PCWA-L-80

Parks and Recreation River Management Plan

El Dorado County River Management Plan Update

DRAFT - Environmental Impact Report

Table of Contents

Back to table of contents

SECTION 1 - INTRODUCTION

1.1 PURPOSE OF THIS ENVIRONMENTAL IMPACT REPORT

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) be prepared for any project to be undertaken or approved by a State or local

agency that may have a significant effect on the environment (Public Resources Code (PRC) Section 21002.1). This report, together with its appendices, and documents incorporated by reference in Section 1.2, constitutes a Draft EIR (DEIR) regarding the proposed El Dorado County River Management Plan Update (Project) located in located in western El Dorado County, within the South Fork of the American River (South Fork) corridor, between Chili Bar Dam and Salmon Falls Road. Figure 1-1 shows the regional location of the South Fork. Figure 1-2 is an index of detailed aerial photos of the project area presented in Figures 1-3, 1-4, 1-5, 1-6, 1-7, and 1-8. The El Dorado County Board of Supervisors (County) is updating the El Dorado County River Management Plan (RMP), which focuses on whitewater recreation on the South Fork of the American River. This update process is authorized by County Ordinance 4365. This ordinance and subsequent Board actions also directed that the update process focus on whitewater recreation. A copy of Ordinance 4365 is provided in Appendix A. The County has been designated as the Lead Agency for the purpose of CEQA compliance activities associated with the Project.

This DEIR is intended to evaluate the potentially significant effects of the proposed Project, and provide sufficient environmental documentation to allow the County to make an informed decision on the proposed Project.

The specific purposes of this DEIR are to:

- Identify potential significant environmental impacts associated with the adoption and implementation of the proposed Project;
- Identify mitigation measures that would reduce or avoid significant adverse impacts;
- Identify any potential adverse impacts of the proposed Project that are unmitigable;
- Present feasible alternatives to the proposed Project and to assess their potential impacts relative to those of the proposed Project; and
- Suggest a mitigation monitoring/reporting system for the mitigation measures recommended in the DEIR (to be prepared separately).

Overall, the function of this DEIR is to inform the County, resource and permitting agencies, and the public of the environmental consequences of approving and implementing the proposed Project.

1.2 INCORPORATION BY REFERENCE

This DEIR incorporates information, data and evaluations from documents prepared in recent years. In accordance with Section 15150 of the State CEQA Guidelines, the following documents are incorporated herein by reference and are available for review at the following location:

El Dorado County, Department of General Services

3000 Fairlane Court, Suite 1

Placerville, CA 95667.

_ El Dorado County River Management Plan Phase I Report, April 1996. (Phase I Report)

_ El Dorado County River Management Plan Phase II Report, April 1997. (Phase II Report)

1.3 DEIR REVIEW AND CONSIDERATION PROCESS

The DEIR for the Project will be subject to a 45-day public review period. Interested individuals, organizations, and agencies can provide written comments on the document during this same review period. During the public review period, the DEIR will be circulated for review by trustee and responsible agencies. Responsible agencies are those agencies, other than the lead agency, which have discretionary approval over the Project. Trustee agencies are those agencies which have jurisdiction by law over natural resources affected by the Project which are held in trust for the people of the State of California. Prior to the preparation of this DEIR, a Notice of Preparation (NOP) was prepared and distributed to trustee and responsible agencies and the public for their comment. A copy of the NOP is included in Appendix B. Appendix C contains written comments submitted in response to the NOP. Copies of the DEIR will be made available to the public at the County office listed below:

El Dorado County, Department of General Services

3000 Fairlane Court, Suite 1

Placerville, CA 95667

El Dorado County Board of Supervisors

330 Fair Lane

Placerville, CA 95667

Georgetown Library

P.O. Box 55

Georgetown, CA 95634

El Dorado County Planning Department

2850 Fairlane Court

Placerville, CA 95667

Cameron Park Library

2500 Country Club Drive

Cameron Park, CA 95682

El Dorado County Main Library

345 Fair Lane

Placerville, CA 95667.

The federal, State, and local responsible and trustee agencies for the Project include:

Federal

_ Bureau of Land Management

State

_ Office of Historic Preservation

_ Department of Fish and Game

_ Department of Forestry and Fire Protection

_ Department of Parks and Recreation

_ State Water Resources Control Board

_ Regional Water Quality Control Board - Central Valley Region

Local

_ El Dorado County

ï Department of Transportation

ï Planning Department

ï Fire Department

ï Sheriffs' Department

ï Air Pollution Control District

ï Environmental Health Services.

Comments and questions on the DEIR received during the review period will be compiled in a Response to Comments Document. The DEIR and the Response to Comments Document will constitute the Final EIR (FEIR) for the Project.

After examining the FEIR, the County will determine whether or not to certify that the FEIR has been completed in compliance with CEQA, that the FEIR was presented to the decision-making body of the County (i.e., Board of Supervisors), and that the decision-making body reviewed and considered the information contained in the FEIR prior to approving, modifying, or rejecting the Project.

In order for a lead agency to approve a project (after certifying the FEIR), it must prepare written findings for each significant adverse environmental effect identified in the DEIR. Findings must be accompanied by a brief explanation of the rationale for each finding and should indicate that either: (1) changes or alterations have been required in, or incorporated into the project which mitigate or avoid the significant effects on the environment; (2) those changes or alterations are the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that agency; or (3) specific economic, legal, social, technological, or other considerations, including the consideration for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the DEIR.

1.4 ORGANIZATION OF THIS DEIR

Following this Introduction is Section 2 (Executive Summary), which briefly summarizes the Project, lists impacts identified and elaborated on in the environmental issue sections, identifies areas of controversy and issues to be resolved, and provides a summary of alternatives. Section 3 provides a description of the proposed Project.

Sections 4 through 15 contain the topical analysis of potential impacts that could result from implementing the proposed Project. Each of these sections is organized into the following:

_ An introduction on the environmental issue under consideration;

_ The setting with respect to that environmental issue;

_ Specification of significance criteria (significance criteria were based on CEQA Guidelines Section 15382 and CEQA Guidelines Appendix G: Significant Effects);

_ A discussion of the impacts and recommended mitigation measures; and

_ A discussion of effects found not to be significant.

Section 16 contains discussions of cumulative impacts, growth inducing impacts, and other discussions required by CEQA.

Section 17 describes the alternatives to the proposed Project and compares their relative impacts to those of the Project. This section also provides a brief description of alternatives considered but not addressed in detail.

Section 18 identifies the agencies, organizations, and individuals consulted in preparing the DEIR.

The authors of this document are listed in Section 19, and Section 20 lists the references cited. The appendices to this document are included at the end of this document; see the Table of Contents for a complete list of appendices. The key topics covered in this EIR to the appropriate CEQA regulatory sections are cross-referenced in Table 1-1.

1.5 POTENTIAL PERMITS AND APPROVALS REQUIRED

Table 1-2 presents a list of potential federal, State, and local agencies that may use this EIR in the adoption or implementation of the proposed Project and the permits and approvals for which it may be used.

TABLE 1-1

KEY EIR SECTIONS

CROSS-REFERENCED TO CEQA REGULATORY GUIDELINES

Key EIR Section	**Applicable CEQA Guideline**	**Topic Location Within the EIR Document**
Table of Contents or Index	§15122 - "An EIR shall contain at least a table of contents or an index to assist readers in finding the analysis of different subjects and issues..."	The Table of Contents is at the beginning of the EIR document
Executive Summary	§15123 - "An EIR shall contain a brief summary of the proposed actions and its consequences..."	Section 2
Project Description: A. Location B. Objective C. Technical Characteristics D. EIR use	§15124 - "The description of the project shall contain information needed for evaluation and review of the environmental impact..."	A., B., and C. - Section 3 D. - Sections 1.3 and 1.5
Environmental Setting	§15125 - "An EIR must include a description of the environment in the vicinity of the project, as it existed before the commencement of the project, from both a local and regional perspective..."	Sections 4 - 15
Environmental Impacts: A. Significant Effects	§15126 - "All phases of a project must be considered when evaluating its impact on the environment: planning, acquisition, development, and operation..."	A. - Sections 4 - 15 B. - Section 16.1

B. Significant Effects Which Cannot Be Avoided C. Mitigation Measures D. Alternatives E. Relationship Between Local Short-term Uses of Man's Environment and the Maintenance and Enhancement of Long-term Productivity F. Significant Irreversible Environmental Changes G. Growth Inducing Impacts		C. - Sections 4 - 15 D. - Section 17 E. - Repealed 1994 F. - Section 16.5 G. - Section 16.2
Insignificant Environmental Effects	§15128 - "An EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR..."	Sections 4 - 15 and Section 16.3
Organizations and People Consulted	§15129 - "The EIR shall identify all federal, state, or local agencies, other organizations, and private individuals consulted in preparing the draft EIR, and the persons, firm, or agency preparing the draft EIR..."	Section 18 and 19
Cumulative Impacts	§15130 - "The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence..."	Section 16.4

TABLE 1-2

POTENTIAL PERMITS AND APPROVALS FOR THE

EL DORADO COUNTY RIVER MANAGEMENT PLAN UPDATE

Agency/Department	Permit/Approval	Required For
FEDERAL AGENCIES		
Army Corps of Engineers	Individual/Nationwide Section 404 Permit (Clean Water Act, 33 USC 1341)	_ Discharge of dredge/fill into Waters of the United States, including wetlands

Bureau of Land Management (BLM)	Commercial Outfitters Special Use Permit	_ Commercial rafting on the river.
STATE AGENCIES		
State Water Resources Control Board Regional Water Quality Control Board	General Construction Activity Stormwater Permit	_ Stormwater discharges associated with construction activity
	401 Certification (Clean Water Act, 33 USC 1341. If the project requires Army Corps of Engineers 404 permit)	_ Discharge into waters and wetlands (see U.S. Army Corps Section 404 Permit)
Department of Parks and Recreation	Commercial Whitewater Boating Special Use Permit	_ Commercial rafting on the river.
Public Utilities Commission	Class C Certificate for Shuttle Bus Operations	_ Shuttle bus operation
State Department of Fish and Game	Lake/Streambed Alteration Agreement (California Fish and Game Code Section 1601)	_ Change in natural state of river, stream, lake (includes road or land construction across a natural streambed)
LOCAL AGENCIES		
El Dorado County Department of Transportation	Road encroachment	_ Activities within county rights-of-way
	No Parking Ordinance	_ Restricting parking
	Grading permit	_ Excavation and fill activities
El Dorado County Building Department	Building permit	_ Constructing structures
El Dorado County Planning Commission	River Use Permit for Commercial River Use	_ Commercial rafting on the river.
	Special Use Permits	_ Change to camps, accesses, parking areas, picnic sites on private property
El Dorado County Planning Department	Special Use Permits	_ Minor revisions to special use permits
El Dorado County Board of Supervisors	Ordinances/Resolutions	_ Regulations regarding commercial outfitter operations, safety, special use zones, sanitation and pollution control.

Back to table of contents

Back to table of contents

SECTION 2 - SUMMARY

2.1 PROJECT DESCRIPTION SUMMARY

This document is an Environmental Impact Report (EIR) on the Project, prepared in compliance with the California Environmental Quality Act (CEQA). It provides analysis of the potential environmental effects which would be associated with the implementation of the proposed Project.

As described previously, the El Dorado County Board of Supervisors is updating the El Dorado County River Management Plan (RMP), which focuses on whitewater recreation on the South Fork of the American River.

2.2 IMPACT SUMMARY

This DEIR addresses in detail each of the potential impacts identified in the Revised Initial Study prepared for the Project (see Appendix N). No project specific significant unavoidable impacts have been identified. Significant unavoidable cumulative impacts have been identified for vegetation/wildlife and social impact/land use, these impacts are described below in Table 2-1. All other impacts would be less than significant or could be mitigated to a less-than-significant level. Table 2.1 provides a summary of environmental impacts of the Project.

2.3 AREAS OF CONTROVERSY KNOWN TO THE COUNTY AND ISSUES TO BE RESOLVED

Section 15123(b) of the CEQA Guidelines requires identification of areas of controversy known to the Lead Agency and issues to be resolved.

The proposed Project has generated some controversy. The issues most often raised are:

_ Potential environmental effects related to increased river use (e.g., water quality, noise, and transportation and circulation).

Table 2-1

Summary of Potentially Significant Environmental Effects

Impact	Significance Before Mitigation[1]	Mitigation Measures	Significance After Mitigation[1]
SECTION 4 - LAND USE			

RMAC Alternative (Proposed Project)			
Impact 4.3.2-1 The proposed Project would be inconsistent with Program 10.2.2.2.1 of the El Dorado County General Plan.	S	**Mitigation Measure 4.3.2-1** No mitigation is proposed. This impact would remain significant and unavoidable.	S
Impact 4.3.2-2 ***Increased river use could result in an increased occurrence of trespass on private lands within the river corridor.***	S	**Mitigation Measure 4.3.2-2** To reduce the occurrence of trespass the County shall: a) Increase prosecution of trespass violations; b) Increase on-river and roadway signage to indicate private property boundaries and to warn trespassers of prosecution; c) Increase towing of vehicles parked in unauthorized areas; and d) Provide immediate response, towing and substantial fines and/or prosecution when property owners report vehicles blocking access to driveways.	LS
RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 12)			
Impacts and mitigation measures for Alternative 12 are similar to those identified for the proposed Project. However, Impact 4.3.2-2 could be lessened if use levels were to reach thresholds which would require management actions to reduce river use.			
Planning Commission Alternative (Alternative 13)			
Impacts and mitigation measures for the Planning Commission Alternative are similar to those identified for the proposed Project. However, Impact 4.3.2-2 would be somewhat less due to a slightly lower expected annual growth rate under this Alternative. Use levels could also be restricted based on property owner complaints, further reducing the potential for trespass occurrence under this alternative. In addition, this alternative would result in the collection of funds for private boaters and campgorund surcharge fees which would be used to provide additional Parks and Recreation and Planning Department staff, thereby reducing Impact 4.3.2-1.			
Planning Commission Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 14)			

Impacts and mitigation measures for Alternative 14 are similar to those identified for the proposed Project. However, Impact 4.3.2-2 could be lessened if use levels were to reach thresholds which would require management actions to reduce river use. In addition, this alternative would result in the collection of funds for private boaters and campgorund surcharge fees which would be used to provide additional Parks and Recreation and Planning Department staff, thereby reducing Impact 4.3.2-1.			
SECTION 5 - GEOLOGY AND SOILS			
RMAC Alternative (Proposed Project)			
Impact 5.3.2-1 The construction of new facilities could result in temporary increases in wind and water erosion.	S	*Mitigation Measure 5.3.2-1* (a) The County shall ensure that contracts for grading and other activities resulting in ground disturbance require the contractor to implement airborne dust suppression strategies. The contractor shall: (1) Submit a construction emission/dust control plan for approval by the County prior to ground disturbance activities; (2) Water all disturbed areas in late morning and at the end of each day during clearing, grading, earth-moving, and other site preparation activities; (3) Increase the watering frequency whenever winds at the Project site exceed 15 mph; (4) Water all dirt stockpile areas; (5) Use tarpaulins or other effective covers for haul trucks that travel on public streets and roadways; (6) Sweep streets adjacent to the construction entrance at the end of each day; and (7) Control construction and other vehicle speeds on-site to no more than 15 mph. (b) Mitigation measures 6.3.2-1 (see Section 6, Hydrology and Water Quality) will mitigate soil erosion caused by water runoff.	LS

		(c) Any activities requiring significant grading will be subject to the El Dorado County Grading, Erosion, and Sediment Control Ordinance.	
RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 12)			
Implementation of this alternative would result in the same potential erosion impacts related to construction activities as those described for the proposed Project. Mitigation for this potential impact would also be the same as described for the proposed Project.			
Planning Commission Alternative (Alternative 13)			
Implementation of this alternative would result in the same potential erosion impacts related to construction activities as those described for the proposed Project. Mitigation for this potential impact would also be the same as described for the proposed Project.			
Planning Commission Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 14)			
Implementation of this alternative would result in the same potential erosion impacts related to construction activities as those described for the proposed Project. Mitigation for this potential impact would also be the same as described for the proposed Project.			
SECTION 6 - HYDROLOGY AND WATER QUALITY			
RMAC Alternative (Proposed Project)			
Impact 6.3.2-1 Potential short-term impacts to surface water quality could result from construction and operation of new facilities.	S	*Mitigation Measure 6.3.2-1* Prior to approval of improvement plans for site development, the project applicant shall submit erosion control plans and a hazardous materials control program to the County consistent with El Dorado County's Grading, Erosion, and Sediment Control Ordinance and El Dorado Resource Conservation District's Erosion and Sediment Control Plan. The plan should include BMPs to minimize and control pollutants in storm water runoff. Water quality control practices should include the following: **Construction Measures** _ Native vegetation will be retained where possible. Grading and excavation activities will be limited to the immediate area required for	LS

		construction. _ Stockpiled topsoil shall be placed in disturbed areas outside of natural drainage ways. Stockpile areas shall be designated on project grading plans. Stockpiles will be stabilized using an acceptable annual seed mix prepared by a qualified botanist. _ No construction equipment or vehicles will disturb natural drainageways without temporary or permanent culverts in place. Construction equipment and vehicle staging areas will be placed on disturbed areas and will be identified on project grading plans. _ If construction activities are conducted during the winter or spring months, storm runoff will be regulated by temporary on-site detention basins. _ Temporary erosion control measures (such as silt fences, staked straw bales, and temporary revegetation) will be employed for disturbed slopes until permanent revegetation is established. _ No disturbed surfaces will be left without erosion control measures during the winter and spring months, including topsoil stockpiles. _ Sediment will be retained on-site by a system of sediment basins, traps, or other appropriate measures. _ Immediately after the completion of grading activities, erosion protection will be provided for finished slopes. This may include revegetation with native plants (deep-rooted species for steep slopes), mulching, hydroseeding, or other appropriate methods.	
Impact 6.3.2-1 (continued)		_ Energy dissipaters will be employed where drainage outlets discharge into areas of erodible soils or natural drainage ways. Temporary dissipaters may be used for temporary storm runoff outlets during the construction phase.	

_ A spill prevention an countermeasure plan will be developed identifying proper storage, collection, and disposal measures for pollutants used on-site. No-fueling zones shall be indicated on grading plans and shall be situated at least 100 feet from natural drainage ways.

Operation Measures

_ All storm drain inlets will be equipped with silt and grease traps to remove oil, debris, and other pollutants, which will be routinely cleaned and maintained. Storm drain inlets will also be labeled "No Dumping - Drains to Streams and Lakes".

_ Parking lots will be designed to allow as much runoff as feasible to be directed toward vegetative filter strips to help control sediment and improve water quality.

_ Storm runoff from service stations or other similar uses will be treated with an oil/water separator.

_ Permanent energy dissipaters will be included for permanent outlets.

_ The detention/retention basin system on the site will be designed to provide effective water quality control measures. Design and operation features of detention/retention basins will include:

1. Construct basins with a total storage volume that permits adequate detention time for settling of fine particles even during high flow conditions.

2. Maximize the distance between basin inlets and outlets to reduce velocities, perhaps by using an elongated basin shape.

3. Incorporate some below-grade area within the main detention basin for sediment settling.

		4. Allow vegetation to reduce velocities and naturally filter water by encouraging vegetation establishment and ensuring adequate water supply to maintain vegetation cover. 5. Establish basin maintenance responsibility and schedules to periodically remove basin sedimentation, excessive vegetation growth, and debris that may clog basin inlets and outlets.	
Impact 6.3.2-2 Increased use of the river, roads and trails in the watershed would continue the degradation of water quality on the South Fork of American River.	S	*Mitigation Measure 6.3.2-2* a) County inspection to find all defective sewage disposal systems that are discharging and/or could discharge effluent with fecal coliform directly or indirectly to the river. b) Closure of all commercial, public and private facilities with failing sewage disposal systems pending correction of the problem. c) Repair and/or replacement of all defective sewage disposal systems that could discharge to the river, with composting/non discharging or engineered mound units in all areas with high water table conditions, open gravel or fractured bedrock. d) Mandatory use of rest rooms with substantial fines for use of the river and river banks. e) Erosion control measures at access areas where river users enter and exit the water (e.g., at camping and parking facilities).	LS
RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 12)			
This alternative would have the same initial increase in river use as the RMAC Alternative. However, implementation of the four-tiered threshold mechanism would trigger management actions that reduce boat density levels during peak use periods. These management actions (see Section 3.6 for more information) would result in a lower growth rate in commercial and private river use than the proposed Project. Table 3-1 identifies potential growth in river use to the year 2015.			

Water quality impacts related to the implementation of this alternative would be similar to those described for the proposed Project.

The following programs from the RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels will partially mitigate water quality impacts (these programs are described in more detail in Sections 3.5 and 3.6).

_ Educational Programs (e.g., additional signage related to restrooms and quiet zone);

_ Special Use Permit Programs (e.g., annual inspections of SUPs in River area and expanded water quality sampling and analysis);

_ Facilities (e.g., new restroom facilities); and

_ River Use Management Actions.

Mitigation for this potential impact would also be the same as described for the proposed Project.

Planning Commission Alternative (Alternative 13)

Initial increases in commercial river use would be the same as the proposed Project. The initial increase for private boater river use would be less than the proposed Project. In addition, there is a possibility of a use freeze based on a "user satisfaction and property owner tolerance of river use-related nuisance complaints" threshold mechanism (see Section 3.7.2.9). Table 3-1 identifies potential growth in river use to the year 2015.

Water quality impacts related to the implementation of this alternative would be similar to those described for the proposed Project.

The following programs from the RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels will partially mitigate water quality impacts (these programs are described in more detail in Sections 3.5 and 3.6).

_ Educational Programs (e.g., additional signage related to restrooms and quiet zone);

_ Special Use Permit Programs (e.g., annual inspections of SUPs in River area and expanded water quality sampling and analysis);

_ Facilities (e.g., new restroom facilities);

_ Regulations and Ordinances (e.g., institutional/non-profit regulations and private boater fees); and

_ User Satisfaction and Property Owner Tolerance of River Use-Related Nuisance Complaints Threshold Mechanism.

Mitigation for this potential impact would also be the same as described for the proposed Project.

Planning Commission Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 14)

This alternative would have the same initial increase in river use as the Planning Commission Alternative. However, implementation of the four-tiered threshold mechanism would trigger management actions that reduce boat density levels during peak use periods. These management actions (see Section 3.6 for more information) would result in a lower growth rate in commercial and private river use than the proposed Project. Table 3-1 identifies potential growth in river use to the year 2015.

Water quality impacts related to the implementation of this alternative would be similar to those described for the proposed Project.

The following programs from the RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels will partially mitigate water quality impacts (these programs are described in more detail in Sections 3.5 and 3.6).

_ Educational Programs (e.g., additional signage related to restrooms and quiet zone);

_ Special Use Permit Programs (e.g., annual inspections of SUPs in River area and expanded water sampling and analysis);

_ Facilities (e.g., new restroom facilities);

_ Regulations and Ordinances (e.g., institutional/non-profit regulations and private boater fees); and

_ River Use Management Actions.

Mitigation for this potential impact would also be the same as described for the proposed Project.

SECTION 7 - RECREATION

RMAC Alternative (Proposed Project)

Impact 7.3.2-1 Increased whitewater recreation use levels could create conflicts with other river corridor recreational activities.	S	**Mitigation Measure 7.3.2-1** Implement Mitigation Measures 6.3.2-1 (Hydrology and Water Quality), 9.3.2-1, 9.3.2-2 (Transportation and Circulation), 10.3.2-3, and 10.3.2-5 (Noise).	LS

RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 12)

Alternative 12 would result in Impact 7.3.2-1 as identified above. However, the following element would reduce the potential for the impact to occur:

_ Use-restriction management actions would be implemented if boater levels reached identified thresholds, thereby reducing the potential for the impact to occur.

Mitigation for this potential impact would be the same as described for the proposed projects.

Planning Commission Alternative (Alternative 13)			
Alternative 13 would result in Impact 7.3.2-1 as identified above. However, under this alternative the anticipated annual growth rate is slightly lower than under the proposed Project. Additionally, the following element would be implemented to reduce the potential for this impact to occur: _ Allowable commercial and private boater use levels would be reduced if property owner satisfaction decreases to below 75% or complaints increase by more than 20%. Mitigation for this potential impact would be the same as described for the proposed Project.			
Planning Commission Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 14)			
Alternative 14 would result in Impact 7.3.2-1 as identified above. However, the anticipated annual growth rate of this alternative is slightly lower than under the proposed Project. Additionally, the following element would be implemented to reduce the potential for this impact to occur: _ Use-restriction management actions would be implemented if boater levels reached identified thresholds. Mitigation for this potential impact would be the same as described for the proposed Project.			
SECTION 8 - BIOLOGICAL RESOURCES			
RMAC Alternative (Proposed Project)			
Impact 8.3.2-1 **The construction of new parking areas restrooms and trails could create the potential for habitat degradation, wetland fill and taking of special status species or their habitat.**	S	**Mitigation 8.3.2-1** (a) The County shall: _ Ensure that biological surveys are conducted on lands which may be significantly disturbed during construction of facilities. _ Avoid, through design or site selection, special status species important habitat and wetlands areas. _ Initiate consultation with the appropriate state or federal jurisdictional agency if the potential for special status species disturbance exists following final site selection. (b) The El Dorado Irrigation District and the El Dorado County Board of Supervisors have adopted an ordinance to facilitate development of a system of Gabbro Plant Preserves. A copy of this	LS

		ordinance is provided in Appendix F. This ordinance creates a rare plant mitigation requirement or fee. Any development of facilities related to the RMP would be subject to these requirements. (c) Mitigation measures 6.3.2-1 (see Section 6, Hydrology and Water Quality) will mitigate soil erosion caused by water runoff.	
Impact 8.3.2-2 Increased use of the river, roads and trails in the watershed, would continue the degradation of fish and wildlife habitat on the South Fork of American River.	S	**Mitigation Measure 8.3.2-2** Implement Mitigation Measures 5.3.2-1, 6.3.2-1, and 8.3.2-1.	LS

RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 12)

This alternative would have the same initial growth in river use as the RMAC Alternative, however, implementation of the four-tiered threshold mechanism would trigger management actions to reduce boat density levels during peak periods. These management actions (see Section 3.6 for more information) would result in a lower growth rate in commercial and private river use than the proposed Project. Table 3-1 identifies potential growth in river use to the year 2015.

Impacts to biological resources related to the implementation of this alternative would be similar to those described for the proposed Project.

The following programs from the RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels will partially mitigate impacts to biological resources (these programs are described in more detail in Sections 3.5 and 3.6).

_ Educational Programs (e.g., additional signage related to restrooms, stops and take-out points);

_ Special Use Permit Programs (e.g., annual inspections of SUPs in River area, expanded water sampling and analysis, and riparian restoration and protection including landscape, drainage, and erosion control plans);

_ Facilities (e.g., new restroom facilities); and

_ River Use Management Actions.

Mitigation for this potential impact would also be the same as described for the proposed Project.

Planning Commission Alternative (Alternative 13)

Initial growth in commercial river use would be the same as the proposed Project. The initial growth for private boater river use would be less than the proposed Project. In addition, there is a possibility of a use freeze based on a "user satisfaction and property owner tolerance of river use-related nuisance complaints" threshold mechanism (see Section 3.7.2.9). Table 3-1 identifies potential growth in river use to the year 2015.

Impacts to biological resources related to the implementation of this alternative would be similar to those described for the proposed Project.

The following programs from the RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels will partially mitigate impacts to biological resources (these programs are described in more detail in Sections 3.5 and 3.6).

_ Educational Programs (e.g., additional signage related to restrooms, stops, and take-out points);

_ Special Use Permit Programs (e.g., annual inspections of SUPs in River area, expanded water sampling and analysis, and riparian restoration and protection including landscape, drainage, and erosion control plans);

_ Facilities (e.g., new restroom facilities);

_ Regulations and Ordinances (e.g., institutional/non-profit regulations and private boater fees); and

_ User Satisfaction and Property Owner Tolerance of River Use-Related Nuisance Complaints Threshold Mechanism.

Mitigation for this potential impact would also be the same as described for the proposed Project.

Planning Commission Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 14)

This alternative would have the same initial growth in river use as the Planning Commission Alternative, however, implementation of the four-tiered threshold mechanism would trigger management actions to reduce boat density levels during peak periods. These management actions (see Section 3.6 for more information) would result in a lower growth rate in commercial and private river use than the proposed Project. Table 3-1 identifies potential growth in river use to the year 2015.

Impacts to biological resources related to the implementation of this alternative would be similar to those described for the proposed Project.

The following programs from the RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels will partially mitigate impacts biological resources (these programs are described in more detail in Sections 3.5 and 3.6).

_ Educational Programs (e.g., additional signage related to restrooms, stops, and take-out points);

_ Special Use Permit Programs (e.g., annual inspections of SUPs in River area, expanded water sampling and analysis, and riparian restoration and protection including landscape, drainage, and erosion control plans);

_ Facilities (e.g., new restroom facilities);

_ Regulations and Ordinances (e.g., institutional/non-profit regulations and private boater fees); and

_ River Use Management Actions. Mitigation for this potential impact would also be the same as described for the proposed Project.			
SECTION 9 - TRANSPORTATION AND CIRCULATION			
RMAC Alternative (Proposed Project)			
Impact 9.3.2-1 Implementation of the RMAC Alternative would increase the volume of heavy vehicle traffic on SR 193, SR 49, Lotus Road, and Salmon Falls Road, which would accelerate pavement deterioration.	S	**Mitigation Measure 9.3.2-1** Existing revenue sources for maintenance, such as gas taxes and property taxes, will partially mitigate this impact. This impact would be mitigated to a less-than-significant level by making a fair share contribution towards the maintenance costs of these roadways. El Dorado County DOT and Parks and Recreation staff should work together to determine the specifics of this fair share contribution (i.e., the type of payment, collection mechanism, amount, applicable parties, etc.). Possible mechanisms for implementation include payment of a project-specific fee assessed to commercial outfitters and/or private boaters based on the amount of traffic expected to be generated, or through participation in a County-wide financing program for road maintenance (e.g., a sales tax measure) if it is adopted in the future.	LS
Impact 9.3.2-2 Implementation of the RMAC Alternative would result in a demand for parking that exceeds the available supply at the Greenwood Creek take-out.	S	**Mitigation Measure 9.3.2-2** This impact could be mitigated to a less-than-significant level by providing an adequate amount of additional parking at the Greenwood Creek take-out. This may be accomplished by providing additional on-street parking or entering into an agreement with the adjacent commercial outfitters or the Bureau of Land Management to allow for private parking on their properties. The required number of parking spaces should be evaluated by El Dorado County Parks and Recreation staff when a more detailed plan for the middle reach raft run is developed and more specific estimates of the increased parking demand can be made.	LS

Impact 9.3.2-3 Implementation of the RMAC Alternative would add traffic to SR 49 and Salmon Falls Road south of New York Creek Bridge, which are expected to operate unacceptably under future (2015) conditions.	S	**Mitigation Measure 9.3.2-3** The significance of this impact could be reduced by making a fair share contribution towards the planned improvements to the local and regional roadway system in El Dorado County. El Dorado County DOT and Parks and Recreation staff should work together to determine the specifics of this fair share contribution (i.e., the type of payment, collection mechanism, amount, applicable parties, etc.). The contribution could be made through payment of the Countyís Traffic Impact Mitigation (TIM) fee and the State TIM fee, both of which are programs currently in place for new development to mitigate impacts to roadways in El Dorado County. Roadway improvements contained in the 20-year CIP for Salmon Falls Road south of New York Creek Bridge would improve operations on this segment to acceptable levels with or without the project. Since neither of the fee programs include improvements to the subject segment of State Route 49, payment of the fees does not assure that the impact would be reduced to a less-than-significant level.	SU
RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 12)			
Implementation of this alternative would result in similar potential transportation and circulation impacts as those described for the proposed Project. Although the impacts of this alternative may be slightly less in magnitude than the RMAC Alternative, it is not possible to quantify this difference due to the uncertain effects of management actions. Mitigation measures for these potential impacts would also be the same as those described for the proposed Project.			
Planning Commission Alternative (Alternative 13)			
Potential impacts and mitigation measures for this alternative would be the same as those described for the proposed Project with an additional impact (Impact 9.3.4-1) described below.			
Impact 9.3.4-1 Implementation of the Planning Commission Alternative will potentially increase illegal parking near the river accesses at	S	**Mitigation Measure 9.3.4-1** This impact could be mitigated to a less-than-significant level by identifying an "equitable" fee for private boaters that does not encourage illegal parking in order to avoid paying the fee. El Dorado County Parks and Recreation staff	LS

Chili Bar and Coloma. This is considered a significant impact.		should work with officials from Marshall Gold SHP to identify an "equitable" fee.	
Planning Commission Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 14)			
Potential impacts and mitigation measures would be similar to those described for the Planning Commission Alternative. Although the impacts of this alternative may be slightly less in magnitude than the Planning Commission Alternative, it is not possible to quantify this difference due to the uncertain effects of management actions.			
SECTION 10 - NOISE			
RMAC Alternative (Proposed Project)			
Impact 10.3.2-1 Noise generated during construction of new facilities or improvements to existing facilities could cause short term increases to ambient noise levels and could exceed County noise standards.	S	*Mitigation Measure 10.3.2-1* (a) All construction vehicles will be equipped with properly operating and maintained mufflers. (b) Construction activities will only occur between the hours of 7:00 a.m. to 6:00 p.m., Monday through Friday and 8:00 a.m. to 6:00 p.m. on Saturdays. No noise-generating construction activities will occur on Sundays or Holidays. (c) Construction vehicle staging areas shall be located as far from adjacent residences or businesses as practicable.	LS
Impact 10.3.2-2 Noise levels could increase at and near existing and new facilities.	S	**Mitigation 10.3.2-2** (a) When determining locations for the parking areas and restrooms, the County will avoid selecting sites adjacent to sensitive noise receptors whenever feasible. (b) When determining routes for trail systems, the County will avoid selecting routes adjacent to sensitive noise receptors whenever feasible.	LS
Impact 10.3.2-3 Increased river use and the addition of a middle reach, due to	S	**Mitigation Measure 10.3.2-3** (a) The County will increase efforts to educate boaters (especially those putting in at Marshal Gold Discovery Park and	SU

the development of a convenient private boater take-out near Highway Rapid, could increase violations of Quiet Zone regulations.		at Henningsen-Lotus Park) of the requirements and sensitivities of the Quiet Zone. (b) The County will increase on-river signage as a reminder to rafters when they are within the Quiet Zone. (c) The County will amend Quiet Zone regulations and enforcement mechanisms to enable the issuance of citations to private rafters violating Quiet Zone requirements.	
Impact 10.3.2-4 Limiting commercial outfitter capacities by week instead of by day could increase violations of the Quiet Zone.	S	**Mitigation Measure 10.3.2-4** (a) The County will require commercial outfitters who utilize weekly limits to increase their discouragement of Quiet Zone violations. (b) The County will allow citations to be issued to commercial clients who violate the Quiet Zone when being discouraged by guides.	LS
RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 12)			
Potential impacts to the noise environment that could result from implementation of Alternative 12 and proposed mitigation measures are the same as those discussed under the propose Project in Section 10.3.2. However, Impact 10.3.2-3 would be less significant once use levels reached thresholds which would result in increased management to reduce river use levels. Impact 10.3.2-3 would remain significant and unavoidable under this alternative.			
Planning Commission Alternative (Alternative 13)			
Potential impacts to the noise environment that could result from implementation of the Planning Commission Alternative and proposed mitigation measures are the same as those discussed under the proposed Project. However, Impact 10.3.2-3 would be reduced due to certain elements of the Planning Commission Alternative. These elements include: _ Issuing a pre-trip brochure to river users with map that would show Quiet Zone boundaries and would describe County ordinances and requirements related to noise violations; _ Replacing the current boater tag with a personal boater tag which would include a code of conduct and signature/date line accepting the conditions; _ Development of a safety-based code of river etiquette for all boaters which would be adopted by ordinance to allow more effective citation of persons conducting unsafe activities or disturbing the river environment and Quiet Zone; and			

_ Reducing commercial and private use levels if property owner satisfaction decreases to below 75% or complaints increase by more than 20%. In addition to these elements, Mitigation Measure 10.3.2-3 would be implemented; however, Impact 10.3.2-3 would remain significant and unavoidable under this alternative.			
Planning Commission Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 14)			
Potential impacts to the noise environment that could result from implementation of Alternative 14 and proposed mitigation measures are the same as those discussed under Alternative 13 in Section 10.3.4. However, Impact 10.3.2-3, which would occur under the proposed Project and Alternative 13, would be less significant once river use levels reached thresholds which would result in increased management to reduce use levels. With the elements proposed under this alternative and the implementation of Mitigation Measure, this impact would remain significant and unavoidable.			
SECTION 11 - AESTHETICS			
RMAC Alternative (Proposed Project)			
Impact 11.3.2-1 The construction or expansion of parking areas and restroom facilities could detract from the visual quality of areas adjacent to or within the river corridor.	S	*Mitigation Measure 11.3.2-1(a)* To reduce potential impacts of parking area development the County shall: (1) Select parking areas which have been previously graded, cleared or otherwise disturbed whenever possible, or select sights with low visual quality and limited visibility; (2) Design parking areas in a visually unobtrusive manner; (3) Retain natural features and vegetation (especially trees) whenever possible; and (4) Provide refuse receptacles for parking area users to reduce litter and the scattering of debris. (5) Use native plant species for landscaping. *Mitigation Measure 11.3.2-1(b)* To reduce the potential impacts of restroom facility construction the County would:	LS

		(1) Select locations that are setback from the shoreline and allow vegetation to screen structures as viewed from the river, and (2) Design facilities with a simple unobtrusive architectural appearance and with exterior colors that blend with the surrounding areas.	
RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 12)			
Potential visual impacts associated with Alternative 12 would be the same as Impact 11.3.2-1, as discussed under the RMAC Alternative. Mitigation identified in Mitigation Measures 11.3.2-1(a) and 11.3.2-1(b) as discussed under the RMAC Alternative would be implemented to reduce potential impacts to less than significant levels.			
Planning Commission Alternative (Alternative 13)			
Potential visual impacts associated with the Planning Commission Alternative would be the same as Impact 11.3.2-1, as discussed under the RMAC Alternative. Mitigation identified in Mitigation Measures 11.3.2-1(a) and 11.3.2-1(b) as discussed under the RMAC Alternative would be implemented to reduce potential impacts to less than significant levels.			
Planning Commission Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 14)			
Potential visual impacts associated with Alternative 14 would be the same as Impact 11.3.2-1, as discussed under the RMAC Alternative. Mitigation identified in Mitigation Measures 11.3.2-1(a) and 11.3.2-1(b) as discussed under the RMAC Alternative would be implemented to reduce potential impacts to less than significant levels.			
SECTION 12 - CULTURAL RESOURCES			
RMAC Alternative (Proposed Project)			
Impact 12.3.2-1 Construction of the new facilities could affect cultural or paleontological resources.	S	**Mitigation Measure 12.3.2-1** (a) On-site cultural and paleontological resources surveys shall be conducted by a qualified archaeologist and paleontologist prior to construction of a new facility. The purpose of this survey will be to more precisely locate and map significant cultural and paleontological resources. (b) In the event that unanticipated cultural or paleontological resources are encountered during Project construction,	LS

		all earthmoving activity shall cease until the County retains the services of a qualified archaeologist or paleontologist. The archaeologist or paleontologist shall examine the findings, assess their significance, and offer recommendations for procedures deemed appropriate to either further investigate or mitigate adverse impacts to those cultural or paleontological archaeological resources that have been encountered (e.g., excavate the significant resource). These additional measures shall be implemented. (c) If human bone or bones of unknown origin is found during Project construction, all work shall stop in the vicinity of the find and the County Coroner, the County of El Dorado, and the County shall be contacted immediately. If the remains are determined to be Native American, the Coroner shall notify the Native American Heritage Commission who shall notify the person it believes to be the most likely descendant. The most likely descendant shall work with the County to develop a program for reinternment of the human remains and any associated artifacts. No additional work shall take place within the immediate vicinity of the find until the identified appropriate actions have been completed.	

RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 12)
Implementation of this alternative would result in the same potential cultural or paleontological resource impacts, related to the construction of new facilities, as those described for the proposed Project. Mitigation for this potential impact would also be the same as described for the proposed Project.
Planning Commission Alternative (Alternative 13)
Implementation of this alternative would result in the same potential cultural or paleontological resource impacts, related to the construction of new facilities, as those described for the proposed Project. Mitigation for this potential impact would also be the same as described for the proposed Project.
Planning Commission Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 14)

Implementation of this alternative would result in the same potential cultural or paleontological resource impacts, related to the construction of new facilities, as those described for the proposed Project. Mitigation for this potential impact would also be the same as described for the proposed Project.			
SECTION 13 - PUBLIC HEALTH AND SAFETY			
RMAC Alternative (Proposed Project)			
Impact 13.3.2-1 The creation of a middle run could increase the number of less experienced river users creating the potential for increased whitewater-related injury.	S	**Mitigation Measure 13.3.2-1** In addition to the educational and safety programs identified in the proposed Project, the County would: (1) Increase signage specifically directed towards middle-run boaters with warnings pertaining to the dangers of rafting with improper equipment, skills and knowledge of rescue techniques and river flows; (2) Install signage at middle run put-ins and up-river from Highway Rapid informing boaters of the location of the Highway Rapid takeout and warning unprepared boaters of the dangers of continuing beyond Highway Rapid; and (3) Increase staffing at middle run put-ins and at the Highway Rapid take-out to provide safety equipment checks and to inform rafters of the dangers of the Gorge.	LS
RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 12)			
Alternative 12 would result in Impact 13.3.2-1 as discussed under the proposed Project. Mitigation Measure 13.3.2-1 would also be implemented under Alternative 12.			
Planning Commission Alternative (Alternative 13)			
The Planning Commission Alternative would result in Impact 13.3.2-1 as discussed under the proposed Project. Mitigation Measure 13.3.2-1 would also be implemented under the Planning Commission Alternative.			
Planning Commission Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 14)			
Alternative 14 would result in Impact 13.3.2-1 as discussed under the proposed Project. Mitigation Measure 13.3.2-1 would also be implemented under Alternative 14.			

SECTION 14 - PUBLIC SERVICES			
RMAC Alternative (Proposed Project)			
Impact 14.3.2-1 Increased river use, parking enforcement, and participation in the River Safety Committee would require increases in Sheriff Department and Emergency Services staffing and responsibilities.	S	**Mitigation 14.3.2-1** Seek additional funding from the California Department of Boating and Waterways. Even with the implementation of this mitigation measure, this impact would remain significant and unavoidable.	SU
Impact 14.3.2-2 Increased river use, additional parking, new facilities, river activity monitoring programs, and increase SUP enforcement requirements would increase the need for the County Division of Parks and Recreation and Planning Department Staff.	S	**Mitigation 14.3.2-2** No mitigation is proposed for this impact. This impact would remain significant and unavoidable.	SU
RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 12)			
Impacts under this alternative would be similar to those described under the proposed Project. While management actions would be implemented to control river use levels if thresholds were met, these management actions would require additional time and financial commitments by the Division of Parks and Recreation. These impacts would remain significant ant unavoidable.			
Planning Commission Alternative (Alternative 13)			
There would be no significant impacts to public services associated with this alternative. All additional staffing requirements and costs associated with the implementation of this alternative would be assessed and acquired through boater and permit fees. See Section 14.4.1 for further discussion.			
Planning Commission Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 14)			
There would be no significant impacts to public services associated with this alternative. All additional staffing requirements and costs associated with the implementation of this alternative would be assessed and			

acquired through boater and permit fees. See Section 14.4.1 for further discussion.			
SECTION 15 - AIR QUALITY			
RMAC Alternative (Proposed Project)			
Impact 15.3.2-1 The construction or expansion of parking areas would result in short-term construction vehicle emissions and fugitive dust that could exceed criteria pollutant thresholds of significance.	S	**Mitigation Measure 15.3.2-1** Mitigation Measure 15.3.2-1 would be the same as Mitigation Measure 5.3.2-1, identified in Section 5, Geology and Soils. Dust suppression measures could reduce fugitive dust emissions by as much as 70 percent, which would reduce this potential impact to less than significant.	LS
Impact 15.3.2-2 Construction of restroom facilities could create a new concentrated objectionable odor source that may result in nuisance complaints from area residents and facility users.	S	**Mitigation Measure 15.3.2-2** Prior to construction of restroom facilities, the County will: (1) Select a location that is convenient to river users, yet not located near existing residences, and (2) Ensure that the type of facility constructed is designed to contain or suppress objectionable odors adequately to avoid nuisance to surrounding areas.	LS
Impact 15.3.2-3 Increased traffic in the project area would increase vehicle emissions which could exacerbate AAQS non-attainment.	S	**Mitigation Measure 15.3.2-3** To reduce air quality impacts associated with increases in river use, the County will encourage ridesharing through educational programs designed to promote parking/meeting areas along the Highway 50 corridor to reduce vehicle trips to the river corridor. This impact could remain significant even with the implementation of this mitigation measure.	SU
RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 12)			
Potential air quality impacts associated with Alternative 12 would be the same as Impacts 15.3.2-1, 15.3.2-2 and 15.3.2-3 as discussed under the RMAC Alternative. Mitigation identified in Mitigation Measures 15.3.2-1, 15.3.2-2 and 15.3.2-3 as discussed under the RMAC Alternative would be implemented to reduce potential			

impacts to less than significant levels.
Planning Commission Alternative (Alternative 13)
Potential air quality impacts associated with the Planning Commission Alternative would be the same as Impacts 15.3.2-1, 15.3.2-2 and 15.3.2-3 as discussed under the RMAC Alternative. Mitigation identified in Mitigation Measures 15.3.2-1, 15.3.2-2 and 15.3.2-3 as discussed under the RMAC Alternative would be implemented to reduce potential impacts to less than significant levels.
Planning Commission Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 14)
Potential air qualty impacts associated with Alternative 14 would be the same as Impacts 15.3.2-1, 15.3.2-2 and 15.3.2-3 as discussed under the RMAC Alternative. Mitigation identified in Mitigation Measures 15.3.2-1, 15.3.2-2 and 15.3.2-3 as discussed under the RMAC Alternative would be implemented to reduce potential impacts to less than significant levels.

SECTION 16.5 - CUMULATIVE IMPACTS			
Impact 16-1 Cumulative new development could result in degradation of fish and wildlife habitat values within the South Fork of the American River watershed.	S	**Mitigation Measure 16-1** Implement Mitigation Measures 5.3.2-1, 6.3.2-1, and 8.3.2-1	SU
Impact 16-2 Increased noise levels due to increased traffic could exceed County noise standards.	S	**Mitigation Measure 16-2** Implement traffic control mitigation (see Section 9).	SU
Impact 16-3 Increased development would require substantial increases in Sheriff Department staffing.	S	**Mitigation 16-3** Seek additional funding from the California State Department of Boating and Waterways. This impact would remain significant and unavoidable.	SU
Impact 16-4 Increased short-term emissions related to construction activities.	S	**Mitigation Measure 16-4** Implement Mitigation Measure 5.3.2-1.	SU
Impact 16-5	S	**Mitigation Measure 16-5**	SU

Increased long-term emission related to increased traffic volumes.		Implement Mitigation Measure 15.3.2-3.	

Back to table of contents

SECTION 3 - PROJECT DESCRIPTION AND ALTERNATIVES

SUB-SECTION 1

SUB-SECTION 2

Back to table of contents

SECTION 4 - LAND USE

4.1 INTRODUCTION

This section examines potential land use impacts related to the proposed Project (i.e., the RMAC Alternative) and alternatives. Section 4.2 describes existing land use plans and land uses within the project's area of influence, Section 4.3 identifies potential impacts and proposed mitigation measures and Section 4.4 discusses potential impacts which would not be significant.

4.2 SETTING

Potential impacts from the proposed Project and each of the alternatives would occur within the same geographic area. This section describes the existing land use plans and policies within the area along the South Fork of the American River between Chili Bar and Salmon Falls (South Fork) and at areas where facilities may be constructed. The South Fork lies entirely within El Dorado County. Although a number of federal, state and County jurisdictional elements apply to the river corridor, and much of the shoreline is privately owned, the El Dorado County General Services Department, Parks and Recreation Division, has taken primary responsibility for managing whitewater and other river-related recreational activities.

4.2.1 Planning Authority

One of the purposes of the preparation and implementation of an updated River Management Plan is to implement the El Dorado County General Plan which calls for preparation of an RMP. In developing the RMP, El Dorado County is acting under three general sources of authority. These sources of authority include the County's police power as expressed under Article XI, Section 7 of the California Constitution, Section 660 of the California Harbors and Navigation Code, and the El Dorado County General Plan.

Objective 9.1.4 of the Parks and Recreation Element of the General Plan calls for the conservation and promotion of the waterways of El Dorado County, particularly the South Fork of the American River, as recreational and economic assets. General Plan Policy 9.1.4.1 requires that the river management policies of the General Plan be implemented through a South Fork of the American River Management Plan. Thus, the RMP is an implementation tool of the General Plan, not an element of the General Plan itself (specific elements of the General Plan are discussed below).

4.2.2 Land Management Agency Jurisdictions

Land management agencies with jurisdiction in the South Fork corridor include El Dorado County, the Federal Bureau of Land Management (BLM), and the State of California Division of Parks and Recreation. Land jurisdictions are shown on Figure 4-1. Lands managed under jurisdiction of the County are comprised of unincorporated land which is either County-owned (such as parks) or privately-held (privately-owned lands contain commercial, residential and undeveloped parcels). BLM lands border some river segments and the State of California manages Marshall Gold Discovery State Historical Park and the Folsom Lake State Recreation Area. There are 3,600 acres of BLM lands within the river corridor and 12.5 miles of river frontage. In addition, public toilets are located on BLM lands (see Figure 1-3) and the proposed public access at Greenwood Creek is on BLM lands. Public rights-of-way for river access are available at the Highway 49 and 193 river crossings. Although agencies other than the County have jurisdiction over lands adjacent to the river, the County continues to have the lead role in managing whitewater recreation activities and is deferred to by other agencies with regards to most South Fork management planning.

BLM representative stated that BLM intends to develop a management plan for South fork lands in parallel timeline with the RMP Update. BLM is acquiring lands on the South Fork and trading out federal lands that make sense to have in private hands. BLM wants to work with

RMP process to ensure plan compatibility. An environmental assessment will be prepared for the BLM plan, which will be an amendment to the current plan. Many river management issues outside of recreation issues will be addressed.

4.2.3 El Dorado County General Plan

The El Dorado County General Plan is the primary land use document governing the project area. The County General plan identifies a comprehensive set of goals, objectives, policies and programs designed to direct the County's growth in an effort to protect natural resources and provide opportunities for economic growth and community development.

Table 4-1 presents the specific County goals, objectives, policies and programs contained within the General Plan that relate to the proposed River Management Plan and the alternatives under consideration. The table also identifies the proposed Projects compatibility with those goals, objectives, policies and programs.

Figure 4-1

THIS IS AN 11 X 17 PAGE

EXTRA HOLDING PAGE FOR FIGURE.

Table 4-1

Comparison of El Dorado County General Plan

and Proposed River Management Plan Elements

General Plan Section and Text Goal, Objective, Policy or Program	Project Compatibility with Goal, Objective, Policy or Program
INTRODUCTION	
Statement of Vision	
1. Maintain and protect the County's natural beauty and environmental quality, vegetation, air and water quality, natural landscape features, cultural resource values, and maintain the rural character and lifestyle while ensuring the economic viability critical to promoting and	**The project is generally consistent with this goal.** The project would have relatively few adverse impacts to the natural beauty and environmental quality of the area. The project's adverse impacts

sustaining community identity.	would be localized and predominantly temporary or short-term and would be off-set in most cases by significant beneficial economic effects.
7. Improve and expand local park and recreational facilities throughout the County.	**The project generally contributes to this goal.** The project would result in the construction of new recreational facilities including trails, restrooms, and parking areas, and would create an additional take-out area for boaters.
Plan Objectives	
3. To sustain a quality environment	**The project is generally consistent with this Objective.** The project would have relatively few adverse impacts to the environmental quality of the area. The project's adverse impacts would be localized and predominantly temporary or short-term and would be off-set in most cases by significant beneficial effects that would be realized immediately and continue into the future.
LAND USE ELEMENT	
Policy 2.2.5.15 Any imposition of National Recreational Area or Wild and Scenic River designations on lands within El Dorado County shall be deemed inconsistent with this General Plan.	**The project is consistent with this Policy.** The project would not, directly or indirectly, recommend, support or in any way encourage a National Recreation Area or Wild and Scenic River designation on the South Fork.
CIRCULATION ELEMENT	
Policy 3.5.1.7 In order to ensure that Level of Service below that identified in Policy 3.5.1.1 (i.e., the County shall adopt a roadway plan consistent with planned land use and shall maintain an operating Level of Service of "E" or better on all roadways, consistent with Objective 3.5.1. In addition, all road segments projected in the road way plan at the year 2015 to be operating at LOS A, B, or C shall not be allowed to fall below LOS C and all road segments at LOS D shall not fall below LOS D.) occurs only during peak periods and not during more extended periods, the County will require project-specific traffic studies before granting discretionary approvals for projects that will add substantial amounts of traffic to the circulation system. This policy will apply even to projects that do not require General	**The project is consistent with this policy.** During the environmental impact analysis, potential traffic impacts to levels of Service on area roadways were evaluated. Potential impacts to transportation will be reduced by elements of each proposed alternative and mitigated to less-than-significant levels with project-specific mitigation measures (i.e., fair-share contributions for necessary roadway improvements) as discussed in EIR Section 9, Transportation and Circulation.

Plan amendments. If such traffic studies show that the projects in question will create, or significantly contribute to, non-peak period traffic congestion below the Level of Service, the County shall either condition such projects until such time as the circulation system can absorb the traffic from the project without suffering non-peak period traffic congestion below the Level of Service specified in policy 3.5.1.1. Alternatively, the County may approve the projects in question if such projects contribute their fair share of money or land toward planned future transportation improvements that can feasibly be constructed within a reasonably foreseeable time frame and will result in the ultimate avoidance of non-peak period traffic congestion below the level specified in Policy 3.5.1.1.	
Policy 3.11.1.2 Plan bicycle, hiking, and equestrian routes to facilitate access to recreational areas such as regional parks, rivers, and major tourist commercial/recreational facilities.	**The project is consistent with this policy.** The project would result in the construction of a pedestrian/equestrian trail between Coloma and Henningsen-Lotus Park.
HOUSING ELEMENT	
No policies apply to the River Management Plan.	N/A
PUBLIC SERVICES AND UTILITIES ELEMENT	
No policies apply to the River Management Plan.	N/A
PUBLIC HEALTH, SAFETY, AND NOISE ELEMENT	
Fire Safety	
Goal 6.2: Fire Hazards Minimize fire hazards in both wildland and developed areas.	**The project does not affect this goal.** The project does not significantly increase the possibility of wildland or developed area fire hazards.
Objective 6.2.2 Regulate development in areas of high and very high fire hazard as designated by the California Department of Forestry and Fire Prevention Fire Hazard Severity Zone Maps.	**The project is consistent with this objective.** Prior to construction of any facilities related to the project, Fire Hazard Severity Zone Maps would be consulted to determine site specific fire hazards. All appropriate standards and mitigation measures would be applied depending

	on ultimate site selection.
Flood Protection	
Objective 6.4.1 Minimize loss of life and property by regulating development in areas subject to flooding in accordance with Federal Emergency Management Agency (FEMA) guidelines, California law, and the El Dorado County Flood Damage Prevention Ordinance.	**The project is consistent with this objective.** The project would not require or encourage human-occupied development in areas located within the 100-year flood plain. Facilities that would be developed would be located outside of the 100-year flood plain.
Noise	
Objective 6.5.1: Protection of noise - sensitive development. Protect existing noise-sensitive developments (e.g., hospitals, schools, churches and residential) from new uses that would generate noise levels incompatible with those uses and, conversely, discourage noise-sensitive uses from locating near sources of high noise levels.	**The project is generally consistent with this objective.** The project does not create an additional noise source near noise-sensitive development nor does it encourage noise-sensitive uses to locate near existing noise sources. The project could cause increased noise levels in some areas as a result of increased river use levels, but includes mitigation to reduce this potential impact.
Policy 6.5.1.7 Noise created by new proposed non-transportation sources shall be mitigated so as not to exceed the noise level standards of Table [10-1] for noise sensitive uses.	**The project is generally consistent with this policy.** The project would not introduce a new non-motorized noise source. However, it would allow increased river use which could exceed County noise standards (as discussed in Section 10, Noise).
CONSERVATION AND OPEN SPACE ELEMENT	
Conservation and Protection of Water Resources	
Objective 7.3.1: Water Resource Protection. Preserve and protect the supply and quality of the County's water resources including the protection of critical watersheds, riparian zones, and aquifers.	**The project is generally consistent with this objective.** The project includes elements and mitigation to avoid significant degradation the water quality of the South Fork of the American River.
Objective 7.3.2: Water Quality Maintenance of and, where possible, improvement of the quality of underground and surface water quality.	**The project is generally consistent with this objective.** The project includes elements and mitigation to avoid significant degradation the water quality of the South Fork of the American River.
	The project is consistent with this policy.

Policy 7.3.2.1 Stream and lake embankments shall be protected from erosion, and streams and lakes shall be protected from excessive turbidity.	The project will result in increased enforcement of SUP requirements related to erosion control.
Policy 7.3.2.5 As a means to improve the water quality affecting the County's recreational waters, enhanced and increased detailed analytical water quality studies and monitoring should be implemented to identify and reduce point and non-point pollutants and contaminants. Where such studies or monitoring reports have identified sources of pollution, the County shall propose means to prevent, control, or treat identified pollutants and contaminants.	**The project is generally consistent with this Policy.** The project has resulted in water quality monitoring and requires continued water quality monitoring of the South Fork of the American River. The project contains elements to reduce both point and non-point source pollution by enforcement of Special Use Permit requirements related to underground septic systems and through the construction of restroom facilities to reduce direct introduction of human waste to the river and the river's shoreline.
Objective 7.3.3: Wetlands Protection of natural and man-made wetlands, vernal pools, wet meadows, and riparian areas from impacts related to development for their importance to wildlife habitat, water purification, scenic values, and unique and sensitive plant life.	**The project is consistent with this Objective.** The project would not affect wetlands within the river corridor. Construction of new facilities would avoid wetland areas.
Conservation of Biological Resources	
Goal 7.4: Wildlife and Vegetation Resources Identify, conserve, and manage wildlife, wildlife habitat, fisheries, and vegetation resources of significant biological, ecological, and recreational value.	**The project is consistent with this Goal.** The project would not affect biological resources of significant value.
Objective 7.4.2: Identify and Protect Resources Identification and protection, where feasible, of critical fish and wildlife habitat including deer winter, summer, and fawning ranges; deer migration routes; steam and river riparian habitat; lake shore habitat; fish spawning areas; wetlands; wildlife corridors; and diverse wildlife habitat.	**The project would further this objective.** Project mitigation measures would require pre-construction surveys or monitoring to identify additional wildlife or aquatic resources within the river corridor where facilities may be constructed.
Preservation of Open Space	
Goal 7.6: Open Space Conservation Conserve open space land for the continuation of the County's rural character, commercial agriculture, forestry and other productive uses, the enjoyment of scenic beauty and recreation, the protection of natural resources, for protection from natural hazards, and for	**The project is generally compatible with this goal.** The project would result in the construction of parking areas, restroom facilities and trails which could be located in open space. Additionally, the project does not dedicate, recommend or preserve the maintenance of open space.

wildlife habitat.	
Objective 7.6.1: Importance of Open Space Consideration of open space is an important factor in the County's quality of life.	**The project is generally compatible with this goal.** The project would result in the construction of parking areas, restroom facilities and trails which could be located in open space. Additionally, the project does not dedicate, recommend or preserve the maintenance of open space.
Policy 7.6.1.1 The General Plan land use map shall include an Open Space land use designation. The purpose of this designation is to implement the goals and objectives of the Land Use and the Conservation and Open Space Elements by serving one or more of the purposes stated below: **A.** Conserving natural resource areas required for the conservation of plant and animal life including habitat for fish and wildlife species; areas required for ecological and other scientific study purposes; rivers, streams banks of rivers and streams and watershed lands. **C.** Maintaining areas of importance for outdoor recreation including areas of outstanding scenic, historic, and cultural value; areas particularly suited for park and recreation purposes including those providing access to lake shores, beaches and rivers and streams; and areas which serve as links between major recreation and open space reservations including utility easements, banks of rivers and steams, trails and scenic highway corridors. **D.** Delineating open space for public health and safety including, but not limited to, areas which require special management or regulation because of hazardous or special conditions such as earthquake fault zones, unstable soils areas, floodplains, watersheds, areas presenting high fire risks, areas required for the protection of water quality and water reservoirs, and areas required for the protection and enhancement of air quality.	**The project is generally compatible with this policy.** The project contains elements that would enhance the County's geographic information system (GIS) with updated information collected related to river recreation. This information would be provided to County and other agencies for utilization in meeting the elements of Policy 7.6.1.1.
AGRICULTURE AND FORESTRY ELEMENT	
Forest Land Conservation and Production	

Objective 8.3.2: Conservation of Forest Lands Protect and conserve lands identified as suitable for commercial timber protection within the County that are important to the local forest product industry and forest lands that serve other values such as watershed, wildlife habitat, recreation, hydroelectric power generation, grazing, mineral extraction, or other resource based uses.	**N/A**
Policy 8.3.3.1 Forest lands are reserved for multiple use purposes directly related to timber production, mineral resource extraction, wildlife, grazing, and recreation.	**N/A**
PARKS AND RECREATION ELEMENT	
Parks and Recreation Facilities	
Goal 9.1: Parks and Recreation Facilities Provide adequate recreation opportunities and facilities including developed regional and community parks, trails, and resource-based recreation areas for the health and welfare of all residents and visitors of El Dorado County.	**The project contributes to this goal.** The project would increase recreational opportunities through the creation of a middle run and would result in the development of parking areas, restroom facilities and trails to accommodate recreationists.
Objective 9.1.4: Rivers and Waterways Conserve and promote the waterways of El Dorado County, particularly the South Fork of the American River, as recreational and economic assets.	**The project contributes to this objective.** The project would promote the recreational value of the South Fork of the American River thereby contributing to its value as a recreational and economic asset.
Policy 9.1.4.1 The River Management Plan, South Fork of the American River, (River Management Plan) is considered the implementation plan for the river management policies of this chapter.	**The project is consistent with this policy.** The project (the development, adoption and implementation of an updated River Management Plan) provides necessary elements for the implementation of the Parks and Recreation Facilities Chapter of the County General Plan Parks and Recreation Element, however the project does not contribute to all of the goals and policies of this Parks and Recreation Facilities Chapter (See Policy 9.1.4.2, below).
Policy 9.1.4.2 Support the acquisition of a public river access adjacent to the Marshall Gold Discovery State Historic Park.	**The project does not contribute to this policy.** The project would allow private boaters to take-out at Marshall Gold State Historic Park, but does not contain provisions for the acquisition of a public river access adjacent to the Park.

Objective 9.1.5: Recreation Coordination Coordinate future park and trail planning and development with Federal, State, cities, community service districts, school districts, and other recreation agencies and districts to provide increased recreation opportunities through shared use of facilities, continuity and efficiency of operation, and a more coordinated and balanced park system.	**The project is consistent with this objective.** The project contains elements to promote and encourage coordination of future park and trail planning with federal, state and other agencies.
Funding	
Goal 9.2: Funding Secure an adequate and stable source of funding to implement a comprehensive County-wide parks and recreation plan.	**The project does not contribute to this goal.** The project would provide some funding for County activities related to river activities, but it does not secure adequate and stable funding for a County-wide parks and recreation plan.
Objective 9.2.1: Adequate Funds Secure adequate funds to implement the *Interim Master Plan*, the *Trails Master Plan*, the *Bikeway Master Plan*, and the *River Management Plan* to provide for the acquisition, development, maintenance, and management of parks and recreation facilities.	**The project is consistent with this objective.** Funding for implementation of the River Management Plan is, and would continue to be, provided through user surcharges associated with commercial and possibly private boater use.
Objective 9.2.3: Grants, Fees, and Contributions Other types of funding including Federal, State, and private grants, user-fees, concession agreements, and private contributions to fund the construction of facilities such as trails along abandoned railroad lines (Rails-to-Trails) along rivers and creeks and to acquire historical or archaeologically significant land for parks.	**The project is generally consistent with this objective.** The project provides funding collection methods such as river-user and parking fees, as well as campground and commercial outfitter surcharges that could be applied to the construction of facilities.
Policy 9.2.3.1 Institute a system whereby user fees and concessions of various sorts (e.g., food and beverage vendors, gift shops, and boat rental facilities), wherever possible, contribute to the operation and maintenance costs of a facility.	**The project is consistent with this policy.** Commercial outfitters will continue to pay a boater surcharge fee to the County.
Policy 9.2.3.2 The River Management program for the South Fork of the American River shall continue to be funded primarily through commercial permits and user fees.	**The project is consistent with this policy.** The project would receive primary funding through commercial permits and user fees.
Policy 9.2.3.3 Actively encourage private sector donations of land and/or conservation easements through the use of various land use	**The project is consistent with this policy.** The project incorporates elements which would

mechanisms (such as density transfers).	require the County to consider acquiring conservation easements for river access.
Policy 9.2.3.4 Actively encourage private sector donations of structures, materials, funds, and/or labor to reduce acquisition, development, and maintenance costs.	**The project is consistent with this policy.** The project would encourage volunteer activities related to river use.
Policy 9.2.3.5 The County will encourage private sector development, operation, and maintenance of recreation facilities.	**The project is consistent with this policy.** The project would allow the operation of a new privately operated takeout facility at Highway Rapid.
Tourism and Recreation Uses	
Goal 9.3: Recreation and Tourism Greater opportunities to capitalize on the recreational resources of the County through tourism and recreational based businesses and industries.	**The project contributes to this goal.** The project supports and contributes to the protection of the recreational and tourism value of the South Fork of the American River.
Objective 9.3.1: Recreational and Tourist Uses Protect and maintain existing recreational and tourist based assets such as Apple Hill, State historic parks, the Lake Tahoe Basin, wineries, South Fork of the American River and other water sport areas and resorts, and encourage the development of additional recreation/tourism businesses and industries.	**The project contributes to this objective.** The project supports and contributes to the protection of the recreational and tourism value of the South Fork of the American River.
Objective 9.3.2: Natural Resources Protect and preserve those resources that attract tourism.	**The project contributes to this objective.** The project supports and contributes to the protection of the recreational and tourism value of the South Fork of the American River.
Objective 9.3.3: Major Recreational Events Actively encourage major recreational events (e.g., professional bicycle races, running events, white water kayaking, equestrian shows, rodeos, and athletic events) to showcase El Dorado County and increase tourism.	**The project would contribute to this objective.** The project does actively encourage recreational events (including whitewater kayaking) through continual support of the American River Festival.
ECONOMIC DEVELOPMENT ELEMENT	
Policy Section	
Program 10.1.1.3.1 Support County business and local government efforts to develop regional, State, National, and international markets for our County's products, services,	**The project is consistent with this program.** The project supports the maintenance of commercial outfitters' business and the

and attractions.	attractions and services within the South Fork corridor.
Policy 10.1.2.2 Improve, streamline, and monitor permit processing procedures.	**The project does not further this policy.** The project would result in increased monitoring requirements and does not provide for improvements or streamlining permit processing procedures.
Program 10.1.2.2.1 Assess the impact on large and small businesses of regulatory issues and recommend cost saving changes to permit processing procedures.	**The project does not further this program.**
Program 10.1.2.2.4 Review existing County regulations and procedures to eliminate unneeded, inconsistent, and redundant legal requirements.	**The project is consistent with this program.** The project has resulted in a review of existing river-related regulation and procedures.
Policy 10.1.2.3 All County regulations and procedures shall be written in a concise and easy to understand manner.	**The project is consistent with this policy.** The final RMP and any associated regulations and procedures will be written in a concise and easy to understand manner.
Policy 10.1.2.4 When adopting new regulations or procedures, both regulatory and business needs shall be reflected.	**The project is consistent with this policy.** The project recommends certain new regulations and procedures related to river management which consider both regulatory and business needs.
Program 10.1.2.4.1 Regulations shall include a means to accomplish regulatory needs with the least interference and/or barriers to business. Interested parties should be invited to participate in the development and review of new regulations.	**The project is consistent with this program.** The project recommends new regulations and procedures related to river management which consider both regulatory and business needs and attempt to accomplish these needs with the least interference to business. Interested parties have been and will continue to be involved in the development and review process.
Program 10.1.2.4.2 The County shall prepare an overview statement for proposed laws or administrative regulations including: (a) the purpose of the law and/or regulation; and (b) the relationship between stated purposes and other adopted laws and/or regulations of the County.	**The project would be consistent with this program.** Prior to proposing regulations, Parks and Recreation would prepare an overview statement.
Program 10.1.2.4.3 All proposed development	**The project would be consistent with this**

regulations or ordinances shall demonstrate a public benefit where proposed regulations or ordinances will result in private or public costs. This requirement shall not be construed to create a cause of action against the County for its alleged failure to prepare a formal cost/benefit analysis or its alleged failure to prepare a legally adequate of sufficient cost/benefit analysis.	**program.** Prior to proposing regulations the public benefit would be demonstrated whenever there would be an associated cost.
Policy 10.1.2.5 County agencies and/or department, when developing ordinances, rules, regulations, and procedures to implement the General Plan, will analyze and present to the appropriate reviewing and/or regulating bodies the economical effects and taking implications of the proposed ordinances, rules, regulations, procedures on private property and private property rights. This requirement shall not be construed to create a cause of action against the County for its alleged failure to prepare a formal cost/benefit analysis or its alleged failure to prepare a legally adequate or sufficient cost/benefit analysis.	**The project would be consistent with this policy.** Prior to proposing regulations the County Department of Parks and Recreation or other appropriate County agency would determine and present the economical effects.
Objective 10.1.5: Business Retention and Expansion Assist in the retention and expansion of existing businesses through focused outreach and public and private incentive programs and target new industries which diversify and strengthen our export base.	**The project is generally consistent with this objective.** The project retains existing businesses related to river recreation, but does not target or expand new river recreation-related industries.
Policy 10.1.5.1 Assist industries to remain, expand, or to locate in El Dorado County.	**The project is generally consistent with this objective.** The project provide provisions for existing businesses to remain in El Dorado County, but does not expand or encourage new river recreation-related industries.
Program 10.1.5.1.1 Identify and attract selected targeted industries that are consistent with the County's goal of balancing economic vitality and environmental protection.	**The project does not contribute to this program.**
Policy 10.1.6.5 The County shall designate areas Tourist Recreation to promote the development of tourist-related business. Such areas may be located along the U.S. Highway 50 Corridor, other State highways, the American River Canyons, and other	**The project does not contribute to this policy.** The project does not assign land use designations to any portions of the South Fork of the American River.

appropriate areas suitable for such uses. A new zone district shall be established to differentiate between the low intensity recreational uses and high intensity recreational uses such as RV parks. The placement of this designation shall not be used as a precedent for additional high intensity land use designations in nearby areas.	
Program 10.2.2.1.1 Review other County impact fees and consider adopting fees necessary to assure that new development pays its fair share of public facility and services costs.	**The project is consistent with this program.** The project has considered and provides for review of impact fees necessary to attempt to fairly distribute development costs.
Policy 10.2.2.2 Stress financing strategies that maximize the use of pay-as-you-go methods to gain the most benefit from available revenue without placing unreasonable burdens on new development.	N/A
Program 10.2.2.2.1 When a project directly or indirectly impacts existing public services and/or infrastructure, it shall provide for and finance improvements consistent with the degree of impact to public services and/or infrastructure directly or indirectly attributed to the project. Cost to be borne by the project proponent shall be determined on the basis of the above described nexus and other pre-existing legally binding agreements such as development agreements.	**The project is not consistent with this program.** The project would require increased public services and infrastructure, but does not provide a means of assessing the financial impact of these requirements. Further, although each alternative, to varying degrees, would provide partial funding through the use of river use-related fees, they do not necessarily provide adequate funding for the provision of all of the County's requirements.
Policy 10.2.2.3 Fees and assessments collected shall be applied to the geographic zone from which they are originated.	**The project is consistent with this policy.** Fees collected from river users and river corridor permit holders and applicants are applied to river-related services.
TAHOE BASIN ELEMENT	
No policies apply to the River Management Plan.	N/A

4.2.4 Existing Land Use

Land use within the South Fork corridor is comprised of a mix of commercial, residential, industrial, agricultural, and recreational uses. Commercial rafting outfitters own and operate campgrounds, parking and staging areas along portions of the river. Additionally, a number of recreation-related and other small businesses are located in the area, predominantly near the communities of Coloma and Lotus. A number of private residences are located adjacent to the river and are dispersed throughout the area. Many residents living in this area enjoy the

peaceful solitude associated with remote, low-density locations. Industrial land uses in the area include relatively small mining and rock harvesting operations, including one shale cutting operation adjacent to the river, southeast of the Highway 193 bridge. Agricultural lands within the river corridor include scattered small farms and cattle grazing on BLM lands. Recreational uses of the river corridor include whitewater rafting and kayaking and a number of other water and terrestrial activities (see Section 7, Recreation for more detail).

4.3 IMPACTS AND MITIGATION MEASURES

This section discusses potential land use impacts of the proposed Project and alternatives. It is important to note that this analysis takes into account existing land uses including current whitewater-related activities. Land use impacts identified herewith are those that may occur as a result of the implementation of the specific elements within the proposed plan and alternatives.

4.3.1 Standards of Significance

The following criteria were used to determine land use impacts from the implementation of an updated river management plan. Impacts are considered significant if the proposed plan or alternatives would:

_ Conflict with existing land use plans, goals, policies or zoning ordinances within the project area; or

_ Conflict or with existing land uses within the project area.

Potential land use conflicts or incompatibility are usually the result of other environmental effects, such the generation of noise or traffic congestion. Potential land use conflicts that could result from the proposed plan and alternatives are discussed in sections that address the specific environmental resources.

Unless otherwise noted, impacts below are considered to be potentially significant adverse impacts and corresponding mitigation measures are expected to be sufficient to reduce impacts to a less than significant level.

4.3.2 RMAC Alternative (Proposed Project)

Impact 4.3.2-1

The proposed Project would be inconsistent with Program 10.2.2.2.1 of the El Dorado County General Plan.

Program 10.2.2.2.1 of the El Dorado County General Plan states that, "When a project directly or indirectly impacts existing public services and/or infrastructure, it shall provide for and finance improvements consistent with the degree of impact to public services and/or infrastructure directly or indirectly attributed to the project. Cost to be borne by the project

proponent shall be determined on the basis of the above described nexus and other pre-existing legally binding agreements such as development agreements." Increased public services and infrastructure are identified as an impact (as discussed in Section 14, Public Services), but the financial impact of these requirements is not included. Further, although the proposed Project would provide partial funding through the use of river use-related fees, they would not necessarily provide adequate funding for the provision of all of the County's requirements related to river management activities.

Mitigation Measure 4.3.2-1

No mitigation is proposed. This impact would remain significant and unavoidable.

Impact 4.3.2-2

Increased river use could result in an increased occurrence of trespass on private lands within the river corridor.

The proposed Project would result in increased river use through the expected annual growth rate and the extension of the middle run. These increased use levels could result in an increased occurrence of trespass and unauthorized parking on private land, in front of private driveways, and on County roadways.

Certain elements of the proposed Project would serve to alleviate some of this anticipated impact, including increased signage and double fine zones where illegal parking occurs along roadways and the construction of additional parking areas (i.e., the interim shuttle program).

Mitigation Measure 4.3.2-2

To reduce the occurrence of trespass the County shall:

a) Increase prosecution of trespass violations;

b) Increase on-river and roadway signage to indicate private property boundaries and to warn trespassers of prosecution;

c) Increase towing of vehicles parked in unauthorized areas; and

d) Provide immediate response, towing and substantial fines and/or prosecution when property owners report vehicles blocking access to driveways.

