Final

Program Environmental Impact Report

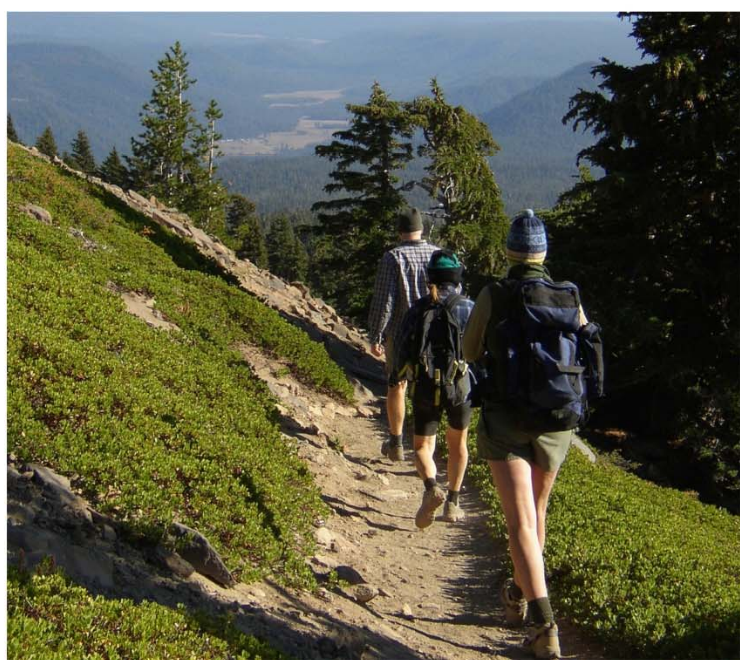
(With Edits Incorporated)

SCH #2010092023

Road and Trail Change-In-Use Evaluation Process

California State Parks

September 2013



Final
Program Environmental Impact Report
for the
Road and Trail Change-in-Use Evaluation Process
(With Edits Incorporated)

SCH No. 2010092023

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September, 2013

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ACRONYMS AND OTHER ABBREVIATIONS

AASHTO	American Association of State Highway and Transportation Officials
AB	Assembly Bill
ADA	Americans with Disabilities Act
AIRFA	American Indian Religious Freedom Act
AMR	Adaptive Management Report
AP Act	Alquist-Priolo Earthquake Fault Zoning Act
APE	Area of Potential Effects
APS	Alternative Planning Strategy
ARB	Air Resource Board
ARPA	Archeological Resources Protection Act
AUM	Adaptive Use Management
BA	Biological Assessment
BAAQMD	Bay Area Air Quality Management District
bbls	barrels
BLS	Basic Life Support
BMPs	Best Management Practices
Business Plan Act	California Hazardous Materials Release Response Plans and Inventory Law of 1985
CAA	Clean Air Act
CAAA	Clean Air Act Amendments of 1990
CAAQS	California Ambient Air Quality Standards
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Division of Occupational Safety and Health
CalARP	California Accidental Release Prevention
CALFIRE	California Department of Forestry and Fire Protection
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CAPs	criteria air pollutants
CBC	California Biodiversity Council

CCA	California Coastal Act
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CCC	California Coastal Commission
CCC	Civilian Conservation Corps
CCR	California Code of Regulations
CDF	California Department of Forestry and Fire Protection
CDFG	California Department of Fish and Game
CDPH	California Department of Public Health
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH_4	methane
CHHSLs	California Human Health Screening Levels
CHP	California Highway Patrol
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society's
CNRA	California Natural Resources Agency
CO	Carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
Coastal Act	California Coastal Act of 1976
COHP	California Office of Historic Preservation
Commission	California Coastal Commission
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CSP	California State Parks

CSZ	Cascadia subduction zone
CTMP	Construction Traffic Management Plan
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationship
DBH	diameter-at-breast-height
diesel PM	particulate-exhaust emissions from diesel-fueled engines
DMG	California Division of Mines and Geology
DOGGR	Division of Oil, Gas, and Geothermal Resources
DOM	Departmental Operations Manual
DTSC	California Department of Toxic Substances Control
dust	visible emissions
DWR	California Department of Water Resources
EHRA	Earthquake Hazards Reduction Act
EIR	Environmental Impact Report
EMS	Emergency Medical Services
EMSA	Emergency Medical Services Authority
EO	Executive Order
EPA	Environmental Protection Agency
EPAMDs	electronic personal assistance mobility devices
EPCRA	Emergency Planning Community Right-to-Know Act
ESA	Environmental Site Assessment
FED	Functional Equivalent Document
FEMA	Federal Emergency Management Agency
FESA	federal Endangered Species Act
FHA	Federal Housing Administration
FHWA	Federal Highway Administration
FRAQMD	Feather River Air Quality Management District
GHG	greenhouse gas
GWP	global warming potential

HAER	Historic American Engineering Record
Handbook	CSP Trails Handbook
HAPs	Hazardous Air Pollutants
HAZWOPER	Hazardous Waste Operations and Emergency Response
HCD	Department of Housing and Community Development
HCP	Habitat Conservation Plan
HEPA	High Efficiency Particulate Air
HFCs	hydrofluorocarbons
HSWA	Hazardous and Solid Waste Amendments of 1984
HUD	U.S. Department of Housing and Urban Development’s
HWCA	Hazardous Waste Control Act
IPCC	Intergovernmental Panel on Climate Change
lb/day	pounds per day
LCP	Local Coastal Plan
LOS	level of service
MBTA	Migratory Bird Treaty Act
MCLs	maximum contaminant levels
MEI	Maximally Exposed Individual
mmcfd	million cubic feet per day
MMT	million metric tons
MOU	Memorandum of Understanding
mph	miles per hour
MPOs	Metropolitan Planning Organizations
MRZ	Mineral Resource Zone
MT	metric tons
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission

NCCP	Natural Community Conservation Plan
NEHRP	National Earthquake Hazards Reduction Program
NEHRPA	National Earthquake Hazards Reduction Program Act
NESHAP	national emissions standards for HAPs
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NO	nitric oxide
NO_2	Nitrogen dioxide
NOA	Naturally occurring asbestos
NOAA	National Oceanic and Atmospheric Administration
NOD	notice of determination
NOE	Notice of Exemption
NOI	Notice of Intent
NOP	Notice of Preparation
NO_X	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWP	Nationwide Permit
OCS	Outer Continental Shelf
OEHHA	Office of Environmental Health Hazard Assessment
OES	Governor's Office of Emergency Services
OHMVR	Off-highway motor vehicle recreation
OHV	Off-highway vehicle
OMR	Office of Mine Reclamation
OPDMD	other power-driven mobility device
OSHA	U.S. Occupational Safety and Health Administration

OSTP	Office of Science and Technology Policy
ozone	photochemical smog
PCBs	polychlorinated biphenyls
PEF	Project Evaluation Form
PFCs	perfluorocarbons
PM_{10}	Respirable particulate matter
$PM_{2.5}$	fine particulate matter
ppm	parts per million
PRC	Public Resources Code
Process	Road and Trail Change-In-Use Evaluation Process
Program EIR	Program Environmental Impact Report
PRPA	Paleontological Resources Preservation Act
PSRs	Project-Specific Requirements
QSD	Qualified Stormwater Pollution Plan Developer
RCRA	Resource Conservation and Recovery Act of 1976
ROG	reactive organic gases
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SF_6	sulfur hexafluoride
SHL	California State Housing Law
SHMA	Seismic Hazards Mapping Act
SHMP	State Hazard Mitigation Plan
SHP	State Historic Park
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan

SJVAPCD	San Joaquin Valley Air Pollution Control District
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMARA	State Mining and Reclamation Act of 1975
SMGB	State Mining and Geology Board
SO_2	Sulfur dioxide
SP	State Park
SPCP	Spill Prevention and Control Plan
SPRP	Spill Prevention and Response Plan
SPRs	Standard Project Requirements
SRA	State Recreation Area
SSPRE	Senior State Park Resource Ecologist
SSURGO2	Soil Survey Geographic
STATSGO2	U.S. General Soil Map
Survey	Use Change Survey”
SVP	Society of Vertebrate Paleontology
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TIS	Traffic Impact Study
TMDL	Total Maximum Daily Loads
TNC	The Nature Conservancy
TPY	tons per year
Trail Log	Trail Use Change Survey
U.S.	United States
URBEMIS	Urban Emissions Model
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey’s

VMT	vehicle miles traveled
VOCs	volatile organic compounds
WDRs	Waste Discharge Requirements
$\mu g/m^3$	micrograms per cubic meter

GLOSSARY OF TERMS

Whenever the following terms are used, the intent and meaning will be interpreted as follows:

Armored crossing – A dip the trail grade aligned with a natural drainage that the trail has intersected and lined with large flat-topped rock to create a sustainable surface during periods when the drainage caries water.

Back slope – The bank along the uphill side of the trail usually sloped back a varying degree, depending on bank composition and slope stability.

Berm – The ridge of material formed on the outer edge of the trail that projects higher than the center of the trail tread.

Block – A puller or set of pulleys with a hook or shackle attached at one end.

Borrow – Soil, gravel, or rock materials taken from approved locations away from the trail.

Bridge – A structure, including supports, erected over a depression or stream and having a deck for carrying traffic.

Brushing – Removal of living and dead vegetation from a trail.

Classification – The designation indicating intended use and maintenance specifications for a particular use.

Clearing – Removal of windfall trees, uproots, leaning trees, loose limbs, wood chunks, etc. for a trail.

Clearing limits – The outer edges or a clearing area as specified by trail class, shown on drawings or explained in class definition.

Climbing turn – A turn that is constructed on a slope of 30 percent or less when measured between the exterior boundaries of the turn and changes the direction of the trail 120-180 degrees.

Compacted - The degree of consolidation that is obtained by tamping with hand tools or by stomping mineral soil and small aggregate in successive layers not more than 6 inches in depth.

Culvert – A drainage structure composed of rock, metal or wood that is placed approximately perpendicular to and under the trail.

Drainage dip – A reverse in the grade of the trail bed accompanied by outslope that will divert water off the trail bed.

Duff – A layer of decaying organic plant materials deposited on the surface of the ground principally comprised of leaves, needles, woody debris and humus.

Entrenched trail – Cupping, rutting or trenching in the trail tread surface resulting from trampling, standing water, uncontrolled surface runoff or a combination of these factors.

Fill-Slope – Area of excavated material cast on the down slope side of trail cut (also called embankment).

Ford – A water level stream crossing constructed to provide a level surface for safe traffic passage.

Full bench – Where the total width of the trail bed is excavated into slope and the trail bed width is not made of compacted fill slope.

Hazardous tree – An unstable tree, 5 inches or greater in diameter at breast height, that is likely to fall across the trail.

Inslope – Where the trail bed is sloped downward toward the backslope of the trail.

Mineral soil – Soil or aggregate that is free from organic substance and contains no particles larger than 2 inches in greatest dimension.

Mud sill – Foundation on which a bridge is built.

Outslope – The trail bed is sloped downward toward the embankment or daylight side of the trail.

Parallel ditching – A lateral drainage ditch constructed adjacent to the trail tread to catch surface water sheeting from the tread surface and divert it away from the trail. Generally, this drainage system is used in low, flat areas or areas where multiple entrenched trails have developed.

Pre-field – Performing a physical examination of the project work site in order to evaluate solutions to trail deficiencies, select the appropriate course of action, formulate the design and quantify the material, equipment and person hour requirements.

Puncheon – A log or timber structure built to cross a swamp. Usually consists of sills, stringers and a log deck.

Retaining or crib wall – A log or rock construction to support trail tread or retain backslope.

Rolling Dips -- A cross between a water bar and a broad-based dip, they have a reverse grade, direct water off the road, and may rely on a mound of soil at the downhill side. The purpose of a rolling dip is to gather water and direct it safely off the road to prevent buildup of surface runoff and subsequent erosion, while allowing the passage of traffic.

Sideslope – The natural slope of the ground measured at right angles to the center line of the trail.

Single track trail – A trail so narrow that users must generally travel in single file.

Sky glow – Area-wide, illumination of the night sky from human-made light sources.

Slide – Material that has slid onto the trailway from the back slope and possibly beyond in quantities sufficient to block the trail.

Slough (sluff) – The materials from the back slope or the area of the back slope that has been deposited on the trail bed and projects higher than the center of the trail.

Slump – When the trail bed material has moved downward causing a dip in the trail grade.

Specifications – Standards to which trails and trail structures are built and maintained according to class.

Stringer – Log or timber that rests on mud sills and spans a water course, muddy areas, etc. and supports the tread surface.

Sustainable trail – A trail that was designed, constructed, or reconstructed to a standard such that it does not adversely affect natural and cultural resources, can withstand the impacts of the intended users and the natural elements while receiving only routine cyclic maintenance, and meets the needs of the intended users to the degree that they do not deviate from the established trail alignment.

Switchback – A turn that is constructed on a slope of more than 30 percent when measured between the exterior boundaries of the trail 120 -180 degrees. The landing is the turning portion of the switchback. The approaches are the 20 foot trail sections upgrade and downgrade from the landing.

Tie log – A structural member notched into the horizontal facer and wing walls used to secure the facer and wings by using the mass of the backfill.

Tier – Using the analysis of general matters contained in a broader EIR (such as one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project.

Trail bed – The portion of trailway between the hinge point of the back slope and the hinge point of the fill slope.

Trail hardening – The manual, mechanical or chemical compaction/firming of the trail tread surface resulting in a hard and flat surface that sheets water effectively and resists the indentations that are created by trampling.

Trail Log – An inventory of physical features along or adjacent to a trail. An item by item footage record of trail features and facilities or improvements on a specific trail.

Travel way or corridor – Includes tread surface and clearing limits.

Turnpike – Tread made stable by raising trail bed above wet, boggy areas by placing mineral soil between parallel side logs. Usually includes ditches alongside the road.

Water bar – A device used for turning water off the trail, usually made of logs or stones.

Water course – Any natural or constructed channel where water will collect and flow.

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1 INTRODUCTION

California State Parks (CSP) proposes to implement the Road and Trail Change-in-Use Evaluation Process (Process) to facilitate the review of proposals to add or change uses of existing recreational roads and trails in the State Park System. The Process is intended to assist in the consideration of changes in road and trail uses to best accommodate trail access and recreational activities that are appropriate for each facility. Off-highway motor vehicle recreation (OHMVR) uses are not covered under the Process. The Process provides CSP with an objective and systematic evaluation tool and procedures to evaluate change-in-use proposals.

1.1 PURPOSE AND INTENDED USES OF THIS DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT

This Draft Program Environmental Impact Report (Program EIR) has been prepared to evaluate the potential environmental effects of implementing the proposed Process. Chapter 1 of the Program EIR provides introductory information to orient the reader to the Process and the environmental analysis.

The Program EIR has been prepared in compliance with the California Environmental Quality Act (CEQA) and the State CEQA Guidelines. CEQA requires that state and local government agencies consider the environmental effects of projects over which they have discretionary authority before taking action on those projects. CEQA requires that each public agency avoid or mitigate to less-than-significant levels, wherever feasible, the significant environmental effects of projects it approves or implements. The purpose of an EIR, under the provisions of CEQA, is "to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided" (Public Resources Code [PRC] Section 21002.1[a]). If a project would result in significant and unavoidable environmental impacts that cannot be feasibly mitigated to less-than-significant levels, the project can still be approved, but the lead agency's decision-maker (i.e. Director of CSP) must issue a "statement of overriding considerations" explaining, in writing, the specific economic, social, or other considerations that they believe make those significant effects acceptable (PRC Section 21002; California Code of Regulations [CCR] Section 15093 of the State CEQA Guidelines).

