken fern, salal, stinging nettle and other low plants characteristic of the coastal scrub community.
salt-marsh harvest mouse <i>Reithrodontomys raviventris</i>	FE, SE, CFP	Found only in saline emergent wetlands of San Francisco Bay and its tributaries. Primary habitat is dominated by pickleweed ( <i>Salicornia</i> ). Requires adjacent, upland areas as refuge during high tides. Does not burrow.	<b>Present.</b> Multiple locations within the MCOSD contain suitable saline emergent wetlands for this species. This species is known to occur within the MCOSD at Bothin Marsh (CDFW 2013). A specimen was collected at Rush Creek preserve. Portions of the Santa Venetia Preserve have a documented occurrence of this species within 1.1 miles, and suitable habitat is present (CDFW 2013).	Recommend initiate Section 7 Consultation with USFWS if ground disturbance to saline salt marsh is proposed. Appropriate minimization and avoidance measures include installation of exclusion fence and biological monitoring.
Point Reyes jumping mouse <i>Zapus trinotatus orarius</i>	SSC	Occurs in wet, marshy coastal meadows and humus-filled dark soils of coast redwood forests, thickets of deciduous woody vegetation along streams and seepage areas. Restricted to Point Reyes Peninsula in southern and western Marin County. Eats mainly grass seeds with some insects and fruit taken. Builds grassy nests on ground under vegetation, burrows in winter.	<b>Moderate Potential.</b> The MCOSD is within the limited range of this secretive subspecies. Marshy coastal meadows, redwood forests with hummus-filled soil, and thickets of deciduous woody vegetation along streams and seepage areas within the MCOSD preserves may provide suitable habitat for this subspecies. The closest documented occurrence of this subspecies is 3.2 miles southwest of Bothin Marsh (CDFW 2013).	Prior to ground disturbance, surveys for this species should be conducted within wet, marshy coastal meadows and thickets of deciduous woody vegetation along streams and seepage in Bolinas Lagoon preserve.