4.3.3 RMAC Alternative with Citizen's Committee Use Management Actions and Threshold Levels (Alternative 12)

Impacts and mitigation measures for Alternative 12 are similar to those identified for the proposed Project. However, Impact 4.3.2-2 could be lessened if use levels were to reach thresholds which would require management actions to reduce river use.

4.3.4 Planning Commission Alternative

Impacts and mitigation measures for the Planning Commission Alternative are similar to those identified for the proposed Project. However, Impact 4.3.2-2 would be somewhat less due to a slightly lower expected annual growth rate under this Alternative. Use levels could also be restricted based on property owner complaints, further reducing the potential for trespass occurrence under this alternative. In addition, this alternative would result in the collection of funds for private boaters and campground surcharge fees which would be used to provide additional Parks and Recreation and Planning Department staff, thereby reducing Impact 4.3.2-1.

4.3.5 Planning Commission Alternative with Citizen's Committee Use Management Actions and Threshold Levels (Alternative 14)

Impacts and mitigation measures for Alternative 14 are similar to those identified for the proposed Project. However, Impact 4.3.2-2 could be lessened if use levels were to reach thresholds which would require management actions to reduce river use. In addition, this alternative would result in the collection of funds for private boaters and campground surcharge fees which would be used to provide additional Parks and Recreation and Planning Department staff, thereby reducing Impact 4.3.2-1.

4.4 EFFECTS FOUND NOT TO BE SIGNIFICANT

No potential land use effects were identified that were not addressed in the above section.

Back to table of contents

SECTION 5 - GEOLOGY AND SOILS

5.1 INTRODUCTION

This section provides an overview of the geologic and soil conditions and hazards within the Project area as they relate to the proposed Project. Where appropriate, mitigation measures that could reduce, eliminate, or avoid potential adverse impacts resulting from

implementation of the Project are presented.

The setting information is based on information in the Final EIR for the El Dorado County General Plan (1995) and the El Dorado County River Management Plan Phase II Report (1997).

5.2 SETTING

5.2.1 Geology

The Project area is the portion of the South Fork of the American River between Chili Bar Dam and Salmon Falls Road. The length of this reach is almost 20 miles. It is characterized in its upper reaches by narrow, steep-sided canyons. In the lower reaches the canyon opens up a little more. Channel slopes are relatively flat for the foothill region. Elevations range from about 940 feet below Chili Bar Dam to about 460 feet at Folsom Reservoir, giving this reach an average slope of 24 feet per mile. However, about 190 feet of this drop is in the 6.3 mile reach from Chili Bar Dam to Coloma, giving that reach an average slope of about 30 feet per mile. This compares with an average slope of about 80 feet per mile in the immediately upstream reach of South Fork between Slab Creek Dam and Chili Bar Reservoir.

SOUTH FORK GEOLOGIC REACHES

The segment of the South Fork to be managed by the RMP can be divided geologically into three distinct reaches: Upper, Middle and Lower. Floating the entire river offers a chance to see the differences in each section and realize the diversity of the river corridor. Geology and topography combined with river flow contribute to the make up of the rapids that make this area an attractive whitewater resource area.

Upper

The stretch between Chili Bar and the town of Coloma contains the narrowest and steepest section of the river area in question. Canyon sides rise almost from the rivers edge to heights of 600 to 800 feet above the river, within a horizontal distance of only four to six tenths of a mile; average slopes are greater than 35 percent. Rapids are numerous and a lengthy swim in the upper stretch can be dangerous because of their length and the abrasive sedimentary and volcanic rock (Figures 1-3 and 1-4).

Middle

About one mile above Coloma, the canyon walls open up and the gradient subsides to between 10 and 15 percent. Alluvial terraces border the river most of the way from here to Clark Mountain. With the exception of a few rapids created by quartz-laden granite ledges, this stretch contains relatively easy Class I and II rapids (Figures 1-4 and 1-5).

Lower

Between Clark Mountain and Folsom Lake the topography of the river corridor begins to

resemble that of the first segment. It differs mainly in that the canyon is not as narrow; canyon sides rise only some 400 to 600 feet above the river; and slopes are not as steep, averaging between 20 and 25 percent. The bedrock underlying this stretch is by far the hardest of the river comprised mainly of chert, gabbro and amphibolite. The rock has weathered to create "pool and drop" style rapids (Figures 1-5, 1-6, 1-7, and 1-8).

5.2.2 Seismicity

Faults in the area are related to the Foothills Fault System which includes the Bear Mountain Fault Zone and the Melones Fault Zone. The Bear Mountain Fault Zone crosses the South Fork of the American River on the lower reach (in the vicinity of Fowler's Rock Rapid). The Melones Fault Zone is located east of Chile Bar, outside the Project area.

The California Division of Mines and Geology (CDMG) open File Report 84-52 (1994), reports that the Bear Mountain and Melones Fault Zones were evaluated and no special seismic zoning was recommended. These fault zones did not warrant zoning because they "either are poorly defined at the surface or lack evidence of Holocene (recent) displacement."

5.2.3 Soils

El Dorado County soils consist of well-drained silt and sandy and gravelly loams divided in to two physiographic regions; the Lower and Middle Foothills and the Mountainous Uplands (Soil Conservation Service (SCS) 1974). The Project area is located in the Lower and Middle Foothills region.

There are five soil associations (Auburn-Argonaut, Boomer-Auburn, Rescue, Serpentine Rock Land-Delpiedra, and Auberry-Ahwahnee-Sierra associations) in the Lower and Middle Foothills region. The characteristics of these soils are shown in Table 5-1.

5.2.4 Mineral Resources

The California Division of Mines and Geology (CDMG) classifies the regional significance of mineral resources in accordance with the Surface Mining and Reclamation Act of 1975 (SMARA). Mineral Resource Zones have been designated to indicate the significance of mineral deposits. The Project area was not identified as an area with key extractive resources (CDMG 1988).

5.3 IMPACTS AND MITIGATION MEASURES

5.3.1 Standards of Significance

According to CEQA guidelines (Appendix G: Significant Effects), a project may be deemed to have significant impact on the environment if it will cause substantial erosion and siltation; or convert prime agricultural land to nonagricultural use, or impair the agricultural productivity of prime agricultural land. A project will also have a significant impact on the environment if it will expose people or structures to major geologic hazards. For the purpose of this

Environmental Impact Report, major geologic hazards are conditions so unfavorable that they could not be accommodated by special design using reasonable construction and/or maintenance practices common to the Project area. These hazards are defined as either geologic (i.e., unstable slopes, including landslides) and/or seismic (i.e., faulting and ground shaking).

Unless otherwise noted, all identified impacts are considered to be potentially significant adverse impacts. Corresponding mitigation measures, unless otherwise noted, are expected to be sufficient to reduce impacts to a less than significant level.

5.3.2 RMAC Alternative (Proposed Project)

Impact 5.3.2-1

The construction of new facilities could result in temporary increases in wind and water erosion.

Erosion would result from grading activities associated with the construction of new parking areas, trails and restrooms. Each new facility site will be graded to accommodate the proposed developed areas and minimize grading impacts to existing vegetation, riparian corridors, and wetlands, and to conform to the existing grades at the edges of the property.

TABLE 5-1

El Dorado County Soil Characteristics

for the Lower and Middle Foothills Physiographic Region

Soil Association	Shrink Swell Potential	Hydrologic Group	Slope Range	Septic Limitations	Elevat
Auburn-Argonaut	Low	D	2 to 70 %	Severe	500-18 West c
Boomer-Auburn	Low/Moderate	B/C	2 to 70 %	Severe	1000-2 North
Rescue	Low/Moderate	B	3 to 50 %	Severe	1000-2 Camer
Serpentine Rock Land-	Variable	D	3 to 59 %	Severe	500-32

Delpiedra					
Auberry-Ahwahnee-Sierra	Low/Moderate	B/C	5 to 50 %	Severe	500-25 Gold H Aukur

Key: Hydrologic Group

A: High infiltration and water transmission rate

B: Moderate infiltration and water transmission rate

C: Slow infiltration and water transmission rate

D: Very slow infiltration and water transmission rate

(Source: Soil Conservation Service, 1974)

Potential erosion impacts related to construction activities would be mitigated to less than significant by incorporating the following mitigation measure.

Mitigation Measure 5.3.2-1

(a) The County shall ensure that contracts for grading and other activities resulting in ground disturbance require the contractor to implement airborne dust suppression strategies. The contractor shall:

(1) Submit a construction emission/dust control plan for approval by the County prior to ground disturbance activities;

(2) Water all disturbed areas in late morning and at the end of each day during clearing, grading, earth-moving, and other site preparation activities;

(3) Increase the watering frequency whenever winds at the Project site exceed 15 mph;

(4) Water all dirt stockpile areas;

(5) Use tarpaulins or other effective covers for haul trucks that travel on public streets and roadways;

(6) Sweep streets adjacent to the construction entrance at the end of each day; and

(7) Control construction and other vehicle speeds on-site to no more than 15 mph.

(b) Mitigation measures 6.3.2-1 (see Section 6, Hydrology and Water Quality) will mitigate soil

erosion caused by water runoff.

(c) Any activities requiring significant grading will be subject to the El Dorado County Grading, Erosion, and Sediment Control Ordinance.

5.3.3 RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 12)

Implementation of this alternative would result in the same potential erosion impacts related to construction activities as those described for the proposed Project.

Mitigation for this potential impact would also be the same as described for the proposed Project.

5.3.4 Planning Commission Alternative

Implementation of this alternative would result in the same potential erosion impacts related to construction activities as those described for the proposed Project.

Mitigation for this potential impact would also be the same as described for the proposed Project.

5.3.5 Planning Commission Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 14)

Implementation of this alternative would result in the same potential erosion impacts related to construction activities as those described for the proposed Project.

Mitigation for this potential impact would also be the same as described for the proposed Project.

5.4 EFFECTS NOT FOUND TO BE SIGNIFICANT

5.4.1 Topography

Grading will be required to construct trails, restrooms, and parking areas. However, changes to the existing topographic character will be limited and no unique geologic or physical features will be significantly affected. Because the existing topographic characteristics of each site will be maintained, no significant impacts to topography are anticipated to occur.

5.4.2 Seismicity

The Project area is not located in an "Alquist-Priolo Study Zone." These special study zones, identified by the State Geologist, indicate areas of moderate and high earthquake activity. In addition, structures will be constructed in accordance with Uniform Building Code Guidelines for Seismic Zone III. Therefore, no significant seismic related impacts are anticipated.

Back to table of contents

Back to table of contents

SECTION 6 - HYDROLOGY AND WATER QUALITY

LIST OF FIGURES (to be added)

6.1 INTRODUCTION

This section describes the hydrology and related operational issues, and water quality, within the South Fork of the American River (South Fork) corridor, between Chili Bar Dam and Salmon Falls Road, and describes potential impacts of the proposed Project. Where appropriate, mitigation measures that could reduce, eliminate, or avoid potential adverse impacts to water resources resulting from implementation of the Project are presented.

The setting information is based on information in the El Dorado County River Management Plan Phase I Report (1996).

6.2 SETTING

6.2.1 General Description of the Watershed

The South Fork of the American River above Folsom Reservoir encompasses approximately 804 square miles of the 1,861 square mile American River watershed, which is tributary to Folsom Dam. Figure 1-1 is a location map delineating the drainage area of the South Fork of the American River and surrounding Sierra watersheds (Section 1). The South Fork reach subject to the River Management Plan is emphasized on the map to show its relationship to the rest of the South Fork watershed and hydrologic system.

The watershed is about 55 miles long with elevations ranging from less than 500 feet near Folsom Reservoir to approximately 10,000 feet at several locations along or near the Sierra Crest, which forms the eastern boundary and head of the watershed. The mean elevation of the South Fork watershed above Folsom Reservoir is about 4,400 feet.

The major tributaries of the South Fork are Silver Fork, Alder Creek, Silver Creek, Rock Creek and Weber Creek. The upper reaches of the South Fork drainage basin are typical of the high Sierra Nevada with a thin soil mantle, rocky barrens, and sparse vegetation. Intermediate elevations are characterized by dense strands of pine, fir and cedar. The canyons and lower foothill areas are steep and covered with oak, brush and grasslands. Agricultural and residential development has occurred primarily within the lower portion of the intermediate elevation zone and in the foothill areas.

The study area is the reach of the South Fork of the American River from Chili Bar Dam and Salmon Falls to the point where the river reaches the maximum water surface at Folsom Reservoir. The length of this reach is almost 20 miles. Upper sub-reaches are characterized by narrow, steep-sided canyons. In the lower reaches the canyon opens up a little more. Channel slopes are relatively flat for the foothill region. Elevations range from about 940 feet below Chili Bar Dam to about 460 feet at Folsom Reservoir, giving this reach an average slope of 24 feet per mile. However, about 190 feet of this drop is in the 6.3 mile reach from Chili Bar Dam to Coloma, giving that reach an average slope of about 30 feet per mile. These slopes compare to an average slope of about 80 feet per mile in the reach immediately upstream of South Fork between Slab Creek Dam and Chili Bar Reservoir.

6.2.2 Precipitation

The South Fork of the American River experiences its heaviest precipitation from November through April. Figure 6-1 shows a typical average time-distribution of precipitation and runoff during the season. The precipitation regime at Blue Canyon (about 5,280 feet elevation on the North Fork) is typical of the regime in the higher reaches of the South Fork above Kyburz. Moisture moving east from weather fronts originating in the Pacific Ocean is blocked by the Sierra Nevada mountains, which act as a meteorologic barrier. This results in relatively heavy

precipitation on the west slope as compared with most western interior mountain ranges. Annual precipitation in the South Fork basin averages about 55 inches, varying from a low of about 20 inches near Folsom Reservoir to highs estimated in the range of 65 to 70 inches in some of the more remote mountain areas near the easterly boundary of the basin.

Precipitation in this central Sierra Nevada region is seasonally variable. Figure 6-2 shows seasonal variation (water-year, October 1 through September 30) expressed as a percent of average precipitation at Placerville, located at about 1,900 feet elevation in the lower South Fork basin. The variation in precipitation at Placerville is typical of the variation in precipitation in the lower South Fork of the American River basin. Variability between years tends to be somewhat less at the higher elevations near the Sierra Nevada crest.

Snowpack Accumulation and Melt

Approximately 40 percent of the South Fork above Folsom Reservoir lies above the 5,000 foot elevation. About 96 percent of the area above Kyburz lies above 5,000 feet. Since temperature decreases with elevation, a large percentage of the precipitation which falls at these higher elevations during the winter months occurs as snow. Snowpack accumulates from about November through March, with the maximum accumulation generally occurring about April 1. The average April 1st snow line is below 5,000 feet, with snowpack covering about 45 percent of the watershed. The snowpack in most of the American River basin generally begins to melt during March, but the period of major snowmelt activity is typically April through July. Winter snowpack is the source of about 50 percent of annual South Fork runoff above Folsom Reservoir. It therefore becomes surface flow discharge after the period of maximum precipitation has passed.

Figure 6-1 South Fork American River Near Kyburz Time-Distribution of Average Precipitation and Average Runoff

Figure 6-2 Historical Placerville Precipitation

Runoff

About 50 percent of South Fork watershed runoff is from snowmelt. At higher elevations, almost the entire runoff is from snowmelt. Runoff varies widely from different locations in the watershed. Figure 6-3 indicates average annual runoff (expressed in acre-feet per square mile) at various locations within the watershed where measurements have been made historically. Figure 6-3 also shows the percentage of the average annual flow occurring during the April - July snowmelt period. Figure 6-3 illustrates the importance of the contribution of snowmelt to the time-distribution of runoff in the South Fork watershed.

Flows vary widely from season to season. The minimum annual observed runoff of the South Fork of the American River near Kyburz was 75,400 acre-feet in water year 1977 (i.e., October 1, 1976 to September 30, 1977) while maximum annual runoff within recent years was 709,000 acre-feet in water year 1983. These are respectively 26 percent and 242 percent of average annual runoff at Kyburz, which is about 293,000 acre-feet. Figure 6-4 illustrates the seasonal

variation in the unimpaired runoff of the American River, inflow to Folsom Reservoir, representing the entire American River basin. "Unimpaired" refers to the natural runoff production unaltered by water diversions, storage, exports, or imports.

6.2.3 Historical Water Development

The South Fork of the American River has long been subject to development. Major diversions from the South Fork began in the early 1850's, primarily for mining. Much of the water from these early diversions was used only during winter and spring, when rainfall and snowmelt flows were adequate. However, agricultural demands and other consumptive uses developed in the basin. There has been a long history of water diversion, regulation, and import to the watershed. The South Fork American River has therefore not been in a true "unimpaired" or "natural flow" condition for about 150 years. The flow regime now, particularly during the summer and fall recreational season, is much more reliable and thus conducive to recreation than it would have been without development of water imports and regulated flows.

Figure 6-3 South Fork American River Basin Average Water Year Runoff

Figure 6-4 Historical Unimpaired Inflow to Folsom Lake

There are three major water systems in the South Fork drainage with a substantial effect upon the magnitude and regulation of flow. Two are hydro-electric projects licensed under the Federal Energy Regulatory Commission (FERC). Pacific Gas and Electric Corporation (PG&E) has operated a hydroelectric project (the El Dorado Project, FERC Project 184) with a small import and substantial regulation of flows tributary to the South Fork American River near Kyburz. The Sacramento Municipal Utilities District (SMUD) operates the Upper American River Project (UARP, FERC Project 2101), a major hydroelectric project, on Silver Creek, which is a tributary to the South Fork American River near Pollock Pines. The SMUD system imports large quantities of water from the Rubicon River basin and substantially re-regulates flows for power generation. Another water system, the El Dorado Irrigation District (EID) diverts flows from the PG&E system for consumptive use along the Placerville Ridge area.

PG&E System

Substantial re-regulation of flows began before 1900. Imports from Echo Lake in the Lake Tahoe basin began in 1876. By the early 1920's, Western States Gas and Electric Company (WSG&E) had acquired reservoirs and ditches from predecessor companies, increased reservoir storage, and installed power generation facilities in the South Fork drainage. The WSG&E system, later acquired by PG&E and known as the El Dorado Project, has been operating in a manner somewhat similar to that presently observed since about 1923. PG&E's El Dorado Project (FERC Project 184) consisting of storage, conveyance and the El Dorado Powerhouse, provides for hydroelectric power generation and water supply for EID use on the Placerville Ridge service area. Figure 6-5 is a schematic diagram of the South Fork basin showing the network of major water features and impairments as they were related prior to construction of more recent water projects.

PG&E imports up to about 1,900 acre-feet annually from the Echo Lake watershed, which is a tributary to Lake Tahoe basin. Imports generally begin in late season (after the recreational season) and continue through the fall months. This water enters the South Fork watershed through a tunnel near Echo Summit.

A dam on Lake Aloha (Medley Lakes) in the Pyramid Creek drainage tributary to South Fork has created a small reservoir with storage capacity of about 5,000 acre-feet. The reservoir generally fills during the snowmelt period. Water is released during late summer to augment the natural flows of the South Fork for rediversion and hydrogeneration. The reservoir is located in one of the most productive areas for fish within the South Fork drainage.

Figure 6-5 Schematic Diagram Prior to More Recent Water Project Construction

There are two reservoirs located on tributaries of the Silver Fork. Silver Lake, with a drainage area of 15.1 square miles at the gaging station, has an average annual runoff of about 28,300 acre-feet. Useable storage capacity at the spillway water surface level is about 3,840 acre-feet, which can be increased to 8,590 acre-feet by adding elevation through the use of gates and flashboards. Caples Lake (Twin Lakes) has a drainage area of 13.5 square miles and an average annual runoff of about 26,840 acre-feet at the gaging station. Storage capacity is 21,580 acre-feet. Releases from Silver and Caples Lakes are made to augment the flow of Silver Fork in late summer and fall after snowmelt has ceased. Releases from Silver Lake generally begin after Labor Day, and continue through the following winter until natural stream flow is adequate to meet downstream needs for hydrogeneration and consumptive use.

Silver Fork joins the South Fork American near Kyburz. Just below the confluence, PG&E diverts flow up to approximately 156 cubic feet per second (cfs) into the El Dorado Canal. The diverted water travels about 22 miles by open canal to the El Dorado Forebay at Pollock Pines. It then drops 1,900 feet to the PG&E El Dorado Powerhouse where it is returned to the South Fork above SMUDís Slab Creek Reservoir. There is some interception and diversion enroute to the canal, including a diversion at Alder Creek.

Before construction of the SMUD project, PG&E operated the American River Powerhouse near the confluence of South Fork and Rock Creek. This powerhouse was eliminated during construction of the SMUD project. It was replaced by the Chili Bar Dam and Powerhouse, which is operated by PG&E (FERC Project 2155). The purpose of Chili Bar Reservoir is to re-regulate power releases from the SMUD system to maintain a desired flow regime in the South Fork American River below Chili Bar during peaking operation of SMUDís White Rock Powerhouse.

PG&E has the necessary water rights, through Pre-1914 water rights, State applications, permits and licenses, and FERC licenses, to operate both the El Dorado Project (FERC Project 184) and Chili Bar Project (FERC Project 2155). The El Dorado Project is scheduled for FERC relicensing in 2002. The Chili Bar Project is scheduled for FERC relicensing in 2007.

The El Dorado Irrigation District is now in the process of acquiring the El Dorado Project facilities, licenses and rights. Although some phases of negotiations are still in progress, the

acquisition is expected to occur. When EID acquires the El Dorado Project, including El Dorado Powerhouse, it plans to continue to operate it as PG&E has operated in the past.

EID System

For over one hundred years, water has been diverted from the South Fork American River at PG&E's present El Dorado Project diversion point at Kyburz and delivered for use on Placerville Ridge. Since 1919, EID and its predecessor received water from the project to serve the Placerville Ridge. The diversion represents an annual entitlement of approximately 15,080 acre-feet taken from the PG&E El Dorado Canal at El Dorado Forebay near Pollock Pines. The EID entitlement results from a 1919 Agreement between the predecessors of PG&E and EID. However, the diversion to the Placerville Ridge area was made along about the same route since the 1860's - prior to construction of the PG&E system.

In 1955, the U.S. Bureau of Reclamation developed a water supply for EID which imports water to the Placerville Ridge from the Cosumnes River basin. This project is the Sly Park Unit of the Central Valley Project (U.S. Bureau of Reclamation [USBR]). Sly Park Reservoir, with a storage capacity of 41,000 acre-feet, was constructed on Sly Park Creek, a tributary of Camp Creek and the North Fork of the Cosumnes River. Water is diverted from Camp Creek, also a tributary of the North Fork, into Sly Park Reservoir. Sly Park water is conveyed through the Camino Conduit to the Placerville Ridge area in the vicinity of Camino and released into the EID conveyance and distribution system. Enroute releases are made along this conduit to meet demands at certain locations with the EID service area.

EID does not hold or exercise any major water rights on the South Fork American River. The 1919 Agreement entitlement is currently secured by contract or agreement with PG&E. Additionally, EID has a contract with USBR for water delivered at Folsom Reservoir to the far western portion of the service area. EID and El Dorado County Water Agency have applications pending before State Water Resources Control Board for additional water from the upper South Fork American River watershed to be rediverted at Folsom Reservoir. That water continues to flow through the study reach.

SMUD System

In the late 1950's, the Sacramento Municipal Utility District (SMUD) began development of the Upper American River Hydroelectric Project (FERC Project 2101). This project represents the major source of storage, regulation and import for the South Fork watershed. Imports from the Rubicon River through Robbs Tunnel and Powerhouse increase South Fork flows about 20 percent annually. SMUD reservoirs provide over 400,000 acre-feet of useable storage to regulate flows and distribute winter and spring snowmelt runoff to meet hydroelectric generation needs. The SMUD system became fully operational in the early 1970's. It is the primary factor in increasing and re-regulating South Fork flows to provide the relatively high and consistent flows currently enjoyed in the South Fork drainage. Figure 6-6 is a schematic of the South Fork basin showing measurement, import, regulation and diversion, including the SMUD project as it presently exists.

Figure 6-6 Schematic Diagram Showing Current Diversions and Storage in South Fork American River Basin

SMUD's Upper American River Project (UARP) is located on the Middle and South Forks of the American River watershed. The UARP was designed as a single purpose power project. Principal storage development is in the Silver Creek drainage basin, which totals about 180 square miles. Diversions into Silver Creek are made from approximately 85 square miles of the Rubicon River, a tributary to the Middle Fork of the American River. The average annual diversion from the Rubicon River to the South Fork American River has been about 180,000 acre-feet since the project has been in full operation.

Flows are diverted from the Rubicon River into Loon Lake Reservoir, which has a useable capacity of 74,000 acre-feet. Releases from Loon Lake Reservoir are then made to Gerle Creek Reservoir located on a tributary of South Fork Rubicon. Waters flow through the Loon Lake Powerhouse, and after reaching the South Fork of the Rubicon River are again diverted through the Robbs Peak Tunnel to Robbs Peak Powerhouse, which is located on Union Valley Reservoir in the Silver Creek drainage. This is the diversion from the Middle Fork American River, and represents a substantial portion of South Fork American River flow.

From Robbs Peak Powerhouse, flows enter Union Valley Reservoir, which has a useable capacity of 269,500 acre-feet located on Silver Creek, a tributary of the South Fork American River. Icehouse Reservoir in the Silver Creek drainage, with a useable capacity of 45,800 acre-feet, regulates flows down the South Fork of Silver Creek to Junction Reservoir. Most of the release from Icehouse Reservoir is through the 10 Mw Jones Fork Powerhouse into Union Valley Reservoir.

Flows from Union Valley Reservoir are released through the Union Valley Powerhouse into a forebay at Junction Reservoir. Rediversion is then made from Junction Reservoir through Jaybird Tunnel and Powerhouse back into Silver Creek at the Camino Powerhouse Diversion and rediverted into the Camino Tunnel. Flows then pass through Camino Powerhouse into Slab Creek Reservoir on the South Fork American River. Key water features of the South Fork subsequent to construction of the SMUD project appear in Figure 6-6.

Slab Creek inflow includes the Camino Powerhouse release and release from the PG&E El Dorado Powerhouse. It also includes spills and the flows from the South Fork American River watershed above the confluence with Silver Creek. Flows are released from Slab Creek Reservoir through the White Rock Tunnel and Powerhouse, returning to the South Fork at Chili Bar Reservoir. All UARP powerhouses, and especially White Rock Powerhouse, are used to meet hydroelectric load-following needs. This often requires releases of up to about 3,600 cfs at White Rock for limited daily and weekly time periods. Chili Bar Reservoir is used as an afterbay to re-regulate power releases from White Rock. SMUD holds the necessary FERC licenses for operation the UARP. When SMUD filed applications for storage and diversion for UARP, filing was made for both non-consumptive use and consumptive use rights. SMUD has retained the non-consumptive use rights for power, but assigned the consumptive use permits to City of Sacramento for essentially the same storage and diversion that SMUD has constructed. UARP (FERC Project 2101) is scheduled for FERC relicensing in 2007.

6.2.4 South Fork American River Flow Regime

General

The flow regime of South Fork American River between Chili Bar Dam and Folsom Reservoir is highly regulated. During the summer and fall (the primary recreation season), flows are the product of river system regulation by SMUD's Upper American River Project (UARP). The sustained high monthly and mean daily flows during August, September, and October result primarily from reservoir regulation and import to the South Fork basin by UARP. Although the PG&E system has a positive impact on these recreation season flows, it is very minor when compared to the impact of the UARP.

Although releases from PG&Eís powerplant at Chili Bar regulate flows in the Study Reach, it is SMUD's UARP that controls the volume of flow available to Chili Bar Reservoir and PG&E's Chili Bar Powerhouse. The following sections describe various aspects of the river flow regime related to the high degree of regulation.

Average Monthly Distribution of Flow

Streamflow in the Study Reach has not been in a natural or unimpaired state since the 1850's and 1860's. In the early 1900s, prior to SMUD's UARP, but after development of facilities to divert water to the Placerville Ridge area, mean daily flows on the order of 50 cfs or less were not uncommon in the Study Reach. Mean daily flows of less than 20 cfs were recorded at Coloma in the early 1930's. As described by various U.S. Geological Survey Water Supply papers and other USGS Publications, mean monthly flow rates less than 30 cfs were recorded in August 1931, a relatively dry year, but not as critical as 1977. There were no years during that period as critical as 1977.

The UARP has substantially impacted the Study Reach flow regime. Figure 6-7 is a bar chart comparing average unimpaired flow of the South Fork American River near Lotus against the average monthly impaired flow under the present highly regulated conditions in the reach. The relatively large differences in summer and fall flows result from regulation and import. Streamflow data for the South Fork for Figure 6-7 generally represents the impact of impairments on recreation season flows.

Figure 6-7 South Fork American River Near Lotus 1965-94 Average Monthly Flows

Figure 6-8 South Fork American River Near Kyburz 1930-94 Average Monthly Flows

Figure 6-8 is a similar plot relative to the impact of the PG&E system tributary to El Dorado Powerhouse on the South Fork. The figure represents the South Fork American River near Kyburz, including the PG&E diversion in the canal. Most of that diverted water is returned to the South Fork at El Dorado Powerhouse so it is available to the Study Reach. By comparing the impact of total impairment (including SMUD) against the impact of the PG&E system, it is apparent that in the August through October period the PG&E system represents only about 12 percent of the total impairment impact on the entire system.

Figures 6-9, 6-10 and 6-11 further illustrate the SMUD UARP impact on the recreation period flows of South Fork American River near Lotus. Construction of UARP began about 1959, with its major features mostly completed before 1970. Figures 6-9, 6-10 and 6-11 indicate mean monthly flow in cfs observed for August, September and October from 1952 through 1995. Increases in mean monthly flows for 1965 and later represent most of the total impact of UARP. The UARP impacts on the summer and fall flows within the Study Reach are very apparent when the pre-1965 and post-1965 flows are compared.

It is important to recognize the relative impact of SMUD's UARP as compared to all other impairments in the basin. UARP provides the major portion of the summer and fall (and often during the following winter, especially in dry years) import and release volumes from reservoirs through the SMUD powerplants. These flow volumes may be concentrated within specific intervals during the day and week. Water from the SMUD system reaches Chili Bar Reservoir from White Rock Powerhouse. It is then primarily PG&E's responsibility to re-regulate the volume of flow into the flow regime currently enjoyed in the South Fork Study Reach.

SMUD UARP Operation

SMUD's Upper American River Project is operated as a single purpose hydroelectric project. SMUD holds the non-consumptive use water rights and the FERC licenses for all UARP facilities and operations. The City of Sacramento holds consumptive use rights for virtually the same water as SMUD, subject to priority of SMUD hydroelectric operation.

When first constructed, UARP was subject to different electrical contractual arrangements and operational criteria than presently used. After January 1, 1990, the issues of energy and capacity delivered from UARP took on a different importance in SMUD's total power supply mix. Under current operational conditions, UARPís function is to "follow the load," with the intent of minimizing the need and likelihood of activating certain contractual arrangements for energy that could be very costly for SMUD on a long-term basis. UARP, with over 650 megawatts (Mw) of capacity is used primarily to meet current electrical power requirements during peak load periods. Its use minimizes the amount of other contractual power needed to meet the highest load situations. Should the UARP not be able to provide these very short-term capacity requirements, the energy and capacity may have to come

Figure 6-9 South Fork American River Near Kyburz August 1952-95

Figure 6-10 South Fork American River Near Lotus September 1952-95

Figure 6-11 South Fork American River Near Lotus October 1952-95

from another source. Temporary use of another source could trigger a long-term impact on contract costs. Consequently, SMUD tends to operate the UARP in a very conservative fashion. The objective is to maintain sufficient water storage at sites high in the system to provide for peaking power even during prolonged drought periods and during critical water years. The record of historic operation prior to January 1, 1990, may, therefore, not be completely

representative of the conditions prevailing under present operations. The very low flows observed during the summer of critically dry 1977 would now be greater under present conservative operation. SMUD has developed scenarios showing how the system would have been operated during historic hydrologic conditions on a monthly basis in order to meet the operational criteria after January 1, 1990. There is no reason to believe that the SMUD criteria will change substantially in the foreseeable future.

White Rock Powerhouse represents about 210 Mw of the 650 Mw system-wide capacity. It is the lowest SMUD powerplant in a series of powerplants between Loon Lake and Chili Bar Reservoir. System operation requires running several powerplants with different hydraulic capacities for different units of time to "follow-the-load" during any day or period. For example, allowing no contribution from inflow, it would take over 7 hours of maximum load generation at Camino Powerhouse just above Slab Creek Reservoir to represent the same volume of water as 4 hours of maximum load generation at White Rock Powerhouse. There is no simple relationship between flow through White Rock Powerhouse on any given day during the summer and fall and the size of the water year runoff. Anticipated daily electrical load, direct runoff, water in storage, and location of storage influence operational decisions. Operation of the UARP hydrogeneration system, even with some intermediate storage along the route of flow, represents a very

Back to table of contents

SECTION 7 - RECREATION

7.1 INTRODUCTION

This section examines potential impacts to recreational resources related to the proposed Project and alternatives. Section 7.2 describes existing recreational resources within the project's area of influence, Section 7.3 identifies potential impacts and proposed mitigation measures and Section 7.4 discusses potential impacts which would not be significant.

7.2 SETTING

7.2.1 Regional Recreation Overview

The proposed project and each of the alternatives focus primarily on whitewater recreation activities on the South Fork of the American River between Chili Bar and Folsom Lake in El Dorado County, California. Encompassing terrain from foothills to the high peaks and rugged back country of the Sierra Nevada Mountain Range, El Dorado County supports a broad range of recreational opportunities for residents of northern California and beyond. Outdoor recreational opportunities within the County include hunting and fishing, snow and water skiing, camping, mountain biking, hiking, rock climbing, horseback riding, and whitewater rafting and kayaking.

Each of the river management alternatives under consideration focuses predominantly on river-related activities, and more specifically, river rafting and kayaking. One exception is the proposed development and support of trails for hiking, mountain biking and equestrian use within the river corridor. Because of the scope of the RMP, the following discussion of potentially affected recreational resources focuses on recreational opportunities that exist within the river corridor.

7.2.2 California's Whitewater Resources

The South Fork of the American River provides a unique whitewater opportunity in part because of year-round flows and its proximity to major population centers (e.g., Sacramento and the San Francisco Bay Area are located within a one to two and one-half hour drive). The South Fork has become one of California's most popular recreational rivers for a number of reasons, including short distances between access points, several trip options and dependable flows throughout the summer season. A number of commercial outfitters offer one and two-day rafting trips and private boaters have a number of access and run options. These factors combine to create a recreational resource well suited to a variety of skill levels and to support both rafting and kayaking enthusiasts.

The South Fork of the American River is one of many whitewater recreational opportunities in California. Following is a discussion of other California rivers which offer opportunities for whitewater recreation. Popular whitewater California rivers are shown on Figure 7-1.

Northern and Coastal Rivers

These rivers are a minimum of five hours driving time from the South Fork of the American River. Due to the distance of these areas from major population centers, most visitors require more travel time, as well as rigorous trip planning and preparation. As a result, these rivers have lower use levels. The main stretches of the Klamath and the Trinity support a fair amount of commercial day and overnight use.

Central Sierra Nevada Rivers

Rivers in this region are generally one to three hours driving distance from the South Fork. In terms of driving access from major population centers, these rivers are very similar to the South Fork. Each river contains a varied range of difficulties and opportunities. When combined on a statewide scale, they provide a wide array of experiences for whitewater enthusiasts. Most of these rivers provide runable flows during the spring and early Summer, but are not typically navigable through August.

Southern Sierra Rivers

These rivers vary in drive time from between two to five hours from the South Fork. The rivers compliment many of the activities available on the South Fork. These rivers include the Merced and Kaweah, which have spring runs that are more difficult, but draw many of the same types of users as the South Fork. The Kings and Kern Rivers offer summer-long Class III whitewater.

Rivers with Characteristics Common to the South Fork American River

The Mokelumne (Electra run), Truckee (Bocca Dam to Floriston) and the Middle Fork American (Greenwood Bridge to Highway 49) have very similar characteristics to those of the South Fork. Each river offers beginning paddlers a chance to learn basic skills in Class II and III whitewater and has dam controlled releases throughout the summer. These rivers also provide easy access and shuttles. Present commercial access to these rivers for instructional purposes is limited. The Truckee and the Middle Fork of the American River both allow commercial rafting.

In future years, the Truckee, Mokelumne and Middle Fork of the American may be of increasing interest to boaters and river managers alike. All three rivers have suitable flows through the summer and provide viable alternatives to the South Fork during this time period. Increased demand for less crowded and user friendly whitewater runs may impact these rivers as well. Each river could serve the function of distributing the overall demand for whitewater rivers in California.

[FIGURE 7-1 Regional Whitewater Opportunities - FROM PHASE II]

7.2.3 River Use Levels

The South Fork is comprised of two primary reaches, and a middle reach of primarily wide, less technical sections. Passing through steep-walled valleys, the upper and lower reaches each contain a number of Class II and III rapids. Primarily, the upper reach is used by boaters putting in at the Chili Bar, Nugget, or access areas near the Highway 193 crossing. Boaters running the upper reach take out at public and commercial outfitter-owned access areas between Marshall Gold Discovery State Historic Park and upstream of Highway Rapid. The lower reach is accessed through these same public and commercial outfitter-owned access areas. Boaters running the lower reach take out at Skunk Hollow or the Salmon Falls commercial take-out, both near Salmon Falls Bridge. Currently, a middle reach is available for private boaters choosing to put-in near Marshall Gold Discovery State Historic Park and take-

out at Henningsen-Lotus. This is a relatively short segment containing no rapids with a difficulty greater than Class II, and is a popular segment for beginning kayakers. While many boaters may enjoy an opportunity to float a segment with this limited technology, the short length of the middle reach limits its popularity.

Past whitewater use levels of the South Fork demonstrate strong overall growth, and continued focus on weekend use. The growth of use from 1975 to 1996 reflects a threefold increase in overall use. Commercial use patterns over the last ten years have shown weekend use ranging from 40,000 to over 60,000 weekend users per year, while weekday levels have shown a strong growth trend, nearly doubling over this period of time. Current private boater use levels average 45,700 boaters per year.