CSP is the Lead Agency for the Program EIR, as defined by CEQA. Other public agencies with jurisdiction over the project areas evaluated using the Process are described below in Section 1.4, Agency Roles and Responsibilities.

The purpose, content, and procedures of a Program EIR are described in State CEQA Guidelines Section 15168 and summarized below. The relevant statute and regulations guiding the preparation of the Draft Program EIR are:

- PRC Sections 21000 et seq., which is CEQA; and
- CCR, Title 14, Division 6, Chapter 3, Section 15000 et seq., which are the State CEQA Guidelines.

This Draft Program EIR evaluates the significant or potentially significant adverse effects on the physical environment resulting from implementation of the proposed Process, recognizing the use of environmental protection standards and features (see Section 3.6, Project Requirements and Change-in-Use Evaluation Process, of this Program EIR) that are incorporated into the description of change-in-use proposals; describes feasible measures, if needed, to mitigate any significant or potentially significant adverse effects; and considers alternatives that may lessen one or more of the significant or potentially significant adverse effects.

1.2 USE OF A PROGRAM ENVIRONMENTAL IMPACT REPORT

According to CCR Section 15168 of the State CEQA Guidelines, a Program EIR may be prepared on a series of actions that can be characterized as one large project and are related to, among other things, the issuance of general criteria to govern the conduct of a continuing program or individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects that can be mitigated in similar ways. The Process meets these criteria for use of a Program EIR.

Preparing a Program EIR allows for a more exhaustive consideration of effects than would be practical in separate EIRs on individual actions, and ensures consideration of cumulative impacts that might be missed on a case-by-case basis. It also allows avoidance of duplicative consideration of basic policy and program-wide mitigation measures at a time when there is greater flexibility to deal with basic environmental problems or cumulative impacts.

As noted in CCR Section 15168(c) of the State CEQA Guidelines, subsequent proposed activities that are consistent with the Process (i.e., proposed change-in-use projects within units of the State Park System) would be examined in light of the information in this Program EIR to determine whether an additional environmental document must be prepared. This allows an opportunity for the public to provide comment on a program at an early stage of the CEQA process. If CSP finds that, pursuant to CCR Section 15162 of the State CEQA Guidelines, no new effects could occur or no new mitigation measures would be required on a subsequent project, the activity can be approved as being within the scope of the project covered by this Program EIR, and no new EIR or negative declaration would be required. If CSP finds a project to be entirely within the scope of the Program EIR, CSP would use this EIR for the later project's CEQA compliance and file a notice of determination (NOD) when the project is approved. Under this CEQA compliance approach, CSP must incorporate all project requirements relevant to the proposed change in use and all feasible mitigation measures from the Program EIR into the subsequent project, as needed, to address significant or potentially significant effects on the environment.

If a subsequent project or later activity would have effects that were not examined in this Program EIR, an initial study would need to be prepared to determine the appropriate environmental document. If another environmental document is needed, whether it is a notice of exemption, negative declaration, mitigated negative declaration, or EIR, the Program EIR can be used to simplify the task of preparing the subsequent environmental document, as indicated in CCR Section 15168(d) of the State CEQA Guidelines. For instance, regional influences, secondary effects, cumulative impacts, and broad alternatives that apply to the overall Process can be incorporated by reference, allowing the later environmental document to focus solely on the new effects that had not been previously considered. Any project-specific impacts that are too speculative to define at the program level would be resolved during CEQA review of individual projects.

1.3 SCOPE OF THE DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT

Pursuant to CEQA, the discussion of potential effects on the physical environment is focused on those impacts that may be significant or potentially significant. CEQA allows a lead agency to limit the detail of discussion of the environmental effects that are not considered potentially significant (PRC Section 21100, CCR Sections 15126.2[a] and 15128 of the State CEQA Guidelines). CEQA requires that the discussion of any significant effect on the environment be limited to substantial, or potentially substantial, adverse changes in physical conditions that exist within the affected area, as defined in PRC Section 21060.5 (statutory definition of "environment").

On September 16, 2010, CSP issued a Notice of Preparation (NOP) (Appendix A) to inform agencies and the general public that a Program EIR was being prepared and invited comments on the scope and content of the document and participation at public scoping meetings. The NOP was posted with the State Clearinghouse, posted on the CSP website, and distributed to public agencies (including potential responsible and trustee agencies), and interested parties and organizations. The NOP was circulated through November 30, 2010, beyond the minimum 30-day circulation period mandated by CEQA, to accommodate public scoping meetings in both northern and southern California.

Affected agencies, organizations, and the public were invited to scoping meetings at the following dates, times, and places. In accordance with PRC Section 21083.9 and Section 15082(c) of the State CEQA Guidelines, noticed public hearings for scoping of the Program EIR occurred on the following dates:

Saturday, September 25, 2010
1:00 to 4:00 pm open house
Presentation at 2:00 pm
Candlestick Point State Recreation Area
1150 Carroll Avenue
San Francisco, CA 94124

Saturday, November 13, 2010
1:00 to 4:00 pm open house
Presentation at 2:00 pm
Lake Activities Building
Lake Perris State Recreation Area
17801 Lake Perris Drive
Perris, CA 92571

Appendix B of this Draft Program EIR contains the Program EIR Scoping Report, which summarizes the substantive comments on the NOP and presents the comment letters submitted during the public comment period. Public input during scoping focused on several topics. Comments and questions addressed the following environmental issues and Program EIR topics:

- Project description of the change-in-use evaluation process
- Environmental impact analysis approach
- Greenhouse gas and climate change
- Terrestrial biological resources
- Geology and soils
- Hydrology, water quality, and sedimentation
- Hazards, including use-appropriate trail design issues
- Aesthetics
- Transportation, specifically parking demand
- Security and emergency preparedness
- Cumulative impacts
- Alternatives

The CSP has considered relevant NOP comments in preparation of this Program EIR. The Program EIR contains an Executive Summary in Chapter 2, consistent with CCR Section 15123 of the State CEQA Guidelines. A project description is presented in Chapter 3 of this document and the approach to the environmental analysis is explained in Section 4.1 of Chapter 4, Environmental Setting, Environmental Impacts, and Mitigation Measures. The following environmental topic areas may be affected by the proposed Process; environmental impact analysis and identification of feasible mitigation measures, where needed, related to these topics are addressed in Sections 4.2 to 4.15 of Chapter 4, Environmental Setting, Environmental Impacts, and Mitigation Measures, of this Program EIR:

- Aesthetics and Views
- Air Quality
- Terrestrial Biological Resources
- Aquatic Biological Resources
- Cultural Resources
- Geology, Soils and Mineral Resources
- Greenhouse Gas/Climate Change/Sea-Level Rise
- Hazards and Hazardous Materials
- Hydrology, Water Quality, and Sedimentation
- Noise
- Population and Housing
- Public Services and Utilities
- Recreation
- Traffic and Transportation

Effects found not to be significant are discussed in Chapter 5. Cumulative and Growth Inducing environmental impacts are discussed in Chapter 6. Alternatives to the Process are addressed in Chapter 7.

1.4 PUBLIC REVIEW AND PARTICIPATION PROCESS

Consistent with the requirements of CEQA, effort has been made during the preparation of this Draft Program EIR to contact affected agencies, organizations, and individuals who may have an interest in the project. As described above, this effort included the circulation of the NOP on September 16, 2010, and two public scoping meetings (September 25, 2010, in San Francisco and November 13, 2010, in Perris). Early consultation with relevant agencies, organizations, and individuals assisted in the preparation of this Draft Program EIR.

CSP has filed a Notice of Completion with the State Clearinghouse of the Governor's Office of Planning and Research, indicating that this Draft EIR has been completed and is available for review and comment by the public. The public review period will last 60 days, beginning **October 5th, 2012**, and ending **December 4th, 2012**.

1.4.1 PUBLIC MEETING

Two public meetings on this Draft Program EIR will be held during the review period, to receive comments on the document. The first meeting will be held in the City of Glendale's Adult Recreation Center (ARC) located at 201 E. Colorado Street, Glendale, CA 91205, on **Saturday, October 27, 2012, 2 p.m. to 5 p.m.**

The second meeting will be held in the Sports Basement located at 1881 Ygnacio Valley Road, Walnut Creek, CA 94598 on **Saturday, November 3, 2012, 2 p.m. to 5 p.m.** A Public Notice of Availability of the Draft Program EIR, which also includes the date, times, and specific location for the public meetings, has been published in **Redding Record Searchlight, San Francisco Chronicle, Sacramento Bee, Fresno Bee, Los Angeles Times** and **San Diego Union Tribune**.

1.4.2 WRITTEN COMMENTS

Comments on the Draft Program EIR may be made either in writing before the end of the comment period (December 4th, 2012) or orally at the aforementioned public hearings. Written comments should be mailed or e-mailed to the address provided below. After the close of the public comment period, responses to the comments received on the Draft Program EIR will be prepared and published, and together with this Draft Program EIR will constitute the Final Program EIR.

Please mail, e-mail, or fax comments on the Draft Program EIR by the deadline to:

Environmental Coordinator
California State Parks
Northern Service Center
One Capitol Mall, Suite 410
Sacramento, California 95814
Email: CEQANSC@parks.ca.gov (Subject Line: Statewide Trails)
Fax: (916) 445-9081 (Subject Line: Statewide Trails)

Hard copies of the Draft Program EIR can be reviewed at the locations listed below and an electronic version can be viewed online at http://www.parks.ca.gov/?page_id=980.

Northern Service Center
California Department of Parks & Recreation
One Capitol Mall, Suite 410
Sacramento, California 95814

Southern Service Center
California Department of Parks & Recreation
NTC at Liberty Station
Barracks 26
2797 Truxton Road
San Diego, CA 92106

Angeles District
California Department of Parks & Recreation
1925 Las Virgenes Road
Calabasas, CA 91302-1909

Monterey District
California Department of Parks & Recreation
2211 Garden Road
Monterey, CA 93940-5317

Capital District
California Department of Parks & Recreation
111 I Street
Sacramento, CA 95814-2204

North Coast Redwoods District
California Department of Parks & Recreation
3431 Fort Avenue
Eureka, CA 95503-3828

Central Valley District
California Department of Parks & Recreation
22708 Broadway
Columbia, CA 95310-9400

Northern Buttes District
California Department of Parks & Recreation
400 Glen Drive
Oroville, Ca 95966-9222

Channel Coast District
California Department of Parks & Recreation
911 San Pedro Street
Ventura, CA 93001-3744

Orange Coast District
California Department of Parks & Recreation
3030 Avenida del Presidente
San Clemente, CA 92672-4433

Colorado Desert District
California Department of Parks & Recreation
200 Palm Canyon Drive
Borrego Springs, CA 92004-5005

Russian River District
California Department of Parks & Recreation
25381 Steelhead Blvd
Duncans Mills, CA 95430

Diablo Vista District
California Department of Parks & Recreation
845 Casa Grande
Petaluma, CA 94954-5804

San Diego Coast District
California Department of Parks & Recreation
4477 Pacific Highway
San Diego, CA 92110-3136

Gold Fields District
California Department of Parks & Recreation
7806 Folsom–Auburn Road
Folsom, CA 95630-1797

San Luis Obispo Coast District
California Department of Parks & Recreation
750 Hearst Castle Road
San Simeon, CA 93452-9741

Inland Empire District
California Department of Parks & Recreation
17801 Lake Perris Drive
Perris, CA 92571-9293

Marin District
California Department of Parks & Recreation
845 Casa Grande Road
Petaluma, CA 94954-5804

Mendocino District
California Department of Parks & Recreation
12301 North Highway 1
Mendocino, CA 95460

Santa Cruz District
California Department of Parks & Recreation
303 Big Trees Park Road
Felton, CA 95018-9660

Sierra District
California Department of Parks & Recreation
7360 W. Lake Boulevard
Tahoma, Ca 96142

Tehachapi District
California Department of Parks & Recreation
15101 Lancaster Road
Lancaster, CA 93536

1.5 AGENCY ROLES AND RESPONSIBILITIES

1.5.1 LEAD AGENCY

CSP is a State Agency as defined by CEQA Section 21082.1. For this Program EIR, CSP is the lead agency under CEQA, as defined in Section 15367 of the State CEQA Guidelines. It also serves as a Trustee Agency, as defined by State CEQA Guidelines Section 15386 for affected resources within units of the State Park System.

1.5.2 RESPONSIBLE AND TRUSTEE AGENCIES

Responsible and trustee agencies are consulted by the lead agency to ensure the opportunity for input during the environmental review process. Under CEQA, a responsible agency is a public agency other than the lead agency that has legal responsibility for carrying out or approving a project or elements of a project (PRC Section 21069). Although other state and local agencies may have approval authority on individual change-in-use projects, these agencies do not have approval authority over implementing the Process analyzed in this Program EIR, so there are no responsible agencies. However, CSP is interested in receiving comments and feedback on the Process from other state and local agencies.

Under CEQA, a trustee agency is a state agency that has jurisdiction by law over natural resources that are held in trust for the people of the State of California (PRC Section 21070). The California Department of Fish and Game (CDFG) is a trustee agency with jurisdiction over fish and wildlife and their habitats that may be affected by this Process. Other trustee agencies may have resources held in trust that are affected by future individual change-in-use projects.

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FILE CONTENTS

APPENDICES

EXHIBITS

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TABLES

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ACRONYMS/ABBREVIATIONS

California State Parks (CSP
Road and Trail Change-in-Use Evaluation Process (Process
Off-highway vehicle (OHV
Draft Program Environmental Impact Report (Program EIR
California Environmental Quality Act (CEQA
Public Resources Code [PRC
California Code of Regulations [CCR
notice of determination (NOD
Notice of Preparation (NOP
California Department of Fish and Game (CDFG

REFERENCES

none

IMPACT AND MITIGATION SUMMARY

No table of contents entries found.

2 EXECUTIVE SUMMARY

2.1 INTRODUCTION

This Program Environmental Impact Report (Program EIR) has been prepared pursuant to the California Environmental Quality Act (CEQA) for the California State Parks (CSP) Road and Trail Change-In-Use Evaluation Process (Process). This Program EIR analyzes the potential significant impacts of the adoption and implementation of the Process by CSP. This document was prepared under the direction of CSP and reflects the independent analysis and judgment of CSP as the Lead Agency under CEQA.

This document is a Program EIR prepared according to the State CEQA Guidelines, California Code of Regulations (CCR) Section 15168. A Program EIR may be prepared on a series of actions that can be characterized as one large project and are related to, among other things, the issuance of general criteria to govern the conduct of a continuing program or individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects that can be mitigated in similar ways. The proposed Process meets these criteria for use of a Program EIR.

As noted in CCR Section 15168(c) of the State CEQA Guidelines, subsequent proposed change-in-use projects that are consistent with the Process would be examined in light of the information in this Program EIR to determine whether an additional environmental document must be prepared. If CSP finds that, pursuant to CCR Section 15162 of the State CEQA Guidelines, no new effects could occur or new mitigation measures would be required on a subsequent project, the activity can be approved as being within the scope of the project covered by this Program EIR, and no new environmental documentation would be required, with the exception of a Notice of Determination (NOD) should CSP determine that a project is within the scope of the Program EIR. In this situation, CSP must incorporate all project requirements relevant to the proposed change in use and all feasible mitigation measures from the Program EIR into the subsequent project, as needed, to address significant or potentially significant effects on the environment.