<b>Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves</b>				
<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
American badger <i>Taxidea taxus</i>	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Requires friable soils and open, uncultivated ground. Preys on burrowing rodents. Somewhat tolerant of human activities.	<b>Present.</b> This species has been observed at Mount Burdell and Loma Alta preserves. Many MCOSD preserves contain grassland habitats with friable soils and suitable prey for the species. The closest documented occurrence is 0.6 miles west of Bolinas Lagoon.	Prior to ground disturbance, burrow surveys for this species should be conducted for projects that propose disturbance to native ground.
Guadalupe fur-seal <i>Arctocephalus townsendi</i>	FT, ST, CFP, MMPA	Breeds on Isla de Guadalupe off the coast of Mexico; occasionally found on San Miguel, San Nicolas, and San Clemente islands. Prefers shallow, nearshore island water with cool and sheltered rocky areas for haul-outs.	<b>Unlikely.</b> The current range of this species includes the shoreline of Bolinas Lagoon; however, there are no documented occurrences of this species on the shores of Marin County (CDFW 2013). Additionally this species does not breed in the area.	No further actions are recommended for this species.
stellar (=northern) sea-lion <i>Eumetopias jubatus</i>	FT, MMPA	Breeds on Año Nuevo, San Miguel and Farallon islands, Point Saint George, and Sugarloaf. Hauls-out on islands and rocks. Needs haul-out and breeding sites with unrestricted access to water, near aquatic food supply and with no human disturbance.	<b>Unlikely.</b> The current range of this species includes the shoreline of Bolinas Lagoon; however, this species is unlikely to use Bolinas Bay as a haul-out site due to high levels of human activity. This species does not breed in the area.	No further actions are recommended for this species.
California sea-lion <i>Zalophus californianus</i>	MMPA	Breeds mainly on offshore islands, ranging from southern California's Channel Islands south to Mexico, although a few pups have been born on Año Nuevo and the Farallon Islands in central California.	<b>Unlikely.</b> The current range of this species includes the shoreline of Bolinas Lagoon; however, this species is unlikely to use Bolinas Bay as a haul-out site due to high levels of human activity. This species does not breed in the area.	No further actions are recommended for this species.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
northern elephant seal <i>Mirounga angustirostris</i>	MMPA	Pacific Ocean and coastal waters. While on land, they prefer sandy beaches.	<b>Unlikely.</b> The current range of this species includes the shoreline of Bolinas Lagoon; however, this species is unlikely to use Bolinas Bay as a haul-out site due to high levels of human activity. This species does not breed in the area. Although occurrences within San Francisco Bay are very rare, this species was observed in 2012 by a WRA biologist on the north shore of the Tiburon Peninsula.	No further actions are recommended for this species.
<b>BIRDS</b>				
redhead <i>Aythya americana</i>	SSC	Resident and winter visitor in California. Typically breeds in freshwater emergent marshes, usually with deeper water (>3 ft), and dense cattail and/or tule stands. Typical wintering habitat consists of large, deep bodies of water.	<b>Unlikely.</b> The MCOSD is within the winter range of this species; however, most individuals wintering in California are found in the southern portions of the state.	No further actions are recommended for this species.
harlequin duck <i>Histrionicus histrionicus</i>	SSC	Found in marine waters along rocky shore during non-breeding season. Breeds on west slope of the Sierra Nevada range. Nests in inland streams or along shores of swift, shallow rivers. Nest often built within 7 feet of water in a recess, sheltered overhead by the stream bank, rocks or woody debris.	<b>Unlikely.</b> The MCOSD is within the winter range of this species; however the MCOSD does not contain rocky shoreline habitat where this species is typically found during the non-breeding season.	No further actions are recommended for this species.
Barrow's goldeneye <i>Bucephala islandica</i>	SSC	A very common winter resident along the central California coast, mainly in San Francisco Bay and vicinity. Found locally on estuarine and brackish waters. Rare and local inland in winter on lacustrine and riverine waters.	<b>Moderate Potential.</b> This species is very common in the San Francisco Bay on estuarine and brackish waters. This species is no longer believed to breed in California.	This species is no longer believed to breed in California and project activities are unlikely to result in take of the species. No further actions are recommended for this species.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
common loon <i>Gavia immer</i>	SSC	Winter visitor; does not nest in the vicinity San Francisco Bay. Aquatic, generally found in large, deep water bodies with abundant fish.	<b>Moderate Potential.</b> Portions of the MCOSD, such as Bolinas Bay, provide suitable aquatic foraging habitat for the species. This species does not nest in the vicinity of San Francisco Bay.	This species does not breed in the vicinity of San Francisco Bay and project activities are unlikely to result in take of the species. No further actions are recommended for this species.
fork-tailed storm-petrel <i>Oceanodroma furcata</i>	SSC	Colonial nester on small, offshore islets. Forages over the open ocean, usually well off-shore. Birds choose off-shore islets which provide nesting crannies beneath rocks or sod for burrowing.	<b>Unlikely.</b> The nearest known breeding colony of fork-tailed storm petrels is in northern Humboldt County (Shuford 1993). This species does not breed in Marin County but some breeding birds rarely visit offshore pelagic waters (Shuford 1993).	No further actions are recommended for this species.
ashy storm-petrel <i>Oceanodroma homochroa</i>	SSC, BCC	Colonial nester on off-shore islands. Usually nests on driest part of islands. Forages over open ocean. Nest sites on islands are in crevices beneath loosely piled rocks or driftwood, or in caves.	<b>Unlikely.</b> This species nests on offshore islands and forages over the open ocean. It is unlikely for this species to occur even within the coastal portions of the MCOSD.	No further actions are recommended for this species.
black storm-petrel <i>Oceanodroma melania</i>	SSC	Colonial nester on Santa Barbara Island. Forages in open ocean in channel waters, and also far off-shore. Primarily a warm-water bird.	<b>Unlikely.</b> This species nests on offshore islands and forages over the open ocean. It is unlikely for this species to occur even within the coastal portions of the MCOSD.	No further actions are recommended for this species.
short-tailed albatross <i>Diomedea albatrus</i>	FE, SSC	Found in the open ocean. Breeds on remote islands in the Pacific Ocean.	<b>Unlikely.</b> This species nests on offshore islands and forages over the open ocean. It is highly unlikely for this species to occur even within the coastal portions of the MCOSD.	No further actions are recommended for this species.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
American white pelican <i>Pelecanus erythrorhynchos</i>	SSC	Winters primarily on the Pacific coast and lowlands from central California and southern Arizona south through Baja California. Nests colonially on large interior lakes or rivers. Winters on sheltered, usually inland waters with abundant small fishes for forage.	<b>Moderate Potential.</b> This species frequently occurs during winter in the San Francisco Bay and Central Coast including Bolinas Bay. This species does not nest in the San Francisco Bay area.	This species does not breed in the vicinity of the MCOSD and project activities are unlikely to result in take of the species. No further actions are recommended for this species.
California brown pelican <i>Pelecanus occidentalis californicus</i>	CFP	Nest in colonies on offshore islands, from the Channel Islands southward, that are free of mammalian predators and human disturbance. Winter/non-breeding visitor to estuarine, marine subtidal, and marine pelagic waters along the coast. Individuals use breakwaters, jetties, sand spits and offshore sand bars for loafing and night roosts.	<b>Moderate Potential.</b> This species frequently occurs in winter in the San Francisco Bay and Central Coast including Bolinas Bay. This species does not nest in northern California.	This species does not breed in northern California and project activities are unlikely to result in take of the species. No further actions are recommended for this species.
white-tailed kite <i>Elanus leucurus</i>	CFP	Year-long resident of coastal and valley lowlands. Commonly found in savanna, open woodlands, marshes, desert grassland, partially cleared lands, and cultivated fields. Preys on small diurnal mammals and occasional birds, insects, reptiles, and amphibians.	<b>Present.</b> This species has been confirmed breeding at several Open Space preserves including Deer Island and Santa Margarita Island. Other likely breeding sites exist at numerous MCOSD preserves.	Recommend a breeding bird survey if construction activity or vegetation removal occurs within 500 feet of mature oak, willow, or other trees during the breeding bird season, February 1 - August 31.
bald eagle <i>Haliaeetus leucocephalus</i>	FD, SE, CFP, BCC	Requires large bodies of water, or free-flowing rivers with abundant fish and adjacent snags or other perches. Nests in large, old-growth, or dominant live tree with open branchwork.	<b>Unlikely.</b> This species may forage within the coastal wetlands and rangelands within and adjacent to the MCOSD. Prior to 1993 there were no known nesting records in Marin County. Today, one nest location exists at Kent Lake, outside the MCOSD.	No further actions are recommended for this species.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
northern harrier <i>Circus cyaneus</i>	SSC	Nests and forages in grassland habitats, usually in association with coastal salt and freshwater marshes. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas. May also occur in alkali desert sinks.	<b>High Potential.</b> The MCOSD contains grassland and wetland habitat suitable for nesting and foraging by the species.	Recommend a breeding bird survey if construction activity or vegetation removal occurs in grasslands, or within 500 feet of marsh edges or other similar wet shrubby habitats during the breeding bird season, February 1 - August 31.
ferruginous hawk <i>Buteo regalis</i>	BCC	This winter visitor to California frequents open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys and fringes of pinyon-juniper habitats. Preys on lagomorphs, ground squirrels and mice. Population trends may follow lagomorph population cycles.	<b>Moderate Potential.</b> This MCOSD is within the winter range of this species. Several habitat types within the MCOSD provide foraging habitat for the species, including grasslands, scrub, and chaparral.	This species does not breed in California and project activities are unlikely to result in take of the species. No further actions are recommended for this species.
golden eagle <i>Aquila chrysaetos</i>	CFP, BCC	Resident in rolling foothills mountain areas, sage-juniper flats, desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	<b>Present.</b> This species has been confirmed breeding at San Pedro Ridge preserve. The MCOSD is within the current year-round range of the species and provides suitable foraging habitat for the species. Golden eagles are a rare, local breeder in Marin County with a very small breeding population (Shuford 1993). Historically, breeding has occurred in the northern interior of Marin County near Indian Tree, Little Mountain, Mount Burdell, and Verissimo Hills, although the exact location is uncertain. Possible breeding locations extend south into Indian Valley, Lucas Valley, and the areas around Gary Giacomini preserve.	Recommend pre-construction surveys in accordance with CDFW guidelines for golden eagle.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
American peregrine falcon <i>Falco peregrinus anatum</i>	FD, SE, CFP	Largely resident. Requires protected cliffs, ledges or manmade structures for nesting. Often associated with coasts, bays, marshes and other open expanses of water. Preys primarily upon waterbirds; forages widely.	<b>High Potential.</b> The MCOSD provides a variety of foraging habitat for the species. This species has been documented nesting along bridge structures near Bothin Marsh.	Recommend a breeding bird survey if construction activity or vegetation removal occurs within 0.5 miles of cliffs, ledges or manmade structures suitable for nesting during the breeding bird season, February 1 - August 31.
prairie falcon <i>Falco mexicanus</i>	BCC	Winter visitor. Inhabits dry, open terrain, either level or hilly. Breeding sites located on cliffs. Forages widely.	<b>Unlikely.</b> Prairie falcons typically occur in Marin County as rare winter residents; grasslands within the MCOSD likely provide suitable foraging habitat for this migrant species. This species has been observed at Bolinas Lagoon, and near Terra Linda/Sleepy Hollow Divide and Santa Venetia Marsh.	There are no known suitable breeding sites for this species on MCOSD preserves. This species does not breed in Marin County and project activities are unlikely to result in take of the species.
California black rail <i>Laterallus jamaicensis coturniculus</i>	ST, CFP	Extremely secretive resident of emergent marshes in the San Francisco Bay Estuary and portions of the Central Valley. Occurs in salt, brackish and freshwater habitats. Nests in dense stands of emergent vegetation.	<b>Present.</b> Portions of the MCOSD contain emergent marsh and thus provide suitable habitat for the species. There are documented occurrences of this species at Bolinas Lagoon and Bothin Marsh (CDFW 2013)	Recommend a breeding bird survey if construction activity or vegetation removal takes place within 700 feet of suitable salt marsh habitat during the breeding bird season, February 1 - August 31.
California clapper rail <i>Rallus longirostrisobsoletus</i>	FE, SE, CFP	Resident in tidal marshes of the San Francisco Bay Estuary. Requires tidal sloughs and mud flats for foraging, and dense vegetation for nesting. Associated with abundant growth of cordgrass and pickleweed. Largest populations in south San Francisco Bay.	<b>Present.</b> Portions of the MCOSD contain emergent marsh and thus provide suitable habitat for the species. This species has been documented at Bothin Marsh, Bolinas Lagoon, and Santa Venetia Marsh (CDFW 2013). This species is also likely to occur near Santa Margarita Island.	Recommend a breeding bird survey if construction activity or vegetation removal takes place within 700 feet of suitable salt marsh habitat during the breeding bird season, February 1 - August 31.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
western snowy plover <i>Charadrius alexandrinus nivosus</i>	FT, BCC, SSC	Federal listing applies only to the Pacific coastal population. Resident on sandy beaches, salt pond levees and shores of large alkali lakes. Requires sandy, gravelly or friable soils for nesting.	<b>Present.</b> This species has been documented at Bolinas Lagoon (CDFW 2013). This species is not expected to occur anywhere in the MCOSD except for on the sandy beaches of Bolinas Lagoon.	Recommend a breeding bird survey if construction activity or vegetation removal takes place in Bolinas Lagoon preserve during the breeding bird season, February 1 - August 31.
black oystercatcher <i>Haematopus bachmani</i>	BCC	Resident on rocky shores of marine habitats along almost the entire California coast and adjacent islands. Breeds on undisturbed, rocky, open shores and cliffs.	<b>Unlikely.</b> The MCOSD does not contain rocky shore habitat for the species. While this species may forage or roost in adjacent areas, no suitable breeding habitat is present.	No further actions are recommended for this species.
long-billed curlew <i>Numenius americanus</i>	SSC	Winter visitor to large coastal estuaries, upland herbaceous areas, and agricultural lands. Within California, nests only in the northeastern portion of the state in wet meadow habitat.	<b>Moderate Potential.</b> Portions of the MCOSD contain suitable mudflat or grassland foraging habitat for this species; however, this species does not breed in the vicinity of San Francisco Bay.	This species does not breed in the vicinity of San Francisco and project activities are unlikely to result in take of the species. No further actions are recommended for this species.
black tern <i>Chlidonias niger</i>	SSC	Found at freshwater lakes, ponds, marshes and flooded agricultural fields. During migration this species is typically found in coastal lagoons and estuaries. The breeding range has been reduced and primarily occurs in the Modoc Plateau region, with some breeding in Sacramento and San Joaquin Valleys.	<b>Moderate Potential.</b> This species has a high potential to occur in estuaries and lagoons in the MCOSD during migration. The nearest documented occurrence of this species is 1.25 miles west of Bolinas Lagoon. This species does not breed in Marin County.	This species does not breed in Marin County and project activities are unlikely to result in take of the species. No further actions are recommended for this species.
California least tern <i>Sternula (formerly Sterna) antillarum browni</i>	FE, SE, CFP	Summer resident, nesting colonially along the coast from San Francisco Bay south. Breeding colonies in the San Francisco Bay Estuary found on abandoned salt ponds and estuarine shores. Prefers barren or sparsely vegetated, flat substrates near water. Forages for small surface fish along shores, coasts, etc.	<b>Unlikely.</b> Diked ponds and marshes within the MCOSD may provide suitable foraging and breeding habitat for the species; however, there are no documented occurrences of this subspecies breeding in Marin County (CDFW 2013).	No further actions are recommended for this species.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
marbled murrelet <i>Brachyramphus marmoratus</i>	FT, SE	Spends the majority of its life on the ocean but come inland to nest. Generally nest in old-growth forests, characterized by large trees, multiple canopy layers, and moderate to high canopy closure.	<b>Moderate Potential.</b> Old-growth forests within the MCOSD and adjacent areas may provide suitable nesting habitat for this species. The MCOSD is not within USFWS designated critical habitat for the species; however designated critical habitat is in close proximity to Bolinas Lagoon and French Ranch.	Recommend habitat assessment for marbled murrelet if ground disturbance proposed in suitable high quality forest habitats. May require Section 7 Consultation with USFWS due to proximity to critical habitat. Appropriate minimization and avoidance measures likely include protocol-level surveys, buffers, and seasonal restrictions.
Cassin's auklet <i>Ptychoramphus aleuticus</i>	BCC, SSC	San Miguel Island and its islets, particularly Prince Island and Castle Rock, provide the most important nesting sites for the Cassin's auklet in the Southern California bight. It also breeds colonially on the other islands of the Channel Islands National Park, except Santa Rosa Island.	<b>Unlikely.</b> This species may rarely occur along the coast of Marin County, however, the MCOSD is outside the current breeding range of the species.	No further actions are recommended for this species.
tufted puffin <i>Fratercula cirrhata</i>	SSC	Open-ocean bird; nests along the coast on islands, islets, or (rarely) mainland cliffs. Require sod or earth into which the birds can burrow, on island cliffs or grassy island slopes.	<b>No Potential.</b> Portions of the MCOSD are within the known range of the species; however, the MCOSD does not provide suitable nesting or foraging habitat for the species.	No further actions are recommended for this species.
burrowing owl <i>Athene cunicularia</i>	BCC, SSC	Open, dry annual or perennial grasslands, deserts & scrub lands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably the California ground squirrel.	<b>Present.</b> This species has been observed during the non-breeding season at Ring Mountain and Loma Alta preserves. Grasslands within the MCOSD may provide suitable nesting and foraging habitat for the species. Burrowing owls have been documented in the foothills east of Bolinas Bay (CDFW 2013).	Recommend pre-construction surveys for projects with ground disturbance to grasslands in accordance with CDFW guidelines for burrowing owl.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
northern spotted owl <i>Strix occidentalis caurina</i>	FT, SSC	Require a multi-layered, multi- species canopy with moderate to high canopy closure. Stands typically contain a high incidence of trees with large cavities, snags, and an abundance of large, dead wood on the ground. Requires open space within and below the upper canopy to fly.	<b>Present.</b> There are numerous documented breeding sites on MCOSD lands. Portions of the MCOSD are within USFWS designated Critical habitat for this species. Forest habitat within and adjacent to the MCOSD provide suitable nesting and foraging habitat for the species. Some of the densest known populations of northern spotted owls are found on public lands in Marin County (NPS 2013).	For projects within 0.25 miles of potential high-quality nesting habitat, implement appropriate minimization and avoidance measures such as protocol-level surveys, buffers, and seasonal restrictions. Section 7 Consultation with USFWS may be needed for projects that cannot avoid the potential to impact nesting birds due to proximity to critical habitat and documented populations.
long-eared owl <i>Asio otus</i>	SSC	Resident in open woodlands, forest edges, riparian strips along rivers, and wooded ravines and gullies. Breeding habitat includes thickly wooded areas for nesting and roosting with nearby open spaces for hunting.	<b>Moderate Potential.</b> The MCOSD contains trees that may provide nesting habitat for the species, as well as suitable foraging habitat in the open woodlands, grasslands, and riparian habitats.	Recommend a breeding bird survey if construction activity or vegetation removal takes place within 0.25 miles of woodland or forest habitat during the breeding bird season, February 1 - August 31.
short-eared owl <i>Asio flammeus</i>	SSC	Found in wetlands both fresh and salt; lowland meadows; irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depression concealed in vegetation.	<b>Moderate Potential.</b> Grasslands, wetlands, and lowland meadows within the MCOSD may provide suitable winter foraging habitat for the species. The MCOSD is not within the current breeding range of the species; however, there is one recent extralimital breeding occurrence within Point Reyes National Seashore.	The MCOSD is outside the current breeding range of the species and project activities are unlikely to result in take of the species. No further actions are recommended for this species.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
black swift <i>Cypseloides niger</i>	BCC, SSC	Nests in the coastal belt of Santa Cruz and Monterey County; central and southern Sierra Nevada; San Bernardino and San Jacinto Mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea- bluffs above surf; forages widely.	<b>Unlikely.</b> The MCOSD is not within the current breeding range of the species and does not provide suitable nesting habitat. This species may occur within the MCOSD during migration. This species has been documented one mile west of Bolinas Lagoon (CDFW 2013).	The MCOSD is outside the current breeding range of the species and project activities are unlikely to result in take of the species. No further actions are recommended for this species.
Vaux's swift <i>Chaetura vauxi</i>	SSC	Nests in redwood, douglas fir, and other coniferous forests. Nests in large hollow trees and snags. Often nests in flocks. Forages over most terrains and habitats but shows a preference for foraging over rivers and lakes.	<b>Unlikely.</b> The MCOSD is within the summer range of the species; however, this species is a rare, very local breeder and the overall breeding population is very small (Shuford 1993). Although most breeding season sightings are from the vicinity of redwood or Douglas fir forest on the southern part of Bolinas Ridge, there are no confirmed breeding occurrences of this species in Marin County (Shuford 1993, CDFW 2013).	No further actions are recommended for this species.
rufous hummingbird <i>Selasphorus rufus</i>	BCC	Found in a wide variety of habitats that provide nectar-producing flowers. A common migrant and uncommon summer resident of California.	<b>Moderate Potential.</b> This species is a common migrant in Marin County. This species can be found in a variety of habitats where nectar-producing flowers are present. This species is not known to breed in Marin County.	This species does not breed in Marin County and project activities are unlikely to result in take of the species. No further actions are recommended for this species.
Allen's hummingbird <i>Selasphorus sasin</i>	BCC	Found in a wide variety of habitats that provide nectar-producing flowers. A common, nearly ubiquitous breeder in Marin County. A summer resident from late January through July.	<b>Present.</b> This species may be found in a variety of habitats in the MCOSD where nectar-producing flowers are present. Allen's hummingbird is a common, nearly ubiquitous breeder in Marin County.	Recommend a breeding bird survey if construction activity or vegetation removal takes place during the breeding bird season, February 1 - August 31.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
Lewis's woodpecker <i>Melanerpes lewis</i>	BCC	Uncommon winter resident occurring on open oak savannahs, broken deciduous and coniferous habitats.	<b>Unlikely.</b> The MCOSD is within the winter range of this species; however, this species is fairly uncommon. This species does not breed in Marin County.	No further actions are recommended for this species.
Nuttall's woodpecker <i>Picoides nuttallii</i>	BCC	Resident in lowland woodlands throughout much of California west of the Sierra Nevada. Typical habitat is dominated by oaks.	<b>Present.</b> This species has a high potential to occur in lowland woodlands within the MCOSD. Confirmed breeding occurrences are from eastern Marin County, near Mount Burdell, Little Mountain, Rush Creek, Indian Tree, Indian Valley, Lucas Valley, Loma Verde, and nearby areas.	Recommend a breeding bird survey if construction activity or vegetation removal occurs within 100 feet of suitable woodland habitat during the breeding bird season, February 1 - August 31.
olive-sided flycatcher <i>Contopus cooperi</i>	SSC	Summer resident. Breeds in montane coniferous forests, as well as mixed forests along the coast. Often associated with edge habitats.	<b>Present.</b> This species is a fairly common and widespread breeder in Marin County (Shuford 1993). This species occurs during the breeding season at numerous MCOSD preserves including Cascade Canyon, Gary Giacomini, Roy's Redwoods and White Hill.	Recommend a breeding bird survey if construction activity or vegetation removal takes place within 100 feet of woodland or forest habitat during the breeding bird season, February 1 - August 31.
little willow flycatcher <i>Empidonax traillii brewsteri</i>	SE, BCC	Most numerous where extensive thickets of low, dense willows edge on wet meadows, ponds, or backwaters. Breeds in California from Tulare County north, along the western side of the Sierra Nevada and Cascades, extending to the coast in northern California (Craig 1998).	<b>Unlikely.</b> The MCOSD is within the breeding range of the subspecies; however there are no documented occurrences of this species breeding in Marin County (CDFW 2013).	No further actions are recommended for this species.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
loggerhead shrike <i>Lanius ludovicianus</i>	SSC	Resident in open habitats with scattered shrubs, trees, posts, etc. from which to forage for large insects and small vertebrates. Nest well concealed above ground in densely- foliated shrub or tree.	<b>Moderate Potential.</b> The MCOSD is within the current year-round range of the species. This species may breed in open woodland and grassland habitats within the MCOSD. Breeding occurrences are near Blithedale Summit, San Pedro Mountain, Mount Burdell, Rush Creek, and in the vicinity of Gary Giacomini.	Recommend a breeding bird survey if construction activity or vegetation removal takes place within 100 feet of open woodland or grassland habitat during the breeding bird season, February 1 - August 31.
purple martin <i>Progne subis</i>	SSC	Aerial insectivores that nest in open and semi-open areas, including savannahs, cultivated lands, fields, parks, pastures, near lakes and marshes and in towns and suburbs.	<b>High Potential.</b> The MCOSD preserves are within the current year-round range of the species. This species occurs within a wide variety of habitats and has the potential to occur within any of the habitat types in the MCOSD preserves. Most of the documented breeding occurrences are from southwest Marin County in the vicinity of Gary Giacomini, Roys Redwoods, French Ranch, Loma Alta, White Hill, Cascade Canyon, and Maurice Thorner preserves.	Recommend a breeding bird survey if construction activity or vegetation removal takes place within 100 feet of open woodland or grassland habitat during the breeding bird season, February 1 - August 31.
bank swallow <i>Riparia riparia</i>	ST	Migrant in riparian and other lowland habitats in western California. Nests in riparian areas with vertical cliffs and banks with fine-textured or sandy soils in which to nest.	<b>Unlikely.</b> This species occurs irregularly in Marin County in spring and fall. This species does not breed in Marin County.	No further actions are recommended for this species.
oak titmouse <i>Baeolophus inornatus</i>	BCC	Resident in oak woodland, open broad-leaved evergreen forests containing oaks, and riparian woodlands. Nests in tree cavities.	<b>Present</b> This species is a common, widespread breeder in Marin County and has been confirmed as a breeding species in oak woodland, riparian woodland, and evergreen forests within the MCOSD.	Recommend a breeding bird survey if construction activity or vegetation removal takes place within 100 feet of woodland or forest habitats during the breeding bird season, February 1 - August 31.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
yellow warbler <i>Dendroica petechia brewsteri</i>	SSC	Summer resident, nesting in riparian stands of willows, cottonwoods, aspens, sycamores, and alders. Also nests in suitable montane shrubbery. Occurs widely during migration.	<b>Moderate Potential.</b> Riparian habitat within the MCOSD may provide suitable nesting and foraging habitat for the species. Additionally, this species occurs widely during migration. The nearest documented nest occurrences is 6.7 miles northwest of Gary Giocomini at Olema Marsh (CDFW 2013).	Recommend a breeding bird survey if construction activity or vegetation removal takes place within 100 feet of riparian habitat during the breeding bird season, February 1 - August 31.
saltmarsh (San Francisco) common yellowthroat <i>Geothlypis trichas sinuosa</i>	BCC, SSC	Breeding habitat is marshes or similar wet areas with low, dense vegetation. Requires continuous, thick cover down to water for foraging. Less common in dry areas.	<b>Present.</b> There are almost 20 documented occurrences of this species in Marin County. It is present during the breeding season at several MCOSD preserves including Deer island, Rush Creek, Bolinas Lagoon and Santa Venetia Marsh. The nearest documented breeding occurrence is located just outside the MCOSD, north of Bolinas Lagoon (CDFW 2013). Portions of the MCOSD containing marsh or similar habitat may provide suitable breeding habitat for the species. There are documented occurrences of this species near Rush Creek (CDFW 2013).	Recommend a breeding bird survey if construction activity or vegetation removal takes place within 100 feet of marsh habitat during the breeding bird season, February 1 - August 31.
yellow-breasted chat <i>Icteria virens</i>	SSC	Summer resident, utilizing riparian areas with an open canopy, very dense understory, and trees for song perches. Nests in thickets of willow, blackberry, and wild grape.	<b>Unlikely.</b> There are only a handful of <i>probable</i> breeding occurrences in northwest Marin County, outside the MCOSD lands (Shuford 1993). A search of CDFW's CNDDDB database reports no confirmed breeding occurrences in Marin County.	No further actions are recommended for this species.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
Bryant's savannah sparrow <i>Passerculus sandwichensis alaudinus</i>	SSC	Resident subspecies, associated with the coastal fog belt. Occupies upper tidally-influenced habitats, often found where pickleweed communities merge into grassland. Nests in vegetation on or near the ground, including along roads, levees, and water conveyance canals.	<b>High Potential.</b> The MCOSD is within the current year-round range of this subspecies. Areas in the MCOSD that contain low, tidally-influenced habitats with adjacent ruderal areas, and moist grasslands within and just above the fog belt, may provide suitable breeding and foraging habitat for this subspecies.	Recommend a breeding bird survey if construction activity or vegetation removal takes place within 100 feet of tidal habitats during the breeding bird season, February 1 - August 31.
grasshopper sparrow <i>Ammodramus savannarum</i>	SSC	Summer resident. Secretive; breeds in open grassland habitats, generally with low- to moderate-height grasses and scattered shrubs.	<b>Present.</b> This species is common throughout the breeding season at several MCOSD preserves including Mount Burdell, Loma Alta, Terra-Linda Sleepy Hollow Divide and others. Confirmed breeding occurrences for this species occur in northern Marin County and in the vicinity of Gary Giacomini (Shuford 1993). Other probable breeding occurrences exist near Bolinas Lagoon and Little Mountain.	Recommend a breeding bird survey if construction activity or vegetation removal takes place within 100 feet of grassland or open shrubland habitat during the breeding bird season, February 1 - August 31.
Suisun song sparrow <i>Melospiza melodia maxillaris</i>	BCC, SSC	Resident of brackish-water marshes surrounding Suisun Bay. Inhabits cattails, tules and other sedges, and Salicornia; also known to frequent tangles bordering sloughs.	<b>No Potential.</b> The MCOSD is outside the current breeding range of the subspecies.	No further actions are recommended for this species.
San Pablo (=Samuels) song sparrow <i>Melospiza melodia samuelis</i>	BCC, SSC	North San Francisco Bay and San Pablo Bay salt marshes. Nests in low marsh vegetation, high enough to avoid flooding during high tides.	<b>Present.</b> There are documented occurrences of this species in Bothin Marsh, and near Santa Venetia Marsh, Old St. Hilary's, and opposite the shores of Rush Creek preserve (CDFW 2013). This species has a high potential to occur within the tidal marsh (or emergent marsh) habitat within the MCOSD.	Recommend a breeding bird survey if construction activity or vegetation removal takes place within 100 feet of tidal areas during the breeding bird season, February 1 - August 31.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
tricolored blackbird <i>Agelaius tricolor</i>	SSC	Resident, though disperses somewhat when not breeding. Typically nests over or near freshwater in dense cattails, tules, or thickets of willow, blackberry, wild rose or other tall herbs. Highly colonial; breeding aggregations tend to be large.	<b>Moderate Potential.</b> Confirmed breeding populations occur west of Drake's Estero and in northern Marin County (Shuford 1993, CDFW 2013). There are no documented breeding occurrences within the MCOSD; however, freshwater marsh and willow thickets, blackberry or similar vegetation near freshwater, may provide suitable breeding habitat for the species.	Recommend a breeding bird survey if construction activity or vegetation removal takes place within 100 feet of pond, freshwater marsh, or riparian habitat during the breeding bird season, February 1 - August 31.
brant <i>Branta bernicula</i>	SSC	Prefers intertidal mudflats in well-protected, shallow marine waters where eelgrass and/or green algae are abundant.	<b>Present.</b> Occurs during winter and spring in Bolinas Lagoon and Bothin Marsh preserves.	Recommend pre-construction surveys in accordance with CDFW guidelines for this species.
great egret <i>Ardea alba</i>	G5, S4	Nests in colonies with other Great Egrets or other waterbirds. Colony sites located in lakes, ponds, marshes, estuaries, human-made impoundments, and on natural and dredge-material islands.	<b>Present.</b> Rookery present at Bolinas Lagoon (Kent Island).	Recommend pre-construction surveys in accordance with CDFW guidelines for this species.
great blue heron <i>Ardea herodias</i>	G5, S4	Great Blue Herons nest as single pairs, but mostly in colonies. Colony site location positively correlated with proximity to foraging habitat.	<b>Present.</b> Rookeries present at Heron Hill (650 San Perdo road) and Bolinas Lagoon (Kent Island).	Recommend pre-construction surveys in accordance with CDFW guidelines for this species.
Cooper's hawk <i>Accipiter cooperii</i>	G5, S3	Breeds in forested habitat including mixed coniferous, riparian and mixed broadleaf evergreen forests.	<b>High Potential.</b> Birds present during breeding season at several MCOSD preserves including Mount Burdell and Cascade Canyon.	Recommend pre-construction surveys in accordance with CDFW guidelines for this species.
sharp-shinned hawk <i>Accipiter striatus</i>	G5, S3	Breeds in forested habitat including mixed coniferous, riparian and mixed broadleaf evergreen forests.	<b>Moderate Potential.</b> Birds present during breeding season at numerous sites, suitable breeding habitat found in several MCOSD preserves.	Recommend pre-construction surveys in accordance with CDFW guidelines for this species.