Peak use and the highest use levels on the South Fork occur on weekends, with total use (i.e., private and commercial boaters) having exceeded 6,000 river users per weekend four times in 1996.

Table 3-1 in Section 3 identifies projected river use growth rates on the South Fork for both private and commercial boaters (see Section 5 of the Phase II Report for additional information related to river use levels). This growth is projected to occur as a result of a number of factors, including: 1) population growth in El Dorado County and urban centers to the west such as Sacramento and the San Francisco Bay area and 2) increased popularity of whitewater recreation.

7.2.4 Non-Whitewater Recreation

Trail Systems

Several areas surrounding the river corridor offer hiking opportunities. The BLM's Dave Moore Nature Area provides a trail and interpretive system that allows access to the river. Both the County and State Parks offer short hikes around their facilities, including those at Henningsen-Lotus Park and Marshall Gold Discovery State Historic Park. See Figure 4-1 for land jurisdictions and park locations.

Mountain Biking

There are many trails open to mountain bikers in western El Dorado County, though few opportunities exist within the river corridor. One of the area's most popular trails open to mountain bikers is the Salmon Falls trail. The trailhead is located on the west side of Salmon Falls road, north of the southern arm of Folsom Lake. The trailhead is immediately adjacent to Skunk Hollow, a private boater takeout for the lower run of the South Fork. The combined demand for parking (i.e., river users and mountain bikers) can result in over-crowding on peak use weekends.

Fishing

A variety of fish are native or planted in the South Fork. Among these, the most popular

varieties fished are Brown Trout, Rainbow Trout and Kokanee Salmon. Other less desirable fish found in the South Fork are Sacramento Squaw Fish and Sacramento Sucker.

There are several areas suitable for angling. The most common stretches are located at the beginning of the upper run, just below Chili Bar. Throughout the Coloma/Lotus section there are a variety of public and private locations used by anglers. The lower stretch has limited access which limits fishing to landowners or those with special permission to cross private lands and fishermen willing to boat down the river to fishable areas. Residents have complained that whitewater recreation noise currently impacts weekend fishing enjoyment and angling success.

Sight-Seeing

The Gold Country offers a wide variety of sight-seeing activities. Wine tasting tours, Farm Trails network and Apple Hill tours attract thousands of visitors annually. Marshall Gold Discovery State Park is the largest attraction to the area, drawing over 395,000 visitors during the 1995/96 season.

Gold Panning

Recreational gold panning generally takes place along the riverside at Marshall Gold Discovery State Historic Park. Gold panning, however, is a popular activity in many areas of the river. The high flows of the winter of 1996-1997 have improved the potential (or perceived potential) for success.

Wildlife Viewing & Photography

The river corridor provides a home to over 200 species of birds and other wildlife. Visiting the area to view wildlife has become increasingly popular. The Nature Center (run by the American River Conservancy) offers interpretive education and tours that focus on the flora and fauna of the local area.

Hunting

A small portion of the lower canyon is leased for hunting during the fall. Wild turkey and mule deer are the most common game species in the area. Hunting occurs throughout El Dorado County but opportunities within the river corridor between Chili Bar and Salmon Falls are limited.

Hot Air Ballooning

At present there is one operation that takes visitors ballooning near the river corridor. Trips start in the Coloma area and finish four or five miles downstream before the entrance to the gorge. Trips end by 9:30 a.m. due to unfavorable wind conditions. The current capacity is eight people per day. The tour operator reports between 40-50 flights per year most of which are booked through local lodges and raft outfitters.

Horseback Riding

There are no public equestrian trails existing in the South Fork corridor. Any equestrian access is accomplished through communication with private landowners. Access to Clark Mountain Road is given to property owners or friends only.

Camping

There are four major private campgrounds in the Coloma/Lotus area: Coloma Resort, American River Resort, Ponderosa Campground and Camp Lotus. Many of these campgrounds cater to visitors with recreational vehicles or families traveling through the area on vacation. No federal or state agencies maintain vehicle-accessible campgrounds adjacent to the stretch of river under consideration. Several outfitters maintain campgrounds along the river, with the primary purpose to serve rafting clients and, as such, are not open for public use. Camping and day-use facilities within the river corridor (including commercial, public and private) are listed in Table 5-3 of the Phase II Report.

Henningsen-Lotus Park

The newly developed Henningsen-Lotus Park has been designed for organized sporting activities (mainly soccer and baseball) and public day-use, as well as river access. These activities create additional recreational opportunities within the river corridor.

7.3 IMPACTS AND MITIGATION MEASURES

This section discusses potential impacts of the proposed plan and alternatives. Impacts to recreation identified herewith are those that may occur as a result of the implementation of the specific elements within the proposed plan and alternatives. Impacts take into account the projected growth rate that would likely occur under the proposed Project and each of the alternatives. Projected growth rates under the proposed Project and each of the alternatives are identified in Table 3-1 of Section 3.

7.3.1 Standards of Significance

The following criteria were used to determine the significance of recreational impacts that could result from the implementation of the river management plan alternatives under consideration. Impacts to recreation are considered significant if they have the potential to:

_ Increase river use to levels that create conflicts with other boaters or recreationists;

_ Cause a reduction in the types of recreational opportunities within the County;

_ Place additional restrictions or limitations on participation levels in recreational activities within the County;

_ Result in decreased use levels of whitewater or other recreational resources within the

County; or

_ Detract from the overall recreational experience.

Unless otherwise noted, all impacts identified below are considered to be potentially significant, adverse impacts. Corresponding mitigation measures are expected to be sufficient to reduce impacts to a less than significant level, unless otherwise noted.

7.3.2 RMAC Alternative (Proposed Project)

Impact 7.3.2-1

Increased whitewater recreation use levels could create conflicts with other river corridor recreational activities.

Increased whitewater recreation on the South Fork due to the expected annual growth rate and the creation of a middle run could have an adverse affect on other river corridor recreational activities, including fishing, sightseeing and park use. Increased demand for whitewater-related parking and river access would tend to compete with these other uses creating the potential for decreases in these uses.

The following elements of the proposed Project would alleviate these impacts:

_ Development of additional parking areas (i.e., the interim shuttle program); and

_ Educational programs which would inform whitewater recreationists of the sensitivities of other area recreationists.

Potential impacts to recreational resources related to increased river use would be reduced by the above elements and mitigated to less than significant levels by Mitigation Measures 6.3.2-1, 9.3.2-1, 9.3.2-2, 10.3.2-3, and 10.3.2-5.

Mitigation Measure 7.3.2-1

Implement Mitigation Measures 6.3.2-1, 9.3.2-1, 9.3.2-2, 10.3.2-3, and 10.3.2-5.

7.3.3 RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 12)

Alternative 12 would result in Impact 7.3.2-1 as identified above. However, the following element would reduce the potential for the impact to occur:

_ Use-restriction management actions would be implemented if boater levels reached identified thresholds, thereby reducing the potential for the impact to occur.

Mitigation for this potential impact would be the same as described for the proposed projects.

7.3.4 Planning Commission Alternative (Alternative 13)

Alternative 13 would result in Impact 7.3.2-1 as identified above. However, under this alternative the anticipated annual growth rate is slightly lower than under the proposed Project. Additionally, the following element would be implemented to reduce the potential for this impact to occur:

_ Allowable commercial and private boater use levels would be reduced if property owner satisfaction decreases to below 75% or complaints increase by more than 20%.

Mitigation for this potential impact would be the same as described for the proposed Project.

7.3.5 Planning Commission Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 14)

Alternative 14 would result in Impact 7.3.2-1 as identified above. However, the anticipated annual growth rate of this alternative is slightly lower than under the proposed Project. Additionally, the following element would be implemented to reduce the potential for this impact to occur:

_ Use-restriction management actions would be implemented if boater levels reached identified thresholds.

Mitigation for this potential impact would be the same as described for the proposed Project.

7.4 EFFECTS FOUND NOT TO BE SIGNIFICANT

7.4.1 Private Boater Surcharge

The Planning Commission Alternative would institute a private boater surcharge which would increase the cost of river use for private whitewater recreationists. Costs associated with private use include transportation and parking, purchase or rental of rafting equipment, food and lodging and put-in fees. The specific private boater surcharge amount has not been determined under this alternative, but it is assumed that the fee would be approximately one or two dollars per person. For most whitewater rafters this fee would be a small percentage (less than 10 percent) of the total cost of rafting the South Fork, and, therefore, is not expected to substantially alter private boater use levels. Accordingly, the surcharge would not be a significant impact to recreation on the River.

7.4.2 Highway Rapid Take-Out

The development of a public take-out at Highway Rapid, under the Proposed Plan and each of the Alternatives, would effectively create a longer "middle run" on the River. A take-out at Highway Rapid accessible to private boaters would allow private boaters to run an approximately five-mile segment of the River between the Coloma area and Highway Rapid. This segment contains a few rapids of Class I and II, but is generally a mild run that would

appeal to relatively inexperienced rafters and kayakers. Currently, a three-mile middle run is available between Coloma and Henningsen-Lotus Park, yet due to its relatively short length is not a significant attraction to boaters.

The availability of this "new", longer middle run would introduce an additional user group on this segment of the River, resulting in increased use levels in this area. Water flows relatively slowly through this area and increased use would result in higher craft density which, on high use days, could cause crowding. This potential crowding (as well as the additional demand for parking, facilities, etc.) and the addition of a new user type could have significant impacts to other resources, and are discussed in other sections of this document including: Transportation and Circulation, Hydrology and Water Quality, Public Services, Aesthetics, Noise, and Public Health and Safety.

An increase in use levels and potential peak day crowding on this middle run is not expected to have an adverse impact of the recreational experience for whitewater boaters of the River. Surveys conducted during the Phase I and II Reports for the River Management Plan found that user satisfaction was not directly correlated with high use levels or River crowding. Crowding could create conflicts with other river recreationists, however, as discussed in Impact 7.3.2-1.

Back to table of contents

Back to table of contents

SECTION 8 - BIOLOGICAL RESOURCES

8.1 INTRODUCTION

This section examines potential impacts to biological resources related to the proposed Project

and alternatives. Section 8.2 describes the existing environment within the project area, Section 8.3 identifies potential impacts and proposed mitigation measures and Section 8.4 discusses potential impacts which would not be significant.

8.2 SETTING

Following is a discussion of habitats, wildlife and special status species which may occur within the South Fork of the American River study area. Habitats within the South Fork study area are typical of waterways in the Sierra Nevada foothills, including oak woodlands, grassland, chaparral, pine forest, and montane riparian vegetative communities (USFWS 1991); characteristics of vegetative communities are described below in Section 8.2.1. Several occurrences of special status species were identified within one mile of the South Fork. Plant and wildlife special status species are described in detail below in Sections 8.2.2 and 8.2.3, respectively.

The majority of the river is within the Foothill/Grey Pine-Chaparral Belt (Upper Sonoran) "life zone", as referred to in the El Dorado County General Plan EIR (1996). The Foothill "life zone", which categorizes "plants and wildlife distributed in common associations (El Dorado, 1996)" ranges in elevation from 800 to 4000 feet. The foothill generally have dry summers and moderate winters, with an average annual rain fall of 15-40 inches (El Dorado County, 1996). The growing seasons range from 6-10 months. Habitat communities vary from grasslands to shrubs and trees.

8.2.1 Vegetative Communities

North-Slope Oak Woodland

The north-slope oak woodland habitat includes dense canopy areas of mixed hardwood, canyon live oak (*Quercus chrysolepis*), black oak (*Q. kelloggii*), and Douglas fir-hardwood. Additional tree species in this habitat include blue oak (*Q. douglasii*), interior live oak (*Q. wislizenii*), California bay (*Umbellularia californica*), Pacific ponderosa pine (*Pinus ponderosa*), and Pacific madrone (*Arbutus menziesii*).

The composition and density of understory species varies depending upon site conditions. Densely shaded sites may support little understory growth, with ground cover often consisting of forest litter or bare soil. Moderately dense canopy sites, wind throws and canopy gaps typically support young forest trees, woody shrubs and vines, and a variety of grasses and forbs.

South-Slope Oak Woodland

This habitat occurs more frequently than the north-slope oak woodland. South-slope oak woodland is a largely oak-dominated habitat type typically occurring on drier, southwest- to south-facing slopes with shallow to moderately deep soils. Although highly variable in tree density and species composition, many of the species of trees and shrubs found in the north-slope oak woodland habitat also occur in this cover type. It differs from north-slope oak

woodland by its open to moderately-open canopy. Canopy components vary greatly depending upon the aspect, exposure, elevation, and soils, but interior and canyon live oaks are the most common dominants.

Grassland

In areas where tree cover drops below 30 percent and shrub cover shows a corresponding decline, grassland habitat becomes the dominant vegetative community. This habitat type typically consists of non-native, annual species and is most often utilized for livestock grazing.

Chaparral

Chaparral habitat is composed of evergreen woody shrubs that are typical of the dry, well drained, shallow soils of foothill and lower montane slopes of the Sierra Nevada. The dominant woody species of the chaparral in the study area include chemise, manzanita (*Arctostaphylos* sp.), ceanothus (*Ceanothus* sp.), toyon (*Heteromeles arbutifolia*), and shrubby forms of the interior and canyon live oaks and infrequently, shrubby forms of the deciduous blue oak. In Northern California, this habitat is usually found on south-facing slopes (Holland 1986).

Pine Forest

Ponderosa and gray pines are the conifer species most frequently encountered in this region. They typically occur as scattered individuals mixed with plants of the chaparral, hardwood woodland and hardwood forest communities. Ponderosa pine forest is often found on south-facing slopes on coarse, well-drained soils. Gray (digger) pine (*Pinus sabiniana*) woodlands typically occur on well-drained soils below 4,000 feet in elevation.

Montane Riparian

Although the South Fork is regulated by several hydropower impoundments, the riparian habitats and ecological conditions of the South Fork corridor retain characteristics of a relatively natural foothill riparian system. Various riparian vegetation types and ages exist along the mainstream river corridor, including palustrine forest, dense thickets and thin stringers of palustrine scrub-shrub habitats, areas of frequently inundated grasses and ruderal habitats, and even emergent marshes on backwaters and isolated ponds. Palustrine scrub-shrub includes areas of dense willow scrub vegetation that typically occur along mountain and foothill streams, as well as broad variations of seasonally inundated habitats diffusely covered by woody shrubs and interstitial grasses and herbs. Palustrine forest is highly limited along the river.

Other important features of the riparian corridor include sandy flats and moving sand bars that contribute importantly to the dynamics of riparian vegetation and extensive areas of exposed gravels, cobbles and rocky outcrops. Elderberry (*Sambucus* sp.) shrubs can be found occasionally, usually closely associated with drainages and steep draws.

8.2.2 Plant Species

A search of the California Natural Diversity Data Base (NDDB) was run for the Garden Valley, Coloma, Pilot Hill, Clarksville, Shingle Springs, and Placerville U.S. Geological Survey (USGS) quadrangles on March 27, 1998 (see Appendix E). This search identifies several species of special concern with the potential to occur in the project area. These species and their current status are listed in Table 8-1.

Four plant species listed as endangered or threatened under the Federal Endangered Species Act (ESA) were recorded within one mile of the South Fork of the American River including: Stebbin's morning-glory (*Calystegia stebbinsii*), Pine Hill ceanothus (*Ceanothus roderickii*), El Dorado bedstraw (*Galium californicum* spp. *sierrae*), and Layne's ragwort (*Senecio layneae*).

The Pine Hill Flannelbush (*Fremontodendron decumbens*) and the Nissenan Manzanita (*Artostaphlos missenana*) have also been identified to have the potential to occur within the project study area. El Dorado County mule ears (*Wyethia reticulata*) has potential to occur in the chaparral and pine forest communities.

Three former candidates for listing under the federal ESA also occur within one mile of the South Fork American River. These species are currently considered U.S. Fish and Wildlife (USFWS) Species of Concern. Red Hills soaproot (*Chlorogalum grandiflorum*), Bisbee Peak rush-rose (*Helianthemum suffrutescens*), and El Dorado County mule ears (*Wyethia reticulata*) are found in chaparral communities. Red Hills soaproot is recorded in four locations, Bisbee Peak rush-rose has five occurrences, and El Dorado County mule ears has nine occurrences.

TABLE 8-1

Special Status Species with Potential to Occur in Study Area

Scientific Name/ Common Name	Federal/ State Status	General Habitat
Birds		
Accipiter Gentilis (nesting) Northern Goshawk	SC/CSC	in summer, within and in vicinity of coniferous forest, uses nests, and maintains alternate sites
Haliaeetus Leucocephalus Bald Eagle	T/E	ocean shorelines, lake margins, and river courses for both nesting and wintering; most nest within one mile of water
Agelatius Tricolor (nesting colony) Tricolored Blackbird	SC/CSC	highly colonial species, most numerous in the central valley and vicinity; largely endemic to California

Plants		
Arctostaphylos Nissenana Nissenan Manzanita	SC/CNPS 1B	closed one coniferous forest, chaparral; known from a few occurrences in El Dorado and Tuolumne counties
Balsamorhiza Macrolepis Var Macrolepis Big-scale Balsamroot	--/CNPS 1B	valley and foothill grassland, cismontane woodland
Calystegia Stebbinsii Stebbins's Morning-Glory	E/E	chaparral, cismontane woodland; endemic to pine hill formation in Eldorado and Nevada counties
Ceanothus Roderickii Pine Hill Ceanothus	E/R	chaparral, cismontane woodland; endemic to pine hill formation in Eldorado County, California
Chlorogalum Grandiflorum Red Hills Soaproot	SC/CNPS 1B	cismontane woodland, chaparral, lower montane coniferous forest
Fremontodendron Decumbens Pine Hill Flannelbush	E/R	chaparral, cismontane woodland; endemic to gabbroic chaparral community in Eldorado and Nevada Counties
Galium Californicum SSP Sierrae El Dorado Bedstraw	E/R	cismontane woodland, chaparral, lower montane coniferous forest; endemic to El Dorado County
Helianthemum Suffrutescens Bisbee Peak Rush-Rose	CNPS 3	chaparral
Wyethia Reticulata El Dorado County Mule Ears	SC/CNPS 1B	chaparral, cismontane woodland, lower montane coniferous forest
Senecio Layneae Layne;s Ragwort	T/R	chaparral, cismontane woodland
Invertebrates and Reptiles		
Clemmys Marmorata Northwestern Pond Turtle	SC/CSC	associated with permanent or nearly permanent water in a wide variety of habitats
Desmocerus Californicus Dimorphus	T/-	occurs only in the central valley of California, in association with blue elderberry (sambucus mexicana)

Valley Elderberry Longhorn Beetle		
Branchinecta Lynchi Vernal Pool Fairy Shrimp	T/-	Endemic to the grasslands of the central valley, central cost mtns, and south coast mtns, in astatic rain-filled pools

Federal

E Endangered

T Threatened

SC Species of Concern

State

CSC California Department of Fish and Game Species of Special Concern

R Listed as Rare by the State of California

California Native Plant Society (CNPS)

1B Rare, threatened or endangered and mandatory to be considered under CEQA

3 Plants which more information needs to be gathered about

(NDDB March 27, 1998)

All of the plant species, with the exception of Bisbee Peak rush-rose, are California Native Plant Society (CNPS) List 1B species. CNPS considers these species to qualify for listing under the Native Plant Protection Act (NPPA), and therefore, warrant full consideration under the CEQA. Bisbee Peak rush-rose is classified as a CNPS List 3 species. CNPS recognizes that further research is required for List 3 species, but recommends consideration under CEQA as these species may warrant listing.

8.2.3 Gabbro Soil Plant Habitat

Interest in the status of these plants was first raised by the CNPS in the late 1960s, when the Society became concerned about the California Division of Forestry's (CDF) fire management (i.e., fire break and road construction) activities in the Pine Hill area. In 1977 and 1978, CDF agreed to sell lands on Pine Hill to CDFG. Between 1979 and 1982, five of the eight plants were listed as rare or endangered by CDFG under the Native Plant Protection Act of 1977. In 1987, CNPS expressed concern to CDFG that accelerating development of lands in western El Dorado County posed a threat to potential gabbro soil plant habitat.

In 1988, CDFG staff met with El Dorado County Planning Staff to discuss rare plant protection concerns and possible solutions. All agreed that a regional protection program was needed, but absent a clear understanding of plant occurrence, existing land uses, and basic questions about the most effective method of species preservation, no action was initiated.

In spring 1990, a development company whose proposed project was delayed due to concerns about rare plant impacts retained EIP Associates to conduct a study to assess the occurrence and quality of gabbro plant habitats and provide recommendations on preserve system development options. Prior to the conclusion of this study, the applicant withdrew funding for the completion of the report. The El Dorado County Board of Supervisors agreed to allocate funds to complete the study.

The resultant document "Preserve Sites and Preservation Strategies for Rare Plant Species in Western El Dorado County" was completed in November 1991. This report was reviewed and considered by the Board of Supervisors at a May 1992 rare plant workshop.

The EIP study objectives included: (1) Identification and evaluation of potential rare plant preserve sites; (2) identification of likely management needs of rare plant preserves located in this region; and (3) identification of options for funding and administrating the acquisition and management of the rare plant preserves. Twelve potential preserve sites were identified by consultation with CDFG, CNPS and local botanists.

Approximately 25,700 acres of potential habitat were identified within the "Pine Hill Intrusion" zone, 9,500 of which are located within the EID service area. Approximately 70% of these areas are located north of Green Valley Road and approximately 30% are located south of Green Valley road. The "northern" areas of this zone are more undeveloped in character, with abundant public open space lands in close proximity. The "southern" area is surrounded by intensive urbanization, with residential and commercial developments abutting the Cameron Park site.

THREAT FACTORS FOR FIVE PLANTS FROM GABBROIC SOILS

_ Habitat loss due to urbanization.

_ Habitat fragmentation.

_ Limited suitable "pristine" habitat left for preserve system (narrow endemic) especially in southern portion of range.

_ Mitigation for development often is by small "set asides" within the development, which increase habitat fragmentation, are difficult to manage for fire, and are subject to edge effect problems.

_ Disruption of natural ecosystem functioning: alteration of natural fire regime, suppression of disturbance.

_ Competition with non-native vegetation.

_ Other anthropogenic factors: road construction and maintenance, grading, herbicide spraying, off-road vehicle use, unauthorized dumping, horse padlocking, and mining.

_ Environmental stochasticity.

General Plan Rare Plant Preserve Elements

The El Dorado County General Plan and EIR provides for long range direction and policy for the use of land within the County through the year 2015. State planning law requires the analysis of land use, economic, social, and environmental choices in response to existing conditions, analyses of reasonably foreseeable future conditions and the collective long-term vision of El Dorado County. This process recognizes the importance of gabbro and serpentine soils plant species by the inclusion of Plan elements serving to partially mitigate development impacts to these species.

General Plan Policies 7.4.1.1 through 7.4.1.7 speak to the County's response to the protection needs of these species of concern:

Policy 7.4.1.1

Sensitive species habitat shall be identified on the Important Biological Resources Map. The map shall continue to be updated and maintained as data becomes available.

Policy 7.4.1.2

An inventory of State and federally-listed rare and endangered plant and animal species shall be maintained by the Planning Department.

Policy 7.4.1.3

Habitat Conservation Plans shall be prepared to protect State and federal recognized rare, threatened or endangered sensitive plant and animal species and their habitats.

Policy 7.4.1.4

The eight sensitive plant species known as the Pine Hill endemic and their habitats (specifically identified gabbro and serpentine soils) shall be protected in perpetuity through the establishment of preserve sites. The preserve sites are integrated into the Count's overall open space plan. Components of this program include, but are not limited to:

A. Coordination with the State Department of Fish and Game, U.S. Fish and Wildlife Service, and other appropriate agencies.

B. Development of mechanisms for the establishment of preserve site(s) such as clustered development, transfers of development rights, mitigation banking, conservation easements and other appropriate measures.

C. Development of programs with the Department of Fish and Game to fund the purchase of fee title acquisition, conservation easements and operation and maintenance of preserve sites.

D. Establishment of guidelines for development of site-specific management, maintenance and monitoring plans for the preserve sites that will be held in private ownership.

Policy 7.4.1.5

Private land for preserve sites will only be purchased from willing sellers.

Policy 7.4.1.6

Limit land uses within established preserve areas to activities deemed compatible. Such uses may include passive recreation, research and scientific study and education. In conjunction with use as passive recreational areas, develop rare plant educational and interpretive program.

Policy 7.4.1.7

Proposed rare, threatened, or endangered species preserves, as approved by the County Board of Supervisors, shall be designated Ecological Preserve (EP) overlay on the General Plan Land Use Maps.

(From El Dorado County General Plan, General Plan Alternative, Volume I - Goals, Objectives and Policies, January 1994)

The General Plan Environmental Impact Report (EIR) analyzed two primary alternatives which are equally analyzed in this document: the higher growth alternative known as the Project Description and lower growth version known as the General Plan Alternative. The No Project alternative was also presented, as required by CEQA.

The General Plan impact to the species in question was defined as Impact 8.2.1: *Elimination, disturbance, or interruption of special status species as a direct or indirect result of development.* The DEIR determined that while the policies described above partially mitigate rare plant impacts, this impact was determined to be significant for the Project Description. The General Plan alternative includes the inclusion of the Cameron Park preserve in designated Ecological

Preserve (EP) areas defined on the General Plan Land Use Map. Although it was determined that the impacts under this alternative would be less than the Project Description, the impacts remain significant. Under the No Project alternative, the potential for direct loss absence of Ecological Preserve designations and the 10-acre minimum densities allowed in all Rural Regions.

8.2.4 Wildlife Species

A wide variety of both domestic and native wildlife species occur along the South Fork corridor. The major agricultural land use in the area is livestock, which uses many areas within the river corridor for foraging. Though not regularly counted, other native species include beaver, coyote, mountain lions and bears. The Pacific herd of mule deer also occupies most of the South Fork basin. A NDDB search of the Garden Valley, Coloma, Pilot Hill, Clarksville, Shingle Springs, and Placerville U.S. Geological Survey (USGS) quadrangles on March 27, 1998 identified six species of concern with the potential to occur in the vicinity of the study area.

The March 28, 1997 NDDB search, conducted during Phase II of the RMP update process, noted the potential for California red-legged frog (*Rana aurora draytonii*) to occur on the Garden Valley and Coloma quadrangles. The March 27, 1998 NDDB search, however, did not indicate any occurrences of the California red-legged. California red-legged frog has been listed as threatened under the federal ESA. It is found in lowlands and foothills in or near permanent sources of water. The frog prefers shorelines with extensive vegetation, but it will disperse far from permanent water during and after rains. Larval development requires 11 to 20 weeks of permanent water.

Tricolored blackbird (*Agelaius tricolor*), a former candidate for federal listing and a current FWS Species of Concern, is known from two occurrences within one mile of the South Fork. Tricolored blackbird is also a California Department of Fish and Game (DFG) Species of Special Concern. This species nests in freshwater marshes, often heavily vegetated with cattails (*Typha* sp.), tules (*Scirpus* sp.), and blackberry (*Rubus* sp.). It is most likely to occur near the western portions of the South Fork study area. Both the Bald Eagle (*Haliaeetus Leucopephalus*) and the Northern Goshawk (*Accipiter Gentilis*) have the potential to occur within the project area.

Invertebrates species of concern identified as having the potential to occur with in the study include both the Valley Elderberry Longhorn Bettle (*Desmocerus Californicus Dimpohus*) and the Vernal Pool Fairy Shrimp (*Branchinecia Lunchi*). The Northwestern Pond Turtle (*Clemmys Marmorata*) was also identified with in the vicinity of the study area.

The Great Egret (*Ardea Alba*) and the Great Blue Heron (*Ardea Herdoias*) also have the potential to occur within the study area, but are considered to have numerous and stable populations in and out of California. No known threats to these two species have been identified within the study area.

8.2.5 Fisheries

The fisheries of California's foothill streams and rivers are primarily determined by flow quantity and frequency, plus water temperature. Because water temperature is greatly influenced by elevation, shading, and the quantity of flow, the fish species composition of rivers within the Sacramento-San Joaquin system can be characterized by the following five fish zones (Moyle 1976, Inland Fishery of California, University of California Press, Berkeley, 405 pp.):

- Rainbow Trout Zone;
- California Roach Zone;
- Squawfish-Sucker-Hardhead Zone;
- Deep-bodied Fishes Zone; and
- Estuarine Fishes Zone.

The first three of these zones are described briefly below. Because the latter two zones do not apply to the South Fork of the American River study area, they are not discussed further. Additional information on these zones may be found on pages 25 through 31 in Moyle (1976).

The Rainbow Trout Zone is characterized by clear headwater streams where the stream gradient is high, riffles are more common than pools, and the well-oxygenated water seldom exceeds 70_F. The dominant native fish is rainbow trout, but sculpin and speckled dace are often found in the lower portions of this zone, along with Sacramento sucker and California roach.

The California Roach Zone typically occurs in small warm tributaries to larger streams and flow through open foothill woodlands of oak and digger pine. These streams are often intermittent during summer, and fish are confined to stagnant pools that may exceed 86_F and have low levels of dissolved oxygen. California roach (a native minnow), green sunfish, and fathead minnow comprise the summer fisheries of this zone.

The Squawfish-Sucker-Hardhead Zone is characterized by perennial summer flow with deep, rocky pools and wide shallow riffles, and summer temperatures that commonly exceed 70_F. In the Sierra foothill streams of the San Joaquin Valley, this zone occupies a narrow attitudinal range of 88 to 1,477 feet, but this range is wider in Sacramento Valley foothills (Moyle 1976). Sacramento sucker are typically the most abundant fishes in this zone. Because of foothill reservoirs that thermally stratify, a number of California rivers receive a cold water discharge that has changed a portion of their historical Squawfish-Sucker-Hardhead Zone into a Rainbow Trout Zone.

The South Fork of the American River between Chili Bar (elevation of 960 feet) and Salmon Falls Bridge at Folsom Reservoir (elevation of 460 feet) was historically within a Squawfish-Sucker-Hardhead Zone. Prior to SMUD's extensive development of the watershed for hydroelectric and water supply purposes during the mid-1960's, spring season flows near

Lotus were higher than the present conditions and flows during summer and early fall were substantially lower. Mr. Jack Hannaford (primary author of Section 6) recalls canoeing the river below Chili Bar to Lotus in the summer of 1949. He remembers the flow being so low that they spent most of their time dragging the canoe across shallow gravel bars, and that only in the large pools could they paddle the canoe.

This difference in the unimpaired (pre-SMUD development) and impaired (present conditions) flows is clearly illustrated in Figure 6-7. Figure 6-9 also shows the increased flow after the completion of most of SMUD's water projects in the mid-1960s. Part of the reason for this flow increase is because the SMUD projects import Rubicon River water into the South Fork of the American River basin.

Prior to SMUD's alteration of the flow regime, the fish community of the South Fork of the American River from Chili Bar to Folsom would have been predominated by Sacramento sucker and native minnow species such as California roach, hardhead, Sacramento squawfish. A marginal rainbow trout population occurred in this reach and, prior to the construction of Folsom Reservoir, chinook salmon are reported to have migrated as far upstream as Salmon Falls.

Summer water temperatures in excess of 70_F would have limited the trout population of this section of the river. U.S. Geological Survey (USGS) reports the maximum temperature on record for its South Fork of the American River near Lotus gage as being 85_F on July 20, 1968. Rainbow trout carried into this reach during the spring high flows from the upper South Fork and from tributary streams would, during summer, have to migrate upstream, find an instream seep of cold spring water, or perish from rising temperatures.

EXISTING CONDITIONS

With the development of SMUD's water projects including the addition of Rubicon River water to the South Fork of the American River basin, summer flows at Lotus are two to six times greater than the unimpaired conditions (see Figures 6-7 and 6-9). Although Chili Bar Dam impounds the river's flow, its small capacity (3,700 acre-feet) and high rate of inflow as an afterbay for the White Rock Powerhouse (operating at full capacity for 24 hours, White Rock Powerhouse would discharge in excess of 7,000 acre-feet into Chili Bar Reservoir) prevents its waters from thermally stratifying. As indicated by Table 8-1 Chili Bar Reservoir's water exchange rate (number of days to completely exchange water [outflow and inflow] in a reservoir) ranges from 1.1 to 9.1 days. In addition to the high rate of water exchange, the short-term (hours) high flows from the White Rock Powerhouse would in themselves generate substantial mixing of the reservoir's waters and likely prevent thermal stratification.

TABLE 8-2

Number of Days to Completely Exchange Water in Chili Bar Reservoir

WATER	% AVG	JULY	AUGUST	SEPTEMBER

YEAR	ANNUAL RUNOFF						
		Monthly RO1 Acre-Feet	Exchange Days	Monthly RO Acre-Feet	Exchange Days	Monthly RO Acre-Feet	Exchange (Days)
1988	33%	25,170	4.6	25,100	4.6	27,010	4.1
1992	41%	28,0802	4.1	32,060	3.6	24,460	4.5
1993	114%	72,080	1.6	60,580	1.9	50,200	2.2
1995	199%	211,200	0.5	89,500	1.3	86,700	1.3

1 RO = Run Off

2 June 1992 was lower at 27,210 acre feet.

The increased volume of flow, its headwater storage in thermally stratified reservoirs, and the passage of much of this water in pipelines, penstocks, and canals with little or no exposure to thermal radiation, all contribute to lower than historical summer water temperatures in the South Fork of the American River below Chili Bar. However, summer water temperatures still typically exceed 70_F and are marginal for trout when average annual runoff is below normal (Figure 8-1). Presently, the fisheries of this section of river are still predominated by the native non-game species. Relatively low numbers of exotic fishes such as largemouth and smallmouth bass, bluegill, green sunfish, and brown trout also now occur here. Kokanee salmon from Folsom Reservoir migrate into this reach to spawn each October/November.

The present brown and rainbow trout populations of this reach receive recruitment during most water years from often limited periods of spill over Chili Bar Dam and tributary likely to contribute significant numbers of trout is Weber Creek. Weber Creek discharges into the lowermost portion of the study reach. Therefore, limited recruitment from upstream and tributary sources may also inhibit this trout fishery, as local spawning in the river may also be limited.

Figure 8-1

By mid-summer, the trout have to locate cool pockets of spring inflow or perish. In the late 1970's, visual fish counts with mask and snorkel resulted in the trout population of the river from Chili Bar to Coloma being estimated at 5 pounds per acre, and downstream of Coloma as 0.7 pounds per acre. For comparison purposes, note that the South Fork of the American River above Kyburz has a trout population of about 40 pounds per acre.

In addition to the natural replenishment of the trout population as described above, California Department of Fish and Game (CDFG) stocks 2,400 to 3,000 pounds of catchable-size trout in the river each spring below Chili Bar Dam. Stocking is discontinued when water temperatures exceed 70_.

SMUD and PG&E's water development in the basin above Chili Bar is likely to have had little effect on the native minnows and Sacramento sucker populations of the South Fork of the American River, and may have increased sustainable numbers of these fishes by increasing summer flows. Existing operations have benefited the trout by increasing summer flows, creating slightly cooler summer water temperatures than had occurred previously, and by decreasing the frequency of extremely low flows. Minimum flows of 100 cfs are required below Chili Bar for fish maintenance, and this requirement drops to 30 cfs during drought years. However, in most years, SMUD maintains a reasonably high release (greater than 500 cfs) during the summer period to meet their load-following criteria (see the Hydrology section for details on SMUD operations and flows).

To illustrate typical flows in this reach during low flow years, a near average year, and a high flow year, monthly hydrographs are introduced in Table 8-2 and are plotted for "South Fork of the American River near Lotus", a gaging station measured and published by USGS (Figures 8-2 through 8-5). It is about 12 miles below Chili Bar Dam, and should be reasonably representative of the Study Reach.

TABLE 8-3

South Fork of the American River near Lotus

Low Flow Years, a Near Average Year, and a High Flow Year

Water Year	Comments
1977	16% of average runoff. Prior to January 1, 1990. Driest year of record, but SMUD operation has probably changed for years this dry.
1992	41% of average annual runoff.
1993	114% of average annual runoff.
1995	199% of average annual runoff. One of the largest years of record on the American River.

The SMUD and PG&E operations also include components that are detrimental to the fisheries below Chili Bar Dam. Water releases from Chili Bar Dam vary in volume according to peaking power demands. This creates daily fluctuations of about 3 feet vertically in the river. These fluctuations effect aquatic biota by:

_ Reducing aquatic invertebrate production within the shoreline zone of

alternating exposure and inundation;

_ Reducing aquatic invertebrate production by regularly inducing "catastrophic drift" in the invertebrate population, thereby depleting baseline stocks of these organisms; and

_ Reducing fish production by having reduced their invertebrate food source.

Although its significance is not known at this time, the daily fluctuations in water surface elevation and current velocities may have a detrimental effect on fish and amphibian reproduction.

The existence of Slab Creek Dam and Chili Bar Dam has certainly restricted the downstream movement of bedload materials. Without a replenishment of bedload materials, scouring and downcutting of the river channel is likely to occur. There are reports of increased sedimentation occurring in this reach of the river. The fluvial geomorphology dynamics of the South Fork of the American River through this reach have not been studied, and its effect on fish habitat is presently unknown.

Figure 8-2

Figure 8-3

Figure 8-4

Figure 8-5

Most of the recreational fishing occurring in the river is for the catchable-size trout stocked by the CDFG, and takes place at the State park in Coloma. Rafters do a small amount of fishing, and the vast majority of the river shoreline has no public access.

8.3 IMPACTS AND MITIGATION MEASURES

This section discusses potential impacts to biological resources from the proposed Project and alternatives.

8.3.1 Standards of Significance

Appendix G of the California Environmental Quality Act (CEQA) presents guidelines details significant impacts as those activities that would substantially interfere with the activities of resident wildlife populations or substantially diminish those populations. CEQA focuses on the protection listed but also recognizes species with the potential to be threatened and requires an appropriate analysis of project impacts to those species as well.

Potential impacts to biological resources are considered significant if they would

_ cause a reduction in wildlife habitat; or

_ result in a taking of other disturbance to any special status species or its habitat.

Unless otherwise noted all impacts identified below are considered to be potentially significant adverse impacts. Corresponding mitigation measures are expected to be sufficient to reduce impacts to a less than significant level, unless otherwise noted.