If a subsequent project or later activity would have effects that were not examined in this Program EIR, CSP would prepare an initial study to determine the appropriate environmental document. If another environmental document is needed, whether it is a mitigated negative declaration or EIR, the Program EIR can be used to simplify the task of preparing the subsequent environmental document, as indicated in CCR Section 15168(d) of the State CEQA Guidelines.

2.2 ROAD AND TRAIL CHANGE-IN-USE EVALUATION PROCESS

CSP proposes to implement the Process to facilitate the review of change-in-use proposals that would add uses to or remove uses from existing recreational roads and trails in the State Park System. This document does not assess whether or not a CSP road or trail should be multi-use. Rather, this document analyzes the proposed Process intended to facilitate consideration of changes in non-motorized recreational uses on existing CSP roads and trails that best accommodate accessibility and recreational activities appropriate for each road or trail facility. The Process would provide CSP with an objective process and evaluation tool to assess change-in-use proposals that modify roads and trails. Specifically, the proposed Process is intended to achieve the following objectives:

- to implement the CSP Trail Policy, including to provide multi-use trails and trail connectivity;
- to evaluate appropriate proposals for road and trail change-in-use projects (i.e., add uses to or remove uses from existing roads and trails) in CSP units that can be implemented in a manner that avoids or clearly mitigates potential significant effects on the environment;
- to provide an objective and consistent evaluation tool and process to inform decision-making while recognizing the diversity of resources and users at each park unit; and
- to ensure that these objectives are achieved in an open and transparent process.

The proposed Process applies to decisions that are made for the addition or removal of different types of non-motorized uses of a State Park System road or trail. These types of use may include: pedestrian, accessible pedestrian, wheelchair, equestrian, mountain bike, or other unidentified non-motorized uses not currently recognized as potential road and trail use types. The proposed Process could be applied to roads and trails in a manner consistent with unit classifications within State Parks, State Recreation Areas, and State Beaches of the CSP System that are owned and managed by the State. The proposed Process would not apply to motorized recreational vehicle trails and any units operated as State Vehicular Recreation Areas.

Potential project actions that may result from recommendations for a change-in-use type include: reconstruction or maintenance (e.g., repair eroded portions of roads or trails; weed removal) within an existing road or trail prism; installation of speed control or other trail devices for additional user types; rerouting of trail alignments to correct otherwise unsustainable road and trail grades, or to resolve an existing environmental problem; installation of hardened surfaces, such as, but not limited to, aggregate surfacing, rock armoring, wooden boardwalks or puncheons and bridging; closure, decommissioning, and restoration of existing roads and trails; conversion of existing roads to trails; and trailhead, point of access, and parking improvements related to changes in recreational road or trail use. Use of the term restoration in this instance applies to any type of restoration of the landscape and native habitats that may be needed for an individual change-in-use project.

In general, project actions that are eligible for approval under the Process could involve modifications within an existing CSP road or trail prism. Construction would be limited to the existing disturbed area of the road or trail prism and adjacent lands.

Roads and trails qualifying for a change in use through the proposed Process would be required to implement Standard Project Requirements (SPRs), which are CSP system-wide environmental protection measures and features applied to a project's design, construction process, or operation that are implemented with the objective of avoiding significant impacts or maintaining them at less-than-significant levels. The change-in-use projects may also include Project-Specific Requirements (PSRs), which are project-specific design, construction, or operational measures tailored to the special characteristics of an individual change-in-use proposal. Change-in-use projects qualifying for approval under the proposed Process would also be subject to Adaptive Use Management (AUM) procedures, which involve: establishing baseline use conditions for the change-in-use proposal; implementing monitoring and management responses to ensure that unanticipated environmental consequences would not cause significant impacts; and to correct, if necessary, user-created road or trail issues (refer to Section 3.6.4, Adaptive Use Management Strategy, of this PEIR for a detailed description). The determination of impact significance for a change-in-use proposal would occur only after taking the influence of these SPRs, including AUM procedures, and PSRs into account. If, despite the environmentally protective influence of the SPRs, including AUM, and PSRs, a change-in-use proposal could not avoid significant environmental impacts or clearly mitigate them to a less-than-significant level, the proposal would be disqualified from approval under the proposed Process. In such a case, CSP would need to initiate independent project planning and environmental review to pursue the project further, but could use the Program EIR to cover environmental issues that are adequately addressed in it (e.g., cumulative impacts). The project-level environmental document need only examine the effects specific to the project that are not already addressed in the Program EIR.

2.3 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

This Program EIR has been prepared based on public scoping to identify potential environmental issues and extensive environmental evaluation. The document evaluates a full range of potential environmental issues. These issues are discussed in Chapter 4, Environmental Setting, Environmental Impacts, and Mitigation Measures. In addition, the issue of trail use conflict has been raised during the public scoping process. Trail use conflict issues are addressed in Chapter 8, because conflicts themselves are not environmental impacts under the purview of CEQA; however, because the topic is important to affected stakeholders and as a social and management issue, an extensive research effort was conducted to address the issue (please, also see Appendix C, Trail Use Conflict Study).

Table 2-1, located at the end of this chapter, provides a summary of the potential environmental impacts of the project, level of significance before mitigation, recommended mitigation measures, and the level of significance after the application of mitigation measures.

2.4 SUMMARY OF CUMULATIVE IMPACTS

The potential environmental impacts related to change-in-use projects that qualify for approval under the proposed Process would be less than significant through the implementation of SPRs included as part of the proposed Process, including AUM, and PSRs. Where potentially significant impacts could not be entirely avoided, mitigation measures would be required to compensate for resource effects (see Section 4.4, Terrestrial Biological Resources; and Section 4.5, Aquatic Biological Resources). If a change-in-use project could not maintain project impacts at less-than-significant levels and contributions to cumulative impacts at less-than-considerable levels through the application of SPRs including AUM, PSRs, and mitigation measures, it would be disqualified from approval under the proposed Process. This approach to limiting environmental impacts, along with the existing CSP mandate to protect natural and cultural resources consistent with its mission, would preclude the creation of new significant cumulative impacts or considerable contributions to existing cumulative environmental problems. Please see Chapter 6, Cumulative and Growth Inducing Impacts, for a more detailed discussion of cumulative impact issues by environmental resources topic.

2.5 SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL IMPACTS

As discussed in Chapter 3, Project Description, of this Program EIR, implementation of SPRs included as part of the proposed Process, including AUM, as well as PSRs and proposed mitigation measures included in this Program EIR, would avoid all project implementation-related significant impacts, including cumulative impacts, or maintain them at less-than-significant levels. If a change-in-use proposal cannot avoid significant environmental effects based on implementation of the SPRs including AUM, PSRs, and mitigation measures included in the Program EIR, it would be disqualified from approval under the proposed Process. Consequently, no significant and unavoidable effects on the environment would result from implementation of the proposed Road and Trail Change-in-Use Evaluation Process.

2.6 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

The State CEQA Guidelines require a discussion of the significant irreversible environmental changes that could occur should the project be implemented. No significant irreversible environmental changes would occur with implementation of the proposed Process, as discussed below.

An example of significant irreversible environmental change is the irreversible and irretrievable commitment of resources (i.e., the permanent loss of resources for future or alternative purposes). Irreversible and irretrievable resources are those that cannot be recovered or recycled or those that are consumed or reduced to unrecoverable forms. The proposed Process would result in the irreversible and irretrievable commitment of energy and material resources during project construction, operation, and maintenance, including the following:

- construction materials, including such resources as rocks, wood, concrete, and steel;
- land area committed to any realigned or widened trail facilities; and
- energy expended in the form of electricity, gasoline, diesel fuel, and oil for equipment and transportation vehicles that would be needed for project construction and operation.

The use of these nonrenewable resources is expected to account for a minimal portion of the State's resources and would not affect the availability of these resources for other needs within the region. Long-term operational energy and natural resource consumption is expected to be minimal and would not exceed the capacity of energy suppliers to meet local demand. Construction activities would be relatively minor in magnitude and would not result in inefficient use of energy or natural resources. Construction contractors selected would use best available engineering techniques, construction and design practices, and equipment operating procedures.

2.7 SUMMARY OF ALTERNATIVES

This Program EIR includes an evaluation of two alternatives to the proposed Process: No Project Alternative and Complete Impact Avoidance Alternative. The No Project Alternative would be environmentally similar compared to the proposed Process and would not achieve the basic objectives of the proposed Process. The Complete Impact Avoidance Alternative would achieve the basic objectives of the proposed Process, but the number of projects that may feasibly achieve this alternatives stringent standard of complete significant impact avoidance would be limited, and potentially too few to make this a feasible alternative for CSP. The Complete Impact Avoidance Alternative would be environmentally similar compared to the proposed Process. The difference between the alternatives relates to the approach to reach that outcome, and the relative feasibility of change-in-use proposals to end up without significant effects, when mitigation measures and AUM can (proposed Process) or cannot (Complete Impact Avoidance Alternative) be used to help attain that goal.

2.8 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

Section 15123(b) of the State CEQA Guidelines requires the summary section of an EIR to include "areas of controversy known to the lead agency" and issues to be resolved. The following are areas of controversy known to CSP:

- Biological resources (terrestrial and aquatic)
- Geology and soils erosion
- Hydrology, water quality, and sedimentation

- Road and trail safety
- Trail use conflict

Environmental issues to be resolved relate to the refinement and approval of the detailed steps in the proposed Process and the SPRs to be applied to qualifying change-in-use proposals. The goal of the SPR list is to avoid significant impacts or maintain them at less-than-significant levels for as many types of potential environmental consequences as feasible. This approach is consistent with CSP's mission and policies to protect the natural and cultural resources of the State Park System.

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
4.2 Aesthetics and Views				
4.2-1	**Obstruction or Degradation of Scenic Views.** The proposed Process includes adding or removing non-motorized user types to or from existing CSP roads or trails and could involve minor modifications to the road or trail. These minor modifications would not include buildings or other structures that could either obstruct an existing view from a CSP road or trail or degrade an existing view of a CSP unit or feature. The proposed Process would not result in major physical alteration of an existing road or trail alignment such that existing views are no longer accessible to existing user types. The placement of new user types on an existing CSP road or trail would not substantially alter scenic views of the trail as seen from elsewhere in a CSP unit or as viewed from the trail. In addition, adding other user types, visitor access to scenic views could be increased and/or diversified to other trail users. Furthermore, implementation of SPRs AES-1 and AES-2 would maintain any temporary construction-related impacts to scenic views at less-than-significant levels, and would ensure that any materials used in trails modification would fit appropriately within the existing landscape. The impact to scenic views is considered less than significant.	LTS	No mitigation is necessary.	LTS
4.2-2	**Degradation of Visual Character or Features.** Projects qualifying for approval under the proposed Process would, at most, include minor physical alterations to existing CSP roads and trails. Under the Process, physical changes would be limited to minor trail widening or realignment, installation of BMPs, and other minor design improvements. Design improvements would avoid tree removal to the extent feasible, especially trees over 24-inches in diameter (according to SPR Bio-18).	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
	Furthermore, qualifying projects would not require removal or major alteration of existing landscapes or geologic features and the addition or removal of a user type from an existing road or trail would not substantially change the visual character. The impact is less than significant.			
4.2-3	**Increased Light or Glare.** Because most CSP roads and trails either occur in remote areas or traverse into the natural landscape if they are located in more urban areas, they are located mostly in natural settings with few structures. Therefore, levels of daytime glare and night lighting are generally low. The proposed Process would add or remove additional user types (e.g., bicyclists and/or equestrians) to existing roads and trails. The proposed Process would not result in the construction of buildings or large structures, although minor road or trail improvements could be necessary to accommodate the new user types. No additional permanent lighting is included in the facilities allowed to be implemented under the proposed Process. Roads and trails in CSP units are generally closed from sunset to sunrise, so nighttime use would be limited to overnight visitors (e.g., campers). None of the trail user types typically generate large quantities of light or glare (i.e., limited to headlamps, bike lanterns, or hand-held flashlights), and light and glare levels would be expected to remain substantially the same as existing conditions. Therefore, impacts associated with light and glare would be **less than significant**.	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
4.3 Air Quality				
4.3-1	**Short-Term Construction-Generated Emissions of CAPs and Precursors.** Because change-in-use projects that qualify for approval under the Process would comply with SPRs that limit the type and intensity of construction-related activities, short-term construction-generated emissions would not exceed the mass emission thresholds recommended by air districts in California and, thus, would not contribute to pollutant concentrations that exceed the NAAQS or CAAQS or expose receptors to substantial pollutant concentrations. This would impact would be less than significant.	LTS	No mitigation is necessary.	LTS
4.3-2	**Generation of Long-Term Operational (Regional) Emissions of CAPs and Precursors.** Operation of individual change-in-use projects could potentially result in an increase in vehicle trips and associated mobile-source emissions of CAPs and precursors. However, because of the influence of SPRs, these potential increases would not exceed applicable thresholds recommended by air districts in California and, thus, would not substantially contribute to concentrations that exceed the NAAQS or CAAQS and/or conflict with air quality planning efforts. This impact would be less than significant.	LTS	No mitigation is necessary.	LTS
4.3-3	**Generation of Local Mobile-Source CO Emissions.** Operation of the proposed project would not result in or substantially contribute to CO concentrations that exceed applicable ambient air quality standards. This impact would be less than significant.	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures

Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
4.3-4	**Exposure of Sensitive Receptors to Exhaust Emissions of Toxic Air Contaminants.** Short-term construction activities associated with change-in-use projects that qualify for approval under the Process would not result in the exposure of sensitive receptors to TAC emissions that would exceed air district thresholds. This impact would be less than significant.	LTS	No mitigation is necessary.	LTS
4.3-5	**Exposure of Sensitive Receptor to Fugitive Dust Emissions Containing Naturally Occurring Asbestos.** Construction-related earth movement activities and operational activities on unpaved surfaces at some CSP units could result in disturbance of serpentine or other ultramafic rock or soil, which could result in fugitive dust emissions that contain NOA. However, all change-in-use projects qualified for approval under the Process would be subject to SPR AQ-12 and SPR AQ-13, which require implementation of appropriate controls to prevent park users and nearby sensitive receptors from exposure to re-entrained NOA. As a result, this impact would be less than significant.	LTS	No mitigation is necessary.	LTS
4.3-6	**Exposure of Sensitive Receptors to Excessive Odors.** The short-term construction and the long-term operation of projects qualified for approval under the Process would not result in the exposure of sensitive receptors to excessive odorous emissions. Therefore, this impact would be less than significant.	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	**Impact Description**	**Level of Significance Before Mitigation**	**Mitigation Measure**	**Level of Significance After Mitigation**
4.4 Terrestrial Biological Resources				
4.4-1	**Construction-Related Disturbance or Removal of Special-Status Plant Species.** Under the proposed Process, the potential removal of or damage to special-status plant species as a result of project excavation, grading, or other construction activities would be avoided by compliance with SPRs for vegetation (BIO-13 through BIO-17). The SPRs include conducting preconstruction plant surveys, flagging, and fencing of areas to be protected to ensure complete avoidance of impacts. If removal of or damage to special-status plant species as a result of construction or operation related to a change-in-use proposal cannot be avoided despite the environmentally protective influence of the SPRs and Adaptive Use Management, the change-in-use proposal could not avoid significant environmental impacts or clearly mitigate them to a less-than-significant level, the proposal would be disqualified from approval under the proposed Process. If the District intended to pursue the project further, CSP would need to initiate independent project planning and environmental review, but could tier the subsequent environmental document off the Program EIR. The project-level document need only examine the effects not adequately addressed in the Program EIR. Therefore, because impacts to special-status plant species would be avoided through implementation of SPRs, this impact would be less-than-significant.	LTS	No mitigation is necessary.	LTS
4.4-2	**Construction-Related Disturbance or Loss of Sensitive Habitats (Jurisdictional Wetlands, Riparian Habitat, and Other Special-Status Natural Communities).** Under the proposed Process, project-related construction activity and the disturbance or removal of sensitive habitats	PS	**Mitigation Measure 4.4-2. Delineate Waters of the United States and Obtain Authorization for Fill and Required Permits.** Prior to the start of any construction activity that could affect waters of the United States, including wetlands, despite implementation of SPRs, a delineation of waters of the United	LTS