<b>Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves</b>				
<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
merlin <i>Falco columbarius</i>	G5, S3	As a wintering resident in Marin County, merlins are found most frequently near coastal wetland habitats	<b>Present.</b> Merlins are found during winter at Bolinas Lagoon, Rush Creek, Deer Island, and other MCOSD preserves.	Recommend pre-construction surveys in accordance with CDFW guidelines for this species.
California horned lark <i>Eremophila alpestris actia</i>	G5T3Q, S3	Breeds in grassland, particularly rocky exposures such as serpentine barrens	<b>Present.</b> Breeding populations of this species documented at Loma Alta, Terra Linda/Sleepy Hollow and Cascade canyon preserves.	Recommend pre-construction surveys in accordance with CDFW guidelines for this species.
Tiburon micro-blind harvestman <i>Microcina (Calicina) tiburona</i>	G1, S1	Found during the wet season under rocks in serpentine habitat.	<b>Present.</b> Only known population found on Ring Mountain Preserve.	Recommend pre-construction surveys in accordance with CDFW guidelines for this species.
yellow-headed blackbird <i>Xanthocephalus xanthocephalus</i>	SSC	Migrant and local summer resident. Nests colonially in freshwater emergent wetlands with dense vegetation and deep water, often along borders of lakes or larger ponds. Forages primarily on large aquatic insects during the breeding period.	<b>Unlikely.</b> This species is a rare breeder in the San Francisco Bay Area. Suitable habitat for this species may occur in freshwater emergent wetlands, however; based on historical and current breeding records, it is unlikely this species breeds in the MCOSD.	No further actions are recommended for this species.
<b>REPTILES AND AMPHIBIANS</b>				
foothill yellow-legged frog <i>Rana boylei</i>	SSC	Found in or near rocky streams in a variety of habitats. Feed on both aquatic and terrestrial invertebrates.	<b>Moderate Potential.</b> Many locations within the MCOSD provide suitable habitat for this species. There are several documented occurrences of this species in Marin County, the nearest occurrences to the MCOSD are 0.45 miles west of Lucas Valley and 0.42 miles south of Gary Giacomini (CDFW 2013).	Recommend a pre-construction survey if construction activities occur within 100 feet of rocky perennial streams. Appropriate minimization and avoidance measures may include seasonal and daily work windows, and installation of exclusion fence.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
California red-legged frog <i>Rana draytonii</i>	FT, SSC, RP	Associated with quiet perennial to intermittent ponds, stream pools and wetlands. Prefers shorelines with extensive vegetation. Documented to disperse through upland habitats after rains.	<b>Present.</b> This species has been documented at Mount Burdell preserve and is common at the Bolinas Lagoon preserve. Most occurrences of this species are from western Marin County near Point Reyes National Seashore. Several occurrences are adjacent to Bolinas Lagoon and one occurrence is 0.42 miles west of Gary Giacomini. <b>Areas</b> within the MCOSD that contain quiet perennial to intermittent ponds, stream pools and wetlands may provide suitable habitat for this species. The MCOSD preserves are not within USFWS designated critical habitat for this species.	Recommend a pre-construction survey for construction activities within 300 feet of aquatic habitat and the limits of riparian canopy of perennial to intermittent streams. Section 7 Consultation with USFWS may be needed for projects within suitable aquatic habitat. Appropriate minimization and avoidance measures may include seasonal and daily work windows, and installation of exclusion fence.
Pacific pond turtle <i>Actinemys marmorata</i>	SSC	Occurs in perennial ponds, lakes, rivers and streams with suitable basking habitat (mud banks, mats of floating vegetation, partially submerged logs) and submerged shelter.	<b>Present.</b> This species has been confirmed at Indian Valley preserve. It may be found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, and either rocky or muddy bottoms, in woodland, forest, and grasslands within the MCOSD. There are multiple occurrences of this species in Marin County; the nearest occurrence is 0.55 miles north of Baltimore Canyon.	Recommend a pre-construction survey within 0.5 miles of aquatic habitat. Appropriate minimization and avoidance measures may include seasonal and daily work windows, and installation of exclusion fence.
leatherback turtle <i>Dermochelys coriacea</i>	FE	Pelagic, living in the open ocean and occasionally entering the shallower water of bays and estuaries. Nesting beaches are sandy with a gradual slope and a deep water approach.	<b>Unlikely.</b> Although this species lives mostly in the open ocean, in 2012 sightings were documented in the San Francisco Bay near Marin County. No nesting habitat occurs within the MCOSD.	No further actions are recommended for this species.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