8.3.2 RMAC Alternative (Proposed Project)

Impact 8.3.2-1

The construction of new parking areas restrooms and trails could create the potential for habitat degradation, wetland fill and taking of special status species or their habitat.

Construction of interim shuttle parking areas, restrooms and trails could require vegetation clearing, grading and other land disturbance activities. These activities could take place within wetlands or other important habitat areas. Note: Projects on BLM lands would require a separate site specific National Environmental Policy Act (NEPA) review process. Fill of wetlands and disturbance of habitat would be considered a significant impact to biological resources.

Mitigation 8.3.2-1

(a) The County shall:

_ Ensure that biological surveys are conducted on lands which may be significantly disturbed during construction of facilities.

_ Avoid, through design or site selection, special status species important habitat and wetlands areas.

_ Initiate consultation with the appropriate state or federal jurisdictional agency if the potential for special status species disturbance exists following final site selection.

(b) The El Dorado Irrigation District and the El Dorado County Board of Supervisors have adopted an ordinance to facilitate development of a system of Gabbro Plant Preserves. A copy of this ordinance is provided in Appendix F. This ordinance creates a rare plant mitigation requirement or fee. Any development of facilities related to the RMP would be subject to these requirements.

(c) Mitigation measures 6.3.2-1 (see Section 6, Hydrology and Water Quality) will mitigate soil erosion caused by water runoff.

Impact 8.3.2-2

Increased use of the river, roads and trails in the watershed, would continue the degradation of fish and wildlife habitat on the South Fork of American River.

There is a potential of water quality degradation due to no use restriction mechanisms for increases in whitewater rafting and other on river uses. Under these conditions there would be an increase in river users.

A potential direct impact of boating on the river's fisheries is the increased harvest of trout and other game fish through angling. At present, this does not seem to be a problem. Although there is no quantitative data to support the following observations, it appears that sustained angling activity from rafts is minimal and is conducted only briefly at any one location as each raft continues downstream. The catch per unit of effort is assumed to be low because of the relatively low density of game fish in the river. This low catch rate discourages more intensive fishing pressure.

An indirect impact of rafting activity on the river is the accidental damage to trout redds (pockets in the gravel that contain fish eggs) by people stepping on the redds or dragging rafts over the redds when the flow is down. Unless a primary trout spawning area happened to occur in a riffle that rafters typically exit their rafts to wade and drag them to shore, there is little chance of this being a significant impact to the fisheries.

Another potential indirect impact, physical trash in the river, will become a visual nuisance demanding attention long before it is likely to have a significant effect on the fisheries.

There is a potential to impact wildlife habitat because of increased use along the shoreline of the South Fork of the American River, resulting in streambank erosion or riparian vegetation impacts. Also wildlife avoidance of humans.

Potential impacts to biological resources related to increased river use would be mitigated to less than significant levels by implementing programs from the RMAC Alternative and incorporating the following mitigation measure.

The following programs from the RMAC Alternative will partially mitigate the above impact:

_ Educational Programs (e.g., additional signage related to restrooms, stops, and take- out points);

_ Special Use Permit Programs (e.g., annual inspections of SUPs in River area, expanded water sampling and analysis, and riparian restoration and protection including landscape, drainage, and erosion control plans); and

_ Facilities (e.g., new restroom facilities).

Mitigation Measure 8.3.2-2

Implement Mitigation Measures 5.3.2-1, 6.3.2-1, and 8.3.2-1.

8.3.3 RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 12)

This alternative would have the same initial growth in river use as the RMAC Alternative, however, implementation of the four-tiered threshold mechanism would trigger management actions to reduce boat density levels during peak periods. These management actions (see Section 3.6 for more information) would result in a lower growth rate in commercial and private river use than the proposed Project. Table 3-1 identifies potential growth in river use to the year 2015.

Impacts to biological resources related to the implementation of this alternative would be similar to those described for the proposed Project.

The following programs from the RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels will partially mitigate impacts to biological resources (these programs are described in more detail in Sections 3.5 and 3.6).

_ Educational Programs (e.g., additional signage related to restrooms, stops and take-out points);

_ Special Use Permit Programs (e.g., annual inspections of SUPs in River area, expanded water sampling and analysis, and riparian restoration and protection including landscape, drainage, and erosion control plans);

_ Facilities (e.g., new restroom facilities); and

_ River Use Management Actions.

Mitigation for this potential impact would also be the same as described for the proposed Project.

8.3.4 Planning Commission Alternative

Initial growth in commercial river use would be the same as the proposed Project. The initial growth for private boater river use would be less than the proposed Project. In addition, there is a possibility of a use freeze based on a "user satisfaction and property owner tolerance of river use-related nuisance complaints" threshold mechanism (see Section 3.7.2.9). Table 3-1 identifies potential growth in river use to the year 2015.

Impacts to biological resources related to the implementation of this alternative would be similar to those described for the proposed Project.

The following programs from the RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels will partially mitigate impacts to biological resources (these programs are described in more detail in Sections 3.5 and 3.6).

_ Educational Programs (e.g., additional signage related to restrooms, stops, and take-out points);

_ Special Use Permit Programs (e.g., annual inspections of SUPs in River area, expanded water sampling and analysis, and riparian restoration and protection including landscape, drainage, and erosion control plans);

_ Facilities (e.g., new restroom facilities);

_ Regulations and Ordinances (e.g., institutional/non-profit regulations and private boater fees); and

_ User Satisfaction and Property Owner Tolerance of River Use-Related Nuisance Complaints Threshold Mechanism.

Mitigation for this potential impact would also be the same as described for the proposed Project.

8.3.5 Planning Commission Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 14)

This alternative would have the same initial growth in river use as the Planning Commission Alternative, however, implementation of the four-tiered threshold mechanism would trigger management actions to reduce boat density levels during peak periods. These management actions (see Section 3.6 for more information) would result in a lower growth rate in commercial and private river use than the proposed Project. Table 3-1 identifies potential growth in river use to the year 2015.

Impacts to biological resources related to the implementation of this alternative would be similar to those described for the proposed Project.

The following programs from the RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels will partially mitigate impacts biological resources (these programs are described in more detail in Sections 3.5 and 3.6).

_ Educational Programs (e.g., additional signage related to restrooms, stops, and take-out points);

_ Special Use Permit Programs (e.g., annual inspections of SUPs in River area, expanded water sampling and analysis, and riparian restoration and protection including landscape, drainage, and erosion control plans);

_ Facilities (e.g., new restroom facilities);

_ Regulations and Ordinances (e.g., institutional/non-profit regulations and private boater fees); and

_ River Use Management Actions.

Mitigation for this potential impact would also be the same as described for the proposed Project.

8.4 EFFECTS NOT FOUND TO BE SIGNIFICANT

All potentially significant adverse impacts related to biological resources are addressed in Section 8.3, and have been found to be mitigatable to a less than significant level.

Back to table of contents

SECTION 9 - TRANSPORTATION AND CIRCULATION

9.1 INTRODUCTION

This section evaluates the potential transportation impacts associated with each of four alternative management plans for the south fork of the American River between Chili Bar and

Salmon Falls in El Dorado County. The environmental setting is first described followed by impacts and mitigation measures for each alternative under existing and future conditions.

9.2 SETTING

The following discussion summarizes the existing condition of the transportation system in the vicinity of the proposed project. Since the primary mode of travel is by automobile within the study area, the existing roadway system and existing parking facilities/operations are analyzed. The existing usage of the South Fork of the American River between Chili Bar and Salmon Falls is also described.

9.2.1 Existing River Usage

The South Fork of the American River between Chili Bar and Salmon Falls is a popular recreational destination. The adjacent campgrounds, picnic facilities, and parks are heavily used during peak summer periods. The river itself is used by commercial rafting companies, private rafters and kayakers, fisherman, gold miners, and others. Commercial outfitters are required to use shuttle buses to transport passengers and equipment. Each outfitter's river use permit requires an adequate amount of parking for their clients. Private boaters typically form their own shuttles using private vehicles.

Rafters and kayakers can run either the upper section (from Chili Bar to Lotus), the lower section (from Lotus to Salmon Falls), or both. Figure 9-1 displays the permitted public and private boating access points. Access is limited to one or two locations at Chili Bar and Salmon Falls, whereas numerous access points are provided in the Lotus/Coloma area. Fehr & Peers Associates counted the number of rafts, kayaks, and persons on each section of the river between 10:00 a.m. and 6:00 p.m. on Saturday, July 26, 1997. Counts of the upper section were conducted from the Mt. Murphy Road bridge, while counts of the lower section were conducted near the northern terminus of Bassi Road. Table 9-1 summarizes the count data.

According to commercial outfitter reports and private vehicle parking registration, July 26th was among the busiest river-use days of the summer. Therefore, the existing data is representative of peak summer river usage conditions.

Figure 9-1: existing river operations

Table 9-1

Existing Mid-Summer River Usage

Section of River	Total (10:00 a.m. to 6:00 p.m.)	Peak Two-Hour Period (11:30 a.m. to 1:30 p.m. on upper section, 10:45 a.m. to 12:45 p.m. on lower section)

	Rafts	Kayaks	Persons	Rafts	Kayaks	Persons
Upper	269	81	1,256	111	17	660
Lower	360	108	2,454	269	78	1,843
Note: Counts conducted by Fehr & Peers Associates on Saturday, July 26, 1997.						

The lower section was observed to have 33 percent more rafts and nearly twice as many persons as the upper section. The number of persons on the lower section increased more drastically than the number of rafts because the lower section is more frequently used than the upper section by commercial outfitters, which tend to carry more persons per raft. Based on data supplied by El Dorado County Parks and Recreation Division staff, commercial-related rafts (rafts and kayaks) constituted about 50 and 67 percent of all rafts on the upper and lower sections, respectively. Based on commercial outfitter data and a 1996 private boater survey, approximately 30 rafts and 200 persons ran both the upper and lower sections on Saturday, July 26, 1997.

9.2.2 Existing Roadway System

The following describes the key roadways located in the vicinity of the South Fork of the American River between Chili Bar and Salmon Falls.

_ State Route 49 (SR 49) - is a north-south highway that interconnects the historic gold-mining towns of the California foothills. SR 49 is a two-lane arterial from Placerville to Auburn that parallels the South Fork of the American River through Coloma. Within Coloma, it provides access to Marshall Gold Discovery State Historical Park (SHP) and several beaches.

_ State Route 193 (SR 193) - is a two-lane highway that extends in a northeast direction from SR 49 north of Placerville to Cool. SR 193 provides access to Chili Bar and the Nugget, which are staging areas for the start of the upper section.

_ Lotus Road - is a two-lane arterial from Green Valley Road north to SR 49 in Lotus. Lotus Road provides access to the river via Bassi Road and Henningsen-Lotus County Park.

_ Salmon Falls Road - is a two-lane arterial from Green Valley Road north to SR 49 west of Lotus. Salmon Falls Road provides access to Salmon Falls, which is the ending point of the lower section.

Traffic counts were conducted by Fehr & Peers Associates from Thursday, July 24 to Wednesday, July 30, 1997 on key roadways and at parking lot entrances that provide access to the river. This data was supplemented by traffic counts at other locations conducted by El Dorado County DOT in July and August, 1997. Figure 9-2 displays existing mid-summer

weekday and weekend daily traffic volumes.

Existing mid-summer weekday daily traffic volumes range from 2,300 to 4,800 vehicles on SR 49, SR 193, Lotus Road, Marshall Road, and Cold Springs Road. Between 50 and 150 vehicles per weekday entered and exited the parking lots at Chili Bar, Henningsen-Lotus County Park, and Salmon Falls. During mid-summer weekends, these parking lots were observed to have an additional 50 to 400 vehicles per day entering and exiting. SR 49, Mt. Murphy Road, and Bassi Road experienced increases of between 500 and 1,600 vehicles per day during the weekend. Lesser increases (less than 400 vehicles per day) occur on Salmon Falls Road, SR 193, and Lotus Road during the weekend. The collective volume at the counted parking lot entrances increased from 800 vehicles entering and exiting per weekday to 2,000 vehicles entering and exiting per weekend day. It should be noted that not all of the traffic entering and exiting each parking lot is river-related. Certain lots are used to access adjacent picnic and recreational facilities.

The peak weekend periods of traffic are generally 9:00 a.m. to 12:00 p.m. and 4:00 p.m. to 6:00 p.m. on SR 49, SR 193, Lotus Road, and Salmon Falls Road.

Operations on study roadways during mid-summer weekday and weekend conditions were determined by computing the level of service on each roadway. Level of service (LOS) is a quantitative measure of the operation of an intersection or roadway and is reported on a scale ranging from LOS A (the best) to LOS F (the worst). Service levels were computed by comparing the existing peak hour volume to thresholds developed for the 1996 El Dorado County General Plan Update. Figure 9-3 displays the existing mid-summer weekday and weekend levels of service on key roadways. This figure shows that all study roadways currently operate at LOS C or better with the exception of SR 193 south of the American River, which operates at LOS D. The traffic volumes and levels of service shown on Figures 9-2 and 9-3 represent conditions during 5 or 6 weekends per year. The remaining weekends generally have lesser traffic volumes and better traffic operations.

figure 9-2: existing daily traffic volumes

figure 9-3: existing levels of service

It is difficult to isolate river use on the primary access roadways such as SR 49, SR 193, Lotus Road, and Salmon Falls Road as these roadways also carry through trips, local trips, and trips destined for Marshall Gold Discovery SHP or nearby campgrounds or parks. However, it is clear that a portion of the increase in traffic observed on SR 49, Bassi Road, and Salmon Falls Road during the weekend is river-related. Based on parking lot usage and comparisons with weekday traffic, it is estimated that between one-third and one-half of mid-summer weekend vehicles (1,500 - 2,800 vehicles per day) on SR 49 near Coloma are attributable to river use. Approximately 25 percent of weekend traffic on SR 193 (500 vehicles) and Lotus Road (1,200 vehicles), and 50 percent of weekend traffic on Salmon Falls Road south of SR 49 (800 - 900 vehicles) is estimated to be river-related.

Table 9-2 summarizes the heavy vehicle (i.e., 3 or more axle vehicles and busses) traffic

observed on key roadways and parking lot entrances during weekdays and weekends based on the July 1997 counts. This table shows that volume of heavy vehicles is greater during weekend days than weekdays at each parking lot entrance. Heavy vehicle traffic increased slightly during weekends on SR 49 in Coloma, but decreased by about 45 percent on SR 193 near Chili Bar.

Table 9-2

Heavy Vehicle 1 Traffic - Existing Mid-Summer Conditions

Roadway Segment or Parking Lot	Weekday Conditions		Weekend Conditions	
	Percent Heavy Vehicles	Heavy Vehicles Per Day	Percent Heavy Vehicles	Heavy Vehicles Per Day
SR 193 south of American River	25 %	575	13 %	325
SR 49 south of Mt. Murphy Road	4 %	150	4 %	175
Chili Bar Public Parking Lot	14 %	20 in / 20 out	12 %	35 in / 35 out
Chili Bar Nugget Campground Commercial Lot	40 %	20 in / 20 out	35 %	35 in / 35 out
Henningsen-Lotus County Park	10 %	10 in / 10 out	11 %	45 in / 45 out
Salmon Falls Skunk Hollow Parking Lot	10 %	10 in / 10 out	15 %	75 in / 75 out
Salmon Falls Parking Lot south of river	15 %	15 in / 15 out	23 %	70 in / 70 out

Notes: 1 Heavy vehicles are defined as vehicles with 3 or more axles or busses (including private vehicles with trailers).

Source: Counts conducted by Fehr & Peers Associates on July 24-30, 1997.

The accident history between January, 1995 and December, 1997 on roadways providing access to the river was provided by El Dorado County DOT and Caltrans. Table 9-3 summarizes the number of accidents, number of fatalities, and rate of accidents per million vehicle miles of travel.

Table 9-3

Accident History (1995 - 1997) on Roadways Providing Access to River

Roadway	1995		1996		1997		Actual Accid. Rate 1
	Accids.	Fatalities	Accids.	Fatalities	Accids.	Fatalities	
Lotus Road - Gold Hill Rd. to Bassi Road	11	1	3	0	2	0	2.42
Lotus Road - Bassi Road to SR 49	2	0	3	0	1	0	1.18
Salmon Falls Rd. - SR 49 to Salmon Falls. Bridge	11	0	6	0	9	0	3.98
Cold Springs Rd. - Gold Hill Rd. to SR 49	5	0	3	0	3	0	1.31
Bassi Road - west of Lotus Road	0	0	1	0	0	0	1.00
SR 193 - north and south of Chili Bar	1995 - 1997: 24 accidents, 0 fatalities						2.39
SR 49 - Cold Springs Road to Marshall Road	1995 - 1997: 16 accidents, 0 fatalities						1.79

Note: 1 Accident rate expressed as accidents per million vehicle miles of travel.

Source: Caltrans and El Dorado County DOT Accident Data, 1998.

The 4-mile segment of SR 193 in the vicinity of Chili Bar and the 4.5-mile segment of Salmon Falls Road between SR 49 and the Salmon Falls Bridge experienced an average of approximately 8 accidents per year between 1995 and 1997. An average of about five accidents per year occurred on the segments of SR 49 from Cold Springs Road to Marshall Road and Lotus Road from Gold Hill Road to Marshall Road. One fatality was reported on Lotus Road north of Thompson Hill Road in 1995.

9.2.3 Existing Parking Facilities

Table 9-4 displays the number of parking spaces provided at the primary parking lots providing access to the river. As noted in Table 9-4, additional parking is provided at Coloma Resort, Marshall Gold SHP, the Highway 49 Bridge, Camp Lotus, and at various commercial outfitter campgrounds and accesses.

Table 9-4

Parking Lot Capacities

Parking Lot	Number of Parking Spaces
Chili Bar Public Parking Lot	205
Chili Bar Nugget Campground Commercial Lot	91
Henningsen-Lotus County Park	173
Salmon Falls Skunk Hollow Parking Lot	27
Salmon Falls Parking Lot south of river	29

Note: Additional parking is provided at Coloma Resort, Marshall Gold State Historic Park, Highway 49 Bridge, Camp Lotus, and various commercial camping and access areas. Table 6-1 on page Alt 1-3, Appendix D, summarizes the parking capacities at these and other lots.

Source: El Dorado County Parks and Recreation Department, 1998.

Field observations and traffic counts were conducted to identify the usage of parking facilities near river access sites and the extent of illegal parking. In addition to the off-street public parking lot located north of the American River at Chili Bar, on-street parking is permitted south of the river on the west side of SR 193 but prohibited on the east side of SR 193. Field observations on Saturday, July 26, 1997 identified a few illegally parked vehicles on the east side of SR 193 south of the river and on the west side of SR 193 north of the public parking lot.

Parking violations in the Lotus/Coloma area most frequently occur on Lotus Road north of Henningsen-Lotus County Park with three or four illegally parked vehicles observed each hour. Few, if any, illegally parked vehicles were observed on SR 49 in Coloma or at the Salmon Falls take-out area. This information suggests that illegal parking was not a serious problem on Saturday, July 26, 1997. This finding was confirmed by additional field observations in 1998.

Field observations indicated numerous legally parked vehicles on the west side of Salmon Falls Road south of the river. According to the El Dorado County Parks and Recreation Department, up to 100 vehicles have been observed parked on Salmon Falls Road on either

side of the river. This amount of on-street parking increases the possibility of a conflict between vehicles and pedestrians.

9.2.4 Future (2015) Conditions

The El Dorado County 2015 Travel Demand Model was used as a basis for determining future average weekday traffic volumes. It should be noted that no specific provisions (e.g., assumption of additional recreational facilities) were made in the model to account for expected increases in river usage. Thus, additional traffic associated with additional river usage was added to the estimates generated by the model. The resulting future (2015) conditions mid-summer weekday daily traffic volumes are displayed on Figure 9-4. Mid-summer weekend daily traffic volumes were determined based upon the ratio of the existing mid-summer weekday-to-weekend volume plus expected increases in weekend traffic associated with additional river usage. The results are shown on Figure 9-4.

This section (9.2.4) functions as the cumulative impact analysis referred to in Section 16.4.2.6.

El Dorado County Parks and Recreation Division staff provided historical growth data of river usage. The following changes in commercial and private boating have occurred:

_ Weekend commercial rafting trips have not increased significantly over the past ten years due to the commercial permitting system, which limits river use.

_ Weekday commercial rafting trips have increased by 75 percent in the last ten years. This corresponds to an average growth rate of 6 percent per year.

_ Private boating has increased 250 percent since the mid 1980's with the majority of the increase occurring during weekends. This corresponds to an average growth rate of 6 percent per year (over 15 years).

For the future (2015) conditions analysis, commercial weekend rafting operations were assumed to be similar to existing conditions due to the commercial permitting system. Weekday commercial rafting operations were assumed to increase by six percent per year, but not to exceed the maximum permitted allocation. Private boating on weekdays and weekends was assumed to increase by six percent per year through 2015 consistent with historical growth rates.

Figure 9-4 displays the future (2015) conditions mid-summer weekday and weekend daily traffic volumes at the parking lot entrances providing access to the river. It should be noted that these volumes represent the demand for parking and not necessarily the supply. At certain locations, the demand for parking will exceed the supply and will result in either off-street parking (legal or illegal) or the river trip not being made. Consequently, the estimates of future river usage are conservative and represent a worst-case assessment of parking and traffic conditions in the vicinity of the river.

Figure 9-4: future volumes

The 20-Year Capital Improvement Program (CIP) for El Dorado County includes the following roadway improvements within the study area.

_ Construct passing lanes on Cold Springs Road north and south of Gold Hill Road;

_ Construct passing lanes on Lotus Road south of Gold Hill Road and realign Lotus Road between Granite Creek and MP 5.95 to include 12-foot travel lanes and 8-foot shoulders;

_ Construct passing lanes on Salmon Falls Road between MP 7.85 and SR 49; and

_ Construct spot improvements along curved sections of SR 49, SR 193, Cold Springs Road, Lotus Road, Marshall Road, and Salmon Falls Road.

According to recent legal interpretations, only projects with assured funding can be assumed in place for the cumulative analysis. Therefore, only projects included in the five-year CIP were assumed to have assured funding. The five-year CIP includes spot improvements at several locations on Salmon Falls Road and no other improvements on any other study roadways. Therefore, no improvements were assumed in place for the future conditions analysis.

Figure 9-5 displays roadway levels of service for future (2015) conditions. As shown, all roadways are expected to operate at LOS D or worse. Traffic operations are projected to be at LOS F on SR 49 in Coloma during peak summer use weekends.

9.3 IMPACTS AND MITIGATION MEASURES

9.3.1 Standards of Significance

For the purposes of this transportation impact analysis, the following standards were developed with the assistance of El Dorado County DOT to determine the significance of impacts. The project results in a significant impact if it would:

1) Degrade operations on a roadway to a LOS that is worse than those listed below:

- Cold Springs Road from Cool Water Creek to SR 49: LOS E

- Lotus Road between Gold Hill Road and SR 49: LOS D

- Marshall Road north of SR 49: LOS E

- Salmon Falls Road south of New York Creek bridge: LOS D

- Salmon Falls Road north of New York Creek bridge: LOS E

- SR 193 south of American River bridge: LOS E

- SR 49 in Coloma and Lotus: LOS E

(These level of service thresholds were developed as part of the 1996 update to the El Dorado County General Plan);

2) Add traffic to a roadway that already operates (or is projected to operate) worse than the level of service thresholds listed above;

3) Increase the traffic volume on a collector street with fronting residences to above 4,000 vehicles per day, or increase traffic on a collector street with fronting residences that currently carries (or is projected to carry) in excess of 4,000 vehicles per day;

4) Increase the volume of heavy vehicles (i.e, vehicles with three or more axles or busses) on any study roadways (resulting in increased maintenance costs);

5) Result in a demand for parking that exceeds the available supply; or

6) Increase illegal parking near river accesses.

Impact Analysis Methodology

The following summarizes the transportation-related aspects of the proposed project and the three alternatives followed by a list of assumptions made for each alternative to perform the analysis. These assumptions represent an estimate of the effects of each alternative on river usage, traffic conditions, and parking for each alternative.

RMAC Alternative (Proposed Project)

The RMAC Alternative was selected as the proposed project by the Board of Supervisors. It consists of educational, safety, transportation, river activity monitoring, and community coordination programs as well as special use permits, regulations and ordinances, and new facilities. The following summarizes the key transportation-related aspects of this alternative:

figure 9-5: future roadway levels of service

_ Interim Shuttle Program - consists of identifying a central meeting location that would allow boaters to organize shuttles of their own. Public bus transportation would then be provided if necessary. The staging area would be along SR 49 north of Coloma.

_ Double Fine Zones - would be enacted to counteract illegal parking.

_ Commercial Permit Changes - would be made to increase weekday use by no longer limiting total weekday allocations based on daily maximums.

_ More Parking at Salmon Falls - would be provided.

_ Take-Outs at Marshall Gold SHP - would be permitted for private boaters.

For analysis purposes, the interim shuttle program was assumed to include the shuttle staging area, but not a privately-operated shuttle service. The provision of a shuttle staging area is not expected to result in a large number of self-organized shuttles or carpools. Therefore, this component of the project is not expected to significantly alter traffic levels or travel patterns.

Since illegal parking was observed to be minimal, the double fine zones are not expected to have any significant effects. However, illegal parking may result at Marshall Gold SHP if private boater take-outs are permitted. The provision of additional parking at Salmon Falls will improve parking conditions and circulation in the area. The commercial permit changes would allow for increased weekday commercial rafting operations, which could be expected to result in a slight increase in weekday traffic levels. No significant change in weekend river usage or traffic levels is expected with the proposed commercial permit changes.

A middle reach run has also been proposed under this alternative. This run, which would begin at Marshall Gold SHP or Lotus-Henningsen County Park and end at Greenwood Creek, would be designed for beginning/intermediate kayakers and "rubber-ducky" rafters. Utilization of this stretch depends on a number of factors including parking availability at Greenwood Creek or an adjacent commercial campground, publicity of this new run, fees, etc. Since fewer than ten parking spaces are currently provided at Greenwood Creek, any significant levels of usage of the middle run would require additional parking at Greenwood Creek. For analysis purposes, additional parking is assumed and the new middle reach run is expected to attract new users to this stretch of the river.

New users on the middle reach run and commercial permit changes are expected to result in increases in traffic on SR 49, Lotus Road, Salmon Falls Road, and SR 193.

Planning Commission Alternative

This alternative consists of educational, safety, transportation, and community programs as well as special use permits, regulations and ordinances, carrying capacities, and new facilities. The following summarizes the key transportation-related aspects of this alternative:

_ Demonstration Shuttle Program - would evaluate the feasibility, operational parameters, equipment needs, and scheduling requirements of a shuttle system.

_ Interim Shuttle Program - would consist of identifying a central meeting location to allow boaters to organize shuttles of their own. Public bus transportation would then be provided if necessary. The staging area would be along SR 49 north of Coloma.

_ Reasonable Fees - would be assessed for private boaters to pay for the cost of County River Management.

_ Additional Commercial Permits - would be considered as a means to provide user days to small commercial users through a pooling process.

_ Commercial Permit Changes - would be made to increase weekday use by no longer limiting total weekday allocations based on daily maximums.

_ More Parking at Salmon Falls - would be provided.

_ Take-Outs at Marshall Gold SHP - would be permitted for private boaters.

In addition to the above, surveys of users and property owners would be conducted to assess user satisfaction and property owner tolerance of river-user related nuisance complaints. If user satisfaction falls below 75 percent and river-use complaints increase by more than 20 percent, weekend use levels will be reduced to levels which met these thresholds in the prior survey season. Both commercial and private boaters will be limited in their use.

Similar to the proposed project (RMAC Alternative), a middle reach run would be provided from Marshall Gold SHP or Lotus-Henningsen County Park to Greenwood Creek. In addition, the assumptions for the RMAC Alternative related to the Interim Shuttle Program were also assumed for this alternative.

The effects of assessing "reasonable fees" for private boaters to pay for the cost of County River Management depends on the amount of the fee and the collection process. For instance, a fee of $5 per private boater would likely result in fewer overall rafters and more illegal parking (to avoid paying the fee). However, decreases in traffic as a result of private user fees would be somewhat offset by increases resulting from the issuance of additional commercial permits.

The commercial permit changes would allow for increased weekday commercial rafting operations, which could be expected to result in a slight increase in weekday traffic levels. No significant change in weekend river usage or traffic levels is expected with the proposed commercial permit changes.

Given the uncertainty of the effects of the programs proposed under this alternative, it is difficult to quantify changes in river use, traffic conditions, and parking. The middle reach raft run, additional commercial permits, and commercial permit changes are expected to result in increases in traffic on SR 49, Lotus Road, Salmon Falls Road, and SR 193. Increases in illegal parking are possible at Marshall Gold SHP, Chili Bar, and Coloma. It is not possible to determine if reductions in weekend use levels will be mandated as a result of user satisfaction and river-use complaint thresholds being met.

RMAC Alternative With Citizens Committee Thresholds

This alternative consists of the same programs and elements proposed under the RMAC Alternative plus a set of permitted use levels to cap commercial, private, and institutional boaters on the upper and lower sections during peak weekend summer use periods. Management actions to reduce river use would be triggered based on the number of craft (rafts and kayaks) observed in a two-hour period during the peak usage. When a certain level is exceeded three or more times in one year, management actions (such as pricing disincentives, time-based management, non-commercial use permits) would occur the following season. The

following summarizes the thresholds for each of the four levels.

Level I < 300 craft in a two-hour period

Level II 300 - 349 craft in a two-hour period

Level III 350 - 399 craft in a two-hour period

Level IV > 400 craft in a two-hour period or > 3,300 people on any segment per day

Management actions would be applied primarily to peak weekend mid-summer periods. Management actions would be minimized to the extent possible during off-peak periods.

As shown in Table 9-1, 308 craft were observed on the lower section in a two-hour period (10:45 a.m. to 12:45 p.m.) on Saturday, July 26, 1997. Assuming that comparable volumes occurred on at least two other occasions during the summer, then the Level I threshold is currently exceeded on the lower section. The peak two-hour volume on the upper section was observed to be 120 craft, which is significantly less than the Level I threshold. Level I management actions were therefore assumed to be implemented on the lower section for the evaluation of this alternative. The management actions consist primarily of fee increases and better management of private boaters through shuttle, parking, and educational programs. The purpose of these actions is to focus weekend peak use on lesser used segments (i.e., the upper section). These actions are expected to slightly shift usage by private and commercial boaters from the lower section to the upper section during peak weekend use periods. No change in the usage of the lower and upper sections is expected during summer weekdays.

Combined with the middle-reach run and commercial permit changes, Level I management actions are expected to result in a slight increase in traffic on SR 49, Lotus Road, Salmon Falls Road, and SR 193. Increases in illegal parking may occur at Marshall Gold SHP if private boater take-outs are permitted.

Planning Commission Alternative With Citizens Committee Thresholds

This alternative is identical to Planning Commission Alternative except that it uses the citizens committee thresholds (listed in the previous alternative) instead of the user satisfaction thresholds. This alternative is expected to result in an increase in illegal parking at Chili Bar, Lotus, and Marshall Gold SHP. It is also likely to increase traffic levels on SR 49, Lotus Road, Salmon Falls Road, and SR 193.

Table 9-5 summarizes the anticipated transportation-related effects associated with each alternative.

As shown in Table 9-5, each alternative is expected to result in increased traffic volumes (including heavy vehicles) on the primary roadways providing access to the river. Each alternative is also expected to result in a demand for parking that exceeds the available supply and additional illegal parking at certain river accesses.

Unless otherwise noted, all impacts identified below are considered to be potentially significant, adverse impacts. Corresponding mitigation measures are expected to be sufficient to reduce impacts to a less than significant level, unless otherwise noted.

Table 9-5

Anticipated Transportation-Related Effects of Alternatives

Alternative	Would increase traffic volume on study roadways?	Would increase volume of heavy vehicle traffic?	Would result in parking demand that exceeds capacity?	Would increase illegal parking?
Proposed Project (RMAC Alternative)	Yes - (SR 49, SR 193, Salmon Falls Road, and Lotus Road)	Yes - (SR 49, SR 193, Salmon Falls Road, and Lotus Road)	Yes	Yes
Planning Commission Alternative	Yes - (SR 49, SR 193, Salmon Falls Road, and Lotus Road)	Yes - (SR 49, SR 193, Salmon Falls Road, and Lotus Road)	Yes	Yes
RMAC Alternative With Citizens Committee Thresholds	Yes - (SR 49, SR 193, Salmon Falls Road, and Lotus Road)	Yes - (SR 49, SR 193, Salmon Falls Road, and Lotus Road)	Yes	Yes
Planning Commission Alternative with Citizens Committee Thresholds	Yes - (SR 49, SR 193, Salmon Falls Road, and Lotus Road)	Yes - (SR 49, SR 193, Salmon Falls Road, and Lotus Road)	Yes	Yes

Source: Fehr & Peers Associates, 1998.

9.3.2 RMAC Alternative (Proposed Project)

The following significant impacts of the RMAC Alternative were identified. Where possible, each impact is followed by a mitigation measure that would reduce the impact to a less-than-

significant level.

> ***Impact 9.3.2-1*** *Implementation of the RMAC Alternative would increase the volume of heavy vehicle traffic on SR 193, SR 49, Lotus Road, and Salmon Falls Road, which would accelerate pavement deterioration.*

Implementation of the middle reach run and commercial permit changes proposed under the RMAC Alternative would result in additional heavy vehicle trips on SR 193, SR 49, Lotus Road, and Salmon Falls Road, which would accelerate pavement deterioration.

Mitigation Measure 9.3.2-1

Existing revenue sources for maintenance, such as gas taxes and property taxes, will partially mitigate this impact. This impact would be mitigated to a less-than-significant level by making a fair share contribution towards the maintenance costs of these roadways. El Dorado County DOT and Parks and Recreation staff should work together to determine the specifics of this fair share contribution (i.e., the type of payment, collection mechanism, amount, applicable parties, etc.). Possible mechanisms for implementation include payment of a project-specific fee assessed to commercial outfitters and/or private boaters based on the amount of traffic expected to be generated, or through participation in a County-wide financing program for road maintenance (e.g., a sales tax measure) if it is adopted in the future.

> ***Impact 9.3.2-2*** *Implementation of the RMAC Alternative would result in a demand for parking that exceeds the available supply at the Greenwood Creek take-out.*

The middle-reach run proposed under the RMAC Alternative would result in a parking demand at the Greenwood Creek take-out that exceeds the available supply. Although additional parking is expected to be provided at Greenwood Creek, this impact was identified because the project description does not specify the amount and location of the additional parking in relation to the expected increase in demand.

Mitigation Measure 9.3.2-2

This impact could be mitigated to a less-than-significant level by providing an adequate amount of additional parking at the Greenwood Creek take-out. This may be accomplished by providing additional on-street parking or entering into an agreement with the adjacent commercial outfitters or the Bureau of Land Management to allow for private parking on their properties. The required number of parking spaces should be evaluated by El Dorado County Parks and Recreation staff when a more detailed plan for the middle reach raft run is developed and more specific estimates of the increased parking demand can be made.

> ***Impact 9.3.2-3*** *Implementation of the RMAC Alternative would add traffic to SR 49 and Salmon Falls Road south of New York Creek Bridge, which are expected to operate unacceptably under future (2015) conditions.*

Implementation of the RMAC Alternative would result in additional vehicle trips on SR 49

and the segment of Salmon Falls Road south of the New York Creek Bridge. These segments are expected to operate at LOS F and E, respectively, during mid-summer weekends under future (2015) conditions, which would exceed the minimum acceptable level of service on each road.

Mitigation Measure 9.3.2-3

The significance of this impact could be reduced by making a fair share contribution towards the planned improvements to the local and regional roadway system in El Dorado County. El Dorado County DOT and Parks and Recreation staff should work together to determine the specifics of this fair share contribution (i.e., the type of payment, collection mechanism, amount, applicable parties, etc.). The contribution could be made through payment of the Countyís Traffic Impact Mitigation (TIM) fee and the State TIM fee, both of which are programs currently in place for new development to mitigate impacts to roadways in El Dorado County. Roadway improvements contained in the 20-year CIP for Salmon Falls Road south of New York Creek Bridge would improve operations on this segment to acceptable levels with or without the project. Since neither of the fee programs include improvements to the subject segment of State Route 49, payment of the fees does not assure that the impact would be reduced to a less-than-significant level.

Therefore, Impact 9.3.2-3 is significant and unavoidable.

9.3.3 RMAC Alternative with Citizens Committee Thresholds

Implementation of this alternative would result in similar potential transportation and circulation impacts as those described for the proposed Project. Although the impacts of this alternative may be slightly less in magnitude than the RMAC Alternative, it is not possible to quantify this difference due to the uncertain effects of management actions.

Mitigation measures for these potential impacts would also be the same as those described for the proposed Project.

9.3.4 Planning Commission Alternative

Potential impacts and mitigation measures for this alternative would be the same as those described for the proposed Project with an additional impact (Impact 9.3.4-1) described below.

> ***Impact 9.3.4-1*** *Implementation of the Planning Commission Alternative will potentially increase illegal parking near the river accesses at Chili Bar and Coloma. This is considered a significant impact.*

The assessment of "reasonable fees" for private boaters proposed under the Planning Commission Alternative would encourage illegal parking near the river accesses at Chili Bar and Coloma to avoid paying the fee.

Mitigation Measure 9.3.4-1

This impact could be mitigated to a less-than-significant level by identifying an "equitable" fee for private boaters that does not encourage illegal parking in order to avoid paying the fee. El Dorado County Parks and Recreation staff should work with officials from Marshall Gold SHP to identify an "equitable" fee.

9.3.5 Planning Commission Alternative with Citizens Committee Thresholds

Potential impacts and mitigation measures would be similar to those described for the Planning Commission Alternative. Although the impacts of this alternative may be slightly less in magnitude than the Planning Commission Alternative, it is not possible to quantify this difference due to the uncertain effects of management actions.

9.4 EFFECTS FOUND NOT TO BE SIGNIFICANT

9.4.1 All Alternatives

Each alternative was projected to result in a modest increase in traffic on the primary roadways providing access to the river. The projected increases in traffic on roadways that currently (or are projected to) operate acceptably did not worsen traffic operations to unacceptable levels. Therefore, these effects were found not to be significant.