Table 2-1 Summary of Impacts and Mitigation Measures

Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
	would be minimized by compliance with SPRs for Natural Communities (SPRs BIO-7 through BIO-12). While SPRs would avoid and protect most sensitive habitats, the potential for removal of riparian and wetland vegetation and the placement of fill into waters of the United States may not be entirely avoided. This impact would be potentially significant.		States that would be affected by project implementation will be conducted by a qualified biologist through the formal Section 404 wetland delineation process. The delineation will be submitted to and verified by the appropriate District of USACE. If, based on the verified delineation, it is determined that fill of waters of the United States would result from implementation of the project, authorization for such fill will be secured from the appropriate District of USACE through the Section 404 permitting process. The amount of wetlands or other Waters of the United States that would be removed or disturbed during project implementation will be quantified and replaced or restored/enhanced in accordance with USACE and federal regulations. Habitat restoration, enhancement, and/or replacement will be at a location and by methods agreeable to USACE as determined during the permitting processes for CWA Section 404. In coastal areas, the California Coastal Commission and/or counties with an approved Local Coastal Plan have regulatory authority over some activities in Environmentally Sensitive Habitat Areas (e.g., coastal wetlands). In addition, any project that would divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream, or lake that supports wildlife resources is subject to regulation by CDFG under Sections 1600 et seq. of the California Fish and Game Code. If any project under the Process would result in such an effect (e.g., stream-crossing projects that would remove riparian vegetation), CSP will obtain a Lake or Streambed Alteration Agreement from CDFG and implement all terms required for permit compliance. Because the regulatory processes and requirements of the Clean Water Act, Section 404, and California Fish and Game Code, Section 1600 et seq., include performance criteria for compensating affected habitat (e.g., no net loss of wetland habitat value), it is reasonable to expect that compliance with these laws and regulations would mitigate potentially	

Table 2-1 Summary of Impacts and Mitigation Measures

Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
			significant effects to wetland and riparian habitats to a less-than-significant level.	
4.4-3	**Introduction and Spread of Invasive Plant Species.** Under the proposed Process, the potential for project construction and changes in use to introduce and spread invasive plants would be minimized by compliance with SPRs BIO-27 and BIO-28. Under these requirements, construction operators would ensure that clothing, footwear, and equipment used during construction are free of soil, seeds, vegetative matter or other debris or seed-bearing material; and all heavy equipment would be pressure washed prior to entering the park or from an area with known infestations of invasive plants and noxious weeds. Also, educational signage that identifies invasive plants and how they are spread would be installed, to discourage users from leaving established trails and roads and inadvertently spreading invasive plants. This potential impact would be less than significant.	LTS	No mitigation is necessary.	LTS
4.4-4	**Short-Term, Construction-Related Disturbance or Loss of Special-Status Wildlife Species and Habitats, and Wildlife Movement Corridors.** Under the proposed Process, the potential disturbance or loss of special-status wildlife species and habitats as a result of project excavation, grading, or other construction activities would be avoided or minimized by compliance with SPRs for terrestrial wildlife (BIO-29 through BIO-38). The SPRs include conducting preconstruction surveys, avoiding any take of federally or state listed species, scheduling construction activities to avoid the breeding season and/or other sensitive life-history periods of special-status species that could be affected, and/or establishing	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	**Impact Description**	**Level of Significance Before Mitigation**	**Mitigation Measure**	**Level of Significance After Mitigation**
	non-disturbance buffers around breeding sites or other activity centers if necessary. Additionally, the proposed Process is not expected to substantially affect known wildlife movement corridors, create new movement barriers, bifurcate any important habitat areas, or prevent wildlife from continuing to access or travel between habitat areas in the vicinity. If impacts to special-status wildlife species or wildlife movement corridors as a result of construction related to a change-in-use proposal cannot be avoided (e.g., if project-level evaluation determines that impacts to a FESA-listed species or its occupied habitat could occur despite implementation of SPRs, or if applicable SPRs required to avoid the impact are identified as not feasible to implement for a particular project), the project would be disqualified from approval using the Process. If the CSP intended to pursue the project further, it would need to initiate independent project planning and environmental review, but could tier the subsequent environmental document off the Program EIR. However, the project-level document need only examine the effects not adequately addressed in the Program EIR. Therefore, because short-term, construction-related impacts to wildlife species and habitats would be avoided or minimized through implementation of SPRs, this impact would be less-than-significant.			
4.4-5	**Long-Term and Operational Effects on Common and Sensitive Biological Resources.** Most of the long-term effects of implementing the proposed Process on biological resources are expected to be beneficial or neutral, because (1) any change in use must be developed and implemented with the objective of natural and cultural resource protection, (2) the specific	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	**Impact Description**	**Level of Significance Before Mitigation**	**Mitigation Measure**	**Level of Significance After Mitigation**
	purpose of many change-in-use proposals would be to correct existing conditions that contribute to resource degradation, (3) most actions and ground disturbances would occur within existing disturbed areas, and (4) SPRs to protect biological resources during construction and over the long-term are incorporated into the Process. However, there is uncertainty about whether the number of trail users would increase or otherwise substantially change in timing or use pattern, resulting in the potential for effects on sensitive habitats and special-status species, or other biological resources impacts. Therefore, the proposed Process includes Adaptive Use Management as a SPR designed to monitor and correct, if necessary, user-created trail issues. With implementation of SPRs to protect biological resources, including Adaptive Use Management, potential long-term adverse impacts to biological resources as a result of the proposed Process would be less than significant.			
4.5 Aquatic Biological Resources				
4.5-1	**Construction-Related Disturbance or Loss of Common and Sensitive Aquatic Habitats.** Under the proposed Process, the disturbance or removal of common and sensitive aquatic habitats as a result of construction would be minimized by compliance with SPRs for aquatic resources (SPRs BIO-4 and BIO-5, BIO-7 through 12, BIO-39, BIO-41, BIO-46, BIO-48 through BIO-51, BIO-53 through BIO-55, and BIO-60 through BIO-62). While SPRs would avoid and protect most aquatic habitats, the potential for disturbance or removal of some aquatic habitats (including waters of the U.S.), riparian and wetland vegetation, and streambeds and/or banks may not be entirely avoided. Any impact to aquatic habitat would require oversight and approval from one or more	PS	**Mitigation Measure 4.5-1. Consult with Appropriate Resource Agencies and Obtain Authorization for Impacts and Required Permits.** Prior to the start of any construction activity that could affect aquatic habitat, after implementation of SPRs, CSP will consult with appropriate Federal, State, and/or local agencies. Depending on the type of aquatic habitat and regulatory status, these agencies may include USACE (Section 404 of the CWA), EPA (Section 404(b)(1) of the CWA), State RWQCB (Section 401 of the CWA), USFWS (Section 7 of the FESA), NMFS (Section 7 of the FESA), and CDFG (California Fish and Game Code and Section 10 of the CESA). In coastal areas, the CCC and/or counties with an approved Local Coastal Plan have regulatory authority over some activities in Environmentally Sensitive Habitat Areas. Additional	LTS

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	**Impact Description**	**Level of Significance Before Mitigation**	**Mitigation Measure**	**Level of Significance After Mitigation**
	agencies that regulate the use and protection of aquatic resources. This impact would be potentially significant.		resource avoidance and protection measures may be identified and required through consultation with the appropriate agencies. If required, the amount of aquatic habitat that would be removed or disturbed during project implementation will be replaced or restored/enhanced in accordance with the appropriate regulations, outcome of agency consultation, and any permit requirements. A delineation of waters of the United States that would be affected by project implementation will be conducted by a qualified biologist through the formal Section 404 wetland delineation process as described in Mitigation Measure 4.4-2 (Delineate Waters of the United States and Obtain Authorization for Fill and Required Permits) in Section 4.4, Terrestrial Biological Resources.	
4.5-2	**Construction or Other Project-Related Disturbance or Impacts to Special-Status Aquatic Species and Habitats.** Under the proposed Process, the potential for impacts to special-status aquatic species as a result of project-related construction activities would be avoided by compliance with SPRs for Aquatic Resources (BIO-39 through BIO-45, BIO-48, BIO-51 through BIO-55, and BIO-59). SPRs include conducting preconstruction habitat assessments and species surveys, flagging, and fencing of areas to be protected (Environmental Sensitive Areas) to ensure complete avoidance of impact. If avoidance of direct and indirect impacts to special-status aquatic species resulting from construction or other activities related to a project that qualifies for implementation under the Process cannot be ensured, the project would be disqualified from approval using the Process. If CSP elected to pursue the project further, it would require an independent, project-specific CEQA Review. This impact would be less than significant.	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
4.5-3	**Long-Term and Operational Effects on Special-Status Aquatic Species and Aquatic Habitats.** Most of the long-term effects of implementing the proposed Process on aquatic biological resources are expected to be beneficial or neutral, because (1) any change in use must be developed and implemented with the objective of natural and cultural resource protection, (2) the specific purpose of many change-in-use proposals would be to correct existing conditions that contribute to resource degradation, (3) most actions and ground disturbances would occur within existing disturbed areas, and (4) SPRs to protect biological resources during construction and over the long-term are incorporated into the Process. However, there is uncertainty about whether trail use would substantially change in timing or use pattern, resulting in the potential for effects on sensitive habitats and special-status species, or other biological resources impacts. Additionally, potential long-term (operational) indirect effects on special-status aquatic species and/or aquatic habitats may also occur in association with trail use by hikers, mountain bikers, horseback riders, and use of other power-driven mobility devices (OPDMDs). Therefore, the proposed Process includes Adaptive Use Management (AUM) as a SPR designed to monitor and correct, if necessary, user-created trail issues. With implementation of SPRs to protect biological resources, including AUM, potential long-term adverse impacts to biological resources as a result of the proposed Process would be less than significant.	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
4.6 Cultural and Paleontological Resources				
4.6-1	**Roads and Trails as Historical Resources.** Some individual roads, trails, and related facilities are known to be significant historical resources. However, because change-in-use projects that qualify for approval under the Process would comply with the Secretary of the Interior's Standards during design and construction pursuant to SPRs (CUL-8, CUL-13, CUL-14, GEN-3, and GEN-6), there would be no material impairment to the integrity of the resource or substantial adverse change in the significance of the existing roads or trails that qualify as historical resources. Potential impacts to road or trail historical resources by projects proposed under the change-in-use Process would be less than significant.	LTS	No mitigation is necessary.	LTS
4.6-2	**Significant Archaeological Resources.** Many CSP units and individual road or trail facilities are located in areas that could support significant prehistoric and/or historic archaeological resources. However, because change-in-use projects that qualify for approval under the Process would adhere to the established SPRs (CUL-1, 3, 4 and 10 through 14) to avoid or minimize adverse direct and/or indirect effects to known significant or potentially significant archaeological sites during design, construction and ground-disturbing activities, including inadvertent discovery measures, there would be no material impairment or substantial adverse change in the significance of archaeological resources that qualify as historical resources. Potential impacts to archaeological historical resources by projects proposed under the change-in-use Process would be less than significant.	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	**Impact Description**	**Level of Significance Before Mitigation**	**Mitigation Measure**	**Level of Significance After Mitigation**
4.6-3	**Paleontological Resources.** Some CSP units and individual road or trail facilities are located in areas that could support significant paleontological resources. However, because change-in-use projects that qualify for approval under the Process would adhere to the established SPRs (CUL-1, CUL-5 through 7, and GEN-3) to avoid or minimize adverse direct and/or indirect effects to unique paleontological resources or geologic features during design, construction and ground-disturbing activities, including inadvertent discovery measures, a change-in-use project would avoid directly or indirectly destroying a unique paleontological resource or site or unique geologic feature. Any undocumented paleontological resources or inadvertent discoveries of paleontological resources would be properly recorded and salvaged, or would be protected by project redesign and/or potential restriction of visitor access. Potential impacts to unique paleontological resources or geologic features by projects that qualify under the Process would be less than significant.	LTS	No mitigation is necessary.	LTS
4.6-4	**Human Burials.** Many CSP units and individual park facilities are located in areas that could support human burials. However, because change-in-use projects that qualify for approval under the Process would adhere to the requirements of SPR CUL-14 (Discovery of Human Remains) during all ground-disturbing activities, appropriate monitoring, notification, and preservation measures consistent with Section 7050.5 of the California Health and Safety Code, PRC Section 5097.98, and NAGPRA (25 USC 3001–3013) would be implemented to ensure the integrity and significance of the find is maintained. This impact would be less than significant.	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures

Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
4.7 Geology, Soils, and Mineral Resources				
4.7-1	**Seismic Hazards.** Trail construction and trail user activities related to a proposed change in use may have the potential to expose persons or property to potential substantial adverse effects from an earthquake, including the risk of loss, injury, or death due to rupture of a Alquist-Priolo Fault Zoning Act designated earthquake fault, seismic ground shaking, seismic-related ground failure (e.g., liquefaction), and landslides. Many CSP units are located in seismically active areas that could experience significant ground shaking or result in fault rupture, seismic ground failures, and/or landsliding. However, under the proposed Process, seismic hazards would be avoided through the implementation of SPRs GEO-2 through GEO-6, GEO-8, GEO-10, GEO-14, GEO-15, GEO-17, GEO-21, GEO-24, GEO-27, and GEO-28. This impact would be less than significant.	LTS	No mitigation is necessary.	LTS
4.7-2	**Erosion and Loss of Topsoil.** Under the proposed Process, qualifying projects on existing trails could involve the disturbance of surface soils during minor construction activities, including trail rerouting, restoration, decommissioning, rehabilitation, and installation of road/trail structures (i.e. road/trail structures such as steps or retaining walls), as well as soil disturbance caused by use-related activities (type and intensity of use). However, significant erosion impacts would be avoided through implementation of the SPRs GEO-1 through GEO-27 and GEO-29. This impact would be less than significant.	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	**Impact Description**	**Level of Significance Before Mitigation**	**Mitigation Measure**	**Level of Significance After Mitigation**
4.7-3	**Unstable Geologic Units.** In some areas, qualifying change-in-use projects under the proposed Process could be located on unstable geologic units or soils, including expansive soils; or located on geologic units or soils that could become unstable as a result of the project; resulting in ground failures. Unstable geologic units and soils, including expansive soils, are present in some park units within the CSP system. However, under the proposed Process, unstable geologic unit impacts would be avoided through the implementation of SPRs GEO-2 through GEO-8, and GEO-16 through GEO-21. This impact would be less than significant.	LTS	No mitigation is necessary.	LTS
4.7-4	**Reduce availability of a known mineral resource.** Mineral extraction is already prohibited within the State Park System. No additional land would be acquired. Therefore, no change in the availability of a known mineral resource would occur. The proposed Process would result in no impact to mineral resources.	NI	No mitigation is necessary.	NI
4.8 Greenhouse Gas/Climate Change/ Sea-Level Rise				
4.8-1	**GHG Emissions.** Change-in-use projects qualifying for approval under the proposed Process could result in GHG emissions from construction-related equipment and an increase in operation-related vehicle trips and associated mobile-source GHG emissions. However, these potential increases would not be substantial and would not conflict with the GHG reduction goals of AB 32. Therefore, increases in GHG Emissions associated with change-in-use projects would not be cumulatively considerable and, therefore, this impact would be less than significant.	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	**Impact Description**	**Level of Significance Before Mitigation**	**Mitigation Measure**	**Level of Significance After Mitigation**
4.8-2	**Impacts of Climate Change on the CSP Trail Facilities.** Climate change is expected to result in a variety of effects to the facilities and habitats in the State Park System, including changes to water supply, increased risk of flooding, increased frequency and intensity of wildfire, increased temperatures, and sea-level rise. However, implementation of change-in-use projects that are qualified for approval under the proposed Process involve modifications to existing trails and would not make trails and related facilities in park units and the people using those facilities more vulnerable to the effects of climate change. Implementation of qualifying change-in-use projects would also not impede CSP's ability to avoid, adapt to, or be resilient in the face of climate change-related impacts. Therefore, this impact would be less than significant.	LTS	No mitigation is necessary.	LTS
4.9 Hazards and Hazardous Material				
4.9-1	**Hazards to the Public Related to Use, Handling, Transport, or Storage of Hazardous Materials.** Implementation of the proposed Process involves adding or removing user types from existing CSP roads and trails. No user types considered in the Process would use internal combustion engines. Typical recreational users (ex. hikers, bicyclists, and equestrians) carry minimal, if any, hazardous materials. Furthermore, no major changes to the operations and maintenance of the facilities would occur under the proposed Process, and CSP staff would continue to use, transport, store, and dispose of any hazardous materials (i.e., fuels, lubricants, detergents, pesticides, etc.) consistent with OSHA and EPA regulations. No increased risk of accidental upset or emission of hazardous materials would occur. The impact is less than significant.	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
4.9-2	**Exposure of People to Existing Hazardous Materials or Soil Contamination.** SPR HAZ-1 and HAZ-2 require that if a proposed change in use requires trail modification in areas where previous hazardous materials have been handled or stored, and those areas cannot be avoided, a Phase 1 Environmental Site Assessment (ESA) will be prepared and recommendations therein implemented, including possible soil removal and/or other remediation. Through application of SPR HAZ-1 and HAZ-2, the potential for exposure of people to existing hazardous materials or soil contamination would be maintained at less-than-significant levels.	LTS	No mitigation is necessary.	LTS
4.9-3	**Increased Risk of Wildland Fire.** All existing CSP road and trail facilities that qualify for change in use under the Process are currently accessible to the public and accommodate hikers and OPDMDs at a minimum. Users (i.e. bicyclists, and/or equestrians) that could be added or removed from roads and trails under the proposed Process would be prohibited from utilizing internal combustion engines, including OPDMDs. As such, these new users would not typically generate sparks, would not increase use of campfires or other open flames, would not carry fuels apart from those typically carried by hikers (e.g., small, portable propane or other camp fuel canister), and would be required to follow State laws, including no fireworks and no smoking or campfires (in undesignated places) on CSP roads and trails. Fire ignition potential and risk of visitor exposure to wildland fires would not change substantially by adding or removing user types from an existing CSP road or trail and operations would remain consistent with CSP DOM requirements, including unit-specific Wildfire Management Plans. In addition, although many CSP	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures

Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
	units are located in high and very high fire risk areas, implementation of SPR HAZ-8 through HAZ-14 would reduce risk of ignition associated with construction activities. The proposed Process would not result in substantial increased risk of wildland fire, and the impact is less than significant.			
4.9-4	**Change in Trail Safety.** Any qualifying change-in-use project would require use-appropriate trail design that is consistent with CSP standards and BMPs. The Project Evaluation Form (Appendix E) includes specific use-appropriate design criteria for bicycle and equestrian uses. Design features include tread width, passing space dimensions, sight distance, speed control, turning radius, surface texture, signage, and enforcement. These features are tailored to the specific new user(s) and maintain a safe trail design by addressing travel speed, response time and maneuverability, traction, adequate passing opportunities, and awareness of other user types and trail rules. Trails proposed for a change in use that do not provide use-appropriate design would be required to upgrade to the standards expressed in the Project Evaluation Form. Meeting these criteria would ensure that trails incorporate use-appropriate design and trail safety impacts associated with the change-in-use proposal would be less than significant.	LTS	No mitigation is necessary.	LTS
4.10 Hydrology, Water Quality, and Sedimentation				
4.10-1	**Water Quality, Runoff, and Sedimentation.** Trail construction and trail user activities related to a proposed change in use may have the potential to result in degradation of water quality, violation of water quality standards or waste discharge requirements, alteration of existing drainage patterns that would result in substantial erosion or sedimentation, alteration of the	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
	course of a stream or river, increase the rate or amount of surface runoff in a manner that could result in flooding, or contribution of runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. However, under the proposed Process, significant surface runoff, water quality, and sedimentation would be avoided through the implementation of SPR HYDRO-1 through HYDRO-27, as well as measures outlined in CSP BMP manuals, Department Operations Manuals (DOMs), and Trails Handbook. This impact would be less-than-significant.			
4.10-2	**100-Year Flood Hazard Areas.** Qualifying projects under the proposed Process that would result in placing structures (i.e. road/trail structures such as steps or retaining walls) within a 100-year flood hazard area and have the potential to impede or redirect flood flows and expose people or structures to a significant risk of loss, injury, or death from flooding, including flooding resulting from the failure of a levee or dam. Under the proposed Process, qualifying projects located within 100-year flood hazard areas would be designed to accommodate flood flows, consistent with SPR HYDRO-19, and construction design standards in the CSP BMP manuals and Trails Handbook. Increased use levels in flood-hazard areas could also result in safety concerns. Implementation of design standards in the CSP Trail Handbook, would provide guidance and specifications to the appropriate location of any road/trail structures, so as not to interfere with flood flows or increase flood hazard. In addition, SPR HYDRO-27 would require safety plans and educational signage as part of the project design would maintain the potential for hazard risk to	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
	trail users within flood prone areas at less-than-significant levels. This impact would be less-than-significant.			
4.10-3	**Seiche, Tsunami, or Mudflows** In some areas, qualifying projects under the proposed Process involving minor road/trail re-routing; reconstruction of road/trail; conversion of roads to trails; trailheads, point of access, or parking improvements; or addition of a greater number of users, place people in areas that could be inundated by seiche, tsunami, or mudflows. Under the proposed Process, qualifying projects on existing trails could be located adjacent to or within areas that could be inundated by seiches, tsunamis, or mudflows, which are naturally occurring events. The location or type of change-in-use project activity does not increase the likelihood of occurrence of these natural phenomena. SPR HYDRO-28 provides measures for providing signage to alert trail users to the risk of seiches, tsunamis, and mudflows, and the development of safety and evacuation plans, would avoid or minimize potential risks, if these types of events occur. Recognizing that the Process only involves existing trails with their current risks of natural events and that standard warning signage would be required, this impact would be less than significant.	LTS	No mitigation is necessary.	LTS
4.11 Noise				
4.11-1	**Short-Term Exposure of Existing Sensitive Receptors to Increases in Construction Source Noise Levels.** Individual change-in-use projects under this Process could include the use of noise-producing construction equipment such as dozers, excavators, and pavers associated with trail reconstruction and parking improvements. However, all change-in-use projects	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures

Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
	qualified for approval under this Process would comply with SPRs N-1 through N-8, which would minimize the exposure of noise-sensitive land uses to construction-related noise. Therefore, this impact would be less than significant.			
4.11-2	**Exposure of Existing Sensitive Receptors to Excessive Ground Vibration.** Construction- and operational-related activities associated with all change-in-use projects qualified for approval under this Process would not include the operation of any major sources of ground vibration in close proximity to sensitive land uses and resources. Therefore, this impact would be less than significant.	LTS	No mitigation is necessary.	LTS
4.11-3	**Long-Term Exposure of Existing Sensitive Receptors to Operational-Related (e.g., traffic, stationary noise sources) noise levels.** Change-in-use projects approved under this Process could result in increased traffic volumes on associated roadways, although it has been CSP's experience that change-in-use projects have not led to substantial change in the level of use. However, increased traffic volumes are unlikely to result in a noticeable increase in traffic noise. Additionally, traffic-related SPRs TRAN-1n SPR TRAN-4, and SPR TRAN-5 would maintain traffic-related impacts on roadways associated with CSP units at less-than-significant levels. Therefore, this impact would be less than significant.	LTS	No mitigation is necessary.	LTS
4.12 Population and Housing				
4.12-1	**Population and Housing.** Implementation of qualifying change-in-use projects under the proposed Process would not directly or indirectly result in an increase in population or a change in housing demand in California. This impact would be less than significant.	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	**Impact Description**	**Level of Significance Before Mitigation**	**Mitigation Measure**	**Level of Significance After Mitigation**
4.12-2	**Displacement of People and/ or Existing Housing.** Under the proposed Process, no people or existing housing would be displaced. This impact would be less than significant.	LTS	No mitigation is necessary.	LTS
4.13 Public Services and Utilities				
4.13-1	**Increased Demand for Police Protection Service.** Qualifying change-in-use projects approved under the proposed Process are not anticipated to result in a substantial increase in the numbers of visitors at a CSP unit. One of the qualifications for a change-in-use project approved with the proposed Process is consistency with the General Plan of the CSP unit. The General Plan includes provisions for law enforcement staffing sufficient to address the visitation and operational needs at the unit. Therefore, even if an increase in the number of visitors was expected, a change-in-use proposal would only be approved under the Process if expected visitation and resulting demand for law enforcement personnel were consistent with the General Plan and unit's staffing and facilities. This impact would be less than significant.	LTS	No mitigation is necessary.	LTS
4.13-2	**Increased Demand for Fire Protection Service.** CSP staff includes EMS personnel Firefighter/Security Officers that are trained in fire response. However, for the purposes of this discussion, CAL FIRE or County/City fire departments (typically under a mutual aid agreement) are the primary responders to fires at CSP units. The proposed change-in-use Process does not increase the potential for fire ignition risk and does not alter the existing fire prevention/protection standards required in the existing DOM. This impact would be less than significant.	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures

Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
4.13-3	**Increased Demand for or Interference with Emergency Medical Response.** As described in Section 4.9, Hazards and Hazardous Materials, accident occurrences on trails are generally infrequent, including on trails that allow equestrians and/or bicyclists. Therefore, adding these uses to existing trails under the proposed Process would only occur with trails that have use-appropriate design, which would not result in any substantial increase in accident risk. When a change in use is implemented, it may include road or trail design features that create pinch points as speed control devices. While a pinch point may narrow an existing road or trail, it would be designed to retain clearance adequate for existing medical response procedures (e.g., transporting an injured trail user on a wheeled litter). Therefore, the proposed change-in-use Process would not substantially increase demand for emergency medical response, such that new or expanded facilities would be required, nor interfere with emergency response. Therefore, this impact is considered less than significant.	LTS	No mitigation is necessary.	LTS
4.13-4	**Increased Demand for Public Utilities.** Trail uses typically demand low levels of utilities service, because they are often located in remote areas that are not served by municipal services, they are not usually sources of high utility demand, and they generally don't require substantial electricity or gas. Because of these low levels of demand, a change-in-use project implemented under the Process, even if it created an increase in the number of visitors, would not result in a substantial increase in the demand for a public utility, such as water, sewer, power, or solid waste, such that capacity would be constrained. Therefore, this impact is considered less than significant.	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures

Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
4.14 Recreation				
4.14-1	**Indirect adverse effects to existing, off-site trail facilities.** Removal of a user type under the proposed Process would result in existing trail users seeking other trails for their preferred use type. Addition of a user type may result in some existing users deciding to use other trails. Adding or removing a user type under the proposed Process would not result in substantial adverse physical impacts to these other, off-site trail facilities, because CSP would consider the displacement of users and coordinate with agencies with facilities near change-in-use proposals to confirm adequate capacity at other nearby trails and the level of displacement would not be substantial over the long term. Further, experience at park units has shown that as the novelty of a new use added to a road or trail diminishes, the attraction of additional users would be expected to normalize and the potential for user displacement would diminish. Over the long term, the patterns of existing trail use would typically return to an equilibrium that would not be substantially different than prior to the change-in-use decision. This impact would be less than significant.	LTS	No mitigation is necessary.	LTS
4.14-2	**Impacts from an increase in trail use demand or extension of trail use range.** The potential for an increase in trail use sufficient to result in environmental damage would be less than significant, because many factors influencing demand would remain unchanged and any increases demand would typically be temporary. Also, an extension of the geographic range of trail use may occur, but only on trails already used by the public. If unanticipated environmental effects began to occur, they would be noted through the Adaptive Use Management strategy and adaptive adjustments would	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
	be implemented to preclude significant impacts. This impact would be less than significant.			
4.15 Traffic and Transportation				
4.15-1	**Short-term, Construction-related Traffic Obstruction or Degradation of Level of Service (LOS).** The proposed Process involves the addition or removal of user types (i.e. bicyclists and/or equestrians) on existing CSP roads and trails. Minor improvements and/or realignments could be necessary to accommodate new users. The construction associated with these improvements could generate vehicle trips associated with equipment and materials hauling and construction worker trips. Construction-related traffic is short term. In addition, SPRs TRAN-5 is included as part of the proposed Process and requires preparation of a construction traffic management plan (CTMP) for qualifying change-in-use projects that require construction. The CTMP would reduce the potential for traffic obstruction and/or LOS degradation due to construction activities. This impact would be less than significant.	LTS	No mitigation is necessary.	LTS
4.15-2	**Operations-related Degradation of Roadway and Intersection LOS.** Although it is not possible to precisely estimate the number of trips that could be generated by a change-in-use project qualified for approval under the proposed Process, it is expected that in most cases opening trails to new user types would not generate a substantial increase in visitors, and therefore, visitor traffic. Even if a larger-than-anticipated increase in visitors occurs at a CSP facility, peak trail use typically occurs on weekends outside peak traffic hours. Therefore, any increased traffic resulting from qualifying change-in-use projects would not degrade existing or future, peak-hour roadway or intersection LOS. Further,	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
	in those limited cases where an increase in new visitors is higher than anticipated, such as where the trail is located in a more urbanized or urban fringe area (i.e., where visitors could more easily access the facility during morning or evening peak hours), SPR TRAN-1 requires coordination with the local Department of Public Works official to monitor traffic levels and implement a management response plan that would include a range measures to maintain effects to local roadway LOS at less-than-significant levels. With implementation of SPR TRAN-1, this impact would be less than significant.			
4.15-3	**Potential for Vehicle/Trail User Conflicts.** Addition or removal of user types under the proposed Process could alter the existing access and circulation patterns for vehicles at affected CSP units. Without modifying circulation design, and in some cases road and trail design, to accommodate these new user types, conflicts between vehicles and trail users could occur. This would be most notable with the addition of equestrian use, where horse trailers could be accessing parking facilities that were not originally designed for trailers. Other potential conflicts could occur with the addition of bicyclists where trails intersect with roadways. Conflicts could also arise if adding other user types results in inadequate parking capacity such that drivers may be parking in unauthorized locations (e.g., along the shoulders of busy roadways). SPRs TRAN-2 and TRAN-3 require appropriate access and circulation for horse trailers and appropriate signage for bicyclists crossing roadways. SPR TRAN-4 requires monitoring of parking levels as part of the Adaptive Use Management process and management response (e.g., minor parking expansions, parking meters, time limits, or off-site	LTS	No mitigation is necessary.	LTS

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
	parking or transit solutions), if capacity is exceeded. With implementation of these SPRs, the potential for vehicle conflicts is maintained at a less-than-significant level.			
4.15-4	**Potential Conflicts with Alternative Transportation Plans.** A change in use is unlikely to have an influence on local transportation plans for non-motor vehicle transportation. Allowing equestrians on a CSP road or trail would not typically conflict with any local or regional alternative transportation plans because horseback riding does not affect transit demand or transit/bicycle facilities. Although, a change in use to allow bicyclists on a CSP road or trail could result in bicyclists using buses to access the CSP unit, any increase would be negligible as most recreational trips are made via private automobile. Change in use projects that occur near residential areas could result in bike use on non-park roadways serving the CSP unit. These improvements are likely to be consistent with the overall goals and objectives of alternative transportation plans, but are not necessarily currently identified within the existing plans. The proposed Process would not result in conflicts with alternative transportation plans, and this impact would be less than significant.	LTS	No mitigation is necessary.	LTS

3 PROJECT DESCRIPTION

California State Parks (CSP) proposes to implement the Road and Trail Change-in-Use Evaluation Process (Process) throughout the State Park System. The Process is intended to evaluate potential road and trail change-in-use proposals in CSP units, facilitate the review of those proposals, and make more consistent the environmental review of change-in-use proposals in park units statewide. Off-highway motor vehicle recreation (OHMVR) areas are not covered under the Process. The Process provides CSP with an objective evaluation tool and process to effectively and efficiently make decisions for change-in-use proposals.