Species	Status*	Habitat	Potential For Occurrence	Recommendations
<b>Fishes</b>				
green sturgeon <i>Acipenser medirostris</i>	FT, SSC, NMFS	Spawn in deep pools or "holes" in large, turbulent, freshwater river mainstems. Adults live in oceanic waters, bays, and estuaries when not spawning. Species is known to forage in estuaries and bays.	<b>High Potential.</b> This species is known to occur throughout San Francisco Bay. Strawberry Point Tidal Area, bay waters adjacent to Bothin Marsh, and South Fork Gallinas Creek adjacent to Santa Venetia Marsh are within USFWS designated critical habitat for green sturgeon.	Implement appropriate minimization and avoidance measures including BMPs to reduce impacts to tidal zones and habitat of this species. Utilize free-spanning bridges over sloughs when necessary. Recommend initiate Section 7 Consultation with NMFS due to proximity to critical habitat and documented populations if habitat avoidance not possible.
Pacific herring <i>Clupea pallasii</i>		A commercially important fishery in the San Francisco Bay. Typically spawn in rocky intertidal areas or areas with marine vegetation, may also spawn on boats, pilings, tires, and other debris; typically avoid spawning in sand and mud.	<b>High Potential.</b> This species is known to spawn in Richardson Bay. Rocky intertidal areas, areas with marine vegetation, as well as manmade structures and debris within Strawberry Point Tidal Area and around Bothin Marsh may provide suitable spawning habitat for this species.	In-water activities in Richardson Bay should avoid the spawning period from December 1 to March 1. Otherwise, consultation with CDFW will be necessary.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
coho salmon, central California coast ESU <i>Oncorhynchus kisutch</i>	FE, SE, NMFS	Federal listing includes populations between Punta Gorda and San Lorenzo River. State listing includes populations south of San Francisco Bay only. Occurs inland and in coastal marine waters. Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen.	<b>Present.</b> This species is known to occur in Lagunitas Creek watershed and Bolinas Lagoon. Coho salmon are considered extirpated in San Francisco Bay and associated watershed.	Appropriate minimization and avoidance measures likely include: seasonal work windows, sediment control measures, preconstruction surveys, and the use of free-spanning bridge structures. If habitat avoidance is not possible, Section 7 Consultation with NMFS may be required due to proximity to documented populations.
steelhead, central California coast DPS <i>Oncorhynchus mykiss</i>	FT, NMFS	Occurs from the Russian River south to Soquel Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for one or more years before migrating downstream to the ocean.	<b>Present.</b> Portions of the MCOSD are within NMFS designated Critical habitat for steelhead, central California coast DPS; including Arroyo Corte Madera del Presidio watershed, Lagunitas Creek watershed, tributaries to Bolinas Bay, Corte Madera Creek watershed, Miller Creek, and Petaluma River watershed. Additionally, Novato Creek watershed, including Arroyo San Jose is known to support steelhead.	Appropriate minimization and avoidance measures likely include: seasonal work windows, sediment control measures, preconstruction surveys, and the use of free-spanning bridge structures. If habitat avoidance is not possible, Section 7 Consultation with NMFS may be required due to proximity to documented populations.
steelhead, Central Valley DPS <i>Oncorhynchus mykiss</i>	FT, NMFS	Anadromous, spending most of life cycle in the ocean. Occurs in the Sacramento and San Joaquin Rivers and their tributaries, excluding San Francisco and San Pablo bays and their tributaries. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	<b>Unlikely.</b> Portions of the MCOSD within San Francisco Bay may support marginal foraging habitat for the species; however, these areas are not directly adjacent to the main migratory corridor of this DPS and individuals are unlikely to occur in the MCOSD.	No further actions are recommended for this species.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
Chinook Salmon - California Coastal ESU <i>Oncorhynchus tshawytscha</i>	FT, RP, NMFS	California Coastal Chinook Salmon ESU includes all naturally spawned populations of Chinook salmon from rivers and streams south of the Klamath River (exclusive) to the Russian River (inclusive). Adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel. Water temps >27 degrees C lethal to adults.	<b>Unlikely.</b> The species is not known to occur within MCOSD watersheds. While marginal foraging habitat may be supported, it's unlikely the species would occur in the MCOSD.	No further actions are recommended for this species.
Chinook salmon, Central Valley spring-run ESU <i>Oncorhynchus tshawytscha</i>	FT, ST, NMFS	Occurs in the Feather River and the Sacramento River and its tributaries, including Butte, Mill, Deer, Antelope and Beegum Creeks. Adults enter the Sacramento River from late March through September. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams from mid-August through early October. Juveniles migrate soon after emergence as young-of-the-year, or remain in freshwater and migrate as yearlings.	<b>Unlikely.</b> Portions of the MCOSD within San Francisco Bay may support marginal foraging habitat for the species; however, these areas are not directly adjacent to the main migratory corridor of this species and individuals are unlikely to occur in the MCOSD. There are no spawning populations of spring-run Chinook in Marin County.	No further actions are recommended for this species.
Chinook salmon, Central Valley winter-run ESU <i>Oncorhynchus tshawytscha</i>	FE, SE, RP, NMFS	Occurs in the Sacramento River below Keswick Dam. Spawns in the Sacramento River but not in tributary streams. Requires clean, cold water over gravel beds with water temperatures between 6 and 14 degrees C for spawning. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles typically migrate to the ocean soon after emergence from the gravel.	<b>Unlikely.</b> Portions of the MCOSD within San Francisco Bay may support marginal foraging habitat for the species; however, these areas are not directly adjacent to the main migratory corridor of this species and individuals are unlikely to occur in the MCOSD. There are no spawning populations of winter-run Chinook in Marin County.	No further actions are recommended for this species.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
Chinook Salmon - Central Valley Fall/Late Fall-run ESU <i>Oncorhynchus tshawytscha</i>	SSC, RP, NMFS	Populations spawning in the Sacramento and San Joaquin Rivers and their tributaries. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean	<b>Unlikely.</b> Portions of the MCOSD within San Francisco Bay may support marginal foraging habitat for the species; however, these areas are not directly adjacent to the main migratory corridor of this species and individuals are unlikely to occur in the MCOSD. There are no spawning populations of Fall/Late Fall- run Chinook in MCOSD watersheds.	No further actions are recommended for this species.
delta smelt <i>Hypomesus transpacificus</i>	FT, SE, RP	Endemic to the Sacramento Delta, where it is distributed from the Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano and Yolo counties. The delta smelt is a pelagic and euryhaline species	<b>Unlikely.</b> The MCOSD is outside the typical range of the species, and is not documented to support spawning or rearing habitat for the species.	No further actions are recommended for this species.
longfin smelt <i>Spirinchus thaleichthys</i>	ST, SSC, RP, FC	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15 to 30 ppt, but can be found in completely freshwater to almost pure seawater.	<b>Moderate Potential.</b> The waters of the MCOSD around Bothin Marsh and Strawberry Point Tidal Area are within the known range of the species. Suitable habitat may exist for these species within bay waters of the MCOSD.	Recommend construction BMPs to prevent impacts to the tidal zone and protect the habitat of this species.
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	SSC, RP	Endemic to California's Central Valley. Primarily freshwater fish, but are tolerant of moderate salinity and can survive in water with salinities of 10-18 parts per thousand. Spawn on submerged vegetation in temporarily flooded upland and riparian habitat. Spawning occurs in the lower reaches of rivers, dead-end sloughs and in the larger sloughs. Found in Sacramento-San Joaquin Delta.	<b>No Potential.</b> The MCOSD is outside of this species' range, and is not documented to support spawning or rearing habitat for the species.	No further actions are recommended for this species.