The study segments of Lotus Road and SR 49 carry volumes in excess of 4,000 vehicles per day and have fronting residences. Since they function as arterials and not collector streets, they are not subject to the 4,000-vehicle-per-day threshold identified in the standards of significance. Thus, the traffic added by each alternative on these roadways was found not to be significant in relation to the 4,000-vehicle-per-day threshold.

With up to 100 vehicles parked on the shoulder of Salmon Falls Road during mid-summer weekends, the Salmon Falls take-out area has little reserve parking capacity during peak periods. Although each alternative is expected to result in an increase in the demand for parking at Salmon Falls, this impact was found not to be significant since each alternative also includes the provision of additional parking at Salmon Falls. Since the parking facilities at Chili Bar, Coloma, and Lotus were observed to have sufficient reserve capacity, the increase in parking demand at these facilities was found not to be significant.

9.4.2 Illegal Parking in the Vicinity of Marshall Gold SHP

Increases in illegal parking could occur at Marshall Gold State Historic Park as a result of take-outs being allowed at this location. Although adequate ëpayí parking is provided in the area, boaters may choose to park illegally rather than pay to park because illegal parking areas are available on State Route 49. This impact is considered less than significant because the State Department of Parks and Recreation currently enforce the no-parking restrictions on State Route 49 within the State Park. Therefore, no additional mitigation measures are required.

Back to table of contents

SECTION 10 - NOISE

LIST OF TABLES

LIST OF FIGURES (to be added)

10.1 INTRODUCTION

This section examines potential noise impacts related to the proposed River Management Plan (i.e., the RMAC Alternative or proposed Project) and alternatives. Section 10.2 describes the existing noise environment within the project area, Section 10.3 identifies potential impacts and proposed mitigation measures and Section 10.4 discusses potential impacts which would not be significant.

10.2 SETTING

Potential impacts from the proposed Project and each of the alternatives would occur within the same geographic area; along the South Fork of the American River and adjacent transportation corridors.

10.2.1 Characteristics of Noise

Sound levels in this report are measured in terms of A-weighted sound pressure levels, in decibels (dB). A-weighting de-emphasizes very low and very high frequencies of sound in a manner similar to the human ear. Most community noise standards utilize A-weighting, as it provides a high degree of correlation with human annoyance and health effects.

Figure 10-1 illustrates typical sound levels in A-weighted decibels and subjective reaction due to recognizable sources.

Noise can be defined as unwanted sound. It is important to note that this is a subjective valuation and what is perceived as a pleasing sound to one person, can be an irritant to another. Community noise is commonly described in terms of the "ambient" noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (Leq), which corresponds to a steady-state sound level containing the same total energy as a time-varying signal over a given time period (usually one hour). Conversely, Lmax is used to measure the maximum intensity of an isolated noise event. Both Leq and Lmax standards are set forth in the El Dorado County General Plan as discussed below. L90 is also used in this report. L90 is a measurement of sound levels exceeded 90 percent of the time during a given period (L90 values in this report are based on a one hour time interval).

PAGE HOLDER FOR FIGURE 10-1 "EXAMPLES OF SOUND LEVELS"

USE EXHIBIT 1, "EXAMPLES OF SOUND LEVELS" FROM BBA REPORT (PHASE II APPENDIX I) REMOVE "EXHIBIT 1", REPLACE WITH "FIGURE 10-1"

10.2.2 Sensitive Receptors

Sensitive noise receptors within the River corridor include areas where people reside and participate in recreational activities which can be disrupted by unwanted noise. Areas in the communities of Coloma and Lotus which are adjacent to the River corridor or are adjacent to areas where facilities (e.g., parking areas and trails) may be constructed are potential sensitive receptors to noise generated from river-related activities. Additionally, a number of residences are located along the river corridor, primarily along the middle section near the communities of Coloma and Lotus. These residences are potentially the most sensitive noise receptors within the river corridor, as noise from adjacent river activities may be the only significant human activity noise source affecting these properties.

There are also parks and a number of privately-owned and operated campgrounds located adjacent to the river corridor. These facilities are potential sensitive receptors for certain noise sources; however, since these areas are primarily used for recreation or to accommodate recreationists, they are not considered sensitive receptors for recreation-related noise.

10.2.3 Local Regulations

El Dorado County General Plan Public Health, Safety and Noise Element Criteria

The El Dorado General Plan Noise Element establishes separate noise level criteria for transportation-related noise sources and non-transportation noise sources. Transportation noise sources are defined as "traffic on public roadways, railroad line operations and aircraft in flight". The noise element states that, "non-transportation noise sources may include industrial operations, outdoor recreation facilities, HVAC units, schools, hospitals, commercial land uses, other land uses, etc.".

Table 10-1 shows the County General Plan Noise Element noise source criteria for non-transportation noise sources.

The existing El Dorado County General Plan Noise Element establishes the above noise level criteria for both transportation and non-transportation-related noise sources and has identified goals, objectives and policies related to these criteria. Goal 6.5, Acceptable Noise Levels, of the County General Plan states that the County shall, "Ensure that County residents are not subjected to noise beyond acceptable levels." To this end, Objective 6.5.1, Protection of Noise-Sensitive Development, states that the County should, "Protect existing noise-sensitive developments (e.g., hospitals, schools, churches and residential) from new uses that would generate noise levels incompatible with those uses and, conversely, discourage noise-sensitive uses from locating near sources of high noise levels." As such, the County has developed the following policies that relate to the activities proposed under the Proposed Plan and alternatives.

TABLE 10-1

Noise Level Performance Protection Standards for Noise Sensitive Land Uses

Affected by Non-Transportation Resources

Noise Level Descriptor	7 a.m. - 7 p.m.		7 p.m. - 10 p.m.		10 p.m. - 7 a.m.	
	Community	Rural	Community	Rural	Community	Rural
Hourly Leq, dB	55	50	50	45	45	40
Lmax, dB	70	60	60	55	55	50

Each of the noise levels specified shall be lowered by five dB for simple noises, noises consisting primarily of speech or music, or for recurring impulsive noises. Additionally, the County may impose noise level standards which are up to 5 dB less than those specified above based upon determination of existing low ambient noise levels in the vicinity of the project site. In community areas the exterior noise level standard shall be applied to the property line of the receiving property. In rural areas, the exterior noise level shall be applied at a point 100 feet away from the residence.

(Source: El Dorado County General Plan, Noise Element)

Policy 6.5.1.1

Where noise-sensitive land uses are proposed in areas exposed to existing or projected exterior noise levels exceeding the specified levels or performance standards, an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design.

Policy 6.5.1.2

Where proposed non-residential land uses are likely to produce noise levels exceeding County performance standards at existing or planned noise-sensitive uses, an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design.

Policy 6.5.1.3

Where noise mitigation measures are required to achieve County standards, the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered a means of achieving the noise standards only after all other practical design-related noise mitigation measures have been integrated into the project and the noise barriers are not incompatible with the surroundings.

Policy 6.5.1.6

New noise-sensitive uses shall not be allowed where the noise level, due to non-

transportation noise sources, will exceed County noise level standards unless effective noise mitigation measures have been incorporated into the development design to achieve those standards.

Policy 6.5.1.7

Noise created by new proposed non-transportation noise sources shall be mitigated so as not to exceed County noise level standards for noise-sensitive uses.

Policy 6.5.1.8

New development of noise sensitive land uses will not be permitted in areas exposed to existing or projected levels of noise from transportation noise sources which exceed specified levels unless the project design includes effective mitigation measures to reduce exterior noise and noise levels in interior spaces to the specified levels.

Policy 6.5.1.9

Noise created by new transportation noise sources, excluding airport expansion but including roadway improvement projects, shall be mitigated so as not to exceed specified levels at existing noise-sensitive land uses.

Policy 6.5.1.10

To provide a comprehensive approach to noise control, the County shall:

A. Develop and employ procedures to ensure that noise mitigation measures required pursuant to an acoustical analysis are implemented in the project review process and, as may be determined necessary, through the building permit process.

B. Develop and employ procedures to monitor compliance with the standards of the Noise Element after completion of projects where noise mitigation measures were required.

Quiet Zone

Since 1981 a designated Quiet Zone has been required to be observed by both commercial and non-commercial users. The Quiet Zone extends from the South Fork of the American River's confluence with Indian Creek to its confluence with Greenwood Creek. In this zone, yelling and screaming (except during emergencies), as well as water-fighting and other loud noises must be actively discouraged by guides. Guides are asked to explain this requirement to their passengers and instruct them not to comment or yell at landowners, pets, wildlife, or other people in this zone. (The area in the vicinity of Troublemaker Rapid is exempt from these requirements.) The Quiet Zone also prohibits short commercial trips from starting and ending in this zone (with the exception of kayak trips). It is important to note, however, that if an outfitter guide is actively discouraging noise-making, no citation can be issued even if the group is noisy. Non-commercial users cannot be cited for noise violations in the Quiet Zone.

Section V, part C 5.0 in the 1984 RMP outlines the following boundaries and rules for the Quiet Zone:

_ 5.3.1 Quiet Zone - begins at Indian Creek above Coloma, and ends at Greenwood Creek below Rivers Bend;

_ 5.3.2 Noise in the Quiet Zone - All commercial outfitters are required to counsel their passengers to refrain from loud noises, screaming and yelling in the Quiet Zone; and

_ A Class 1 violation in the Quiet Zone may be issued for any non-emergency yelling or screaming by passengers which is not actively being discouraged by the guide, except for normal noise associated with downriver travel in rapids.

_ "Out of respect of the rights of the landowners, a [Quiet Zone] was designated in 1981 along the South Fork, extending from above Coloma to the Rivers Bend area below Camp Lotus. The observance of this [Quiet Zone] was required of the commercial outfitters by a condition placed on the approval of their WRAP. All outfitters are obligated by their permit to explain and abide by the [Quiet Zone] requirements. Where violations of the [Quiet Zone] occur, the County may initiate action against that outfitter's permit." 1984 RMP section IV, pg. 115

Current management actions toward non-commercial users are directed towards educating private users of boundaries and sensitivities of the Quiet Zone.

10.2.4 Existing Noise Levels

As a means of quantifying typical noise levels along the South Fork of the American River and to comply with acoustical measurement requirements of General Plan policies, Brown-Buntin Associates (BBA) continuous hourly noise level measurements were conducted for between three and seven days, at four sites along the river. Noise monitoring survey locations are shown on Figure 10-2 and noise monitoring results are summarized in Table 10-2.

Short-term noise level measurements of kayaking and rafting activities along the river were also taken, and noise level measurements were conducted at the Salmon Falls takeout. The continuous noise level measurements were conducted along the river to document noise exposure at areas adjacent to the river which may be designated as Quiet Zones or in close proximity of high activity areas of the river. Four noise monitoring sites were selected to be representative of typical noise sensitive areas adjacent to the river.

Noise monitoring systems were calibrated with acoustical calibrators in the field prior to use. The systems comply with all pertinent requirements of the American National Standards Institute (ANSI) for Type I sound level meters. A complete description of methodology and the set of results can be found in Appendix I of the River Management Plan Update Phase II Report.

A summary of the locations and noise monitoring results are presented below. It is important to note that although river use contributes to river corridor noise levels, a number of noise

sources including traffic, on-shore activities and natural noise sources such as flowing water and geese, combine to create the existing noise environment.

Monitoring Site 1, Chili Bar

This site was located approximately 40 feet from the edge of the river, directly across from a "bed-and-breakfast" below the Chili Bar put-in. Noise measurements were conducted from 11:00 a.m. on July 22 to 11:00 on July 29, 1996. At noise monitoring Site 1, the measured L90 values appear to be a function of water flow. The measured L90 and Leq values consistently agree within 1 or 2 dB. The measured hourly noise levels were consistently in excess of the County standards. The occasional loud single noise event did not significantly influence the overall measured hourly Leq values.

Monitoring Site 2, Across from American River Resort

The site was located approximately 60 feet from the edge of the river, directly across from the American River Resort. The site was approximately 500 feet above Trouble Maker rapid. The nose measure were conducted between 1:00 p.m. on July 22 and 11:00 a.m. on July 25, 1996. The measurement equipment experienced a loss of power after approximately 3 days. At noise monitoring Site 2, the measured L90 values appear to be a function of water flow.

At monitoring Site 2, the measured L90 and Leq values consistently agree within 1 or 2 dB, with an occasional single noise event which inflates the measured Leq value for a given hour. The measured hourly noise levels were consistently in excess of the County standards.

Monitoring Site 3, Across from Marshall Gold Discovery State Historical Park

The site was located directly across the river from Marshall Gold Discovery State Historical Park boat launch, approximately 50 feet from the edge of the river. The noise measurements were conducted between 1:00 p.m. on July 22 and 11:00 a.m. on July 29, 1996. At noise monitoring Site 3, the measured L90 values appear to be a function of water flow. At noise monitoring Site 3, the measured Leq values were influenced throughout most of the measurement period due to activity at the Marshall Gold Discovery State Historic Park and traffic along Highway 49. The measured hourly noise levels were generally in compliance with the daytime County standards.

PAGE HOLDER FOR FIGURE 10-2, "LOCATIONS OF NOISE MONITORING SITES" USE "FIGURE 1" FROM BBA NOISE REPORT (PHASE II, APPENDIX I) -- NEED TO CHANGE TITLE AND FIGURE NUMBER.

INSERT TABLE III FROM APPENDIX I IN PHASE II APPENDICES AND CHANGE TABLE NUMBER TO TABLE 10-2. Two pages, landscape.

Table 10-2 (continued)

Monitoring Site 4, Barking Dog Rapid/5531 Bassi Road

The site was located approximately 75 feet from the edge of the river at 5531 Bassi Road. Monitoring was conducted between 11:00 a.m. on July 24 and 6:00 p.m. on July 31, 1996. Noise monitoring Site 4 was noted as having numerous noise sources which contributed to the overall noise levels. L90 values were influenced by water flow. Measured background Leq values were heavily influenced by on-site noise sources. On-site noise sources such as domestic geese and dogs, and river activities (rafting and kayaking) contributed to the overall measured hourly Leq and Lmax noise levels. The measured hourly noise levels were consistently in excess of the County standards.

It is not possible to discriminate between the contribution of measured noise levels due to on-site noise sources and river use. However, as described later in this report, measured maximum noise levels in excess of 60 dB are probably due to domestic geese and dogs. Measured maximum noise levels of up to 60 dB could be due to on-site noise sources or river use.

Rafting and Kayaking Maximum Noise Levels

Noise level measurements were conducted as groups of people in rafts and kayaks were passing by the residence at 5531 Bassi Road on August 10, 1996. Noise level measurements were conducted for approximately two hours. This site is the same location as Site #4 for the river continuous noise monitoring survey. During the noise monitoring survey, noise levels due to people yelling, adjacent campground use and on-site domestic animals were measured and noted. Generally, maximum noise levels due to people yelling and laughing while passing by the residence ranged between 54 and 58 dB. People yelling at Barking Dog rapid produced maximum noise levels between 53 and 60 dB. One measured maximum noise level due to a commercial guide provoking domestic geese on the property was 71 dB. Measured maximum noise levels due to on-site domestic geese ranged between 57 and 73 dB. No water fights were observed during the noise measurement period.

Table 10-3 shows the results of the measured noise levels.

River Takeout Noise Levels

On August 10, 1996 BBA conducted noise level measurements at the Salmon Falls State Recreation Area takeout. Noise level measurements were conducted to assist in determining typical noise levels associated with the commercial takeout. Equipment used for the noise level measurements included a Larson-Davis-Laboratories (LDL) Model 700B precision integrating sound level meter. The equipment was calibrated prior to use to ensure the accuracy of the measurements.

The major noise sources noted during the noise measurement survey included people talking, and buses and cars entering and leaving the area. In particular, bus operations were the major noise source. For the purposes of this discussion, noise generated by buses at the takeout area is considered to be a non-transportation noise source as this noise is associated with an on-site

activity versus traffic within a designated transportation corridor. Background noise levels during the noise survey indicated that average noise levels at a distance of approximately 50 feet from the edge of the parking lot ranged between 50 and 55 dB Leq. Typical sound exposure levels (SEL) due to bus pass-bys at a distance of 40 feet ranged between 74.5 and 80.5 dB SEL. The calculated mean SEL due to bus passbys at a distance of 40 feet was 78.6 dB.

Based upon the noise level measurement data, 5 bus pass-bys per hour would result in an hourly Leq of 50 dB at a distance of 40 feet from the buses. A total of 16 bus pass-bys per hour would result in an hourly Leq of 55 dB at a distance of 40 feet from the buses. As these levels, 50 and 55 dB, are the maximum allowable under the County's non-transportation noise standards for rural and community daytime Leq levels, bus volumes above five trips per hour in rural areas and 16 trips per hour in community areas would likely exceed County standards. Bus volumes generated by commercial outfitters currently exceed these levels on high-use weekends and some weekdays. Thus, it is expected that combined with private boater vehicle trips, noise generated from current river take-out activities currently exceed County noise standards on days of moderate to high river use levels.

Summary of Noise Survey Results

The river noise survey results indicate that typical hourly average noise levels at the monitoring sites are in the range of 50 dB to 69 dB Leq. This would generally indicate that existing noise levels at the monitoring sites exceeded the El Dorado County General Plan noise level performance standards during each of the time periods. In most cases, sources other than the flowing water of the river itself cannot be isolated as being the cause of the exceedences. Additionally, traffic noise associated with river use may currently exceed General Plan noise level performance standards for transportation-related noise sources.

10.3 IMPACTS AND MITIGATION MEASURES

This section discusses potential impacts of the proposed plan and alternatives. Unless otherwise noted, all impacts are considered to be potentially significant and mitigation measures are expected to be sufficient to reduce impacts to a less than significant level.

TABLE 10-3

Rafting and Kayak Pass-by Noise Levels/5531 Bassi Road

Time	# Rafts	# Kayaks	Duration (Minutes)	Noise Level, dB	Comments
				Lmax	
11:26	14	-	2	73.0	People yelling: 56 dB. Geese: 73 dB.

11:30	3	2	2	56.0	
11:34	6	-	2	57.5	Commercial guide provoking geese: 71 dB.
11:37	13	2	4	71.0	56 dB from adjacent campground.
11:42	6	-	2	56.0	People laughing: 58 dB. Geese: 60 dB.
11:47	2	-	1	56.0	People yelling at Barking Dog rapid: 58 dB.
11:50	14	-	4	60.0	
11:56	15	-	4	56.5	Geese: 58.5 dB.
12:00	17	1	2	53.5	People provoking geese: 58 dB.
12:05	4	-	1	59.0	
12:07	6	7	4	58.5	
12:11	5	4	2	52.0	
12:20	2	-	1	58.0	
12:24	3	-	1	51.0	Geese: 58 dB.
12:26	1	-	1	52.0	
12:27	3	-	1	56.5	
12:28	4	-	1	56.0	
12:30	2	-	1	58.0	
12:32	3	2	1	58.0	
12:35	5	11	2	58.0	
12:38	1	-	1	50.5	Geese: 59.5 dB. People yelling: 55 dB.
12:40	1	4	1	57.0	People yelling at Barking Dog rapid: 60 dB.
12:42	7	6	4	56.5	
12:49	-	2	1	54.0	
12:50	8	-	3	58.5	
12:55	2	-	1	52.5	

12:56	7	-	2	59.5	
13:16	5	3	3	60.0	

Unless otherwise noted, measured noise levels were due primarily to human activity.

Noise due to water flow was generally in the range of 48 to 50 dB.

10.3.1 Standards of Significance

The following criteria was used to determine the significance of noise that could be generated from activities resulting from the implementation of an updated river management plan. Noise resulting from the implementation of the proposed plan and alternatives is considered significant if it would create the potential to:

_ Exceed related County noise standards, contribute to noise levels which currently exceed County noise standards, or increase the occurrence of County noise standard exceedence;

_ Increase violations of the river Quiet Zone;

_ Substantially increase ambient noise levels in surrounding areas; or

_ Create new noise sources that could affect sensitive receptors.

10.3.2 RMAC Alternative (Proposed Project)

Potential impacts to the noise environment could occur as a result of implementing various elements of the RMAC Alternative.

Impact 10.3.2-1

Noise generated during construction of new facilities or improvements to existing facilities could cause short term increases to ambient noise levels and could exceed County noise standards.

Specific sites for construction of parking areas for the interim shuttle program, trails and restrooms have not been identified. The these facilities could be located adjacent to sensitive noise receptors. The sites ultimately selected could require the use of construction equipment and grading and clearing activities which would generate noise to the surrounding environment and could exceed County noise standards.

Typical noise levels generated from construction equipment are shown in Table 10-4. While this equipment may be used for the construction of parking areas, it is likely that activities related to restroom and trail construction would be on a much smaller scale and would not generate noise louder than the levels shown in Table 10-4.

TABLE 10-4

Construction Activity and Equipment Noise Levels

Type of Activity/Equipment	Maximum Sound (in dBA at 50 feet from source)
Ground Clearing	84
Graders	88
Bulldozers	87
Heavy Trucks	88
Backhoe	85

Source: *Environmental Noise Pollution*, Patrick R. Cunniff, 1977

Potential impacts due to construction of new facilities would be short-term, but would create a new, temporary, noise source; could exceed County noise standards; and could substantially increase noise in adjacent areas. As a worst-case scenario, sensitive noise receptors could be exposed to noise levels up to 89 dBA, depending on surface topography and distance to construction activities.

Mitigation Measure 10.3.2-1

(a) All construction vehicles will be equipped with properly operating and maintained mufflers.

(b) Construction activities will only occur between the hours of 7:00 a.m. to 6:00 p.m., Monday through Friday and 8:00 a.m. to 6:00 p.m. on Saturdays. No noise-generating construction activities will occur on Sundays or Holidays.

(c) Construction vehicle staging areas shall be located as far from adjacent residences or businesses as practicable.

Impact 10.3.2-2

Noise levels could increase at and near existing and new facilities.

Use of new facilities such as parking areas, restrooms and trails would result in increased human presence and activities at these areas. These activities could result in increased noise levels such as vehicle-related noise (e.g., running engines and doors opening and closing),

voices (including shouting), and noises related to loading and unloading rafting equipment and vehicle passengers.

Due to the nature of use of these facilities, it is likely that they would be used during daytime hours and, in the case of the interim shuttle parking areas, only on days of peak river use. However, the use of these facilities would introduce a new noise source to surrounding areas.

As discussed previously, noise levels out river takeout facilities may currently exceed County noise standards for non-transportation noise sources. Increase river use, due the expected growth rate and creation of a longer middle reach, could result in increased noise levels and existing facilities. These exceedences are primarily a result of commercial outfitter us traffic. The anticipated increased use of put-in and take-out facilities would primarily be a result of increased private boater use. As such, a significant increase in noise levels at existing facilities is not anticipated. Therefore, the mitigation measures below specifically address new facilities.

Mitigation 10.3.2-2

(a) When determining locations for the parking areas and restrooms, the County will avoid selecting sites adjacent to sensitive noise receptors whenever feasible.

(b) When determining routes for trail systems, the County will avoid selecting routes adjacent to sensitive noise receptors whenever feasible.

Impact 10.3.2-3

Increased river use and the addition of a middle reach, due to the development of a convenient private boater take-out near Highway Rapid, could increase violations of Quiet Zone regulations.

The anticipated increase in river use due to the expected growth rate would increase the occurrence of whitewater recreation-related noise impacts as a result of additional boaters. In addition, allowing private boaters to take-out near Highway Rapid would likely increase use of the middle reach (between Coloma and Highway Rapid) which encompasses much of the Quiet Zone. The boaters using this reach would likely be a less informed and a more "casual" type of private boater and, thus, would likely result in an increase in the frequency of Quiet Zone violations. Quiet Zone enforcement mechanisms are not currently applied to private boaters and therefore could not be used to reduce this impact.

Noise monitoring survey results indicated that County noise ordinances related to non-transportation resources are already often exceeded at certain locations along the river. Any increase in use would likely increase the occurrence of noise ordinance exceedence for both hourly noise levels (Leq) and maximum noise levels (Lmax).

Implementation of the following mitigation measure would reduce Impact 10.3.2-3:

Mitigation Measure 10.3.2-3

(a) The County will increase efforts to educate boaters (especially those putting in at Marshal Gold Discovery Park and at Henningsen-Lotus Park) of the requirements and sensitivities of the Quiet Zone.

(b) The County will increase on-river signage as a reminder to rafters when they are within the Quiet Zone.

(c) The County will amend Quiet Zone regulations and enforcement mechanisms to enable the issuance of citations to private rafters violating Quiet Zone requirements.

Impact 10.3.2-3 would remain significant and unavoidable even with the implementation of this mitigation measure.

Impact 10.3.2-4

Limiting commercial outfitter capacities by week instead of by day could increase violations of the Quiet Zone.

As discussed in Section 7, Recreation, allowing commercial outfitters to maximize weekday group using weekly limits instead of daily limits could increase the total number of weekday rafters. An increase in commercial rafter volumes would create the potential for increased Quiet Zone violations on weekdays.

Mitigation Measure 10.3.2-4

(a) The County will require commercial outfitters who utilize weekly limits to increase their discouragement of Quiet Zone violations.

(b) The County will allow citations to be issued to commercial clients who violate the Quiet Zone when being discouraged by guides.

10.3.3 RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 12)

Potential impacts to the noise environment that could result from implementation of Alternative 12 and proposed mitigation measures are the same as those discussed under the propose Project in Section 10.3.2. However, Impact 10.3.2-3 would be less significant once use levels reached thresholds which would result in increased management to reduce river use levels. Impact 10.3.2-3 would remain significant and unavoidable under this alternative.

10.3.4 Planning Commission Alternative

Potential impacts to the noise environment that could result from implementation of the Planning Commission Alternative and proposed mitigation measures are the same as those discussed under the proposed Project. However, Impact 10.3.2-3 would be reduced due to certain elements of the Planning Commission Alternative. These elements include:

_ Issuing a pre-trip brochure to river users with map that would show Quiet Zone boundaries and would describe County ordinances and requirements related to noise violations;

_ Replacing the current boater tag with a personal boater tag which would include a code of conduct and signature/date line accepting the conditions;

_ Development of a safety-based code of river etiquette for all boaters which would be adopted by ordinance to allow more effective citation of persons conducting unsafe activities or disturbing the river environment and Quiet Zone; and

_ Reducing commercial and private use levels if boater satisfaction decreases to below 75% or resident complaints increase by more than 20%.

In addition to these elements, Mitigation Measure 10.3.2-3 would be implemented; however, Impact 10.3.2-3 would remain significant and unavoidable under this alternative.

10.3.5 Planning Commission Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 14)

Potential impacts to the noise environment that could result from implementation of Alternative 14 and proposed mitigation measures are the same as those discussed under Alternative 13 in Section 10.3.4. However, Impact 10.3.2-3, which would occur under the proposed Project and Alternative 13, would be less significant once river use levels reached thresholds which would result in increased management to reduce use levels. With the elements proposed under this alternative and the implementation of Mitigation Measure, this impact would remain significant and unavoidable.

10.4 EFFECTS FOUND NOT TO BE SIGNIFICANT

10.4.1 Campground Noise Levels

Area residents have expressed concerns over noise levels that currently occur during the rafting season from activities associated with area campgrounds. As river use increases (at varying levels under each of the alternative), as discussed in the sections above, campgrounds may receive a corresponding increase in site demand. Campgrounds are currently regulated by County noise level standards, although it is likely that in some instances noise levels generated from human activities exceed County standards.

In order to increase their current allowable capacities, existing campgrounds are subject to Special Use Permit (SUP) review. Any proposed new campgrounds are also required to obtain an SUP from El Dorado County. Prior to revising or issuing a new SUP, site-specific CEQA compliance activities would be necessary. This CEQA review process would require the County to determine any impacts that may be associated with noise generated from the facility. At such time, potential impacts would be identified and mitigated. It would be speculative to address them presently.

10.4.2 Traffic Noise Levels

As discussed in Section 9, Transportation and Circulation, traffic levels will likely increase in the project area in varying degrees under each of the alternatives due to the expected river use growth rate and the creation of a longer, more popular, middle reach. The Final Environmental Impact Report prepared for the County General Plan (El Dorado County, 1995) projects significant noise impacts resulting from traffic level increases with the implementation of the General Plan. Noise impacts anticipated from area traffic associated with river use increases alone would not likely be a significant impact to the noise environment. However, the cumulative effects of these increases combined with the overall traffic-related noise increases projected in the General Plan EIR could be significant. This potential cumulative impact is discussed in Section 16.4, Cumulative Impacts.

Back to table of contents

Back to table of contents

SECTION 11 - AESTHETICS

11.1 INTRODUCTION

This section examines potential aesthetic impacts related to the proposed Project and alternatives. Section 11.2 describes the existing visual environment in the project area, Section 11.3 identifies potential impacts and proposed mitigation measures and Section 11.4 discusses potential impacts which would not be significant.

11.2 SETTING

This section discusses the visual characteristics of the river as well as the two primary segments of the viewing population. Aesthetics is an important feature of the South Fork of the American River for both

whitewater recreationists and shoreline users and residents, as discussed in sections 11.2.2 and 11.2.3.

11.2.1 Visual Characteristics

The proposed plan and alternatives would affect a segment of the South Fork of the American River from Chili Bar Dam to Salmon Falls in western El Dorado County, California. Geographically, El Dorado County encompasses lands from the western foothills of the central Sierra Nevada Mountain Range, eastward to the California border and includes the southwest quadrant of Lake Tahoe. The County's terrain is predominantly mountainous, with many natural lakes and man-made reservoirs located throughout the region. The Lake Tahoe area is renowned for its natural beauty, and the County abounds with scenic vistas of the rugged peaks of the Sierra Nevada, steep canyon walls and wooded hillsides. Additionally, much of the development within the County, including communities and roadways, maintain the rural character of the County and tend to have minimal effects on the area's visual quality.

The visual setting of the river corridor between Chili Bar and Sahnon Falls consists of a variety of terrain, vegetation and physical features, both natural and man-made. The river passes through both steep walled canyons and narrow river valleys. Much of the river shoreline is densely vegetated with interspersed areas of small sand beaches and rocky outcroppings. Hillsides sloping towards the river generally have less dense vegetative cover with pockets of oak and pine canopy of varying densities interspersed within grasslands. North-facing slopes (generally towards river left) typically support higher densities of undergrowth and shoreline vegetation, whereas south-facing slopes more often support lower densities of undergrowth and often contain interspersed chaparral habitat. Large boulders and sheared rocks are located and along and within the river, often forming the popular rapid sections of the river. The river within the "gorge" section of the lower run is generally narrower than the upstream sections. The shoreline along this area contains less vegetation (especially on the south-facing slopes) than upstream segments and is predominantly steep and rocky. Roadway bridges crossing the river corridor include Highways 193 and 49, and Salmon Falls Road.

Existing development such as residences and other buildings, roadways, bridges, signs, kiosks and campgrounds detract slightly from the natural setting of the river corridor. However, much of the development is unobtrusive and does not dominate area viewsheds from a significant number of locations. In addition, this infrastructure accommodates the viewing public and without it a much smaller segment of the population would have access to the area.

11.2.2 Shoreline Views

Publicly accessible shoreline viewpoints along the river are concentrated primarily at the upper end of the corridor near Chili Bar and along the central reach from Coloma to Highway Rapid. The central reach contains the areas of greatest shoreline use, especially at Marshall Gold State Park and Henningsen Lotus Park. Additionally, a number of residences and campgrounds are located within this central reach. While aesthetic value is subjective, the river's positive contribution to the aesthetic value of the area: flowing water, riparian scenery and wildlife, and for some, observable whitewater activities, create a unique and pleasing visual setting for shoreline viewers.

While the aesthetic value of the river is generally positive, human activities on the river may detract from the visual quality for some viewers. It can be assumed that for these viewers as the numbers of river users increase, the visual quality of the river decreases. As the river currently experiences high levels of whitewater use at certain times of the year and on certain days and times of day, the visual quality of the river at these times is decreased.

11.2.3 On-River Views

While shoreline views of the river corridor are primarily limited to areas easily accessible by land, boaters view the entire corridor from an entirely different perspective. One of the unique aspects of whitewater rafting is the boaters' ability to access remote stretches of a river and experience the natural, undisturbed landscape. As discussed above, some areas within the river corridor have been developed. Some of the most visible manmade features along the river are private residences, campgrounds and three roadway bridges. These developed areas detract from the aesthetic value of the river corridor; however, much of the corridor is undisturbed and retains a predominantly natural visual quality.

Surveys conducted during Phase II of the River Management Plan update process indicate that high levels of river use do not have a negative aggregate impact on river users' recreational experience (see Section 5 of the Phase II Report). However, as with the effects on shoreline viewers, the presence of other boats on the river, especially during periods of peak use, can detract from the natural scenic quality of the river corridor for some river users.

11.3 IMPACTS AND MITIGATION MEASURES

This section discusses potential impacts of the proposed plan and alternatives on the aesthetic quality of the river corridor. It is important to note that this analysis takes into account the existing visual setting, including existing visual "impacts" that may already occur from river use taking place under the current management system.

11.3.1 Standards of Significance

The following criteria were used to determine the significance of potential impacts to the aesthetic environment that could result from the implementation of the proposed Project and alternatives. Impacts to aesthetic resources are considered significant if they have the potential to:

_ Introduce new, visually intrusive facilities to an area with high scenic value;

_ Disrupt, alter or interfere with the natural appearance of an area with high scenic value;

_Increase whitewater-related activities to a degree that would cause a visible increase to shoreline and on-river viewers; or

_Reduce access or availability of shoreline or on-river scenic viewing opportunities.

Unless otherwise noted, all impacts identified below are considered to be potentially significant adverse impacts. Corresponding mitigation measures are expected to be sufficient to reduce impacts to a less than significant level, unless otherwise noted.

11.3.2 RMAC Alternative (Proposed Project)

Impact 11.3.2-1

The construction or expansion of parking areas and restroom facilities could detract from the visual quality of areas adjacent to or within the river corridor.

Under the proposed Project, parking areas would be constructed to provide parking and to encourage the use of a central meeting location for river users and new restroom facilities may be provided to accommodate river users. Final designs and locations of these facilities have not been determined. It is likely that new parking facilities would be constructed along Highway 49 in the vicinity of the communities of Coloma or Lotus and existing parking areas in the vicinity of Salmon Falls Road would be expanded. Restroom facilities would be located adjacent to the river. As such, these facilities, or directional signs, would be visible to roadway travelers, boaters and other area users. Construction of parking areas may require clearing of natural vegetation and grading to alter existing land contours which would detract from the natural appearance of the areas. Construction of restroom facilities would require minimal clearing and the development of short trails to provide access from the river.

Mitigation Measure 11.3.2-1(a)

To reduce potential impacts of parking area development the County shall:

(1) Select parking areas which have been previously graded, cleared or otherwise disturbed whenever possible, or select sights with low visual quality and limited visibility;

(2) Design parking areas in a visually unobtrusive manner;

(3) Retain natural features and vegetation (especially trees) whenever possible; and

(4) Provide refuse receptacles for parking area users to reduce litter and the scattering of debris.
(5) Use native plant species for landscaping.

Mitigation Measure 11.3.2-1(b)

To reduce the potential impacts of restroom facility construction the County would:

(1)Select locations that are setback from the shoreline and allow vegetation to screen structures as viewed from the river, and

(2)Design facilities with a simple unobtrusive architectural appearance and with exterior colors that blend with the surrounding areas.

11.3.3 RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 12)

Potential visual impacts associated with Alternative 12 would be the same as Impact 11.3.2-1, as discussed under the RMAC Alternative. Mitigation identified in Mitigation Measures 11.3.2-1 (a) and 11.3.2-1 (b) as discussed under the RMAC Alternative would be implemented to reduce potential impacts to less than significant levels.

11.3.4 Planning Commission Alternative

Potential visual impacts associated with the Planning Commission Alternative would be the same as Impact 11.3.2-1, as discussed under the RMAC Alternative. Mitigation identified in Mitigation Measures 11.3.2-1 (a) and 11.3.2-1 (b) as discussed under the RMAC Alternative would be implemented to reduce potential impacts to less than significant levels.

11.3.5 Planning Commission Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 14)

Potential visual impacts associated with Alternative 14 would be the same as Impact 11.3.2-1, as discussed under the RMAC Alternative. Mitigation identified in Mitigation Measures 11.3.2-1 (a) and 11.3.2-1 (b) as discussed under the RMAC Alternative would be implemented to reduce potential impacts to less than significant levels.

11.4 EFFECTS FOUND NOT TO BE SIGNIFICANT

11.4.1 Highway Rapid Public Access

Under the proposed Project and each of the alternatives, the development of a public river access area near Highway Rapid could detract from the visual quality of the river. A public river access area near Highway Rapid would be within view of river users on that segment of the river. However, because this area has relatively low visual quality and existing development along the neighboring shoreline, potential land and vegetative disturbance as well as the introduction of increased human activity would not substantially detract from the visual quality of this segment of the river corridor.

11.4.2 Trail Development

Under the proposed Plan and each of the alternatives, the County may develop a foot trail between Henningsen-Lotus Park and the Coloma business district. While the trail may be visible from certain roadside areas and a limited number of residences, it would not dominate views or detract from the visual quality of the area.

11.4.3 Increased River Use Levels

Increased river use levels due to the creation of a middle run and the expected growth rates under each of the alternatives, would result in an increase in visible boaters and equipment on the river. Boaters would be visible from both the shoreline and other boaters on-river. This increase in use could result in increased densities, increased periods of "peak use", or both. However, from a visual standpoint, this increased use is expected to be only slightly noticeable. It is not expected to detract significantly from the existing visual quality (already affected by whitewater activity) and would not be a significant impact to the aesthetic environment of the river corridor.

Back to table of contents

Back to table of contents

SECTION 12 - CULTURAL RESOURCES

12.1 INTRODUCTION

This section provides an overview of the cultural resources within the project area as they relate to the proposed Project and alternatives. Included is a description of the prehistoric and historic setting, along with a discussion of potential impacts and mitigation measures that could reduce, eliminate, or avoid potential adverse impacts to cultural resources.