3.1 ROAD AND TRAIL CHANGE-IN-USE EVALUATION PROCESS OVERVIEW

CSP manages more than 5,000 miles of recreational roads and trails throughout the State. These roads and trails are linked to thousands of additional miles of roads and trails within federal lands and regional, county, and city parks and properties. They range from meandering, narrow footpaths that may provide beach access or entry into a primeval redwood forest to straight, wide roads or trails stretching for miles within a park unit. In addition, CSP units have miles of fire and maintenance roads that may be better used for trail purposes and may be considered for change in use, conversion to trails, or decommissioning to best meet the needs of parks users and improve resource management.

CSP's mission includes creation of opportunities for high-quality recreation; roads and trails in their many forms are a major component of the efforts to meet the spirit of that mandate. CSP general plans, management plans and legal mandates, such as the California Environmental Quality Act (CEQA) and the Americans with Disabilities Act (ADA), contain additional regulations for trail planning, development, and maintenance.

The California Recreational Trails Plan recognizes that our world is one of finite resources and, because demand increases steadily for these resources, insightful management is of utmost concern. The State's trail systems must be designed to utilize resources in ways that benefit all types of non-motorized trail uses. This mandate is intended to provide for broad trail access, rather than focusing on individual user groups. The increased sharing of resources sometimes creates friction between the diverse user groups vying for trail space. The California Recreational Trails Plan acknowledges that a certain amount of friction between trail users is expected, and therefore, focuses on design, planning, and communication to minimize the differences and optimize the benefits derived from these precious resources (CSP 2002a).

Road and trail change-in-use requests can be proposed by CSP staff, user groups, or outside agencies. Proposals will be submitted at the District level of CSP. Qualified CSP District staff (District staff) will evaluate potentially viable change-in-use requests through a road or trail inspection, taking into account circulation, safety, road or trail sustainability, soils, geologic conditions, impacts to the resources and park operations. Details of the existing conditions inspection are used to develop a detailed conditions log that essentially describes a road's or trail's baseline conditions. CSP staff will use the detailed road and trail log to complete a "Use Change Survey" (Survey) and recommend one of the following: 1) approve the change in use; 2) deny the change in use; 3) conditional approval pending modification; 4) reroute of the existing road or trail; or 4) recommend a Unit Road and Trail Management Plan.

Any change in use must be consistent with the objective of natural and cultural resource protection, along with the objectives of providing recreation opportunities for California residents, visitors, and user groups. Responsible resource preservation decisions lead to successful environmental stewardship while at the same time providing enjoyment for current and future generations. Through well-designed, constructed, managed, and maintained roads and trails, optimal public access is achieved in concert with resource conservation.

3.2 GEOGRAPHIC EXTENT OF THE PROCESS

The proposed Process would apply to most State Park units (except OHMVR units), and would be considered within the broader scope of corridors, connections, and linkages to roads and trails on surrounding federal, regional, county, and city lands. The proposed Process would determine whether a change in use is appropriate within designated Cultural and Natural Preserves. The impacts and demands for recreation use of roads and trails vary throughout the State and must be considered within the context of the natural and cultural resources found in each CSP unit setting.

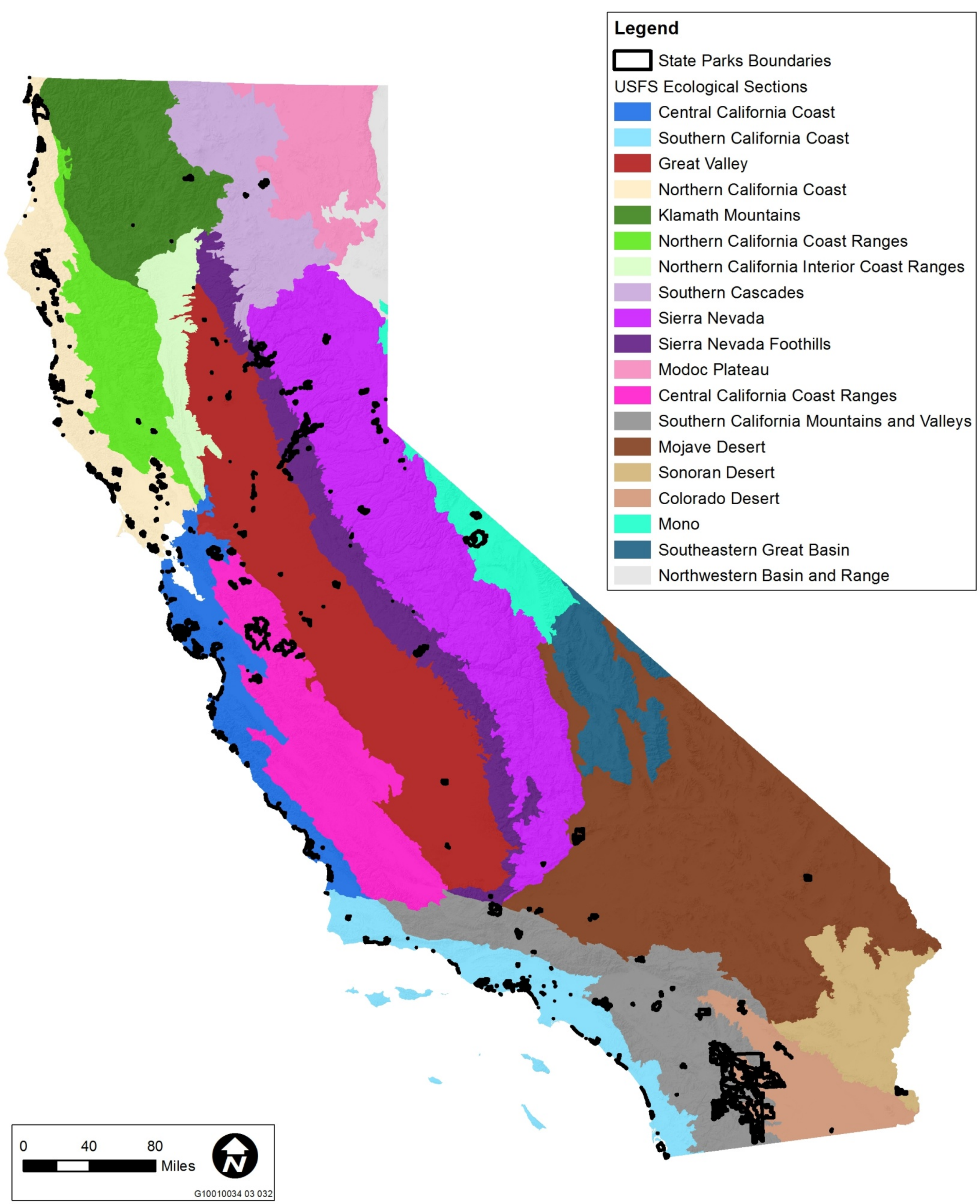
Where applicable and helpful for conducting the impact evaluation, the setting description and environmental analysis for the proposed Process are organized into geographic regions reflecting different environmental characteristics. For instance, the ecological regions or "ecoregions" established by the U.S. Forest Service (USFS) are used to organize information, where relevant, for biological topics, (i.e., for terrestrial biology and aquatic biology). The USFS Ecoregion system is based on geomorphology, soils, geology, hydrology, and vegetation and classifies California into 19 Ecological Sections and a further 190 Ecological Subsections (Exhibit 3-1 – USFS Ecoregions – Ecological Section Level). This approach will enable decision makers to develop appropriate resource protection measures for CSP units in different ecological regions. Other topics use different geographic region approaches appropriate to the subject (e.g., air quality, water quality), or address the State as a whole, if dividing California into smaller regions does not provide value for the particular environmental issue (e.g., climate change).

3.3 POLICY AND PLANNING CONTEXT FOR ROAD AND TRAIL CHANGES-IN-USE

Multi-use trails have long been the established policy for trail planning in California due to reduced construction and maintenance costs as well as reduced resource impacts, compared to provision of separate trails for each user group. Because requests from user groups to change road and trail use designations have multiplied in recent years, CSP has responded with new processes and guidance to consider those requests in a systematic manner. The proposed Process would allow CSP to provide a more consistent environmental review process for change-in-use proposals throughout all CSP districts in California. The proposed Process would be implemented consistent with an existing framework of statewide and regional planning, public participation, legal and regulatory requirements, as well as the needs of individual park units. The policy and planning context relevant to the Road and Trail Change-In-Use Evaluation Process is provided below.

3.3.1 CALIFORNIA RECRATIONAL TRAILS ACT

California Recreational Trails Act articulates the policy of the state to increase accessibility and enhance the use, enjoyment, and understanding of California's scenic, natural, historic, and cultural resources. It is the policy of the state to encourage hiking, horseback riding, and bicycling as important contributions to the health and welfare of the state's population and increase opportunities for use of recreational vehicles in designated areas and trail corridors.



Source: USFS 1997

Exhibit 3-1

USFS Ecoregions – Ecological Section Level Used to Organize Biological Analysis

ASCENT ENVIRONMENTAL

3.3.2 CALIFORNIA RECREATIONAL TRAILS PLAN

In 1978, preparation of the California Recreational Trails Plan was authorized by the Legislature as an element of the California Recreational Trails Act (Public Resources Code Section 2070-5077.8). The California Recreational Trails Plan serves as a guide for trail management agencies on a number of topics, including, but not limited to, the benefits of trails to California's changing demographics, how to acquire funding, methods of effective stewardship and how to participate in multi-use cooperation. The plan assesses the present and future demand of trail-oriented recreation uses and recommends an integrated system of regional trails to serve California (CSP 2002a).

Aligning a major regional trail corridor with the California Recreational Trails Plan often improves opportunities to receive grant funding for projects consistent with this plan. The California trail corridors that are identified as a key part of the Statewide Trail System also provide local and regional trail management agencies with the opportunity to add or connect to this statewide trail network.

One of the goals of the California Recreational Trails Plan most relevant to the proposed Process is to "provide the maximum opportunities for the public use of trails by encouraging the appropriate expansion of multi-use trails" (CSP 2002a; 25). The proposed Process would essentially implement some of the action guidelines for this goal, including establishment of "a public process, coupled with scientific data and documentation, for determining use groups appropriate for trails within State Parks" and "user groups to help land managers make informed decisions regarding trail designation and design" (e.g. overall user safety, levels of pubic use, resource impacts, and needed and available monitoring, patrol and enforcement) (CSP 2002a; 25).

In 2009, CSP submitted the most recent Progress Report on the Recreational Trails Plan to the State Legislature as required by the California Recreational Trails Act (PRC Section 5070.7). The report describes progress statewide in multi-use cooperation in providing maximum opportunities for the public use of trails by encouraging the appropriate expansion of multi-use trails. It also describes the implementation of the existing Trails Use Change Process that assists land managers in evaluating the multi-use potential of existing limited access trails. Recognizing the need to cooperate as the number of trail users increase, more user groups promote multi-use trail safety and etiquette (CSP 2009).

3.3.3 DEPARTMENTAL POLICY NOTICE NO. 2005-06

Departmental Policy Notice No. 2005-06 was issued on August 3, 2005, and has been the internal guidance document for trail user responsibility and conflict resolution (see Appendix C). This guidance sets forth a procedure for establishing and approving trails and their appropriate uses and clarifies the management roles and responsibilities for implementation of the procedure within CSP.

Trails are primary State Park facilities that offer health-enhancing recreational opportunities and access to park resources for enjoyment, interpretation, and education. CSP has developed a coordinated set of planning guides to manage State Park trails to meet the recreational, educational, and interpretation needs of the diverse trail users that, through a public planning process, results in the development of trails within CSP units that are consistent with unit classification, general plan directives, cultural and natural resource protection, public safety, trail access, user compatibility, and other legal mandates. Recognizing the challenge this presents, it also sets forth a conflict resolution procedure to minimize and resolve public concerns and conflicts regarding trail use.

3.3.4 CALIFORNIA STATE PARKS DEPARTMENTAL OPERATION MANUAL

CSP Departmental Operation Manuals (DOM) assist CSP in implementing goals of the California Recreational Trails Plan by providing internal guidance to District personnel regarding an array of use, operational, and resource management activities conducted in State Park units. The following are examples of DOM chapters relevant to the proposed Process.

NATURAL RESOURCES (DOM 0300, SEPTEMBER 2004)

Chapter 0300 of CSP's DOM (CSP 2004) is the basic natural resource internal guidance document for the State Park System and supersedes all previous related internal guidance documents. The policies, definitions, processes, and procedures contained in Chapter 0300 of the DOM guide the internal management of natural resources under the jurisdiction of CSP, including naturally occurring physical and biological resources and associated intangible values, such as natural sounds and scenic qualities. The chapter guides and directs the various internal programs of CSP that affect the recognition, protection, restoration, and maintenance of the natural resources so that their heritage values may be effectively perpetuated and enjoyed by present and future generations of State Park System visitors. Natural resource management direction addressed in Chapter 0300 includes air, water, geologic, soil, paleontological, plant, animal, and aesthetic resources. Where applicable, specific DOM's are referenced under the "Regulatory Setting" discussion in each of the Chapter 4 subsections of this Program EIR.