<b>Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves</b>				
<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
Sacramento perch <i>Archoplites interruptus</i>	SSC (within native range), RP	Historically, this species occupies sloughs, lakes, and slow moving rivers in Central California. Native range for the species is Sacramento - San Joaquin, Pajaro, and Salinas River drainages, and Clear Lake in Lake County.	<b>No Potential.</b> The MCOSD is outside of this species' range, and is not documented to support spawning or rearing habitat for the species. This species is primarily restricted to inland lakes or reservoirs where it has been introduced, and is currently extirpated from most of its native range.	No further actions are recommended for this species.
tidewater goby <i>Eucyclogobius newberryi</i>	FE, SSC	Habitat is characterized by brackish water in shallow lagoons and in lower stream reaches where the water is fairly still but not stagnant. Restricted to waters with low to moderate salinities in California's coastal wetland habitats.	<b>Unlikely.</b> Bolinas Lagoon is within USFWS designated critical habitat for tidewater goby. Bolinas Lagoon is outside the geographical area occupied by the species at the time of listing and is not known to be currently occupied, and there are no historical tidewater goby records for this location. However, Bolinas Lagoon is designated critical habitat by USFWS because: it is essential for the conservation of the species, it provides suitable habitat within potential dispersal distance of nearby occupied units, is identified in the Recovery Plan as a potential introduction site, and could help maintain tidewater goby metapopulations in the region. There are no documented occurrences of this species in the MCOSD (CDFW 2013). Additionally, tidewater goby is believed to be extirpated from San Francisco Bay.	Appropriate minimization and avoidance measures likely include: seasonal work windows, sediment control measures, preconstruction surveys, and the use of free-spanning bridge structures. If habitat avoidance is not possible, Section 7 Consultation with USFWS may be required due to proximity to critical habitat.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
Tomales roach <i>Lavinia symmetricus ssp. 2</i>	SSC	From Walker Creek and other tributaries to Tomales Bay. This species is generally found in small, warm intermittent streams. Dense populations are frequently found in isolated pools.	<b>Moderate Potential.</b> Lagunitas Creek and small, warm intermittent tributaries to Lagunitas Creek, may provide suitable habitat for this species. There is one documented occurrence of this species on Lagunitas Creek near Tomales Bay.	Recommend construction BMPs to prevent impacts to the habitat of this species.
<b>INVERTEBRATES</b>				
black abalone <i>Haliotes cracherodii</i>	FE, NMFS	Found wedged into crevices, cracks, and holes of intertidal and shallow subtidal rocks, where they are fairly concealed. Generally occur in areas of moderate to high surf. Able to withstand extreme variation in environmental conditions such as temperature, salinity, moisture, and wave action.	<b>Unlikely.</b> The MCOSD lacks suitable habitat and is unlikely to support the species. Adjacent ocean coastline near Bolinas Lagoon is designated critical habitat; however, the rocky shoreline supporting the species is a much different habitat than the mudflats of the Bolinas Lagoon.	No further actions are recommended for this species.
white abalone <i>Haliotes sorenseni</i>	FE, NMFS	Found in open low and high relief rock or boulder habitat that is interspersed with sand channels. Feed upon <i>Laminaria farlowii</i> , <i>Agarum fimbriatum</i> , and a variety of red algae.	<b>Unlikely.</b> The MCOSD lacks suitable habitat and is outside the range of the species.	No further actions are recommended for this species.
robust walker <i>Pomatiopsis binneyi</i>	SAL	Amphibous snail known from the vicinity of Bolinas, Marin County.	<b>Unlikely.</b> This species is known only from an upland location in Bolinas and has little potential to occur with the Bolinas Lagoon portion of the MCOSD.	No further actions are recommended for this species.
mimic tryonia (California brackishwater snail) <i>Tryonia imitator</i>	SAL	Inhabits coastal lagoons, estuaries and salt marshes, from Sonoma County south to San Diego County. Found only in areas permanently submerged in brackish or saline water.	<b>Unlikely.</b> Within the vicinity of the MCOSD, this species has only been documented along the Petaluma River, and the nearest MCOSD areas to this occurrence do not provide suitable habitat.	No further actions are recommended for this species.
Marin hesperian <i>Vespericola marinensis</i>	SAL	Known only from Marin County. Terrestrial snail, occurring in wet/moist areas.	<b>Moderate Potential.</b> Moist/wet upland habitats within various portions of the MCOSD may support this species.	Recommend pre-construction surveys in accordance with CDFW guidelines for this species if potential habitat is to be impacted.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
California freshwater shrimp <i>Syncaris pacifica</i>	FE, SE	Inhabit lowland perennial streams in Sonoma, Marin and Napa counties. Found within stream pools, in areas away from the main current, where there are often undercut banks, exposed root systems, and vegetation hanging into the water.	<b>Moderate Potential.</b> Lowland perennial streams in the MCOSD may provide suitable habitat for the species. The nearest documented occurrence is 3.5 miles northwest of Gary Giacomini in Lagunitas Creek.	Recommend habitat assessments in lowland perennial streams. Implement avoidance and minimization measures such as: sediment control measures, preconstruction surveys, and the use of free-spanning bridge structures. If habitat avoidance is not possible, Section 7 Consultation with USFWS may be required due to proximity to critical habitat.
Tomales isopod <i>Caecidotea tomalensis</i>	SAL	Inhabits localized fresh-water ponds or streams with still or near-still water in several San Francisco Bay Area counties.	<b>Moderate Potential.</b> Ponds and streams within the MCOSD may support this species.	Recommend pre-construction surveys in accordance with CDFW guidelines for this species if potential habitat is to be impacted.
Tiburon micro-blind harvestman <i>Microcina (Calicina) tiburona</i>	SAL	Known only from the vicinity of the Tiburon Peninsula in Marin County. Occurs in association with in serpentine grassland.	<b>Present.</b> This species is known to occur within the MCOSD's Ring Mountain Preserve (CDFW 2014).	Recommend pre-construction surveys in accordance with CDFW guidelines for this species if potential habitat is to be impacted.
Ubick's gnaphosid spider <i>Talanites ubicki</i>	SAL	Known only from Mount Burdell, Marin County. Occurs in serpentine grassland.	<b>Present.</b> This species is known to occur within the Mt. Burdell preserve (CDFW 2014).	Recommend pre-construction surveys in accordance with CDFW guidelines for this species if potential habitat is to be impacted.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
sandy beach tiger beetle <i>Cicindela hirticollis gravida</i>	SAL	Found in moist, sandy areas near the ocean, including upper beaches and dunes. One population is known from the Point Reyes area in Marin County.	<b>Unlikely.</b> The MCOSD does not contain suitable beach habitat for this species, the population documented along Stinson Beach is believed to be extirpated (CDFW 2014).	No further actions are recommended for this species.
Ricksecker's water scavenger beetle <i>Hydrochara rickseckeri</i>	SSI	Known from the San Francisco Bay Area. Aquatic and pond-dwelling. No information on current distribution.	<b>Unlikely.</b> There are no recent observations of this species in Marin County, and the historic CNDDDB occurrence is outside of MCOSD lands.	No further actions are recommended for this species.
serpentine cypress wood-boring beetle <i>Trachykele hartmani</i>	SAL	Endemic to central coastal California. Larvae bore into the heartwood of the gowen cypress ( <i>Hesperocyparis</i> [ <i>Cupressus</i> ] <i>goveniana</i> ). Adults live in the tree canopy and are rarely observed.	<b>Present.</b> This species is present at the Gary Giacomini Preserve according to a local expert (C. Kellner pers. comm. 2014).	Recommend pre-construction surveys in accordance with CDFW guidelines for this species if potential habitat is to be impacted.
serpentine cypress long-horned beetle <i>Vandykea tuberculata</i>	SAL	Known only from the Clear Lake area; extremely rare. Occurs in association with serpentine cypresses.	<b>Present.</b> Although available literature suggests that this species is restricted to Lake County, it is present in Marin County according to a local expert (C. Kellner pers. comm. 2014).	Recommend pre-construction surveys in accordance with CDFW guidelines for this species if potential habitat is to be impacted.
Opler's longhorn moth <i>Adela oplerella</i>	SAL	From Marin County and the Oakland area on the inner coast ranges south to Santa Clara County. One record from Santa Cruz County. Occurs on serpentine grassland. Larval host plant is <i>Platystemon californicus</i> .	<b>Present.</b> This species has been documented within the Ring Mountain Preserve as well as in or near Region 3 MCOSD lands (CDFW 2014).	Recommend pre-construction surveys in accordance with CDFW guidelines for this species if potential habitat is to be impacted.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
San Bruno elfin butterfly <i>Callophrys mossii bayensis</i>	FE	Inhabits coastal mountainous areas with grassy ground cover, mainly in the vicinity of San Bruno Mountain, San Mateo County. Colonies are located on steep, north-facing slopes within the fog belt. Larval host plant is <i>Sedum spathulifolium</i> .	<b>Unlikely.</b> The MCOSD is outside of the very restricted known range of this species. There is an occurrence listed in the CNDDDB record about one mile south of Cascade Canyon; however, there is very little information available about the entry. Populations of this species are only known to occur in a few locations within San Mateo County (USFWS 2010). Additionally, the species is highly restricted to north-facing slopes in the fog belt where its host plant <i>Sedum spathulifolium</i> is found. Because of the limited range, distance from known populations, it is unlikely that the species would occur within the vicinity of MCOSD.	No further actions are recommended for this species.
Marin elfin <i>Callophrys mossii marinensis</i>	SAL	Occurs only in Marin County. Habitat variable; usually associated with cool, north-facing cliffs and slopes. Larval host plant is <i>Sedum spathulifolium</i> .	<b>High Potential.</b> There is a documented occurrence within approximately 0.5 mile of the Gary Giacomini preserve, and this butterfly may occur on other nearby MCOSD lands.	No further actions are recommended for this species.
monarch butterfly <i>Danaus plexippus</i>	Roosts protected by CDFW and CCC	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, Monterey cypress), with nectar and water sources nearby.	<b>Moderate Potential.</b> Individuals may occur within the Project Area during periods of the year and marginal roosting habitat may be supported within the Project Area.	Work windows or pre-construction surveys. Prior to removal of trees within CCC jurisdiction, a pre-construction survey should be completed to determine if the species utilizes the trees for roosting.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
Bay checkerspot butterfly <i>Euphydryas editha bayensis</i>	FT	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay and San Jose. <i>Plantago erecta</i> is the primary host plant; <i>Orthocarpus densiflorus</i> and <i>O. purpurascens</i> are secondary host plants. Adults fly in early spring.	<b>No Potential.</b> The MCOSD provides serpentine soil habitat but is located outside of the known range of this species (i.e. San Mateo and Santa Clara Counties).	No further actions are recommended for this species.
mission blue butterfly <i>Plebejus (Icaricia) icarioides missionensis</i>	FE	Inhabits grasslands of the San Francisco peninsula and portions of southern Marin County. Three larval host plants occur in Marin County: <i>Lupinus albifrons</i> , <i>L. variicolor</i> , and <i>L. formosus</i> , of which <i>L. albifrons</i> is favored.	<b>Moderate Potential.</b> This species has been collected within 2 miles of Bothin Marsh preserve. Suitable habitat and appropriate larval host plants occur on MCOSD preserves.	Recommend pre-construction surveys in accordance with CDFW guidelines for this species.
Callippe silverspot butterfly <i>Speyeria callippe callippe</i>	FE	Restricted to the northern coastal scrub of the San Francisco peninsula. Host plant is <i>Viola pedunculata</i> . Most adults found on east-facing slopes; males congregate on hilltops in search of females.	<b>No Potential.</b> The MCOSD is outside of the very restricted known range of this subspecies.	No further actions are recommended for this species.
Myrtle's silverspot butterfly <i>Speyeria zerene myrtleae</i>	FE	Restricted to the foggy, coastal dunes/hills of the Point Reyes peninsula; extirpated from coastal San Mateo County. Larval foodplant thought to be <i>Viola adunca</i> .	<b>Unlikely.</b> The MCOSD is outside of the very restricted known range of this species and does not contain suitable habitat. There are no documented occurrences within 14 miles of the MCOSD (CDFW 2013).	No further actions are recommended for this species.
San Francisco Bay Area leaf-cutter bee <i>Trachusa gummifera</i>	SAL	Populations known from San Francisco and Carson Ridge in Marin County.	<b>Moderate Potential.</b> This species has been documented within approximately 0.5 mile of the Cascade Canyon Preserve (CDFW 2014).	Recommend pre-construction surveys in accordance with CDFW guidelines for this species if potential habitat is to be impacted.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
Napa false indigo <i>Amorpha californica</i> var. <i>nepensis</i>	Rank 1B	Openings in broadleaf upland forest, chaparral, cismontane woodland. Elevation range: 395 – 6560 feet. Blooms: April – July.	<b>High potential.</b> The MCOSD contains suitable high-quality forest, woodland, and chaparral habitat in the known elevation range of this species. Additionally, this species has been found in close proximity to the MCOSD, particularly at Kent Lake.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Bent-flowered fiddleneck <i>Amsinckia lunaris</i>	Rank 1B	Cismontane woodland, valley and foothill grassland, coastal bluff scrub. Elevation range: 10 – 1625 feet. Blooms: March – June.	<b>Present.</b> This species was found in Cascade Canyon Open Space in 2002, and other parts of the MCOSD contains suitable, high-quality woodland, grassland, coastal bluff scrub habitat in the known elevation range of the species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Mt. Tamalpais manzanita <i>Arctostaphylos montana</i> ssp. <i>montana</i>	Rank 1B	Chaparral, valley and foothill grassland; on rocky serpentine slopes in scrub and grassland. Elevation range: 520 – 2470 feet. Blooms: February – April.	<b>Present.</b> This species has been found at Gary Giacomini, Ignacio Valley, and Pacheco Valley. Additionally, other areas of the MCOSD have suitable rocky serpentine habitat.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Marin manzanita <i>Arctostaphylos virgata</i>	Rank 1B	Broadleaf upland forest, closed-cone coniferous forest, chaparral, North Coast coniferous forest; on sandstone and granitic substrates. Elevation range: 195 – 2275 feet. Blooms: January – March.	<b>Present.</b> This species has been found at Gary Giacomini. Additionally, other occurrences of this species have been found near Cascade Canyon.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
Coastal marsh milk-vetch <i>Astragalus pycnostachyus</i> <i>var. pycnostachyus</i>	Rank 1B	Coastal dunes, coastal scrub, coastal salt marshes; mesic sites in dunes, along streams, and marshes. Elevation range: 0 – 100 feet. Blooms: April – October.	Present. This species has been found at Bolinas Lagoon. Additionally, other parts of the MCOSD contain suitable marsh and stream habitat.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Tiburon mariposa lily <i>Calochortus tiburonensis</i>	FT; ST; Rank 1B	Valley and foothill grassland; located on open, grassy or rocky slopes derived from serpentine. Elevation range: 160 – 490 feet. Blooms: March – June.	<b>Present.</b> This species is known only from Ring Mountain, though other areas in the MCOSD contain suitable serpentine grassland habitat.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Seaside bittercress <i>Cardamine angulata</i>	Rank 2B	North Coast coniferous forest, lower montane coniferous forest; located in wet areas and along streambanks. Elevation range: 210 – 2975 feet. Blooms: March – July.	<b>Low potential.</b> The MCOSD contains suitable wet, forested habitat, but the only documented occurrence within the general MCOSD area is from 1915.	No further action required.
Lyngbye's sedge <i>Carex lyngbyei</i>	Rank 2B	Freshwater and brackish marshes and swamps. Elevation range: 0 – 35 feet. Blooms: May – August.	<b>Present.</b> This species has been found at Bolinas Lagoon. Additionally, other parts of the MCOSD contain suitable freshwater and brackish marsh habitat.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Tiburon paintbrush <i>Castilleja affinis</i> ssp. <i>neglecta</i>	FE; ST; Rank 1B	Valley and foothill grassland; located in grassy, open areas and rock outcrops underlain by serpentine substrate. Elevation range: 195 – 1300 feet. Blooms: April – June.	<b>Present.</b> This species has been found at Bolinas Lagoon, Old St. Hilary's, and Ring Mountain. Additionally, other areas of the MCOSD contain suitable serpentine grassland habitat.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
Mason's ceanothus <i>Ceanothus masonii</i>	SR; Rank 1B	Chaparral; located on serpentine ridges and slopes in chaparral or transitional zones. Elevation range: 745 – 1625 feet. Blooms: March – April.	<b>High potential.</b> The MCOSD contains suitable serpentine chaparral or transitional habitat, and this species has been documented on Bolinas Ridge area.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Point Reyes bird's-beak <i>Chloropyron maritimum</i> <i>ssp. palustre</i>	Rank 1B	Coastal salt marshes; located in low-growing saltgrass and pickleweed mats. Elevation range: 0 – 35 feet. Blooms: June – October.	<b>Present.</b> This species has been found at Bolinas Lagoon and Bothin Marsh. Additionally, the MCOSD contains other suitable salt marsh habitat.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
San Francisco Bay spineflower <i>Chorizanthe cuspidata</i> var. <i>cuspidata</i>	Rank 1B	Coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub; located on sandy substrates of terraces and slopes. Elevation range: 10 – 700 feet. Blooms: April – August.	<b>Moderate Potential.</b> The MCOSD contains suitable coastal, sandy habitat. This species has been recently documented in the Presidio in San Francisco and at Point Reyes.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Mt. Tamalpais thistle <i>Cirsium hydrophilum</i> var. <i>vaseyi</i>	Rank 1B	Broadleaf upland forest, chaparral; located on streams and serpentine seeps in woodland and scrub habitat. Elevation range: 780 – 2015 feet. Blooms: May – August.	<b>Present.</b> This species has been found at Gary Giacomini. Additionally, other areas of the MCOSD contain suitable serpentine habitat, and this species has been documented nearby in areas including Mt. Tamalpais.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