The setting information is based on information in the Environmental Report for the South Fork of the American River Management Plan (1993).

12.2 SETTING

El Dorado County contains a rich and diverse mix of prehistoric and historic cultural resources. To date, approximately 950 sites (prehistoric and historic) have been officially recorded with the North Central Information Center at Sacramento State University. Over 300 site records have not yet been processed. In addition to the recorded historic sites, there are also 15 properties listed on the National Register, 27 State Historic Landmarks and 25 named gold mining districts (Russo 1993).

12.2.1 Prehistoric Resources

The County was once inhabited by the ancestors of the Nisenan (Southern Maidu), Northern Sierra Miwok, and Washoe people. Nisenan peoples generally occupied the area between the South Fork of the American River and the Cosumnes River from the foothills to the crest of the Sierra Nevada. The Northern Sierra Miwok occupied territory south of the Cosumnes River. Washoe peoples occupied the area east of the crest of the Sierras into Nevada (see Figure 12-1).

Determining the earliest occupation of this area is problematic, as very few excavations have been conducted within the County's boundaries. Sites have been identified dating back as far as 6000 B.C. in the Tahoe Basin region (Layton 1979) and as recent as circa 1800 A.D. on the West Slope of the County. Two "early man" sites have been reported in the southeastern Sacramento area dating to around 12,000 years ago (Johnson 1976; Peak 1981).

A variety of site types have been identified within the County and are expected to be found in various geographic areas, including: village sites with artifacts, housepits, and the remains of dancehouses; cemeteries and cry sites; petroglyphs (rock art); quarries where materials for stone tools were collected and sometimes processed; temporary campsites; bedrock milling areas where acorns and other seeds were processed; scatters of artifacts and tool production waste materials; and ceremonial sites with little or no physical remnants.

Figure 12-1 Native American Groups

A systematic survey of all lands within County jurisdiction has never been conducted. As a result of archaeological field work conducted in the County by archaeological consultants for private and public development projects and by the U.S. Forest Service archaeologists for lands under their jurisdiction, it is estimated that only about 10 percent of the County has been surveyed.

12.2.2 Ethnographic Background

The lifeways and material culture of the three groups occupying the County were very similar in nature. Typically, villages were located on ridges and higher ground near sources of water (Wilson & Towne 1978; D'Azevedo 1986). However, other types of sites were located in various geographical settings depending on the availability of resources (plants, wildlife, lithic material, etc.). Permanent houses were typically conical in shape and covered with brush or earth. Sweathouses and dancehouses are indicative of more recent occupation. As discussed in

the Biological Resources section, a variety of vegetative communities occur within the County which provided a wide range of exploitable resources. All groups subsisted on a varied assortment of fish, game, and plant material. Acorns were a staple throughout most of the territory; other plant materials were used for food, medicinal, and manufacturing purposes. Commonly hunted game included deer, bear, mountain lions, and rabbits (Kroeber 1976; Levy 1978; Wilson and Towne 1978; D'Azevedo 1986).

The Native American populations within the County remained relatively untouched during the early days of European exploration and settlement (the Native American population Statewide was estimated to be 310,000 _ 30,000 at the time of European contact). However, the decade 1845-1855, during the height of the Gold Rush, resulted in the almost complete decimation of the Native American culture, reducing it to some 50,000 persons. The groups within the County were adversely affected due to the proximity to major Gold Rush activity (Cook 1978).

12.2.3 Historic Resources

Structures and Sites

El Dorado County's first mass immigration was precipitated by the discovery of gold at Coloma in 1848. Between 1848 and 1852, boom towns appeared overnight. By 1853, the "bonanza" was over. Placer mining was replaced by hydraulic mining which survived throughout the 1880s. By 1900, much of the transitory population had departed, yet many of the communities created by the Gold Rush of 1849 lived on.

12.2.4 Water Development on the South Fork American River

Water development on the South Fork began in the 1850's as a need for mining operations. Water was needed for hydraulic mining, a gold mining process that required vast amounts of water. In order to get water down to the western slope of the county, water was stored in high Sierra lakes and diverted into and out of the South Fork by ditch, canal, or pipeline. The long history of diverting and importing of water has resulted in the fact that the South Fork American River has not been in a natural "free flow" condition for over 100 years.

This system of ditches, canals, and reservoirs began before the turn of the century. The El Dorado diversion and canal were completed in 1868 and later extended to reach Placerville in 1873. Imports of water from Echo Lakes in the Lake Tahoe basin and Silver Lake on the Silver Fork, near Kirkwood, began entering the system about 1876. This same year, the El Dorado Water and Deep Gravel Mining Company acquired the system and added Medley Lakes. Medley Lakes (Lake Aloha) are in the present-day Desolation Wilderness, seven miles by trail from Echo Lake.

Change of ownerships, enlargements and improvements of the system took place after the turn of the century. The Western States Gas and Electric Company were conveyed the properties for power generation in 1916. They added Twin Lakes (Caples Lake) on the Silver Fork in 1919. Pacific Gas and Electric Company (PG&E) acquired the system in 1928 and have

controlled it ever since. In fact, this same system as acquired by PG&E has operated the El Dorado Canal and El Dorado Powerhouse pretty much the same way it looks today, since 1923.

The water stored in these PG&E operated Sierra reservoirs is carried by tunnel, ditch and pipe or directly released into tributaries that eventually flow into the South Fork American. From Medley Lakes (Lake Aloha) water is discharged into Pyramid Creek which flows into the South Fork. Both Silver Lake and Twin Lakes (Caples Lake) are located off Highway 88 and their water is released into the Silver Fork, which joins the South Fork near Kyburz. Echo Lakes is located in the Upper Truckee River Basin, about a mile from Highway 50. This water enters the South Fork through a tunnel near Echo Summit.

Once the tributaries have emptied into the South Fork, the water has a long journey of many changes. About one-half mile below the confluence of the Silver Fork and South Fork, the El Dorado Diversion Dam diverts some water from the South Fork into the El Dorado Canal. The water travels twenty-two miles to the El Dorado Forebay, which is located about half-mile from the town of Pollock Pines. From the Forebay, the water is used for power generation by dropping through penstocks to the powerplant on the south bank of the South Fork. This is called the El Dorado Powerplant and is about 18 miles east of Placerville. The water is released back into the river at this point.

Sacramento Municipal Utility District (SMUD) has its own projects on the South Fork. In the late 1950's, SMUD began its Upper American River Hydroelectric Project. This is designed to import water from the Rubicon River into reservoirs, then use the water for power generation and release it into the South Fork. Flows are diverted from the Rubicon River, located in the Silver Creek Drainage Basin into Loon Lake Reservoir. After going through the Loon Lake Powerhouse, the water is again diverted through the Robbs Peak Tunnel to the Robbs Peak Powerhouse in the Silver Creek drainage near Kyburz. From Robbs Peak Powerhouse, the water flows into two storage reservoirs; Union Valley and Ice House. These both can be reached from Highway 50 near Riverton. At Ice House, flows are released down the South Fork of Silver Creek to Junction Reservoir above Camino. Releases from Junction Reservoir flow through the Camino Powerhouse and finally enters the South Fork American River at Slab Creek Reservoir, located just below PG&E's El Dorado Powerhouse, 18 miles east of Placerville. Slab Creek operates as a forebay for SMUD's Whiterock Powerplant which is upstream from Chili Bar reservoir. Flows of the South Fork are regulated at Slab Creek Reservoir and diverted by a tunnel to the Whiterock Powerhouse. This SMUD system became fully operational in the 1970's and is one of the main factors in increasing and regulating the flows of the South Fork. Before the development of the SMUD project, PG&E operated the American River Powerhouse near where Rock Creek enter the South Fork. This Powerhouse was replaced during the SMUD construction by the Chili Bar Dam and Powerhouse. The Chili Bar project was conveyed to PG&E in 1962, and remains their facility today. At Chili Bar Reservoir, power releases from the SMUD system are re-regulated to maintain normal flows in the river below Chili Bar. The South Fork flows the remaining 21 miles from Chili Bar unaltered until it reaches the Folsom Dam Reservoir.

12.3 IMPACTS AND MITIGATION MEASURES

12.3.1 Standards of Significance

CEQA applies to impacts on both cultural and paleontological resources (Supplementary Document G: Significant Effects, and Supplementary Document K: Archaeological Impacts). CEQA states that public agencies should seek to avoid damaging effects on archaeological and paleontological resources whenever feasible. If avoidance is not feasible, CEQA states that the importance of the site shall be evaluated using the criteria outlined in CEQA Guidelines.

For purposes of this EIR, an "important archaeological resource" (CEQA Supplementary Document K) is defined as:

1. A resource associated with an event or person of:

_ Recognized significance in California or American history; or

_ Recognized scientific importance in prehistory; or

2. A resource which can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable archaeological or historical research questions, e.g., historic buildings; or

3. A resource which has a special or particular quality such as oldest, best example, largest or last surviving example of its kind; or

4. A resource which is at least 100 years old and possesses substantial stratigraphic integrity; or

5. A resource which involves important research questions that historical research has shown can be answered with archaeological methods.

A paleontological resource is considered significant if it is:

1. A resource that provides important information on the evolutionary trends of plants or animals or provides information of evolutionary links between extinct and living organisms;

2. A resource that provides important information on the development of biological communities;

3. A resource that demonstrates unusual circumstances in the history of life;

4. A resource that is relatively rare and is in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and is not found in another geographic location; or

5. Vertebrate fossils, which are generally considered to be of scientific significance, regardless of taxon.

For the purposes of this EIR, the effect of any activity which will disrupt or adversely affect an important cultural or paleontological resource (except as part of a scientific study) is considered a significant adverse effect.

Unless otherwise noted, all identified impacts are considered to be potentially significant adverse impacts. Corresponding mitigation measures, unless otherwise noted, are expected to be sufficient to reduce impacts to a less than significant level.

12.3.2 RMAC Alternative (Proposed Project)

Impact 12.3.2-1

Construction of the new facilities could affect cultural or paleontological resources.

Potential impacts to cultural and paleontological resources would be mitigated to less than significant by implementing the following mitigation measures.

Mitigation Measure 12.3.2-1

(a) On-site cultural and paleontological resources surveys shall be conducted by a qualified archaeologist and paleontologist prior to construction of a new facility. The purpose of this survey will be to more precisely locate and map significant cultural and paleontological resources.

(b) In the event that unanticipated cultural or paleontological resources are encountered during Project construction, all earthmoving activity shall cease until the County retains the services of a qualified archaeologist or paleontologist. The archaeologist or paleontologist shall examine the findings, assess their significance, and offer recommendations for procedures deemed appropriate to either further investigate or mitigate adverse impacts to those cultural or paleontological archaeological resources that have been encountered (e.g., excavate the significant resource). These additional measures shall be implemented.

(c) If human bone or bones of unknown origin is found during Project construction, all work shall stop in the vicinity of the find and the County Coroner, the County of El Dorado, and the County shall be contacted immediately. If the remains are determined to be Native American, the Coroner shall notify the Native American Heritage Commission who shall notify the person it believes to be the most likely descendant. The most likely descendant shall work with the County to develop a program for reinternment of the human remains and any associated artifacts. No additional work shall take place within the immediate vicinity of the find until the identified appropriate actions have been completed.

12.3.3 RMAC Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 12)

Implementation of this alternative would result in the same potential cultural or paleontological resource impacts, related to the construction of new facilities, as those

described for the proposed Project.

Mitigation for this potential impact would also be the same as described for the proposed Project.

12.3.4 Planning Commission Alternative

Implementation of this alternative would result in the same potential cultural or paleontological resource impacts, related to the construction of new facilities, as those described for the proposed Project.

Mitigation for this potential impact would also be the same as described for the proposed Project.

12.3.5 Planning Commission Alternative With Citizen's Committee Use Management Actions and Threshold Levels (Alternative 14)

Implementation of this alternative would result in the same potential cultural or paleontological resource impacts, related to the construction of new facilities, as those described for the proposed Project.

Mitigation for this potential impact would also be the same as described for the proposed Project.

12.4 EFFECTS NOT FOUND TO BE SIGNIFICANT

All possible significant cultural effects are discussed in Section 12.3.

Back to table of contents

Back to table of contents

SECTION 13 - PUBLIC HEALTH AND SAFETY

13.1 INTRODUCTION

This section examines potential impacts to public health and safety that could result from the proposed Project and alternatives. Section 13.2 describes existing river conditions as they relate to health and safety; Section 13.3 identifies potential impacts and proposed mitigation measures; and Section 13.4 discusses potential impacts which would not be significant.

13.2 SETTING

While the primary public health and safety issues related to the river management plan are those associated with whitewater rafting, other health and safety issues within the river corridor include safety concerns for all area recreationists, transportation safety, and

emergency response. While there are no direct health and safety impacts related to these factors, each is discussed in more detail in Sections 7, Recreation; 9, Transportation; and 14, Public Services, respectively. Potential health effects from water quality impacts are discussed in Section 6, Water Resources.

13.2.1 Whitewater Safety

Risk is a constant element of whitewater boating and is, in fact, one of the aspects that draws many enthusiasts to the South Fork. The growth in popularity of whitewater recreation over the past twenty years has resulted in a more informed and trained rafting community. Additionally, kayak and raft technology has advanced in materials and equipment design, aiding the experienced and expanding opportunities to all skill levels of boaters. However, these improved technologies can encourage novice boaters into situations that surpass their skill levels and training, and can result in life-threatening situations.

Commercial outfitter guides must undergo safety training and obtain certification documenting their ability to provide adequate services, including rescue and first aid to river users. Outfitters are required to provide safety equipment, including lifejackets, to their clientele as well as safety instructions such as boat-handling and water evacuation techniques. These requirements, coupled with the experience and river knowledge possessed by most commercial guides, create a relatively safe rafting environment for commercial rafting clients.

Private boaters are not held to such standards. The only safety equipment required through state regulations is lifejackets or a personal floatation device (PFD). Most private rafters are aware of the dangers of a Class III river and safety equipment requirements. However, limited safety equipment requirements enforcement and lack of knowledge can result in improperly outfitted private groups which can, in turn, lead to injury and death.

Physical Hazards

The South Fork can be divided into three distinct stretches; Upper, Middle and Lower. Geology and topography combined with river flow contribute to the make up of the rapids and other exciting, but potentially dangerous areas. Each stretch presents its own unique challenges and individual solutions from a safety and rescue standpoint. (Cassidy, 1981)

Upper

The stretch between Chili Bar and Coloma contains the narrowest and steepest section of the river study area. Canyon sides rise almost from the rivers edge to heights of some 600 to 800 feet above its level, within a horizontal distance of only four to six-tenths of a mile; average slopes are greater than 35 percent. Rapids are numerous and lengthy; swims in the upper stretch can be dangerous because of their length and the abrasive sedimentary and volcanic rock. The steep canyon creates poor radio reception and allows no road access. Incidents occurring in this stretch may involve floating victims to the Coloma area for evacuation. These factors contribute to the making this stretch the most difficult of the three for any type of emergency evacuation.

Middle

About one mile above Coloma, the canyon walls open up and the gradient subsides to between 10 and 15 percent. Alluvial terraces border the river most of the way from here to Clark Mountain. With the exception of a few rapids created by quartz laden granite ledges, this stretch is relatively easy Class I and II. Emergency access points are frequent throughout the Coloma/Lotus stretch. The biggest concern for evacuation in this stretch involves access to roads and communication through private property.

Lower

Between Clark Mountain and Folsom Lake the topography of the river corridor begins to resemble that of the first segment. It differs mainly in that the canyon is not as narrow; canyon sides rise only some 400 to 600 feet above the river; and slopes are not as steep, averaging between 20 and 25 percent. The rock has weathered to create "pool and drop" style rapids with room at the bottom for safety and retrieval of equipment. Injuries incurred while floating this stretch may require a lengthy evacuation process, but roads are available and communications via commercial photographer radios are accessible at Satan's Cesspool and Hospital Bar rapids.

Hypothermia

The common rule of thumb states that if the water and air temperature combined add up to less than 100 degrees F boaters should be encouraged to wear a wetsuit or drysuit. This estimate is fairly rough, generally people will want additional clothing if they are going to be close (kayaking/tubing) to cold water.

The Coloma area has a very favorable summer climate for boating. Throughout the summer, local riparian areas are usually more comfortable than the surrounding valleys. These temperatures allow boating with little or no thermal protection. On cloudy days or during seasonal abnormalities boaters should be aware of hypothermia conditions. From early fall through late spring, however, thermal protection (i.e., wetsuits or drysuits) are necessary to avoid hypothermia.

Hypothermia can be defined as decrease in the core body temperature to a level at which normal muscular and cerebral functions are impaired. The following factors are associated with this deadly condition: temperatures, moisture and wind (blowing, high speed movement by an individual). Hypothermia is possible during all months of the year, but is more pronounced during the September-May season.

River Levels/Flow

River levels can fluctuate drastically, especially after heavy rains or during spring snow melt. High water levels demand additional safety precautions from boaters and rescue personnel. Management actions toward safety should be responsive to these differing water levels. Flows above 3,000 Cubic Feet per Second (CFS) on the South Fork are considered high and extra

precaution should be taken.

High water dramatically changes the dynamics of a rapid, increasing the chance for wraps, flips and tube stands which can ultimately result in being thrown into the water. The chance of long swims also becomes much greater because swiftly moving current can carry swimmers into the next rapid in no time at all.

During flood conditions, the river has the added danger of floating debris. This debris can be caught in reversals and harm people and equipment when they become entangled. These dangers are exacerbated by the growing number of boaters who seek out the high flow conditions created by floods.

During the summer months the South Fork is generally classified as a Class III run. Normal summer flows range from 900 to 2,000 CFS. These flows are low to moderate and pose little threat to intermediate boaters. However, throughout the winter and spring months river levels can fluctuate greatly. Most guide books advise boaters to have Class IV boating skills if they run the South Fork at flows over 3,000 CFS.

13.2.2 Safety Enforcement Procedures

The 1984 RMP assigns lead responsibility to the Parks and Recreation Division for monitoring and reviewing commercial outfitter permits, noncommercial boaters and ancillary river land use. The El Dorado County Sheriff is assigned responsibility for enforcement, providing boating safety education to river users, and search and rescue. The County Sheriff is the only authority empowered to stop a trip.

A variety of land use, river safety, watercraft and accident regulations exist. State law requires one Coast Guard approved life jacket for each person on a vessel. State law requires that a boating accident report be filed whenever such an accident results in death, disappearance, injury requiring medical treatment beyond first aid, total property damage in excess of $200, or complete loss of a vessel. A signed non-commercial boater registration tag is required to be possessed and displayed by one person in each non-commercial boat or watercraft.

Ordinance 5.48 prohibits El Dorado County rental of rafts, tubes, and other watercraft unless one has a river use permit. This ordinance was promulgated to discourage high volume, low skill trips; however, the ordinance does not prohibit out-of-County rental users from frequenting the river.

The El Dorado County Sheriff's boating safety program emphasizes compliance through visible presence, enforcement and safety checks. The program manual includes maps of 20 access points (landowners have in some cases supplied keys and lock combinations to allow emergency vehicles access to the water); a map and protocol for helicopter landing zones (each commercial outfitter carries a copy in their first aid kit); a staffing and duties plan (including detail on resources available, such as search and rescue volunteers); rescue and accident protocols; summaries of conflicts involving land and river use; and internal memos relating to river use.

The County Sheriff's office estimates that, on a busy day, as many as 10,000 people may be on and along the river, whereas personnel limitations result in only two patrol deputies assigned to the river at any one time. Since 1990, the County Sheriff's office has been searching for funding for an additional three patrol deputies. River corridor radio communications were improved by the installation of a county-wide radio system in 1997.

During the peak season, the existing RMP calls for three persons within the County Sheriff's office to provide enforcement: two stationed in a raft and the third to monitor commercial rafting use from land. The individuals in the raft are to be located at the beginning of the primary river runs in the QZ or at other key locations to serve as a deterrent and to educate primarily non-commercial users as to river regulations.

In practice, two patrol officers placed on boat patrol are supplemented by a Sergeant in charge. On high use days, the patrol arrives at Chili Bar at about 10:30 a.m., begins running the river at about 11:30 a.m., and generally proceeds to Troublemaker rapids, where it stays most of the time it is on the river. The river patrol will provide assistance to river users in need. They rarely patrol the lower river. During some years, the Sheriff has been able to provide only one river deputy on a regular basis.

County Parks and Recreation staff also conduct patrols in association with river counts. They tend to stay at Chili Bar on weekend mornings until 12:30 p.m. and get on the river by 1:00 p.m. At that point, most river users are ahead of them, and less-skilled users in trouble can be swept up down river as the patrol moves along. They boat down river once a week to clean toilets, arriving at the QZ about 2:30 p.m., where staff will linger and observe. Take out is generally around 4:00 p.m. At times, County staff will stay in the QZ all day, or they may start at Henningsen/Lotus Park in the morning, then go to Chili Bar and put in at 12:30 p.m. Other times, they wait at Henningsen/Lotus Park and float with the main flow of river users. The County Sheriff's patrol cannot enforce wearing of life-jackets because the County may not preempt state authority in this regard (state regulations require only that these be on the vessel, not worn on the person). Park and Recreation staff do not have law enforcement authority.

It is generally held that safety problems arise due to a small portion of river users. The County Parks and Recreation Division works with three providers to offer river safety courses at Henningsen/Lotus Park. Private sources offer these as well.

Two fatalities were recorded in 1989; both cases involved foot entrapment at the Meatgrinder Rapid. Since that time, the BLM used explosives to mitigate the risk of entrapment at this site. In general, the South Fork has had a relatively limited number of injuries and deaths over the past decade. However, three fatalities have occurred in 1998 on the South Fork during high water (6000 cfs) conditions. Two fatalities were directly related to running the river with only one boat in the group. Multiple boat trips are recommended at all flows, and are a critical necessity at high flows. Additionally, though not the cause of recent deaths or injury, alcohol consumption can also impair the ability of rafters to navigate adequately and can seriously affect their ability to swim to safety should they accidentally or purposely enter the water. At the present time, detailed accident reports are not uniformly collected or reviewed.

13.3 IMPACTS AND MITIGATION MEASURES

13.3.1 Standards of Significance

The following criteria were used to determine the significance of potential impacts to public health and safety that could result from the implementation of the proposed Project and alternatives. Potential impacts are considered significant if they would have the potential to:

_ Introduce the threat of, or increase the potential for, injury on or off the river;

_ Decrease the level of emergency services or increase emergency response times; or

_ Create an unhealthy environment for area residents or visitors.

Unless otherwise noted, all impacts identified below are considered to be potentially significant adverse impacts. Corresponding mitigation measures are expected to be sufficient to reduce impacts to a less than significant level, unless otherwise noted.

13.3.2 RMAC Alternative (Proposed Project)

Impact 13.3.2-1

The creation of a middle run could increase the number of less experienced river users creating the potential for increased whitewater-related injury.

As discussed in Section 7, Recreation, the development of public take-out facilities at Highway Rapid would create a middle run. This segment contains a few rapids of Class I and II, but is generally a mild run that would appeal to relatively inexperienced rafters. Associated with this inexperience would be a lack of knowledge of boating safety requirements, water flow conditions, boat handling skills and rescue techniques. Each of these are crucial elements in rafting safety and limiting one or all of them would increase the potential for mishap resulting in injury and/or death.

Additionally, the Highway Rapid take-out facility would be the last private take-out prior to the lower run and the Class III-plus rapids within the "Gorge". It is possible that rafters intending to raft only the middle run could accidentally (or purposely decide after having successfully navigated rapids on the middle run), find themselves committed to running the Gorge entirely unprepared. While this situation would likely occur under rare circumstances, unprepared boaters on the middle run would have a dramatically increased risk of injury and/or death.

Mitigation Measure 13.3.2-1

In addition to the educational and safety programs identified in the proposed Project, the County would:

(1) Increase signage specifically directed towards middle-run boaters with warnings pertaining to the dangers of rafting with improper equipment, skills and knowledge of rescue techniques and river flows;

(2) Install signage at middle run put-ins and up-river from Highway Rapid informing boaters of the location of the Highway Rapid takeout and warning unprepared boaters of the dangers of continuing beyond Highway Rapid; and

(3) Increase staffing at middle run put-ins and at the Highway Rapid take-out to provide safety equipment checks and to inform rafters of the dangers of the Gorge.

13.3.3 RMAC Alternative with Citizen's Committee Use Management Actions and Threshold Levels (Alternative 12)

Alternative 12 would result in Impact 13.3.2-1 as discussed under the proposed Project. Mitigation Measure 13.3.2-1 would also be implemented under Alternative 12.

13.3.4 Planning Commission Alternative

The Planning Commission Alternative would result in Impact 13.3.2-1 as discussed under the proposed Project. Mitigation Measure 13.3.2-1 would also be implemented under the Planning Commission Alternative.

13.3.5 Planning Commission Alternative with Citizen's Committee Use Management Actions and Threshold Levels (Alternative 14)

Alternative 14 would result in Impact 13.3.2-1 as discussed under the proposed Project. Mitigation Measure 13.3.2-1 would also be implemented under Alternative 14.

13.4 EFFECTS FOUND NOT TO BE SIGNIFICANT

13.4.1 Project-related Air Emissions

As discussed in Section 15, short-term emissions of Particulate Matter (PM10) could exceed state and federal limits. However, due to dust-suppression Mitigation Measure 15.3.2-1 identified in Section 15, Air, and the short duration and localized nature of these emissions, no threat to public health would occur.

13.4.2 On-River Incidents

It is likely that increased river use under the proposed Project and each of the alternatives, due to the expected growth rate and the creation of a middle run, would result in an increase in the number of on-river incidents. Most incidents on the river are related to boat capsize, rafts wrapping around rocks or getting caught in vegetation, and people being thrown from boats while navigating rapids. These incidents always create increased potential for injury or drowning, but most often do not result in harm. Increased numbers of boaters and boats on

the river would likely increase the number of incidents in proportion to that which presently occurs. However, the proposed Project and each of the alternatives contain elements which would increase safety-related educational programs and enhance rescue coordination, which would likely decrease the incident rate and provide more efficient emergency response.

Under Alternatives 12, 13, and 14, various management elements would be implemented to control river use. These management actions would be implemented in the future once either 1) landowner complaints reached specified levels (Alternative 13), or 2) river use levels met specified thresholds (Alternatives 12 and 14). These use level control mechanisms would thereby reduce the potential for on-river incidents.

Additionally, an increase in boaters would result directly in an increase in the numbers of boaters nearby when an incident occurs. Recommended procedures for assistance when thrown from a raft are: 1) seek out the boat you were thrown from, 2) seek out another nearby boat, and 3) seek out shoreline or in-stream rocks. Additional boaters on the river would create additional opportunities for assistance for "swimmers" (rafters thrown from their boats), and thus would decrease the chance for injury or drownings that may result from a lack of river exit options.

13.4.3 Fire and Flood Hazards

Construction of facilities within floodplains or areas with high fire hazard could create safety hazards for people, property, and other resources within the river corridor. All facilities constructed would comply with applicable elements in the County General Plan related to fire and flood hazards. Specifically, as discussed in Section 4, Land Use, the proposed Project and alternatives would comply with Objectives 6.2.2 and 6.4.1 of the County General Plan. Thus, areas with extremely high fire hazards and areas within the 100-year flood plain would not be used for the construction of new facilities, eliminating the potential for these impacts to occur.

Back to table of contents

Back to table of contents

SECTION 14 - PUBLIC SERVICES

14.1 INTRODUCTION

This section examines potential impacts to public services related to the proposed Project and alternatives. Section 14.2 describes the existing public services within the project area, Section 14.3 identifies potential impacts and proposed mitigation measures and Section 14.4 discusses potential impacts which would not be significant.

14.2 SETTING

14.2.1 River Management

El Dorado County

Parks and Recreation Staff Activities

The Division of Parks and Recreation staffs is assigned the responsibility to implement the County's RMP. This program is funded entirely through the County River Trust Fund. Commercial outfitter user day fees and permit fees are the sole funding source for the River Trust Fund. Current staffing levels are slightly elevated from previous years, resulting from the increased demand for accounting of commercial use and the expansion of services to include Henningsen Lotus Park. Parks and Recreation positions are year-round, with the exception of seasonal river aides, and include (portion of staff of time dedicated to river management-related activities indicated in parenthesis):

_ Parks and Recreation Director (20%);

_ River Supervisor (100%);

_ Fiscal Accountant-half-time position (75%); and

_ Two Seasonal River Recreation Aides (100%).

Current Department of Parks and Recreation activities include:

_ Administration of commercial rafting permit system;

_ Private boater education and information;

_ River patrols (QZ enforcement, safety river clean-ups, education);

_ Monitoring (river use levels, water quality);

_ RMAC liaison, research on whitewater recreation issues;

_ Information resource to RMP consultant; and

_ Park and restroom maintenance.

Funding

El Dorado County has historically charged outfitters a fee of $1.00 per user day. Based on measurements between 1992 to 1996 commercial river use has averaged approximately 88,500

user days per year. Actual numbers range from 73,000 to 105,000 during this period. At $1.00 per user day, an average of $88,500 in user-day fees were collected. The user-day fee was increased to $2.00 per day in 1997 and remains at $2.00 today.

River user permits are issued on a three year cycle. Each outfitter pays $300 in the first year of the cycle, $150 in the second year and $100 in the third year. Assuming an average distribution of permit sales in each year of the cycle, and a set of 40 outfitters, revenues from this source average $7,333 per year.

Interest payments depend on average fund balances and prevailing interest rates. Interest income has ranged from $6,000 to $25,000 in varying years since the inception of the River Trust Fund in 1981.

Adequacy of Funding

Funds have historically been adequate to provide current services, fund acquisitions of (and improvements to) Henningsen-Lotus Park, and maintain a reasonable balance in the River Trust Fund.

Planning Department

The Planning Department issues and administers all of the campground special use permits (SUPs) within the river corridor. Staff are not currently available to continually monitor campground use because of the lack of a direct funding source and El Dorado County monitoring activities. The Department dedicates a half-time inspector for the Coloma area. Campground permits are required to be updated only if permitees are seeking changes in their current permit.

El Dorado County Department of Transportation

Current Services

The Department of Transportation (DOT) provides the primary service of maintaining and improving county roads through construction and road signage. No services are provided that are specific to area boaters.

Cost of Providing Current Services

The annual cost of providing services to all users is estimated at approximately $15 million, based on the 1995-1996 budget. Costs are not broken out by the type of user that might cause the cost to be incurred.

Current Sources and Level of Funding

The DOT has five primary sources of funding their activities. The following funding levels

were realized for each source in budget year 1996-1997. Funds from the Transportation Development Act provided $65,621. Public utility franchise fees associated with public utility encroachment into county road right-of-way totaled $500,000. The County's share of the State gasoline tax was $4,291,098. This is based on a disbursement of 3.31 percent of the State's $0.18/gallon tax collection. A timber tax of $36,000 was collected, and the Federal Forest Reserve provided $700,000. The Federal Forest Reserve funds are collected for logging and timber sales in National Forests. Twenty-five percent of the fees are provided to schools and roads in the county of origin (the intent is to reimburse the County for lost property taxes).

Potential Services and Enhancements to Current Services

No additional potential services were identified by DOT staff. Based on the Description of DOT services, it is possible that enhancements to providing area signage relevant to boater traffic (e.g., directions to boat landings, no parking signs) could be useful. Such enhancements could, but need not, be provided by the DOT. Any one of several public or private entities could fund such improvements and arrange to place them in coordination with the DOT.

For more information related to transportation, see Chapter 9 Transportation and Circulation.

State of California

The Auburn State Recreation Area has management responsibilities for the Salmon Falls take-out facility. To effectively manage this facility, the department requires one full time ranger, a park aide and an office assistant. The department also manages the North and Middle Forks of the American River and much of the required equipment (rafts, vehicles, educational material etc.) is used jointly on the three rivers.

Personnel at the Marshall Gold Discovery State Historic Park are directed mainly by the historical mission of the park. The facility at the North Beach provides limited access and restrooms to private boater. Personnel and equipment used for river management duties are limited to that necessary for management to carry out the park's historical mission. Funding for all park activities comes directly from California State Parks general fund.

14.2.2 Law Enforcement

Current Services

In addition to their primary services of law enforcement, emergency response, and public protection, the Sheriff's Office has a separate Boating Safety Unit which oversees water related activities throughout El Dorado County. The primary services provided to boaters by the Boating Safety Unit are boater education, law enforcement, and water rescue.

Cost of Providing Current Services

The annual cost of providing staffing and equipment for river patrol in the South Fork area is estimated by the Sheriff's Office as approximately $107,000. This cost does not, however,

include costs that are involved in search and rescue efforts.

Current Sources and Level of Funding

All costs associated with boating safety and related rescues are reimbursed through a State of California Boating and Waterways grant. Any activities undertaken by the Sheriff's Office that can't be directly related to water activities are absorbed by the Sheriff's Office and ultimately paid through the County general fund. If search and rescue is required, the victims county of origin is billed for the cost of the rescue. The Sheriff's Office reported that payment for rescuing out-of-county victims has historically almost always been paid by the victim's resident county and that there has been no problems collecting from other counties. When the victim is an El Dorado County resident, the cost of the rescue is considered part of normal operations and is ultimately paid for from the general fund.

Adequacy of Funding

Because of the primary funding source is a reimbursement grant from the State, funding for activities has been historically adequate. Also, since any additional funds that could be derived from other sources would be deducted from the grant reimbursement requirement, there is no incentive for the Sheriff's Office to search for additional funds.

14.2.3 Fire Protection

Fire protection in El Dorado County is provided by individual districts and mutual aid, and jurisdictional responsibilities of the California Department of Forestry and Fire Protection (CDF) and the U.S. Forest Service. The project area is within the El Dorado County, Rescue, and Garden Valley Fire Protection Districts. The El Dorado District is the largest in the county and encompasses the majority of the river corridor. Rescue and Garden Valley are more rural districts, staffed almost entirely by volunteers.

In general, Insurance Service Organization (ISO) ratings, which reflect suppression response time, for the three districts range between 5 and 9 (a ten being the lowest level of protection). Levels of protection in the County and study area are limited by water availability and poor road access. The region's seasonal dry warm climate and grassland vegetation create high fire potential. Fire hazard in the eastern most portion of the project area, near Chili Bar, has "Very High" fire hazard rating, shifting to a "Moderate" fire hazard rating south of Chili Bar to Lotus Road. The remaining western portion of the Project area has a "High" fire hazard rating.

Mutual aid agreements between the region's fire departments, which help provide the quickest response to emergencies, and strict county-wide fire protection regulation help to abate the regional threat of fire.

Fire departments have taken a secondary role to the Sheriff Department in terms of river-related rescue responsibilities, and typically serves as backup providing medical assistance during emergencies. Therefore, fire departments in the area do not staff additional personnel or have equipment to serve whitewater related functions. This arrangement has caused

coordination difficulties when a rescue is needed. Fire departments have requested additional funding to enable them to effectively handle river related rescues.

14.2.4 El Dorado County Department of Environmental Management

Current Services

The Department of Environmental Management performs health inspections on facilities used by commercial rafting companies that provide food to customers. In addition to regularly scheduled inspections, they will also respond to complaints regarding the sanitary condition of facilities. They have also provided staff time to coordinate with the El Dorado County Parks and Recreation Division on the river program, including development of the Division's water quality program protocols, consultation and review of water samples, and consultations with boating companies on permitting requirements.

Cost of Providing Current Services

Fees charged by Environmental Management are intended to cover the cost of providing the service. The following discussion on level of funding is consistent with the estimated cost of providing services.

Current Sources and Level of Funding

The cost of providing boater-related services are recouped through permit fees and hourly charges for staff time. Rafting companies operate on a seasonal basis, so Environmental Management issues a season permit, which includes one inspection, for a fee of $140. An hourly fee of $78 is charged for any additional visits by staff to a site (i.e., for a reinspection). A minimum one hour charge is required for a site visit, with time beyond one hour charged in half-hour increments. There is no charge for responding to a complaint regarding a permitted facility (there have been very few complaints and those instance have usually been minor). If, however, the facility is in violation, the hourly reinspection fee is charged. No charges have been made for time spent in consultation with the Parks and Recreation Division, or for consultations with companies regarding permitting requirements. Staff estimates that approximately 20-40 hours of staff time were used in the last year for these non-reimbursed activities.

Adequacy of Funding

The cost of providing services to boating companies has been adequately covered through the current fee system. An average 45 companies are provided with this service each year. Neither these activities, nor the non-reimbursed activities appear to be placing a significant burden on Environmental Management staff or budget.

14.2.5 Other County Services

El Dorado County supports a full range of educational opportunities. School sizes vary because of the mixture of rural and urban communities, however, all districts are experiencing increases in enrollment. Typical state wide funding measures and programs are being implemented to prevent over-crowding.

On-site septic systems are the typical method for waste water treatment within the river corridor. The County does utilize alternative sewer treatment systems for public facilities along the river such as composting toilets; these self contained toilets alleviate the risk of sewage contamination to the river from a faulty or poorly maintained septic system.

The river corridor is located in the West Slope waste management region which encompasses most of the county with the exception of the South Lake Tahoe Basin. Garbage collection in the county is commercial and not mandatory in the vicinity of the South Fork. The river is within both the El Dorado Disposal Service Co. and the Sierra Disposal Service franchise territory. The county-owned Union Mine Disposal Site, run by El Dorado Landfill, Inc., is the only landfill in the county and is currently being expanded. The County plans to comply with State-mandated solid water reduction bill AB 939 by building a material recycling facility (MRF) and additional transfer stations. Hazardous waste production in the county is limited mostly to "small quantity producers" which produce less than 1,000 kg/yr.

14.2.6 American River Conservancy

While the American River Conservancy is not a public agency, it is a non-profit organization whose mission is to improve the South Fork American River through conservation and education. To this end, it provides valuable boater services, and reinvests any profit from charges for those services into activities intended to improve the river resource and the quality of the river use experience.

Current Services

The Conservancy operates the Chili Bar put-in facility, the only facility designed for public access to the upper stretch of the South Fork.

Cost of Providing Current Services

The 1995 budget for operating the Chili Bar facility was $96,480. This included $26,895 for development costs that were required due to flood damage to facility improvements.