EMERGENCY MEDICAL SERVICES (DOM 1100, NOVEMBER 2007)

Chapter 1100 of the DOM (CSP 2007) contains internal guidance relative to the administration, implementation and delivery of CSP's Emergency Medical Services (EMS) programs. CSP is responsible for public safety related to activities involving visitors' use of public lands and resources under its jurisdiction. Therefore, CSP has a responsibility to provide initial emergency medical services to visitors within park units.

As Basic Life Support providers, the need to cooperate and coordinate with local allied agencies and medical facilities throughout the State are critical. In addition, CSP employees may be requested to assist with public safety services during disasters through the Standardized Emergency Management System.

PERMISSIBLE USES OF OTHER POWER-DRIVEN MOBILITY DEVICES (DOM 2600, MARCH 2011)

The U.S. Department of Justice recently amended the language in Title II of the Americans with Disabilities Act to include another category of mobility aids known as Other Power-Driven Mobility Devices (OPDMD). Examples of OPDMD may include golf carts, electric bicycles, and Segway scooters. The revised law directs public entities to make reasonable modifications in its policies, practices, or procedures to permit the use of OPDMD by individuals with mobility disabilities.

To comply with revised law and effectively address the legitimate needs of people with mobile disabilities while protecting the fundamental nature of CSP's missions and programs, CSP has adopted a new policy in regards to permissible use of such devices. Specifically, OPDMD may be used in any unit of the State Park System if 1) credible evidence of mobility disability is provided; 2) the OPDMD meets specific standards related to size, weight, speed, noise, and emissions; and 3) the OPDMD stays within areas of the Park that have been authorized for OPDMD use (e.g., Class I designated trails that are either designated accessible or multi-use use, exterior routes of travel designed for pedestrian use within developed public use areas, and controlled access roads, such as fire roads)(CSP 2011a).

3.3.5 TRAIL MANAGER'S TOOLBOX

The Trail Manager's Toolbox is an on-line resource provided on the CSP website (CSP 2011b). Sophisticated tools designed to educate today's trail professionals are available in the Toolbox, including grant writing strategies, multi-use trail management ideas, maintenance budgeting spreadsheets, research papers, and construction guidelines. The Toolbox includes resources that trail and open space managers can use to develop and improve their local trails to better serve users and the community at large. It also offers ideas and describes techniques for resolving user conflicts and improving multi-use trails and multi-user cooperation.

3.3.6 CSP TRAILS HANDBOOK

CSP adopted CSP Trails Handbook (Handbook) in 1994 as an internal management and field tool for operation of the statewide trail system; it provides guidelines for CSP staff for trail construction and maintenance activities, a detailed Unit Trails Plan template and guidelines that ensure adequate trail system planning and public input, and guidelines for both the supervisor and lead person responsible for trail construction and maintenance activities. Specifically, the Trails Handbook includes guidance on record keeping, budgeting, construction, trail maintenance, safety, the use of native and non-native material, clearing, brushing, tread and drainage maintenance, trail reroute and construction, park structures, accessibility considerations, types of trails, and site restoration (CSP 1994). In many instances, the Trails Handbook sets the construction and maintenance standards for trail management guidelines described in the CSP DOM.

3.3.7 PARK UNIT GENERAL PLANS AND TRAILS MANAGEMENT PLANS

General Plans prepared for individual CSP units direct the long-range development and management of a park by providing broad policy and program guidance. This guidance is essential to CSP managers and its staff, and is of value to those organizations and individuals who have an interest in California's State Parks. In accordance with PRC Section 5002.2, CSP must prepare a General Plan or revise any existing plan, as the case may be, following classification or reclassification of a unit of the State Park System by the State Park and Recreation Commission, and prior to the development of any new facilities in any previously classified unit. The General Plan consists of elements that will define the proposed land uses, facilities, concessions, operation of the unit, any environmental impacts, and the management of resources, and serve as a guide for the future development, management, and operation of the unit (PRC Section 5002.2[a]). Park Unit General Plans also consider regional planning influences, such as trail connectivity to CSP system trails and statewide plans focused on recreational opportunities for different user groups.

The purpose and requirements for these General Plans and the process for their preparation are outlined in CSP's Planning Handbook (CSP 2010). The General Plan is the primary management document for a unit, defining a framework for resource stewardship, interpretation, facilities, visitor use, and operations. General Plans define an ultimate purpose, vision, and intent for unit management through goal statements, guidelines, and broad objectives, but stop short of defining specific objectives, methodologies, designs, and timelines on how and when to accomplish these goals (PRC Section 5002.2). General Plans are considered a "project" for the purposes of CEQA, so all General Plans are subject to CEQA review (PRC Section 5002.2[a]), and are required by law before any permanent commitment of the unit resources is made (PRC Section 5002.2[c]).

Management plans provide more detail on the development of specific resources within park units. A Road and Trail Management Plan may be necessary for a park unit to define specific objectives, designs, restrictions, types of uses, and timelines that effectively balance public access and recreational needs or desires with other management requirements to ensure appropriate levels of resource protection and public safety. Road and

Trail Management Plans take into consideration the entire transportation system within a park unit as well as the connections and corridors that link park trails with those outside the park boundaries.

It is also within the context of unit General Plans or in the development of Road and Trail Management Plans that changes in use are considered.

3.3.8 VEGETATION MANAGEMENT GUIDELINES FOR ROADS AND TRAILS IN UNITS OF THE CALIFORNIA STATE PARK SYSTEM

CSP's Vegetation Management Guidelines provide general guidance to CSP staff in determining when, where and how to manage vegetation in the park environment throughout the State Park System. Although the guidelines do not address exotic vegetation management (which are addressed in DOM 0310.7), pruning guidelines applicable to both native and exotic trees are included (CSP 2002b [January 8]).

3.3.9 CALIFORNIA COASTAL ACT AND COASTAL TRAIL PROGRAM

CALIFORNIA COASTAL ACT

The California Coastal Commission (Commission) was established by voter initiative in 1972 (Proposition 20) and later made permanent by the Legislature through adoption of the California Coastal Act of 1976 (Coastal Act). Change-in-use proposals for park units within the coastal zone would be evaluated in the context of Coastal Act requirements.

The Coastal Act includes specific policies (see Division 20 of the Public Resources Code) that address issues such as shoreline public access and recreation, lower cost visitor accommodations, terrestrial and marine habitat protection, visual resources, landform alteration, agricultural lands, commercial fisheries, industrial uses, water quality, offshore oil and gas development, transportation, development design, power plants, ports, and public works. The policies of the Coastal Act constitute the statutory standards applied to planning and regulatory decisions made by the Commission and by local governments, pursuant to the Coastal Act.

The California Coastal Commission, in partnership with coastal cities and counties, plans and regulates the use of land and water in the coastal zone. On land the coastal zone varies in width from several hundred feet in highly urbanized areas up to five miles in certain rural areas, and offshore the coastal zone includes a three-mile-wide band of ocean. The coastal zone established by the Coastal Act does not include San Francisco Bay, where development is regulated by the Bay Conservation and Development Commission. Development activities, which are broadly defined by the Coastal Act to include (among others) construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a coastal permit from either the Coastal Commission or the local government. Development within the coastal zone may not commence until a coastal development permit has been issued by either the Commission or a local government that has a Commission-certified local coastal program (LCP). After certification of an LCP, coastal development permit authority is delegated to the appropriate local government, but the Commission retains original permit jurisdiction over certain specified lands (such as tidelands and public trust lands).

CALIFORNIA COASTAL TRAIL

Enacted in 1976, the State Coastal Conservancy Act (PRC Division 21 Section 31000 et al) calls for the Coastal Conservancy to have a principal role in the implementation of a system of public accessways to and along the state's coastline, including development of the California Coastal Trail. The Coastal Conservancy pursues this mandate in part by awarding grants to public agencies and nonprofit organizations to acquire land, or any interest therein, or to develop, operate, or manage lands for public access purposes to and along the coast, on terms and conditions the Coastal Conservancy specifies. In addition, the Coastal Conservancy works with other state agencies including CSP and the Coastal Commission to coordinate development of the California Coastal Trail.

The Commission also implements a Coastal Access Program, in partnership with the Coastal Conservancy, State Lands Commission, CSP, and federal, regional and local jurisdictions. The first comprehensive review of the State's Coastal Access Program, the California Coastal Commission Public Access Action Plan, was published in June 1999. It identified the key issues that affect the public's ability to use and enjoy the coast for recreation, and recognized the California Coastal Trail as one of its top program priorities. The vision for the California Coastal Trail is a continuous interconnected public trail system along the California coastline for a variety of coastal users (e.g. pedestrians, equestrians, bicyclists, and the mobility impaired). It is designed to foster appreciation and stewardship of the scenic and natural resources of the coast and serves to implement aspects of Coastal Act policies promoting non-motorized transportation. Many segments of the California Coastal Trail are with CSP units.

3.3.10 TAHOE REGIONAL PLANNING AGENCY

The Tahoe Regional Planning Agency (TRPA) is responsible for reviewing projects to protect the Tahoe region's natural resources. Activities that may have a substantial effect on the land, air, water, space, or any other natural resources in the Tahoe region are projects subject to TRPA review and approval. Change-in-use proposals in the Lake Tahoe Basin would be evaluated within the context of TRPA requirements.

Projects are reviewed by TRPA in accordance with the TRPA Compact, Regional Plan, Environmental Threshold Carrying Capacities, Rules of Procedure, and applicable Code of Ordinance provisions. Projects approved by TRPA are issued a development permit. Recreation projects may either be reviewed by the TRPA Governing Board or by a Hearing Officer, depending on their size and complexity. Recreation projects can also be determined to be exempt or qualified exempt, if they are demonstrated to not have a substantial effect on land, air, water, space, or any other natural resource in the Tahoe region.

3.4 OBJECTIVES OF THE PROCESS

The Road and Trail Change-in-Use Evaluation Process is intended to achieve the following CSP objectives:

- to implement the CSP Trail Policy, including to provide multi-use trails and trail connectivity;
- to evaluate appropriate proposals for road and trail change-in-use projects (i.e. add uses to or remove uses from existing roads and trails) in CSP units that can be implemented in a manner that avoids or clearly mitigates potential significant effects on the environment;
- to provide an objective and consistent evaluation tool and process to inform decision-making while recognizing the diversity of resources and users at each park unit; and
- to ensure that these objectives are achieved in an open and transparent process.

3.5 PROJECT ACTIONS COVERED BY AND EXCLUDED FROM THE PROCESS

The Process would be applied to changes in use proposed by park personnel, other agencies, or user groups for specific roads and/or trails on specific CSP units. If these proposals qualified for implementation under the Process, they may be considered subsequent actions that are within the scope of the analysis in this Program EIR. Implementation of a change in use may require physical modifications to the proposed road or trail. Potential subsequent project actions that may result from recommendations for a change-in-use project through the Process include:

- Reconstruction or maintenance within an existing road or trail prism (i.e., encompasses the existing top of the road or trail's cut bank to the bottom of the fill slope);
- Installation of speed control devices, railings, user refuge areas, brush trimming/removal to improve sight distances, or other trail safety features specific for certain users;
- Rerouting of trail alignments to correct otherwise unsustainable road and trail conditions where realignment begins and ends at an existing route, extends only as far as necessary to avoid the unsustainable condition, and causes no significant environmental effects (based on completion of CSP Project Evaluation Form);
- Installation of hardened surfaces such as, but not limited to, aggregate surfacing, rock armoring, wooden boardwalks or puncheons, and bridges;
- Closure, decommissioning, and restoration of existing roads and trails to natural conditions;
- Conversion of existing roads to trails; and
- Appurtenant facilities (e.g. trailhead, point of access, parking improvements/control, signage) related to changes in recreational road or trail use where no additional natural landscape disturbance, substantial increase in capacity, or significant environmental effects would occur.

The Program EIR is programmatic in nature and does not specifically analyze individual projects. If additional change-in-use actions are proposed beyond those actions covered above, CSP will independently assess potential impacts of those measures and prepare any appropriate subsequent environmental documents.

As noted above, the Process applies to specific change-in-use actions on existing roads and trails. Actions that are not included in this Process include:

- Projects that do not include a road or trail change in use;
- New trails or roads;
- Conversion of trails to roads for motorized use;
- Actions that add motorized uses to a road or trail, except as currently allowed for OPDMD on appropriate routes, consistent with CSP policy;
- Actions inconsistent with a project identified within a park unit's general plan, road and trail management plan, or a park unit's classification;
- Change-in-use projects that result in unavoidable significant effects on the environment or potentially mitigable significant effects that cannot be clearly reduced to less than significant without detailed investigations or mitigation planning; and
- Actions pursued by the Off-Highway Motor Vehicle Recreation Division of CSP are not included in this Process.

3.6 PROJECT REQUIREMENTS AND CHANGE-IN-USE EVALUATION PROCESS

The Process provides an objective and systematic approach for making decisions regarding the addition or removal of non-motorized uses of a State Park System road or trail. These uses may include: pedestrian, equestrian, mountain bike, or other non-motorized road and trail uses not currently recognized. This Process is described below and graphically displayed in Exhibit 3-2.

3.6.1 STANDARD PROJECT REQUIREMENTS AND PROJECT-SPECIFIC REQUIREMENTS

CSP has two types of Project Requirements for road and trail change-in-use proposals: Standard and Specific. They consist of design, construction, and management actions that CSP incorporates into the description of change-in-use proposals for the purpose of protection of resources and preventing significant environmental effects.

Standard Project Requirements (SPRs) are applied to projects statewide at all park units, as required. These requirements were developed from the Park's Health and Safety Plans, Best Management Practices (BMPs), known regulatory requirements, and the evaluation within this Program EIR. For example, an SPR addressing how to treat the inadvertent discovery of archeological features is assigned to all projects statewide that include ground disturbing work. However, for a project that does not have ground disturbance, such as restriping an existing paved area in a parking lot, this SPR would not be necessary and, therefore, not apply to the project. SPRs have been developed for General Construction, Cultural Resources (general, historian, archeologist), Natural Resources (general, plants, wildlife), Aesthetics, Air Quality, Geology and Soils (erosion), Hazards, Hydrology, Traffic, and Noise. SPRs are presented below in Section 3.8, CSP Standard Project Requirements – Road and Trail Change-in-Use Evaluation Process. Because SPRs would be applicable at all park units for an array of change-in-use project scenarios, placeholders are provided in several of the SPRs (such as for responsible parties), so that, depending on the location and type of project and associated resource issues, the requirement can be applied to specific projects and associated responsible parties (i.e. see blue bracketed text in Section 3.8.1, General Standard Project Requirements).

Project-Specific Requirements (PSRs) are written for, and applied to, proposals based on specific actions unique to a project and/or area that are necessary to complete the project while protecting resources. They are design, construction, and management features developed as part of the Process and incorporated by the appropriate CSP District staff into the description of the change-in-use proposal. A design that avoids a resource specific to a park unit and is not covered by the SPR is an example of a potential PSR. For example, if a project is trying to avoid a particular snail species found specifically in the project area, a PSR would call for delay of the road or trail work in the vicinity of discovered snails until they are relocated to a suitable location outside of the project area by a CSP-approved, biological monitor.