Western leatherwood <i>Dirca occidentalis</i>	Rank 1B	Broadleaf upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, North Coast coniferous forest, riparian forest, riparian woodland; located on brushy, mesic slopes in woodland and forest. Elevation range: 165 – 1285 feet. Blooms: January – April.	<b>Moderate potential.</b> The MCOSD contains abundant suitable wooded habitat, and this species has been recently documented in the Bolinas Ridge area and historically north of Kent Lake.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Tiburon buckwheat <i>Eriogonum luteolum var. caninum</i>	Rank 1B	Chaparral, valley and foothill grassland, cismontane woodland, coastal prairie; located on sandy or gravelly substrate derived from serpentine. Elevation range: 0 – 2275 feet. Blooms: May – September.	<b>Present.</b> This species has been found at Baltimore Canyon, French Ranch, Gary Giacomini, Terra Linda/Sleepy Hollow Divide, Old St. Hilary's, and Ring Mountain. Additionally, other areas of the MCOSD contain suitable serpentine habitat for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Minute pocket moss <i>Fissidens pauperculus</i>	Rank 1B	North Coast coniferous forest; located on damp soil along the coast, and in dry streambanks and streambeds. Elevation range: 30 – 3330 feet.	<b>Moderate potential.</b> The MCOSD contains suitable forest and stream habitat, and this species has been historically documented in the San Rafael USGS quadrangle. However, the most recent documented occurrence from the MCOSD area is from 1915.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Marin checker lily <i>Fritillaria lanceolata var. tristulis</i>	Rank 1B	Coastal bluff scrub, coastal scrub, coastal prairie; observed in canyons, riparian areas, and rock outcrops; often located on serpentine substrate. Elevation range: 45 – 490 feet. Blooms: February – May.	<b>Moderate potential.</b> The MCOSD contains suitable serpentine and non-serpentine coastal scrub habitat, and this species has several recent observations in Point Reyes.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
Fragrant fritillary <i>Fritillaria liliacea</i>	Rank 1B	Coastal scrub, valley and foothill grassland, coastal prairie, cismontane woodland; located in grassy sites underlain by clay, typically derived from volcanics or serpentine. Elevation range: 10 – 1335 feet. Blooms: February – April.	<b>Present.</b> This species has been found at Mt. Burdell, and the MCOSD contains other areas with suitable wooded, shrubby and/or grassy serpentine and non-serpentine habitat. Additionally, the species has been documented near Indian Tree and Little Mountain at Stafford Lake Park.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Blue coast gilia <i>Gilia capitata ssp. chamissonis</i>	Rank 1B	Coastal dunes, coastal scrub. Elevation range: 5 – 600 feet. Blooms: April – July.	<b>Present.</b> This species has been found at Bolinas Lagoon, and the MCOSD contains other areas with suitable coastal dune and scrub habitat.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Diablo helianthella <i>Helianthella castanea</i>	Rank 1B	Broadleaf upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland; typically located in oak woodland/chaparral ecotone underlain by rocky, azonal substrates, often in partial shade. Elevation range: 195 – 4225 feet. Blooms: March – June.	<b>Low potential.</b> The MCOSD has suitable wooded, shrubby, and grassy habitat, but this species has only one historic occurrence (1938), the exact location of which is unknown.	No further action recommended.
Hayfield tarplant <i>Hemizonia congesta ssp. congesta</i>	Rank 3	Coastal scrub, valley and foothill grassland. Elevation range: 65 – 1840 feet. Blooms: April – October.	<b>High potential.</b> The MCOSD contains abundant suitable coastal scrub and grassland habitat, and this species has been documented near MCOSD land in several locations.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
Marin western flax <i>Hesperolinon congestum</i>	FT, ST, Rank 1B	Chaparral, valley and foothill grassland; located on serpentine substrate. Elevation range: 15 – 1205 feet. Blooms: April – July.	<b>Present.</b> This species has been found at Mt. Burdell, Old St. Hilary's, and Ring Mountain, and it occurs near the MCOSD in multiple other locations.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Santa Cruz tarplant <i>Holocarpha macradenia</i>	FT; SE; Rank 1B	Coastal prairie, coastal scrub, valley and foothill grassland; located on light, sandy to sandy clay substrate; tolerant of non-native herbaceous vegetation. Elevation range: 30 – 715 feet. Blooms: June – October.	<b>Low potential.</b> The MCOSD has suitable coastal scrub and valley and foothill grassland habitat, but this species has only one documented, but possibly extirpated, occurrence from 1883 in Marin County near San Anselmo	No further action recommended.
Thin-lobed horkelia <i>Horkelia tenuiloba</i>	Rank 1B	Broadleaf upland forest, coastal scrub, valley and foothill grassland, chaparral; in mesic openings, on sandy substrate. Elevation range: 165 – 1640 feet. Blooms: May – July.	<b>High potential.</b> The MCOSD contains suitable forest, shrub, and grassland habitat, and this species occurs on Mt. Tamalpais.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Small groundcone <i>Kopsiopsis hookeri</i>	Rank 2B	North Coast coniferous forest; located in open woods, shrublands, generally hosts on salal ( <i>Gaultheria shallon</i> ). Elevation range: 290 – 2880 feet. Blooms: April – August.	<b>Present.</b> This species has been found at Baltimore Canyon, and the MCOSD contains abundant suitable habitat.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Coast yellow leptosiphon <i>Leptosiphon croceus</i>	Rank 1B	Coastal bluff scrub, coastal prairie. Elevation range: 30 – 490 feet. Blooms: April – May.	<b>Low potential.</b> The MCOSD contains little to no coastal bluff scrub nor coastal prairie.	No further action recommended.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
Tamalpais lessingia <i>Lessingia micradenia</i> var. <i>micradenia</i>	Rank 1B	Chaparral, valley and foothill grassland; typically located in serpentine grassland or serpentine scrub, often on roadsides. Elevation range: 325 – 1625 feet. Blooms: June – October.	<b>Present.</b> This species has been found at Cascade Canyon. Additionally, the MCOSD contains suitable serpentine habitat, and there are numerous occurrences in the Mt. Tamalpais area.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Marsh microseris <i>Microseris paludosa</i>	Rank 1B	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. Elevation range: 15 – 975 feet. Blooms: April – June.	<b>Moderate potential.</b> The MCOSD contains suitable forest, scrub and grassland habitat, but no occurrences newer than the 1940s have been documented in the MCOSD area.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Elongate copper moss <i>Mielichhoferia elongata</i>	Rank 2B	Cismontane woodland; located on acidic, metamorphic rock and substrate, often located in higher portions in fens. Elevation range: 1625 – 4225 feet.	<b>Present.</b> This species has been found in the Bolinas USGS Quadrangle, and the MCOSD contains appropriate habitat elsewhere.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Baker's navarretia <i>Navarretia leucocephala</i> <i>ssp. bakeri</i>	Rank 1B	Wet, mesic sites underlain by adobe and/or alkaline substrate in cismontane woodland, meadows, seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest. Elevation range: 15 – 5710 feet. Blooms: April – July.	<b>Present.</b> This species has been found at Mt. Burdell and could occur at any seasonal wetland, vernal pool, vernal swale, and sag pond underlain by adobe or alkaline substrate.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
Marin County navarretia <i>Navarretia rosulata</i>	Rank 1B	Closed-cone coniferous forest, chaparral; located on dry, rocky sites often formed from serpentine. Elevation range: 650 – 2065 feet. Blooms: May – July.	<b>Present.</b> This species has been found at Gary Giacomini and occurs throughout the region of MCOSD.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
White-rayed pentachaeta <i>Pentachaeta bellidiflora</i>	FE; SE; Rank 1B	Valley and foothill grassland; located on open, dry rocky slopes and grassy areas, often on substrate derived from serpentine. Elevation range: 110 – 2015 feet. Blooms: March – May.	<b>Present.</b> This species has been found at King Mountain and has been documented elsewhere near MCOSD land. The MCOSD also contains additional suitable serpentine habitat for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Hairless popcornflower <i>Plagiobothrys glaber</i>	Rank 1A	Meadows and seeps, marshes and swamps; located in coastal salt marshes and alkaline meadows. Elevation range: 45 – 585 feet. Blooms: March – May.	<b>Low potential.</b> The MCOSD contains a small amount of suitable habitat, and this species has not been documented in Marin County	No further action recommended.
North coast semaphore grass <i>Pleuropogon hooverianus</i>	ST, Rank 1B	Broadleaf upland forests, meadows and seeps, freshwater marshes and swamps, North Coast coniferous forest, shaded, wet, and grassy areas in forested habitat. Elevation range: 10 – 635 feet. Blooms May – August.	<b>High potential.</b> The MCOSD contains suitable forest, meadow, and wetland habitat, and there are documented occurrences of this species nearby, especially in the San Geronimo area.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Marin knotweed <i>Polygonum marinense</i>	Rank 3	Salt and brackish coastal marshes. Elevation range: 0 – 35 feet. Blooms: sometimes April, May – August, sometimes October.	<b>Moderate potential.</b> The MCOSD contains suitable salt and brackish coastal marshes, and this species has been documented in the region of Corte Madera Creek.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
Tamalpais oak <i>Quercus parvula</i> var. <i>tamalpaisensis</i>	Rank 1B	Lower montane coniferous forest; highly restricted to the slopes of Mt. Tamalpais. Elevation range: 325 – 2275 feet. Blooms: March – April.	<b>Present.</b> This species has been found at Gary Giacomini, though the record for this occurrence has a “needs fieldwork” comment. All other known occurrences are from Mt. Tamalpais.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Point Reyes checkerbloom <i>Sidalcea calycosa</i> ssp. <i>rhizomata</i>	Rank 1B	Marshes and swamps; located in freshwater marsh habitat near the coast. Elevation range: 10 – 245 feet. Blooms: April – September.	<b>Present.</b> This species has been found at Cascade Canyon. Additionally, freshwater marsh habitat occurs elsewhere in MCOSD.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Marin checkerbloom <i>Sidalcea hickmanii</i> ssp. <i>viridis</i>	Rank 1B	Chaparral; located on serpentine or volcanic substrate, often located in burns. Elevation range: 160 – 1400 feet. Blooms: May – June.	<b>Present.</b> This species has been found at Gary Giacomini, and suitable serpentine habitat occurs elsewhere in the MCOSD	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Tamalpais jewel-flower <i>Streptanthus batrachopus</i>	Rank 1B	Closed-cone coniferous forest, chaparral; located on serpentine talus slopes. Elevation range: 990 – 2115 feet. Blooms: April – July.	<b>Present.</b> This species has been found at Cascade Canyon, Gary Giacomini, and Ignacio Valley, and suitable serpentine habitat occurs elsewhere in and around the MCOSD.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
Tiburon jewel-flower <i>Streptanthus glandulosus</i> <i>var. niger</i>	FE; SE; Rank 1B	Valley and foothill grassland; located on shallow rocky substrates derived from serpentine. Elevation range: 100 – 490 feet. Blooms: May – June.	<b>High potential.</b> This species historically occurs on the Tiburon Peninsula. Suitable serpentine habitat exists on the MCOSD.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Mt. Tamalpais jewelflower <i>Streptanthus glandulosus</i> <i>ssp. pulchellus</i>	Rank 1B	Chaparral, valley and foothill grassland; located on serpentine slopes. Elevation range: 490 – 2600 feet. Blooms: May – August.	<b>Present.</b> This species has been found at Cascade Canyon, Gary Giacomini, and Ignacio Valley, and additional suitable serpentine habitat for this species occurs elsewhere in the MCOSD.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Showy rancheria clover <i>Trifolium amoenum</i>	FE, Rank 1B	Valley and foothill grassland, coastal bluff scrub, swales, open sunny sites, sometimes on serpentine. Elevation range: 15 – 1365 feet. Blooms: April – June.	<b>Present.</b> This species has been found at Bolinas Lagoon and Ring Mountain, and suitable habitat occurs elsewhere in the MCOSD.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Coastal triquetrella <i>Triquetrella californica</i>	Rank 1B	Coastal bluff scrub, coastal scrub, valley and foothill grassland; grows within 100 feet of the coastline in scrub and grasslands on open gravel substrates of roads, hillsides, bluffs, and slopes. Elevation range: 30 – 325 feet.	<b>Present.</b> This species has been found at Ring Mountain, and suitable habitat occurs elsewhere in the MCOSD.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
Coast rockcress <i>Arabis blepharophylla</i>	Rank 4	Broadleafed upland forest, coastal bluff scrub, coastal prairie, coastal scrub. Rocky substrates. Elevation range: 10-3608 feet. Blooms: February-May.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Carlotta Hall's lace fern <i>Aspidotis carlotta-halliae</i>	Rank 4	Chaparral and cismontane woodland often on serpentine substrates. Elevation range: 328-4600 feet. Blooms: January-December.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Brewer's milk-vetch <i>Astragalus breweri</i>	Rank 4	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland. Often on serpentine and volcanic substrates, open, gravelly areas. Elevation range: 300-2400 feet. Blooms: April-June.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
ocean bluff milk-vetch <i>Astragalus nuttallii</i> var. <i>nuttallii</i>	Rank 4	Coastal bluff scrub, coastal dunes. Elevation range: 10-400 feet. Blooms: January-November.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
serpentine reed grass <i>Calamagrostis ophitidis</i>	Rank 4	Chaparral, lower montane coniferous forest, meadows and seeps, Valley and foothill grassland on rocky, serpentine substrates. Elevation range: 300-3495 feet. Blooms: April-July.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Brewer's calandrinia <i>Calandrinia breweri</i>	Rank 4	Chaparral and coastal scrub, sandy or loamy disturbed sites and burns. Elevation range: 33- 4002 feet. Blooms: March-June.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Oakland star-tulip <i>Calochortus umbellatus</i>	Rank 4	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Often on serpentine substrates. Elevation range: 328-2296 feet. Blooms: March-May.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
pink star-tulip <i>Calochortus uniflorus</i>	Rank 4	Coastal prairie, coastal scrub, meadows and seeps, North Coast coniferous forest. Elevation range: 33- 3510 feet. Blooms: April-June.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
rosin weed <i>Calycadenia truncata</i>	locally rare	Foothill woodland, chaparral, yellow pine forest, occasionally on serpentine substrates. Blooms: May-October.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Mt. Saint Helena morning-glory <i>Calystegia collina</i> ssp. <i>oxyphylla</i>	Rank 4	Chaparral, lower montane coniferous forest, valley and foothill grassland on serpentine substrates. Elevation range: 915- 3313 feet. Blooms: April-June.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Buxbaum's sedge <i>Carex buxbaumii</i>	Rank 4	Marshes and swamps, bogs and fens, mesic meadows and seeps. Elevation range: 10-10,826 feet. Blooms: March-August.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
johnny-nip <i>Castilleja ambigua</i> var. <i>ambigua</i>	Rank 4	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pools margins. Elevation range: 0-115 feet. Blooms: March-August.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
glory brush <i>Ceanothus gloriosus var. exaltatus</i>	Rank 4	Chaparral. Elevation 100- 2000 feet. Blooms: March-August.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Point Reyes ceanothus <i>Ceanothus gloriosus var. gloriosus</i>	Rank 4	Chaparral. Elevation 100- 2000 feet. Blooms: March-August.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
California lady's slipper <i>Cypripedium californicum</i>	Rank 4	Bogs and fens, lower montane coniferous forest, seeps and streambanks, usually on serpentine substrates. Elevation range: 100- 9022 feet. Blooms: April-September.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
western dichondra <i>Dichondra occidentalis</i>	Rank 4	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Elevation range: 164- 1640 feet. Blooms: January-July.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
California bottle-brush grass <i>Elymus californicus</i>	Rank 4	Broadleafed upland forest, cismontane woodland, North Coast coniferous forest, riparian woodland. Elevation range: 50-1542 feet. Blooms: May-November.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
San Francisco wallflower <i>Erysimum franciscanum</i>	Rank 4	Chaparral, coastal dunes, coastal scrub, valley and foothill grassland. Often on serpentine or granite substrates, sometimes roadsides. Elevation range: 0- 1804 feet. Blooms: March-June.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
harlequin lotus <i>Hosackia gracilis</i>	Rank 4	Wetlands, roadsides, broadleafed upland forest, coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal prairie, coastal scrub, meadows and seeps, marshes and swamps, North Coast coniferous forest, valley and foothill grassland. Elevation range: 0-2296 feet. Blooms: March-July.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
coast iris <i>Iris longipetala</i>	Rank 4	Coastal prairie, lower montane coniferous forest, meadows and seeps, mesic areas. Elevation range: 0-1968 feet. Blooms: March-May.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
bristly leptosiphon <i>Leptosiphon acicularis</i>	Rank 4	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Elevation range: 180- 4921 feet. Blooms: April-July.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
bitterroot <i>Lewisia rediviva</i>	locally rare	Yellow pine forest, sagebrush scrub, foothill woodland, mixed evergreen forest, pinyon-juniper woodland. Slopes. Occasionally on serpentine substrates. Blooms May-June.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
large-flowered leptosiphon <i>Leptosiphon grandiflorus</i>	Rank 4	Coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal dunes, coastal prairie, coastal scrub, valley and foothill grassland. Usually sandy substrates. Elevation range: 16- 4002 feet. Blooms: April-August.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
cotula navarretia <i>Navarretia cotulifolia</i>	Rank 4	Chaparral, cismontane woodland, valley and foothill grassland. Adobe substrates. Elevation range: 13-6004 feet. Blooms: May-June.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
Garidner's yampah <i>Perideridia gairdneri</i> ssp. <i>gairdneri</i>	Rank 4	Broadleafed forest, chaparral, coastal prairie. Valley and foothill grassland, vernal pools, in vernal mesic areas. Elevation range: 0-2001 feet. Blooms: June-October.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Michael's rein orchid <i>Piperia michaelii</i>	Rank 4	Coastal bluff scrub, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest. Elevation range: Blooms: 10- 3002 feet. April-August.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
California pinefoot <i>Pityopus californica</i>	Rank 4	Broadleafed upland forest, lower montane coniferous forest, North Coast coniferous forest, upper montane coniferous forest. Elevation range: 50- 7300 feet. Blooms: March-August.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
nodding semaphore grass <i>Pleuropogon refractus</i>	Rank 4	Lower montane coniferous forest, meadows and seeps, North Coast coniferous forest, riparian forest. Elevation range: 0-5249 feet. Blooms: March-August.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
Lobbs aquatic buttercup <i>Ranunculus lobbii</i>	Rank 4	Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, vernal pools. Elevation range: 49- 1542 feet. Blooms: February-May.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
Victor's gooseberry <i>Ribes victoris</i>	Rank 4	Broadleafed upland forest and chaparral, in mesic, shady areas. Elevation range: 328-2296 feet. Blooms: March-April.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
beach starwort <i>Stellaria littoralis</i>	Rank 4	Bogs and fens, coastal bluff scrub, coastal dunes, coastal scrub, marshes and swamps. Elevation range: 16- 131 feet. Blooms: March-July.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.
marsh zigadenus <i>Toxicoscordion fontanum</i>	Rank 4	Chaparral, cismontane woodland, lower montane coniferous forest, meadows and seeps, marshes and swamps. Vernal mesic, often serpentine substrates. Elevation range: 49- 3281 feet. Blooms: April-July.	Occurrence data is not available for this species.	If proposed project will impact habitat type with potential to support sensitive plant species (per Table 5.4), implement avoidance and minimization measures in Table 5.2.