Current Sources and Level of Funding

Funding for operations is provided primarily from put-in fees charged to private and commercial boaters, and from parking fees. The fee at the Chili Bar facility for a private boater put-in is $2.00 per person. The fee for a commercial boater put-in is $2.00 per person. Parking fees are $2.00 per vehicle. Season access passes can also be purchased for $30. In 1995, private

boater put-in fees provided $48,596, commercial put-in fees provided $34,103, and parking fees provided $8,002.

Adequacy of Funding

Funding has been adequate to provide services. Most of the land used for the access, however, is located in a flood plain, and substantial costs have been incurred each of the past three years in repairing and replacing improvements that have been washed away.

14.3 IMPACTS AND MITIGATION MEASURES

14.3.1 Standards of Significance

Using CEQA Guidelines, impacts of the proposed projects are considered significant should they have the potential to result in increased demands that could not be adequately met by the County or alternative providers including:

_ commercial and residential infrastructure;

_ public utilities;

_ regional economy;

_ social structure; and

_ emergency services.

Unless otherwise noted all impacts are considered significant and all mitigation measures are expected to reduce impacts to a less than significant level.

14.3.2 RMAC Alternative (Proposed Project)

Impact 14.3.2-1

Increased river use, parking enforcement, and participation in the River Safety Committee would require increases in Sheriff Department and Emergency Services staffing and responsibilities.

The proposed Project would result in increased demands on the El Dorado County Sheriff's Department. Increased river use levels, due primarily to the expected annual growth rate and creation of a middle reach, would require additional Sheriff's Department personnel to respond to emergency situations and unlawful conduct. In addition, the Sheriff's Departments participation in the River Safety Committee would require an increase in man-hours to be spent on river-related responsibilities.

A funding source for these additional requirements has not been secured. It is possible that the

Sheriff's Department could obtain Boating and Waterways funding from the County or alternative funding sources to pay the costs of providing the additional services. However, without increased revenue, any source of funding would require a reduction of funding for activities from which funds were obtained.

Mitigation 14.3.2-1

Seek additional funding from the California Department of Boating and Waterways. Even with the implementation of this mitigation measure, this impact would remain significant and unavoidable.

Impact 14.3.2-2

Increased river use, additional parking, new facilities, river activity monitoring programs, and increase SUP enforcement requirements would increase the need for the County Division of Parks and Recreation and Planning Staff.

The proposed Project would require increased monitoring and river management activities for both the County Division of Parks and Recreation Department and the County Planning Department. Increased river use levels and increased monitoring of activities and permit holders would require each department to increase staff. Increased staffing requirements would require additional funding for both departments. The costs associated with the administration of commercial outfitters is not an aspect of this impact. This cost would be funded as discussed in Section 14.4.2.

Mitigation 14.3.2-2

No mitigation is proposed for this impact. This impact would remain significant and unavoidable.

14.3.3 RMAC Alternative with Citizen's Committee Use Management Actions and Threshold Levels (Alternative 12)

Impacts under this alternative would be similar to those described under the proposed Project. While management actions would be implemented to control river use levels if thresholds were met, these management actions would require additional time and financial commitments by the Division of Parks and Recreation. These impacts would remain significant ant unavoidable.

14.3.4 Planning Commission Alternative (Alternative 13)

There would be no significant impacts to public services associated with this alternative. All additional staffing requirements and costs associated with the implementation of this alternative would be assessed and acquired through boater and permit fees. See Section 14.4.1 for further discussion.

14.3.5 Planning Commission Alternative with Citizen's Committee Use Management Actions and Threshold Levels (Alternative #14)

There would be not significant impacts to public services associated with this alterative. All additional staffing requirements and costs associated with the implementation of this alternative would be assessed and acquired through boater and permit fees. See Section 14.4.1 for further discussion.

14.4 EFFECTS FOUND NOT TO BE SIGNIFICANT

14.4.1 Parks and Recreation Staffing

Similar to the proposed Project and Alternative 12, the Planning Commission Alternative and Alternative 14 would require additional staffing commitments and service provisions from Parks and Recreation staff. However, under the Planning Commission Alternative and Alternative 14 private boaters would be required to pay user surcharge fees. These fees would be assessed to ensure that they would provide an adequate source of funding for each of the Division of Parks and Recreation and Planning Department management activities proposed under the Planning Commission Alternative and Alternative 14. Thus, these effects would not be significant.

14.4.2 Commercial Outfitter Administration Costs

Under the proposed Project and each of the Alternatives, the commercial surcharge fee would be assessed and set at a rate which would provide sufficient revenue to cover administrative costs associated with commercial outfitter regulations. As such, commercial outfitter regulation would not have a significant effect on public services.

Back to table of contents

Back to table of contents

SECTION 15 - AIR QUALITY

15.1 INTRODUCTION

This section examines potential air quality impacts that could result from the proposed Project and alternatives. Section 15.2 describes existing air quality in the project area; Section 15.3 identifies potential impacts and proposed mitigation measures; and Section 15.4 discusses potential impacts which would not be significant.

15.2 SETTING

15.2.1 Climate

The project is within the Mountain Counties Air Basin (MCAB). The climate of the MCAB is influenced by the foothill and mountainous terrain unique to the counties included in the MCAB. El Dorado County is bordered by the Sacramento Valley to the west and the state of Nevada to the east. The western area of the County consists of rolling foothills and the central and eastern areas of the County contain the Sierra Nevada Mountain Range. The climate of El Dorado County is characterized by hot, dry summers and cool, moist winters. The western portion of the County has higher temperatures and lower annual rainfall than the central and eastern portions which are characterized by lower temperatures and higher annual rainfall. In summer months, average high temperatures in the project vicinity are approximately 92 degrees Fahrenheit (_F), while average lows are approximately 57_F. In winter, average low temperatures are approximately 36_F, while the average high temperatures are near 57_F. Average annual precipitation measured between 1941 and 1970 at Placerville was 39.8 inches per year.

Although movement of air is generally considered an effective means of diluting air pollution and subsequently attenuating the pollution's unhealthy effects, predominant westerly winds during the summer transport urban air pollution from the west and southwest. This effect can contribute significantly to the region's inability to attain mandated air quality standards. The movement of urban pollution from the San Francisco Bay area to the foothills of the Sierra Nevada by means of the Carquinez Straits has been documented and may account for a sizable portion of regional foothill ozone (03) levels.

15.2.2 Air Quality Regulations

Federal and State

On both the federal and state levels, a distinction is made for regulatory purposes between criteria air pollutants and toxic air pollutants. Criteria air pollutants are those for which health-based concentration standards were first promulgated under the 1970 Amendments to the Federal Clean Air Act (FCAA). Regulation of criteria air pollutants is achieved through federal and state ambient air quality standards (AAQS) and emissions limits for individual sources. Air toxics are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer-causing) adverse human health effects (i.e., injury or illness), but for which ambient air quality standards have not been set.

The FCAA required the California Air Resources Board (CARB) to divide the state into air basins based upon similar meteorological and geographical features, and with consideration of political boundaries. The nine county MCAB encompasses the majority of El Dorado County; a portion of the eastern side of the County is within the Lake Tahoe Air Basin. CARB's primary responsibility is to implement regulations controlling mobile sources and oversee the local and regional air quality agencies. On a regional level, the El Dorado County Air Pollution Control District (APCD) is responsible for air quality regulation in the El Dorado County portion of the MCAB.

Local

In addition to state and federal criteria air pollutant regulations, El Dorado County has outlined its responsibilities regarding air quality issues in the County's General Plan. Although the County has no direct regulatory authority, the County's General Plan lists policy goals and plans intended to reduce air quality impacts, primarily through regional land use and transportation decisions and not through direct restrictions on emission sources.

15.2.3 Criteria Air Pollutants

Federal

As required by the FCAA, the U.S. Environmental Protection Agency (EPA) established National Ambient Air Quality Standards (NAAQS) for six "criteria" air pollutants: ozone (O3), carbon monoxide (CO), nitrogen dioxide (NO2), sulfur dioxide (SO2), suspended particulate matter less than 10 microns in diameter (PM10), and lead (Pb). Standards for these pollutants are listed in Table 15-1. These standards represent the levels of air quality necessary, with an adequate margin of safety, to protect the public health and welfare.

TABLE 15-1

STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	SAAQA /a/	NAAQA/b/
Ozone	8 Hour	0.09 ppm/c/	0.8 ppm
Carbon Monoxide	1 hour	20 ppm	35 ppm
	8 hour	9.0 ppm	9.0 ppm
Nitrogen Dioxide	1 hour	0.25 ppm	NA
	Annual	NA	0.053 ppm
Sulfur Dioxide	1 hour	0.25 ppm	NA 0.5 ppm
	3 hour	NA	0.14 ppm
	24 hour	0.04 ppm	0.03 ppm
	Annual	NA	
Respirable Particulate Matter	24 hour	50 ug/m3/c/	150 ug/m3
	Annual	30 ug/m3	50 ug/m3

Sulfates	24 hour	25 ug/m3	NA
Lead	30 day	1.5 ug/m3	NA
	Calendar Quarter	NA	1.5 ug/m3
Hydrogen Sulfide	1 hour	0.03 ppm	NA
Vinyl Chloride	24 hour	0.010 ppm	NA

/a/ SAAQS (i.e., California standards) for ozone, carbon monoxide, sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, respirable particulate matter are values that are not to be exceeded. All other California standards shown are values not to be equaled or exceeded.

/b/ NAAQS (i.e., national standards), other than ozone and those based on annual averages are not to be exceeded more than once a year. The ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.

/c/ ppm = parts per million by volume; ug/m3 = micrograms per cubic meter.

NA: Not Applicable.

The EPA has proposed changes to the O3 and PM10 federal standards. In place of the current O3 standard, the EPA has proposed an 8-hour standard of 0.08 ppm (rather than the current 1-hour standard of 1.12 ppm). In addition to the current PM10 standard, the EPA has proposed a standard for suspended particulate matter less than 2.5 microns in diameter (PM2.5); however, AAQS and regulatory requirements have not yet been implemented for PM2.5.

The FCAA required states to classify basins (or portions thereof) as either "attainment" or "non-attainment" with respect to the criteria air pollutants, based on whether or not the NAAQS had been achieved, and to prepare air quality plans containing emission reduction strategies for those areas designated as "non-attainment." El Dorado County is designated as non-attainment for the NAAQS for O3 (CARB, 1998).

State

The State of California has established its own ambient standards for the criteria pollutants (Table 15-1). These standards are referred to as State Ambient Air Quality Standards (SAAQS), and are equal to or more stringent than their NAAQS counterparts. SAAQS have also been established for certain pollutants not covered by the NAAQS, such as hydrogen sulfide and vinyl chloride. In 1988, California passed the California Clean Air Act (CCAA) which, like the

Federal Act, called for designations of areas as attainment or non-attainment. In addition, a region can be designated non-attainment transitional or unclassified. The transitional designation recognized a region's improving air quality, but still maintains some regulatory restrictions and obligations. The unclassified designation is given for a region where data is absent or too limited for designation. El Dorado County has been designated by the state as non-attainment for O3, PM10, and CO (CARB, 1995). El Dorado County is designated attainment or unclassified for all other criteria pollutants.

15.2.4 Health Effects Associated with Criteria Pollutants

Ozone (O3)

Ozone is not emitted directly, but rather is a secondary pollutant produced in the lower atmosphere through a series of photochemical reactions involving reactive organic gases (ROG) and nitrogen oxides (NOx), which are themselves directly emitted. Ozone is primarily a summer and fall pollution problem. Ozone control involves limiting ozone precursors (i.e., ROGs and NOx). In relatively low concentrations, ozone can damage vegetation and crack rubber. At higher concentrations, ozone can affect public health by directly affecting the lungs, causing respiratory irritation and impacting lung function. Ozone remains in the atmosphere for approximately one or two days, and is then eliminated through chemical reaction with plants (often damaging vegetation), rainout (attached to rain droplets), and washout (absorbs into water molecules in clouds and later falls to the ground as precipitation) (SMAQMD, 1994).

Carbon Monoxide (CO)

Carbon monoxide is generated during all organic material combustion, primarily from motor vehicle emissions. Carbon monoxide is a colorless, odorless, and non-reactive pollutant. Ambient CO concentrations generally follow the spatial and emporal distributions of vehicular traffic, and are influenced by meteorological factors such as wind speed and atmospheric mixing. When strong surface inversions formed on winter nights are coupled with near-calm winds, CO from automobile exhaust may become concentrated. Carbon monoxide interferes with oxygen transport in the blood. It may cause dizziness and fatigue and can impair central nervous system functions. Carbon monoxide remains in the atmosphere for approximately 30-35 days, and is eliminated through rainout, washout, and chemical reaction with exposed soil (SMAQMD, 1994).

Particulate Matter (PM10)

Inhalable particulate matter is less than 10 microns (one-millionth of a meter) in diameter. These airborne particles are small enough to be inhaled deep within the lungs, potentially resulting in lung irritation and associated health effects. Particulates within the atmosphere result from many kinds of dust and fume-producing industrial and agricultural operations, combustion, and atmospheric photochemical reactions. Very small particulates of certain substances can cause direct lung damage, or can contain absorbed gasses that may be injurious. Inhalable particulate matter can also be comprised of liquids in the form of aerosols and mists. In fact, a major component of PM10 emissions are from compounds that can create

ozone, specifically ROG and NOx. These ozone precursors can react in the air to form inhalable aerosols. Particulate matter can remain in the atmosphere up to seven days. The duration of PM10 suspension is dependent on many factors including particulate size, mass, and atmospheric conditions. Particulates are removed from the atmosphere by gravitational setting, rainout, and washout (SMAQMD, 1994).

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Land uses such as schools, hospitals, and convalescent homes are considered to be sensitive to poor air quality because the young, the old, and the infirm are more susceptible to respiratory infections and other air-quality-related health problems than the general public. Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present.

15.3 IMPACTS AND MITIGATION MEASURES

15.3.1 Standards of Significance

Appendix G of CEQA guidelines provides that a project would normally be considered to have a significant effect on air quality if it, "violates any ambient air quality standard, contributes substantially to an existing or projected air quality violation, or exposes sensitive receptors to substantial pollutant concentrations.

Criteria Pollutants

In addition to the Appendix G criteria, the following quantitative emission thresholds were used in determining the significance of stationary and indirect source air quality impacts from criteria pollutants:

Reactive Organic Gases (ROG): 10 lbs/day

Carbon Monoxide (CO): 550 lbs/day

Nitrogen Oxides (NOx): 10 lbs/day

Sulphur Oxides (SOx): 80 lbs/day

Particulate Matter (PM10) 80 lbs/day

Toxic Air Contaminants

Neither ambient air quality standards nor emission control standards have been established for most toxic air contaminants. In lieu of ambient air quality standards, operational toxic air contaminant emissions would be considered significant if they exceed or contribute to the

exceedence of air quality significance thresholds outlined in the CEQA Guidelines.

Odor

Complaints within the County concerning offensive odors are handled on an individual basis under the County Air Pollution Control District's Nuisance Rule (Rule 205). Potential odor impacts will be considered significant if they could trigger a complaint qualifying as a nuisance per Rule 205.

Unless otherwise noted, all impacts identified below are considered to be potentially significant adverse impacts. Corresponding mitigation measures are expected to be sufficient to reduce impacts to a less than significant level, unless otherwise noted.

15.3.2 RMAC Alternative (Proposed Project)

Impact 15.3.2-1

The construction or expansion of parking areas would result in short-term construction vehicle emissions and fugitive dust that could exceed criteria pollutant thresholds of significance.

Construction of interim shuttle parking areas would result in the short-term generation of fugitive dust, construction equipment exhaust, employee trip emissions, and other construction-related emissions. Projected daily construction emissions could exceed the significance criteria thresholds listed above. Any exceedence would be a localized, significant short-term impact.

The following analysis assumes that a maximum of 2.5 acres would be actively graded or exposed at one time. The emissions that could occur are presented in Table 15-2. The individual components of construction emissions are discussed below.

TABLE 15-2

ESTIMATED DAILY CONSTRUCTION EMISSIONS

	Pollutants (lbs/day)				
	ROG	CO	NOx	PM10	SOx
Employee Trips[1]	0.9	8.4	0.7	0.1	0.1
Grading Equipment Exhaust[2]	3.6	16.2	4.8	3.3	3.4
Haul Truck Exhaust[3]	1.6	14.3	2.1	2.0	4.6
PM10 (50 percent of total fugitive dust)[4]	0	0	0	137.5	0

Total Construction Emissions Prior to Mitigation	**6.1**	**38.9**	**7.6**	**142.9**	**8.1**
Total Construction Emissions with Mitigation	**6.1**	**38.9**	**7.4[5]**	**42.9[6]**	**8.1**
Threshold Quantities	10	550	10	80	80
Threshold Exceedence	N/A	N/A	N/A	N/A	N/A

1. Based on URBEMIS5 Modeling results. Assumes 10 construction employees, 3 trips/day/employee, and 14 miles average trip length.

2. Based on AP-42 emission factors. Assumes 3 pieces of miscellaneous heavy-duty, diesel-powered equipment operating 6 hours/day.

3. Assumes one haul truck with the same emission rate as grading equipment, running continuously for 8 hours/day.

4. Assumes 110 lbs of fugitive dust per day for each acres of disturbed land.

5. Although not a significant impact, assumes that NOx emissions would be reduced by .05 lbs per day from each piece of equipment through requiring the construction contractor to implement low emission techniques.

6. Assumes a 70% dust suppression efficiency with implementation of Mitigation Measure 15.3.2-1(a).

Equipment Exhaust

Exhaust emissions would result from the use of heavy-duty machinery during any grading that may be done for construction of parking areas. Assuming three pieces of miscellaneous, heavy-duty, diesel-powered construction equipment are each used 6 hours a day, equipment exhaust emissions associated with daily grading activities would consist of approximately 4 pounds per day of ROG, 16 pounds per day of CO, 4.8 pounds per day of NOx, 3 pounds per day of PM10, and 3 pounds per day of SOx. Additionally, to remove excess graded material from the site, one haul truck may be necessary each day during construction. Assuming that this truck runs continuously for 8 hours per day, approximately 1.6 pounds of ROC, 14.3 pounds of CO, 2.1 pounds of NOx, 2 pounds per day of PM10, and 4.6 pounds per day of SOx would be produced (see Table 15-2). Each of these amounts falls below the threshold levels and would not result in a significant air quality impact. Although NOx emissions would not be significant according to the threshold levels, the construction contractor would be required to:

(1) Utilize low emission construction equipment and maintain the equipment in optimum operating condition. Wherever possible, the contractor shall utilize diesel-powered, low-sulphur fuel or electric equipment, and

(2) Implement the following construction management techniques: reduce the number of construction vehicles operating concurrently; maintain equipment engines in good condition and in proper tune according to manufacturer's specifications; and, minimize length of time construction equipment is left idling.

Dust/Particulate Matter Emissions

Dust emissions generated from heavy equipment operations could have a short-term impact on local air quality. Heavy construction equipment movements on unpaved terrain, and disturbed areas exposed to wind and weather are two sources of airborne dust that could be emitted during parking area construction. The construction schedule, type of construction equipment used, weather conditions and site conditions are some of the factors which determine how much dust is generated. The dust generated by site grading would consist of both large (more than PM10) and small (less than PM10) particles. The larger particles would typically settle either at the site or in the vicinity of the site. Smaller particles would not settle as quickly and would be more readily transported by air currents.

The PM10 portion of dust generated during construction activities is a function of local soil type, soil condition, and winds. As parking area locations have not been determined, there is no specific data available regarding PM10 concentrations under such variable soil and microclimatic conditions. For purposes of this analysis, it is assumed that PM10 could account for approximately 50 percent of the dust generated by site grading.

As a means of estimating Project-generated dust emissions, it was assumed that for every acre of site disturbance approximately 110 pounds of dust will be created each workday. No more than 2.5 acres of land would be disturbed at any one time for the construction of parking areas.

Assuming that 2.5 acres would be disturbed on any given day, and utilizing the EPA formula of 110 pounds of dust per acre, approximately 275 pounds (2.5 x 110) of dust could be generated at the site each day. Finally, assuming that 50 percent of the generated dust would consist of PM10, it is estimated that approximately 138 pounds of PM10 could be generated during each day of construction. This would be an exceedence of the PM10 threshold and would result in a significant air quality impact if no mitigation were undertaken.

Mitigation Measure 15.3.2-1

Mitigation Measure 15.3.2-1 would be the same as Mitigation Measure 5.3.2-1, identified in Section 5, Geology and Soils. Dust suppression measures could reduce fugitive dust emissions by as much as 70 percent, which would reduce this potential impact to less than significant.

Impact 15.3.2-2

Construction of restroom facilities could create a new concentrated objectionable odor source that may result in nuisance complaints from area residents and facility users.

Although the County has not determined the specific locations, new restroom facilities will be

constructed under the proposed Project to provide adequate relief to river users. These facilities will need to be located adjacent to the river to provide convenient access and to encourage use. Due to the nature and purpose of the facilities, they could become a source of objectionable odor that could cause a nuisance to residents and visitors.

Mitigation Measure 15.3.2-2

Prior to construction of restroom facilities, the County will:

(1) Select a location that is convenient to river users, yet not located near existing residences, and

(2) Ensure that the type of facility constructed is designed to contain or suppress objectionable odors adequately to avoid nuisance to surrounding areas.

Impact 15.3.2-3

Increased traffic in the project area would increase vehicle emissions which could exacerbate AAQS non-attainment.

Increases in river use and area visitors due to the expected annual growth rate could result in significant air quality impacts. Increased emissions would be a result of both private and commercial boater trips. Both personal automobile and commercial van/bus emissions would contribute to this increase. It is not likely, however, that these short-term and localized emission factor increases would significantly deteriorate air quality within the project area, or lead to federal and state AAQS non-attainment. Additionally, increased river use and associated vehicle emissions would be most pronounced only on days of peak use during the rafting season.

The proposed Project contains elements that would serve to reduce this impact, including increased parking areas that would be constructed to encourage ridesharing within the river corridor. In addition, mitigation measures proposed in the Section 9, Transportation, which reduce traffic, would also reduce vehicle emissions.

Mitigation Measure 15.3.2-3

To reduce air quality impacts associated with increases in river use, the County will encourage ridesharing through educational programs designed to promote parking/meeting areas along the Highway 50 corridor to reduce vehicle trips to the river corridor. This impact could remain significant even with the implementation of this mitigation measure.

15.3.3 RMAC Alternative with Citizen's Committee Use Management Actions and Threshold Levels (Alternative 12)

Potential air quality impacts associated with Alternative 12 would be the same as Impacts 15.3.2-1, 15.3.2-2 and 15.3.2-3 as discussed under the RMAC Alternative. Mitigation identified

in Mitigation Measures 15.3.2-1, 15.3.2-2 and 15.3.2-3 as discussed under the RMAC Alternative would be implemented to reduce potential impacts to less than significant levels.

15.3.4 Planning Commission Alternative

Potential air quality impacts associated with the Planning Commission Alternative would be the same as Impacts 15.3.2-1, 15.3.2-2 and 15.3.2-3 as discussed under the RMAC Alternative. Mitigation identified in Mitigation Measures 15.3.2-1, 15.3.2-2 and 15.3.2-3 as discussed under the RMAC Alternative would be implemented to reduce potential impacts to less than significant levels.

15.3.5 Planning Commission Alternative with Citizen's Committee Use Management Actions and Threshold Levels (Alternative 14)

Potential air qualty impacts associated with Alternative 14 would be the same as Impacts 15.3.2-1, 15.3.2-2 and 15.3.2-3 as discussed under the RMAC Alternative. Mitigation identified in Mitigation Measures 15.3.2-1, 15.3.2-2 and 15.3.2-3 as discussed under the RMAC Alternative would be implemented to reduce potential impacts to less than significant levels.

15.4 EFFECTS FOUND NOT TO BE SIGNIFICANT

No air quality effects other than the impacts discussed in section 15.3 were identified.

Back to table of contents

Back to table of contents

SECTION 16 - OTHER ENVIRONMENTAL CONSIDERATIONS

16.1 SIGNIFICANT UNAVOIDABLE ADVERSE EFFECTS

This section summarizes the unavoidable adverse impacts identified in this DEIR (Section 15126[b] of the CEQA Guidelines). Six Project-specific significant unavoidable impacts may occur as a result of the Project, including Land Use Impact 4.3.2-1; Transportation and Circulation Impact 9.3.2-3, Noise Impact 10.3.2-3 and 10.3.2-4; Public Services Impacts 14.3.2-1 and 14.3.2-2; and Air Quality Impact 15.3.2-3. Significant unavoidable cumulative impacts have been identified for biological resources, noise, public services, and air quality. These impacts are described below in Section 16.6.

16.2 GROWTH INDUCING IMPACTS

Section 15126(g) of the CEQA Guidelines requires that an EIR address the growth-inducing impacts of a proposed action. The EIR should discuss the way in which the proposed Project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. This includes projects which would remove obstacles to population growth.

The proposed Project and Alternatives could foster economic and river use growth. The environmental effects of increased river use are addressed in the individual resource sections.

16.3 EFFECTS NOT FOUND TO BE SIGNIFICANT

Section 15128 of the CEQA Guidelines requires an EIR to contain a statement briefly indicating the reasons that various potentially significant effects of a project were not discussed in detail in the EIR. This DEIR contains a comprehensive analysis of the potentially significant environmental effects associated with the construction of the proposed Project. The following issues are addressed in this DEIR: land use, geology and soils, hydrology and water quality, recreation, biological resources, transportation and circulation, noise, aesthetics, cultural resources, public health and safety, public services, and air quality. Each resource section identifies why any possible significant effects identified during the scoping process were not found to be significant.

16.4 CUMULATIVE IMPACTS

16.4.1 Overview

CEQA requires the assessment of potential cumulative impacts of a project. CEQA Guidelines Section 15355 defines cumulative impacts as:

". . .two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, or reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor, but collectively, significant projects taking place over a period of time."

In addition, Section 21083 (b), Public Resources Code, and CEQA Guidelines Section 15130(b)(1)(A) and (B), emphasize the need to either consider and assess projects with related impacts, or to summarize projections contained in a related planning document which is designed to evaluate regional or area-wide conditions, when discussing cumulative impacts.

Summary of Projections Contained in the El Dorado County General Plan and the General Plan Final EIR

For the purposes of this analysis, the study area for which potential cumulative effects are examined is western El Dorado County. Potential future conditions have been assessed by reviewing the El Dorado County General Plan and the General Plan Final EIR. This analysis considers the changes to the environment likely to result from future conditions as envisioned by the El Dorado County General Plan, in combination with the proposed Project. The standards of significance applied are the same as those used in the impact sections for the project. In general, the contribution of proposed Project to cumulative impacts is expected to be quite small. Nonetheless, this analysis addresses the likely significance of the totality of those impacts. The cumulative impact analysis for this EIR "tiers off" of the El Dorado County General Plan EIR's Cumulative Impact Analysis, per CEQA Guidelines Sections 15152 ("tiering") and 15168 ("program EIR"). The El Dorado County General Plan and Final EIR can be reviewed by the public at the El Dorado County Planning Department, 2850 Fairlane Court, Placerville, California.

16.4.2 Discussion of Cumulative Impacts

16.4.2.1 Land Use

The proposed Project and Alternatives would not contribute to the significant cumulative land use related impacts identified in the El Dorado County General Plan Final EIR.

16.4.2.2 Geology and Soils

In general, the effects of the proposed Project and Alternatives on geology/soil resources are limited to short term impacts. Increased soil erosion will occur with any level of increased development. However, if appropriate engineering and construction techniques are implemented, the cumulative geology/soils related impacts can be reduced to a level of insignificance. Such mitigation measures have been identified for the proposed Project and Alternatives (see Section 5.3) and have also been identified in the El Dorado County General Plan Final EIR (see Chapter V.7 - Soils, Geology, and Mineral Resources, Impact 7.2.2 and related mitigation measures).

16.4.2.3 Hydrology and Water Quality

Cumulative new development would degrade surface water quality due to runoff from urban areas and erosion and sedimentation within stream channels. However, if appropriate engineering and construction techniques are implemented, the cumulative hydrology and water quality related impacts can be reduced to a less than significant level. Such mitigation

measures have been identified for the proposed Project and Alternatives (see Section 6.3) and have also been identified int he El Dorado County General Plan Final EIR (see Chapter V.5 - Water Resources, Quality, and Hazards, Impact 5.2.3 and related mitigation measures).

16.4.2.4 Recreation

The proposed Project and Alternatives would not contribute to the significant cumulative parks and recreation impacts identified in the El Dorado County General Plan Final EIR.

16.4.2.5 Biological Resources

Impact 16-1

Cumulative new development could result in degradation of fish and wildlife habitat values within the South Fork of the American River watershed.

The El Dorado County General Plan Final EIR identifies the direct or indirect loss and fragmentation of wildlife habitat and/or degradation of habitat values as a significant unavoidable adverse impact. The proposed Project could result in a loss or fragmentation of wildlife habitat which, combined with other habitat impacts occurring from development within the County, could result in significant cumulative impacts.

Mitigation Measure 16-1

Implement Mitigation Measures 5.3.2-1, 6.3.2-1, and 8.3.2-1

Despite the implementation of these Mitigation Measures and mitigation measures identified in the El Dorado County General Plan Final EIR (see Chapter V.8 - Biological Resources, Impact 8.2.2 and related mitigation measures), the cumulative degradation of fish and wildlife habitat values would be significant and unavoidable.

16.4.2.6 Transportation and Circulation

In accordancewith County requirements to transportation impact and analysis, potential cumulative Transportation and Circulation related impacts of the proposed Project and Alternatives are addressed in Section 9 (see Impact 9.3.2-3).

16.4.2.7 Noise

Impact 16-2

Increased noise levels due to increased traffic could exceed County noise standards.

The El Dorado County General Plan Final EIR identifies increased traffic noise levels as a significant unavoidable adverse impact. It is recognized that in many instances, increases in traffic noise levels will occur as a result of growth. The proposed Project would result in

increased traffic-associated noise due to increased river use levels, which combined with increased noise levels in the County from other activities, could result in a significant cumulative Impact.

Mitigation Measure 16-2

Implement traffic control mitigation (see Section 9).

Despite the implementation of these Mitigation Measures and mitigation measures identified in Chapter 11, Noise (see Impact 11.3.1 and related mitigration measures), of the El Dorado County General Plan Final EIR, cumulative increased traffic noise levels would be significant and unavoidable impact.

16.4.2.8 Aesthetics

The proposed Project and Alternatives would not contribute to the significant cumulative land use related impacts identified in the El Dorado County General Plan Final EIR. The facilities proposed under the proposed Project and Alternatives would require minimal disruption to the aesthetic quality of the area.

16.4.2.9 Cultural Resources

Impacts to significant cultural or paleontological resources would be mitigated with each project constructed. Significant resources that could be affected by construction activities would be avoided, or if this is not possible, recovered for scientific value. Therefore, the cumulative impacts to significant cultural or paleontological resources can be mitigated to below a level of significance.

16.4.2.10 Public Health and Safety

The proposed Project and Alternatives would not contribute to the significant cumulative public health and safety related impacts identified in the El Dorado County General Plan Final EIR.

16.4.2.11 Public Services

Impact 16-3

Increased development would require substantial increases in Sheriff Department staffing.

The El Dorado County General Plan Final EIR identifies the increased need for Sheriff's Department staff as a significant unavoidable adverse impact. Addition staffing will occur as a result of growth. These additional staffing requirements combined with additional staffing required as a result of the proposed Project would result in a significant cumulative impact on Sheriff Department staffing.

Mitigation 16-3

Seek additional funding from the California State Department of Boating and Waterways. This impact would remain significant and unavoidable.

16.4.2.12 Air Quality

Impact 16-4

Increased short-term emissions related to construction activities.

Short-term emissions are typically associated with site construction. These short-term emissions are typically associated with the use of heavy equipment and haul and worker trips, but also include dust generation due to grading activities, the application of asphalt, and volatile organic compounds (VOCs) released from the use of coatings and dispensation of fuels.

Mitigation Measure 16-4

Implement Mitigation Measure 5.3.2-1.

Despite the implementation of this Mitigation Measure and mitigation measures identified in Chapter V.10 (see Impact 10.2.1 and related mitigation measures) of the El Dorado County General Plan Final EIR, short-term air pollutant emissions would be significant and unavoidable.

Impact 16-5

Increased long-term emission related to increased traffic volumes.

Long-term emissions are typically associated with vehicle use. Anticipated vehicle use increases due to growth. This anticipated "baseline" growth combined with an increase in vehicle emissions associated with the proposed Project would result in a significant cumulative air quality impact.

Mitigation Measure 16-5

Implement Mitigation Measure 15.3.2-3.

Despite the implementation of this Mitigation Measure and mitigation measures identified in Chapter V.10 (see Impact 10.2.2 and related mitigation measures) of the El Dorado County General Plan Final EIR, long-term air pollutant emissions would be significant and unavoidable.

16.5 IRREVERSIBLE ENVIRONMENTAL CHANGE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Section 15126(e) of the CEQA Guidelines requires that an EIR address any significant irreversible environmental changes which would be involved in the proposed action should it be implemented. Implementation of the proposed Project would not result in any significant irreversible environmental changes. The facilities proposed would require very little site preparation grading and recontouring; these sites could be reclaimed in the future if necessary. The use of these sites for project facilities would not commit future generations to similar uses as structures could be removed. In addition, the proposed Project would not require significant irretrievable commitment of resources. Because of the limited amount of construction required, use of construction material and construction vehicle fuels would not be significant.

Back to table of contents

Back to table of contents

SECTION 17 - ALTERNATIVES

Table of Contents

Back to table of contents

Back to table of contents

SECTION 18 LIST OF PREPARERS

Resource Management International, Inc.

John Keene	Project Manager
Bob Delp	Regulatory Specialist
Krysty Emery	Resource Analyst

Fehr & Peers Associates, Inc.

Steve Brown	Traffic Consultant
John Gard	Traffic Consultant
Alvin Franks	Hydrology

Back to table of contents

SECTION 19 - CONSULTATION AND COORDINATION

PERSONS AND ORGANIZATIONS CONSULTED

El Dorado County Department of General Services

George Cuttrell

Craven Alcott

Jeff Novak

El Dorado County Counsel's Office

Tom Cumpston

El Dorado County Department of Transportation

Natalie Porter

Back to table of contents

SECTION 20 - REFERENCES

Alcott, Craven. 1998. El Dorado Parks and Recreation Division. Meetings and phone interviews. 1997-1998

California Air Resources Board, 1995. Proposed Amendments to the Designation Criteria and to the Area Designations for State Ambiont Air Quality Standards. Proposed Amendments to the San Joaquin Valley and Southeast Desert Air Quality Basin Boundaries, and Maps of Area Designations for the State and National Ambient Air Quality Standards. September 1995.

California Air Resources Board 1998. Personal Communication.

California Department of Fish and Game, 1998. Natural Diversity Data Base. March 27, 1998.

California Division of Mines and Geology (CDMG) 1994. File Report 84-52.

California Regional Water Quality Control Board, 1991. Central Valley Region Water Quality Control Plan (Basin Plan).

Cook, Sherburne F. 1978. Historrical Demography. In Handbook of North American Indians, Vol 8 California. Washington: Smithsonian Institution.

Cunniff, Patrick R. 1977. Environmental Noise Pollution.

d'Azevedo, Warren L. 1986. Washoe. Inshandbook fo North American Indians, Vol. 11 (Warren L. d'Azevedo volume editor) Washington: Smithsonian Institution.

EIP Associates, 1991. *Preserve Sites and Preservation Strategies for Rare Plant Species in Western El Dorado County.*

El Dorado County, 1994. *El Dorado County General Plan Alternative, Volume I - Goals Objectives and Policies.* January 1994.

El Dorado County, 1995. *El Dorado County General Plan.* April 1995.

El Dorado County, 1995. *El Dorado County General Plan Environmental Impact Report.*

El Dorado County, 1984. Environmental Report for the Management Plan for the South Fork

El Dorado County, 1993. Environmental Report for the Management Plan for the South Fork

El Dorado County, 1984. Management Plan, South Fork of the American River.

Holland, Robert F. Ph.D. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California.* October 1986.

Johnson, Gerald J. Archeological Investigations at the Blodgett Site, CA-Sac-267, Sloughhouse Locality, California. Ms. on file, National Park Service, San Francisco.

Kroeber, A.L. 1976. Handbook of the Indians of California. New York: Dover Publication Inc. Republican of Bulletin 78 of the Bureau of American Ethnology of the Smithsonian Institution.

Layton, T.N. 1979. Archaeolgy and Paleo-Ecology of Pluvial Lake Parman, Northwestern Great Basin. Journal of New Work Archaeology.

Levy, Richard. 1978. Eastern Miwok. *Handbook of North American Indians.* Vol. 8 California Washington: Smithsonian Institution.

Moyle, Peter. 1976. *Inland Fisheries of California.* University of California Press, Berkeley.

Novak, Jeff. 1998. El Dorado County Parks and Recreation Division. Meeting and Phone Interviews. 1997-1998.

Peak, Ann. 1981. Acheological Investigations of CA-Sac-370 and -379, The Rancho Murieta Early Man Sites in Eastern Sacramento County. Ms. On File, Peak & Associates, Inc., Sacramento.

Porter, Natalie. 1998. Eldorado County department of Transportation. *Meeting and Phone Interviews.* 1997-1998.

Resource Management International, Inc (RMI). 1996. *El Dorado County River Management Plan Phase I Report*. April, 1996.

RMI. 1997. *El Dorado County River Management Plan Phase II Report*. April, 1997.

RMI. 1998. *El Dorado County River Management Plan Update Draft Alternative Evaluation*. April, 1996.

Russo, Marianne. 1993. North Central Information Center. California State University, Sacramento.

Soil Conservation Service (SCS). 1974. Soil Survey of the El Dorado Area, California.

Soil Conservation Service (SCS). 1974. Soil Survey of the Tahoe Basin Area, California Nevada.

Sacramento Metropolitan Air Quality Management District (SMAQMD). 1994. Air Quality Threshhold of Significance. Sacramento, California.

Wilson, Norman L., Towne, Arlean H. 1978. *Nisenan. Handbook of North American Indians.*

Back to table of contents