**\* Key to status codes:**

FE	Federal Endangered
FT	Federal Threatened
FD	Federal Delisted
FC	Federal Candidate
BCC	USFWS Birds of Conservation Concern

**Appendix C-1: Potential for Special-status Wildlife Species to occur in the Marin County Open Space District (MCOSD) Preserves**

<b>Species</b>	<b>Status*</b>	<b>Habitat</b>	<b>Potential For Occurrence</b>	<b>Recommendations</b>
MMPA	Species protected under the Marine Mammal Protection Act			
NMFS	Species under the Jurisdiction of the National Marine Fisheries Service RP		Recovery Plan prepared for the species	
SE	State Endangered			
ST	State Threatened			
SR	State Rare			
SSC	CDFG Species of Special Concern			
CFP	CDFG Fully Protected Animal			
WBWG	Western Bat Working Group (High or Medium) Priority species			
Rank 1A	CRPR Rank 1A: Seriously endangered in California			
Rank 1B	CRPR Rank 1B: Plants rare, threatened or endangered in California and elsewhere			
Rank 2A	CRPR Rank 2A: Plants presumed extirpated in California, but common elsewhere			
Rank 2	CRPR Rank 2B: Plants rare, threatened, or endangered in California, but more common elsewhere			
Rank 3	CRPR Rank 3: Plants about which CNPS needs more information (a review list)			
Rank 4	CRPR Rank 4: Plants of limited distribution (a watch list)			
References:				
National Park Service (NPS) 2013. Spotted Owls at Point Reyes. Accessed June 25, 2013 at: <a href="http://www.nps.gov/pore/naturescience/birds_spottedowl.htm">http://www.nps.gov/pore/naturescience/birds_spottedowl.htm</a>				
Shuford, W.D. 1993. The Marin County Breeding Bird Atlas: A Distributional and Natural History of Coastal California Birds. California Avifauna Series 1. Bushtit Books, Bolinas, California.				
USFWS. 2010. San Bruno Elfin Butterfly ( <i>Callophrys mossii bayensis</i> ) and Mission Blue Butterfly ( <i>Icaricia icarioides missionensis</i> ) 5-Year Review: Summary and Evaluation. Sacramento, California.				
List compiled from the U.S. Fish and Wildlife Service (USFWS) Species Lists for Marin County and a search of the California Department of Fish and Wildlife (CDFW) Natural Diversity Database (CDFW 2013) for the San Quentin, Novato, Petaluma Point, Petaluma River, Petaluma, San Geronimo, San Rafael, Bolinas, Point Bonita, San Francisco, Double Point, Inverness, and Point Reyes NE North USGS 7.5' quadrangles, and a review of other CDFW lists and publications.				

**Appendix C-2: Mapped Community Crosswalk for Marin County Open Space District**

<b>Land Code</b>	<b>Land Code Description</b>	<b>Habitat Type</b>
1101	Lower Elevation Mixed Broadleaf Mapping Unit Coast Live Oak, Madrone or Black Oak or Oregon Oak dominant Coast Live Oak, Black Oak or Oregon Oak Coast Live	Mixed hardwood forest
1102	Tanoak California Bay Canyon Oak Mixed Forest	Mixed hardwood forest
1103	California Bay Alder Big Leaf Maple Willow spp. Riparian Forest	Riparian forest and scrub
1104	Madrone California Bay Tanoak	Mixed hardwood forest
1110	California Bay Alliance	Mixed hardwood forest
1111	California Bay (pure)	Mixed hardwood forest
1112	California Bay Buckeye	Mixed hardwood forest
1113	California Bay Interior Live Oak	Mixed hardwood forest
1114	California Bay Canyon Oak	Mixed hardwood forest
1116	California Bay Tanoak	Mixed hardwood forest
1140	Tanoak Alliance	Mixed hardwood forest
1160	Madrone Alliance	Mixed hardwood forest
1170	Canyon Oak Alliance	Mixed hardwood forest
1180	Giant Chinquapin Alliance	Mixed hardwood forest
1201	Planted Stands of Pine (Monterey Pine Bishop Pine Monterey Cypress and other spp.)	Mixed conifer forest
1210	Redwood Alliance	Mixed conifer forest
1211	Redwood / Tanoak	Mixed conifer/hardwood forest
1212	Redwood Douglas-fir (Mixed Hardwoods)	Mixed conifer/hardwood forest
1213	Redwood / Chinquapin	Mixed conifer/hardwood forest
1214	Redwood / California Bay	Mixed conifer/hardwood forest
1215	Redwood (pure)	Mixed conifer forest
1216	Redwood Upland Mixed Hardwoods	Mixed conifer/hardwood forest
1217	Redwood Riparian (Maple, California bay, Tanoak, and/or White alder in the secondary canopy)	Mixed hardwood forest
1218	Redwood Madrone	Mixed conifer/hardwood forest
1220	Douglas-fir Alliance	Mixed conifer forest
1221	Douglas-fir Mixed Hardwoods in upland drier settings (Coast Live Oak, Madrone)	Mixed conifer/hardwood forest
1222	Douglas-fir Mixed Hardwoods in upland forest settings (California Bay, Canyon Oak, Tanoak, Madrone)	Mixed conifer/hardwood forest
1223	Douglas-fir California Bay Mapping Unit (May include Coast Live Oak as an associate)	Mixed conifer/hardwood forest
1224	Douglas-fir Tanoak	Mixed conifer/hardwood forest
1226	Douglas-fir (pure)	Mixed conifer forest
1227	Douglas-fir California Bay / Interior Live Oak	Mixed conifer/hardwood forest
1231	Bishop Pine / Eastwood Manzanita	Mixed conifer forest

**Appendix C-2: Mapped Community Crosswalk for Marin County Open Space District**

<b>Land Code</b>	<b>Land Code Description</b>	<b>Habitat Type</b>
1240	Sargent Cypress Alliance	Mixed conifer forest
1241	Sargent Cypress / Mt. Tamalpais Manzanita Alliance	Sargent cypress / Mt. Tamalpais manzanita
1242	Sargent Cypress (pure)	Mixed conifer forest
1310	Mixed Willow Mapping Unit (Arroyo Willow, Red Willow, and Yellow Willow Alliances)	Mixed hardwood forest; Riparian forest and scrub
1410	Black Oak Alliance	Oak woodland
2110	Coast Live Oak Alliance	Oak woodland
2111	Coast Live Oak / (Grass-Poison Oak)	Oak woodland
2112	Coast Live Oak Riparian	Oak woodland
2113	Coast Live Oak Douglas-fir (A small component of conifer cover [ $\leq$ 5%])	Mixed conifer/hardwood forest
2210	Oregon Oak Alliance (Includes Oregon Oak mixed with lower to equal Coast Live Oak or California bay cover)	Oak woodland
2220	California Buckeye Alliance (Includes California Buckeye mixed with lower Coast Live Oak)	Mixed hardwood forest
2230	Valley Oak Alliance	Oak woodland
2231	Valley Oak Riparian Mapping Unit (California Bay and/or Big Leaf Maple- Alder are a co-dominant in a riparian setting)	Oak woodland; Mixed hardwood forest; Riparian forest and scrub
2232	Valley Oak Coast Live Oak Mapping Unit	Oak woodland
2233	Valley Oak/ grass	Oak woodland
2240	Blue Oak Alliance	Oak woodland
2241	Blue Oak White Oak (Valley or Oregon Oak) hybrids Mapping Unit	Oak woodland
3101	Mesic Trending Chaparral (includes Birchleaf Mtn Mahogany, Chamise, Ceanothus spp., Toyon)	Chaparral
3110	Chamise Alliance	Chaparral
3112	Chamise Serpentine Chaparral (Relatively pure chamise on ultramafic soils)	Chaparral; Serpentine chaparral
3114	Chamise ( Stands with a co-dominance of chamise with other shrub species such as Sticky Monkey- flower or Wedgeleaf Ceanothus)	Chaparral
3115	Chamise (pure)	Chaparral
3120	Mt. Tamalpais Manzanita Alliance (Includes possibly 3 associations with Eastwood Manzanita, Chamise, or Jepson's Ceanothus as associates.)	Serpentine chaparral
3121	Mt. Tamalpais Manzanita Chamise (Garraya Leather Oak Jepson ceanothus) Serpentine Chaparral)	Serpentine chaparral
3122	Mt. Tamalpais Manzanita \ with Sparse Douglas-fir emergent (5-25% )	Serpentine chaparral
3130	Sensitive Manzanita Alliance (Small stands that may include Eastwood Manzanita or Huckleberry.)	Chaparral
3150	Eastwood Manzanita Alliance (May have up to 10-15% Douglas-fir emergent)	Chaparral
3155	Common Manzanita	Chaparral
3160	Interior Live Oak Alliance	Oak woodland

## Appendix C-2: Mapped Community Crosswalk for Marin County Open Space District

Land Code	Land Code Description	Habitat Type
3161	Interior Live Oak- Eastwood Manzanita (QUWI and ARGL co-dominate)	Oak woodland
3180	Leather Oak Chamise Mt. Tamalpais Manzanita Serpentine Chaparral	Serpentine chaparral
3190	Chamise Eastwood Manzanita	Chaparral
3210	(French) Broom Alliance (May include low cover of Coyote Brush.)	Grassland; Inland scrub
3220	Coyote Brush Alliance	Inland scrub; Coastal scrub
3221	Coyote Brush California Sagebrush Sticky Monkey Flower	Inland scrub; Coastal scrub
3222	Coyote Brush / Annual or Perennial Grasslands (open stands)	Inland scrub; Coastal scrub
3223	Coyote Brush Mixed Shrub / Grass (May include Poison Oak or California Blackberry with mixture of grass species)	Inland scrub; Coastal scrub
3310	California Sagebrush Alliance	Coastal scrub
3311	California Sagebrush Sticky Monkey Flower	Coastal scrub
3400	Temperate Broadleaf Cold Season Deciduous Shrubland	Inland scrub; Coastal scrub
3410	Poison Oak Alliance (Small stands found in Coyote Brush patches)	Inland scrub; Coastal scrub
3430	Upland Deciduous Shrubs (Includes dogwood, hazelnut, etc.)	Inland scrub; Coastal scrub
4101	Undifferentiated Marsh (cattail, bulrush, other scirpus spp.)	Estuarine marsh; freshwater marsh; salt marsh
4110	Cattail Alliance	Estuarine marsh; freshwater marsh; salt marsh
4200	Seasonally or Temporarily Flooded Graminoids	Grassland; Seasonal wetland
4210	Sedge Rush Wet Graminoids Meadow (Including Juncus, Carex, and Hordeum brachyantherum Meadow barley)	Grassland; Seasonal wetland
4211	Temporarily flooded or saturated Meadow Edge	Grassland; Seasonal wetland
4300	Tall Temperate Annual Graminoids	Grassland
4310	California Annual Grasslands Alliance (Native Component Variable)	Grassland
4311	Grasslands on well-developed soils (generally dense bio-mass)	Grassland
4312	Grasslands on poorly developed soils (generally sparse bio-mass)	Grassland
4313	Grasslands with a fern or sub-shrub component (either Thermopsis or fern)	Grassland
4400	Tall Temperate Perennial Herbaceous	Grassland
4410	Harding Grass Alliance	Grassland
4420	Teasal Alliance (Dipsacus sativa)	Grassland
4440	Pampas Grass	Grassland
4500	Native Temperate Perennial Grasslands	Grassland
4520	Purple Needlegrass (Small patches with annual grasses and sometimes other native grasses such as California Melic)	Grassland
4600	Serpentine Grassland	Serpentine grassland
4610	Upland Serpentine Grassland (May include perennial and annual species at varying cover seasonally and annually, such as Purple Needlegrass, Torrey's Melic, Dwarf Plantain, Small Fescue, Sticky Western Rosinweed)	Serpentine grassland
4611	Rocky Serpentine grasses (primarily on Ring Mtn)	Serpentine grassland

**Appendix C-2: Mapped Community Crosswalk for Marin County Open Space District**

<b>Land Code</b>	<b>Land Code Description</b>	<b>Habitat Type</b>
4620	Wetland Serpentine Grassland (May include perennial and annual species at varying cover seasonally and annually, such as Meadow barley, Rosinweed, Goldfields, etc.)	Serpentine grassland
4701	Estuarine Marsh Habitats (Pickleweed, Saltgrass, Alkali Heath, Jaumea)	Estuarine marsh
9100	Urban Developed Build Up	Urban developed & built up
9210	Rangeland Pastureland	Grassland
9250	Eucalyptus	Mixed hardwood forest
9260	Other Introduced Ornamentals including Mayten, Acacia, etc.	Mixed hardwood forest
9302	Quarry	Quarry
9400	Sparsely Vegetated or Unvegetated Areas	Sparsely vegetated or unvegetated areas
9401	Serpentine Balds (Including rare species such as Tamalpais Jewelflower)	Serpentine grassland
9420	Cliffs Rock Outcrops	Cliffs and rock outcrops
9800	Water	Bolinas Lagoon - open water; Perennial ponds, lakes, rivers, streams; Estuary/bay waters
9820	Small Ephemeral Ponds	Seasonal wetland

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APPENDIX A

Draft Project Development Worksheet

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Note: This Appendix presents a preliminary draft of the project development worksheet. This worksheet is subject to revision by the MCOSD to aid in project development, ensure efficient and effective administration, or to meet the differing needs to document compliance for the various classes of projects described in Table 5.1 of the RTMP. The refinement of the worksheet may involve the development of two or more worksheets to more effectively meet the documentation requirements for various types of road and trail management actions.

# Project Development Worksheet

**Project Name**

**Facility Status:** Existing      New

**Facility Type:** Road   Trail

**Project Type**

Reconstruction Rerouting  
Active Decommissioning  
Active Road to Trail Conversion  
New Construction  
Planned Maintenance

**Recreational Uses Permitted:**

**Overall Project Facility Length:**

**Average Project Facility Width:**

**Project Purpose:**

**Construction Start Date:**

**Construction Duration:**

**Construction Completion Date:**

**Construction Contractor:**

**District Project Manager:**

**District Resource Manager:**

**Project Location**

OSP Name:

For existing facilities: beginning reach mark    ending reach mark

For proposed facilities: beginning lat/long    ending lat/long

**Management Area**

Sensitive Resource Area: Length (ft)    Area (ft<sup>2</sup>)

Conservation Area: Length (ft) Area (ft<sup>2</sup>)

Impacted Area: Length (ft)    Area (ft<sup>2</sup>)

**Biophysical Criteria Based Tool Results**

Pre-project OSP Baseline Score

Plus Project Score (from below)

Minus Offsetting Activities Score (Attach score sheets)

Post-project OSP Baseline Score

## Project Decision Tool Criteria Scores

Criterion	Classification/Score
<b><i>Environmental Criteria</i></b>	
Vegetation Management zone	
Stream conservation areas	
Stream crossings	
Stream adjacency, fish-bearing streams for listed species (specifically steelhead, coho, Chinook)	
Northern spotted owl habitat	
Rare plant areas	
Rare wildlife areas	
Serpentine soils	
Wetlands	
Noxious weeds	
Preserve trail density	
<b><i>Physical Criteria</i></b>	
Hydrological slope (the slope along the fall line) – measured for new proposed trails only	
Trail gradient (actual user-experienced slope of the road/trail) – as measured for existing trails only	
Trail gradient (actual user-experienced slope of the road/trail) – as measured for new proposed trails only	
Width	
Drainage condition	
Tread condition	
Wet/muddy	
Maintenance	
Erosion impact	
RUSLE erosion	
Condition of worst drainage problem sites	
Condition of worst erosion problem sites	
Number of problem sites	
Amount of excavated soil volume	
<b><i>Social Criteria</i></b>	
Trail length	
Distance from development	
Distance between trail intersections	
Connectivity to regional trail or road/trail on adjacent public land	
Connectivity to destination points or attractions	
Vegetation community variety	
Terrain quality	
<b>Overall Project Score</b>	

<b>RTMP POLICY IMPLEMENTATION<sup>1</sup></b>	<b>Not Applicable</b>	<b>Implements Policy</b>	<b>To be implemented at subsequent project phase</b>	<b>Comments/ Proof of Compliance</b>
SW.4 Overall Reduction of Road, Trail, and Visitor Impacts				
SW.22 Protect High Value Vegetation Types				
SW.24 Minimize Intrusions into Larger Contiguous Habitat Areas and Wildlife Corridors				
SW.27 Protect High-Value Cultural and Historic Resources				
SW.28 Remove or Realign Roads and Trails Away from High-Value Cultural and Historic Resources				
SW.29 Retrofit or Upgrade Construction Equipment				
SW.30 Permeable Paving				
SW.31 Floodplain Policy for New and Improved Roads and Trails				

<sup>1</sup> Policy titles only listed in this table; refer to RTMP Table 4.1, *Policies Governing the MCOSED Roads and Trails*, for the text of cited policies.

<b>ROAD AND TRAIL CROSS SECTIONS<sup>1</sup></b>	<b>Not Applicable</b>	<b>Implemented</b>	<b>To be implemented at subsequent project phase</b>	<b>Type of Standard Implemented/ Proof of Compliance</b>
Dips and Water Bars				
Road or Trail Surface Treatment and Delineation				
Runoff Conveyances				
Ditch Relief Culverts and Outlets				
Conveyance Flow Attenuation				
Drainage, Wetland, or Stream Crossings				
Slope Stability				
Trail Buttressing				
Catchment Basins				
Decommissioning Existing Roads or Trails				

<sup>1</sup> Standard titles only listed in this table; refer to RTMP Chapter 6, *Road and Trail Standards and Best Management Practices*, for detailed specifications for each class of standard.

<b>BEST MANAGEMENT PRACTICES<sup>1</sup></b>	<b>Timing<sup>2</sup></b>	<b>Repetition<sup>3</sup></b>	<b>Not Applicable</b>	<b>In Process</b>	<b>Complete</b>	<b>Comments/ Proof of Compliance</b>
<b>Biological Resources</b>						
<i><b>Road and Trail Construction, General</b></i>						
Preconstruction Literature Review						
Preconstruction Surveys						
<i><b>Construction Timing Windows</b></i>						
<i><b>Impact Area Planning</b></i>						
Water Quality Planning and Erosion Control						
Design Considerations						
Worker Awareness Training and Construction Tailgate Meetings						
Construction Monitoring						
Noise Control						
Preventing and Reducing Potential for Pollution						
Controlling Food-Related Trash						
Relocation of Special-Status Species						
Invasive Weed Control						
Revegetation with Native Plant Species						
Mitigation						
<i><b>Road and Trail Maintenance, General</b></i>						
Inspections						
Grading and Maintenance Windows						
Culverts						
Disposal of Materials						
<i><b>Road and Trail Decommissioning, General</b></i>						
Removal of Stream Crossings						
Removal of Unstable Fill Slopes and Cut Banks						
Reuse and Replanting of Excavated Trees and Shrubs						
Ripping and Recontouring Road and Trail Surfaces						
Invasive Plant Species						

<b>BEST MANAGEMENT PRACTICES<sup>1</sup></b>	<b>Timing<sup>2</sup></b>	<b>Repetition<sup>3</sup></b>	<b>Not Applicable</b>	<b>In Process</b>	<b>Complete</b>	<b>Comments/ Proof of Compliance</b>
<b>6.1 General BMPs</b>						
General-1 Limit Work Area Footprints in Sensitive Areas						
General-2 Modify Construction-Related Vegetation Management Methods in and near Wetlands, Riparian Vegetation						
General-3 Minimize Potential for Erosion						
General-4 Control-Food Related Trash						
General-5 Modify Construction Methods Relating to Soil Disturbance, Restrict Use of Offsite Soil, Aggregate, or Other Construction Materials						
General-6 Prevent or Reduce Potential for Pollution						
General-7 Include Standard Procedures in Construction Contracts						
General-8 Control Noise						
General-9 Conduct Worker Training						
General-10 Road and Trail Inspections						
General-11 Management of Sudden Oak Death						
<b>6.2 Sensitive Natural Resources BMPs</b>						
Sensitive Natural Resources-1 Modify Management Practices near Sensitive Natural Resources						
<b>6.3 Special Status Wildlife BMPs</b>						
Special-Status Wildlife-1 Literature Reviews						
Special-Status Wildlife-2 Preconstruction Surveys						
Special-Status Wildlife-3 Seasonal Restrictions during Bird Nesting Seasons						
Special-Status Wildlife-4 Avoidance and Protection of Northern Spotted Owl						
Special-Status Wildlife-5 Avoidance and Protection of Double-Crested Cormorant Nests and Heron and Egret Rookery Sites						

<b>BEST MANAGEMENT PRACTICES<sup>1</sup></b>	<b>Timing<sup>2</sup></b>	<b>Repetition<sup>3</sup></b>	<b>Not Applicable</b>	<b>In Process</b>	<b>Complete</b>	<b>Comments/ Proof of Compliance</b>
Special-Status Wildlife-6 Avoidance and Protection of California Clapper Rail, California Black Rail, and Salt Marsh Harvest Mouse						
Special-Status Wildlife-7 Protection of Fish Habitats						
Special-Status Wildlife-8 Worker Awareness Training						
Special-Status Wildlife-9 Construction Monitoring						
Special-Status Wildlife-10 Relocation of Special-Status Species						
Special-Status Wildlife-11 Noise Control						
Special-Status Wildlife-12 Trash Control						
Special-Status Wildlife-13 Road and Trail Inspections						
<b>6.4 Special Status Plants BMPs</b>						
Special-Status Plants-1 Literature Reviews						
Special-Status Plants-2 Avoidance and Protection of Special-Status Plant Species						
Special-Status Plants-3 Ensure Proposed Actions Are Consistent with Ongoing Special-Status Plant Management Programs						
Special-Status Plants-4 Earthwork near Special-Status Plant Populations						
Special-Status Plants-5 Erosion Potential near Special Status Plants						
Special-Status Plants-6 Introduction of Invasive and Nonnative Plants and Plant Material						
Special-Status Plants-7 Revegetation with Native, Geographically Appropriate Plant Species						
Special-Status Plants-8 Worker Awareness Training						
Special-Status Plants-9 Relocation of Special Status Plants						
Special-Status Plants-10 Road and Trail Inspections						
Special-Status Plants-11 Reuse and Replanting of Native Trees and Shrubs						

<b>BEST MANAGEMENT PRACTICES<sup>1</sup></b>	<b>Timing<sup>2</sup></b>	<b>Repetition<sup>3</sup></b>	<b>Not Applicable</b>	<b>In Process</b>	<b>Complete</b>	<b>Comments/ Proof of Compliance</b>
Special-Status Plants-12 Ripping and Recontouring Roads						
<b>6.5 Invasive Plants BMPs</b>						
Invasive Plants-1 Compliance with Integrated Pest Management Ordinance						
Invasive Plants-2 Herbicide Use Near Sensitive Natural Resources						
Invasive Plants-3 Survey and Control of Invasive Plants in Project Footprint						
Invasive Plants-4 Limited Soil Disturbance						
Invasive Plants—5 Cleaning of Heavy Equipment, Maintenance Tools, and Fire Management Vehicles						
Invasive Plants-6 Reducing Potential for Establishment of Invasive Plants on Disturbed Soil Surfaces						
Invasive Plants-7 Monitor and Control of Invasive Plants in Road and Trail Management Work Areas						
Invasive Plants-8 Protection of Streambanks and Water Quality During Invasive Plant Removal						
Invasive Plants-9 Road and Trail Inspections						
Invasive Plants-10 Monitor Decommissioned Areas						
<b>6.6 Construction Contracts BMPs</b>						
Construction Contracts-1 Standard Procedures in Construction Contracts						
<b>6.7 Cultural Resources BMPs</b>						
Cultural Resources-1 Historical and Archaeological Resources Mapping						
Cultural Resources-2 Consultation with Northwest Information Center						
Cultural Resources-3 Tribal Consultation						
Cultural Resources-4 Alteration of Historic Structures						
Cultural Resources-5 Permanent Protection						

<b>BEST MANAGEMENT PRACTICES<sup>1</sup></b>	<b>Timing<sup>2</sup></b>	<b>Repetition<sup>3</sup></b>	<b>Not Applicable</b>	<b>In Process</b>	<b>Complete</b>	<b>Comments/ Proof of Compliance</b>
Cultural Resources-6 Construction Discovery Protocol						
Cultural Resources-7 Human Remains						
Cultural Resources-8 Community Awareness						
<b>6.8 Water Quality BMPs</b>						
Water Quality-1 Modifications to Road and Trail Management Actions to Protect Water Bodies, Wetlands, and Tidally Influenced Areas						
Water Quality-2 Temporary Erosion and Sediment Control						
Water Quality-3 Erosion Control Measures						
Water Quality-4 Preventing or Reducing the Potential for Pollution						
Water Quality-5 Road and Trail Inspections						
Water Quality-6 Grading Windows						
Water Quality-7 Culvert Inspection						
Water Quality-8 Proper Disposal of Excess Materials						
Water Quality-9 Sidecasting Construction Material						
<b>6.9 Geologic Hazards BMPs</b>						
Geologic Hazards-1 Assessment and Requirements in Areas of Potential Geologic Hazard						
Geologic Hazards-2 Construction in Areas of Slide and Debris Flows						
Geologic Hazards-3 Construction in Areas of Erodible and Expansive Soils						
Geologic Hazards-4 Construction in Areas of Collapsible Soils						
<b>6.10 Air Quality BMPs</b>						
Air Quality-1 Implement BAAQMD Measures						
Air Quality-2 Minimize Dust Emissions During Construction						

<b>BEST MANAGEMENT PRACTICES<sup>1</sup></b>	<b>Timing<sup>2</sup></b>	<b>Repetition<sup>3</sup></b>	<b>Not Applicable</b>	<b>In Process</b>	<b>Complete</b>	<b>Comments/ Proof of Compliance</b>
Air Quality-3 Enhanced Dust Control During Construction						
Air Quality-4 Dust Control during Construction in Sensitive Resource Areas						
<b>6.11 Noise BMPs</b>						
Noise-1 County Noise Ordinance Requirements						
Noise-2 Noise Control During Construction within and adjacent o Sensitive Wildlife Populations						

<sup>1</sup> Best Management Practices titles only listed in this table; refer to RTMP Chapter 6, *Road and Trail Standards and Best Management Practices*, and Tables 6.1 through 6.11 for the detailed requirements for each BMP.

<sup>2</sup> Timing: (PPD) During project planning and design; (PrC) Prior to construction; (DC) During construction; (PoC) Post construction; (PPoc) Periodically post construction. Also, if there are seasonal or other timing constraints on implementation of a BMP, note here.

<sup>3</sup> Number of times BMP needs to be repeated or resurveyed