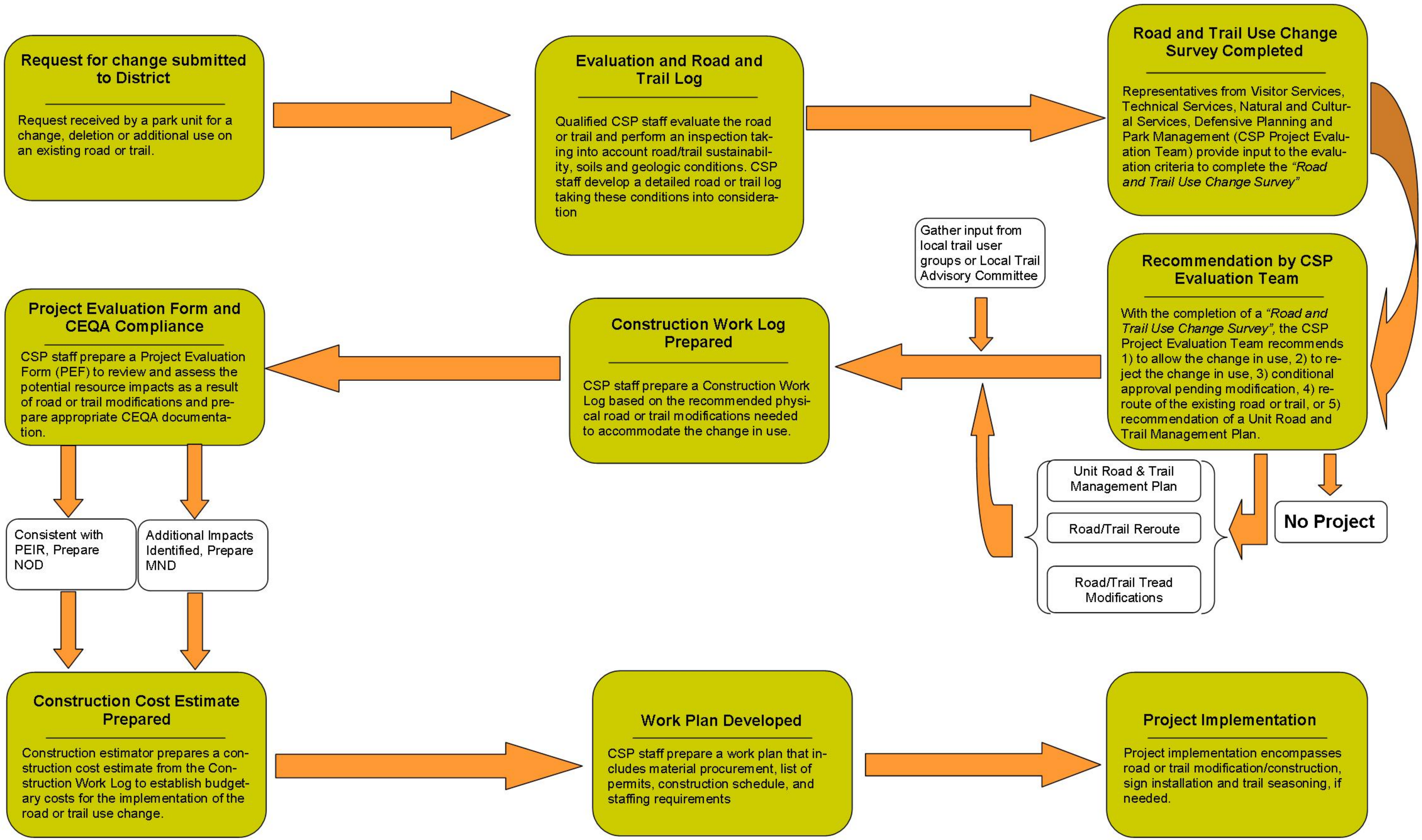


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Exhibit 3-2 **Proposed CSP Road and Trail Change-In-Use Evaluation Flowchart**

3.6.2 PROJECT CHECKLIST – ROAD AND TRAIL USE CHANGE SURVEY

The Road and Trail Change-in-Use Evaluation Process includes the following steps that lead to recommendations that are described below and shown graphically in Exhibit 3-2:

(1) a request for change of use is received by a CSP unit (i.e., the change-in-use proposal);

(2) an inspection by CSP-approved staff of each road, trail, or segment thereof, request for a change in use is made, and a detailed Road and Trail Assessment Log is prepared that considers existing conditions, compatibility for multi-user roads and trails, circulation, road and trail sustainability, soils and geologic conditions, impacts to the resources and park operations. This Road and Trail Assessment Log also serves to document the baseline conditions of the road or trail, an important component of the Adaptive Use Management (AUM) strategy of assessing and correcting resource damage that occurs following the road or trail change in use;

(3) detailed information contained in the Road and Trail Assessment Log is used to complete the Road and Trail Use Change Survey, with input on the evaluation criteria from CSP staff representatives (e.g., Planning, Facilities Management, Accessibility, Visitor Services, Technical Services, Natural and Cultural Services, Defensive Planning, Park Management) and/or outside park agencies; and

(4) the completed Survey is used to make a recommendation to the District Superintendent regarding the change-in-use request. The Survey form is provided in Appendix D of this Program EIR. Recommendations may include:

- Approval of the change in use;
- Denial of the change in use;
- Conditional approval pending modification of the existing road or trail;
- Rerouting of the existing road or trail to accommodate proposed change in use;
- Development of a Road and Trail Management Plan to evaluate the change in use; and
- Implement management responses, as necessary, to address issues on existing trails opened to new user groups.

3.6.3 CONSTRUCTION WORK LOG, PROJECT EVALUATION FORM, AND CEQA COMPLIANCE

After recommendation for approval of a change in use, modifications (i.e., project actions) of the trail or road are typically necessary to accommodate the change. These potential actions are listed in Section 3.5, Project Actions Covered By and Excluded from the Process, above. At this point, a construction work log is prepared based on the recommended physical road or trail modifications needed to accommodate the proposed change in use. See Appendix C, Trail Use Conflict Study, of this Program EIR (Construction log form provided in Appendix A of the Trail Use Conflict Study). A Project Evaluation Form (PEF) is then prepared to review and assess the potential resource impacts as a result of modifications and prepare appropriate CEQA documentation consistent with the Program EIR. Please refer to Appendix E for the PEF form. The PEF is circulated to qualified staff for CEQA and PRC Section 5024 (cultural resources) review. CSP staff review the PEF to determine if the project qualifies for a categorical exemption or is within the scope of the Process and this Program EIR, in accordance with Section 15168(c)(2) of the State CEQA Guidelines. CEQA compliance approaches are discussed further in Section 3.8, CSP Standard Project Requirements – Road and Trail Change-In-Use Evaluation Process", below.

After completion of CEQA and PRC Section 5024 compliance, a construction cost estimate is prepared from the construction work log to establish budgetary costs for implementation of the change-in-use project. A work plan is also prepared to incorporate all construction and permitting aspects of project implementation as identified in the project's CEQA review (e.g. road or trail modifications, staffing requirements, project schedule, list of permits, SPRs, material procurement, Best Management Practices, and PSRs). The project would then be implemented to include prescribed physical and operational modifications and any prescribed enforcement, patrol development, sign installation, trail seasoning, user education program(s), or other management actions.

3.6.4 ADAPTIVE USE MANAGEMENT STRATEGY

Most of the long-term effects of implementing the proposed Process on biological resources are expected to be beneficial or neutral, because (1) any change in use must be developed and implemented with the objective of natural and cultural resource protection, (2) a benefit of change-in-use proposals would be to correct existing conditions that contribute to resource degradation, (3) most actions and ground disturbances would occur within existing disturbed areas, and (4) SPRs to protect biological resources during construction and over the long-term are incorporated into the Process.

However, there are no reliable data to suggest that the number of trail users would increase, decrease or otherwise substantially change in timing or use pattern, resulting in the potential for effects on sensitive habitats and special-status species, or other biological resources impacts. Therefore, the proposed Process includes AUM as an SPR designed to monitor and correct, if necessary, user-created trail issues. Adaptive management is a well-established concept used in natural resources management. Adaptive strategies are commonly included in projects affecting natural resources and natural systems, where conditions and effects can change over time, such as ecosystem restoration projects, water resources projects, or, in this case, projects involving on-going recreation use in natural settings.

AUM will involve a standard procedure of describing (1) existing use and resource conditions as a baseline during the preparation of the change-in-use survey at the start of the Process and (2) performance standards for maintaining use at levels that do not result in significant effects on the environment. The performance standards would be tailored to each change-in-use proposal and its park unit. They would describe desired use and resource conditions necessary to maintain impacts at less-than-significant levels. All performance standards would relate to use conditions or resources that are observable in the field by CSP staff. Recommended performance standards to avoid long-term significant impacts to biological resources include:

- No unplanned user-created trails originating from a change-in-use action (e.g., trail reroute),
- Maintenance of vegetation conditions without substantial trampling or other degradation from trail and related recreation use,
- No substantial increase in user-created disturbance to sensitive habitats (e.g., wetlands) adjacent to trails and roads treated by change-in-use actions,
- No increased use of areas occupied by special-status plant or wildlife species,
- No evidence of increased, direct wildlife mortality associated with change-in-use actions, and
- No new populations of invasive plants associated with change-in-use actions.

Qualified CSP staff would inspect the route and associated use areas that are affected by a change-in-use proposal at least semi-annually during the first five years following implementation of the change in use and would prepare an Adaptive Management Report (AMR) at the end of each year regarding achievement of the performance standards established for the project, consistent with CSP DOM 0313.1.1.5. The AMR would be available for public review at the District Headquarters. The report would include the results of observations of use and resource conditions noted for the performance standards, any degradation that exceeds the performance standard and response or remedial actions recommended to resolve the issue. A follow-up inspection would occur within three months following implementation of the remedial action to assess the effectiveness of any required remedies. If after re-inspection, park staff determine the remedy to be effective, no further action would be required for that issue. If CSP staff is unable to remedy an identified issue, a Superintendent's Order would be used to immediately reduce user type, seasonally or permanently close the route, rescind the change in use temporarily or permanently, and/or any other action deemed necessary to protect the affected resource or use condition and maintain any adverse effect at a less-than-significant level. As a result of the AUM process, the prospect of significant adverse effects from increases in use or changes in use timing or pattern would be precluded during the five years following implementation.

For up to five years after implementation of a change-in-use proposal, qualified CSP staff would inspect the route and associated use areas that are affected by the proposal at least semi-annually and would prepare an AMR at the end of each year regarding achievement of the performance standards established for the project. The AMR would be available for public review at the District Headquarters. The report would include the results of observations of use and resource conditions noted for the performance standards ("Condition Assessment"), any degradation that exceeds the performance standard and response or remedial actions recommended to resolve the issue is implemented. The follow-up inspection would occur within six months to assess the effectiveness of any required remedies. If after re-inspection, park staff determines the remedy to be effective, no further action would be required for that issue. If CSP staff is unable to remedy an identified issue, a Superintendent's Order would be used to immediately reduce user type, seasonally or permanently close the route, rescind the change in use temporarily or permanently, and/or any other action deemed necessary to protect the affected resource or use condition and maintain any adverse effect at a less-than-significant level. As a result, the prospect of significant adverse effects from increases in use or changes in use timing or pattern would be precluded for a sufficient time to allow incorporation of the road or trail with its changed use into the routine, long-term resources management activities of the park.

3.7 CEQA AND REGULATORY COMPLIANCE FOR PROJECTS CONSISTENT WITH THE CHANGE-IN-USE PROCESS

The Road and Trail Change-in-Use Evaluation Process EIR is a Program EIR, as defined in Section 15168 of the State CEQA Guidelines. The Program EIR is programmatic in nature and does not specifically analyze individual projects.

Later activities that are consistent with the Process evaluated in this Program EIR would be reviewed in accordance with State CEQA Guidelines Section 15168(c-e). As new site-specific, change-in-use requests are proposed in park units under this Process, CSP will develop a written checklist to document the evaluation of the site and the actions proposed to determine whether the environmental effects are covered within the scope of this Program EIR. If the evaluation process confirms that no new effects would occur and that no additional mitigation measures would be necessary, CSP can determine the actions as being within the scope of this Program EIR, and approve the action under a Notice of Determination (NOD), referencing the Program EIR for CEQA compliance, in accordance with State CEQA Guidelines Section 15168(c)(2). CSP will have incorporated the applicable SPRs and PSRs into the proposal description prior to conducting the written checklist analysis to determine consistency with the Process and coverage by the Program EIR. Also, for proposals consistent with the Process and within the scope of the Program EIR, CSP will incorporate into the proposal any applicable mitigation measures identified in this Program EIR, in accordance with State CEQA Guidelines Section 15168(c)(3).

This Program EIR may also be used to simplify future environmental documents for change-in-use proposals that are not entirely within the scope of the Program EIR. This could include focusing subsequent EIRs or mitigated negative declarations (MND's) on any new significant effects that were not covered in the Program EIR. In this case, an initial study could be used to identify the new potential significant effects for the subsequent environmental document. Information from the Program EIR may also be incorporated by reference in future environmental documents to describe statewide or regional effects that apply to the Process as a whole, or for cumulative impacts related to a change-in-use proposal that requires its own independent EIR or MND.

If a change-in-use proposal does not qualify for approval using the Process, it would require its own, independent CEQA document. This may occur because the proposal exceeds the limits of the project actions covered by the Process, as listed above in Section 3.5, Project Actions Covered By and Excluded From the Process. Also, a change-in-use proposal may result in an unavoidable, significant environmental impact or a potentially mitigable significant effect that required detailed investigation or mitigation planning to reduce the effect to a less-than-significant level. An otherwise qualifying change-in-use proposal that results in significant unavoidable effects or mitigable significant effects requiring detailed investigations or mitigation planning may begin its review using the Process, but will need to depart the Process on an "off ramp" to its independent CEQA document. In these cases, the information in the Program EIR may be cited or incorporated as evidence to support impact analysis or mitigation approaches in an independent CEQA document.

Projects pursued through the Process would be subject to other applicable environmental laws and regulations. As CSP moves to comply with laws other than CEQA that require public notice on later activities, they may also reference this Program EIR, stating that the new action is within the scope of this Program EIR, and that it adequately describes the activity for CEQA purposes. Through the PEF process, CSP will ensure that any new actions comply with the permit, consultation, and application requirements of agencies with jurisdiction. Depending on where the actions are planned to occur, these could include:

- Coastal Development Permit from the California Coastal Commission,
- Bay fill or shoreline band development permit from the Bay Conservation and Development Commission,
- Streambed Alteration Agreement from the Department of Fish and Game,
- Development permits from the Tahoe Regional Planning Agency,
- State and Federal Endangered Species Consultation,
- Section 404 permit from the U.S. Army Corps of Engineers,
- Permit for work within the jurisdiction of the Central Valley Flood Protection Board,
- Section 401 Water Quality Certification from the Regional Water Quality Control Board,
- National Pollutant Discharge Elimination System (NPDES) from the Regional Water Quality Control Board, and
- Cultural resource approval.

3.8 CSP STANDARD PROJECT REQUIREMENTS - ROAD AND TRAIL CHANGE-IN-USE EVALUATION PROCESS

3.8.1 GENERAL STANDARD PROJECT REQUIREMENTS

Because SPRs would be applicable at all park units for an array of change-in-use project scenarios, placeholders are provided in several of the SPRs (such as for responsible parties), so that, depending on the location and type of project and associated resource issues, the requirement can be applied to specific projects and associated responsible parties.

GEN-1: Prior to the start of on-site construction work, a **[insert who]** will consult with the contractor and project manager to identify all resources that must be protected.

GEN-2: At the discretion of **[insert who]**, mechanized vehicles on **[insert discipline]** resource sites will be restricted to a short-term use of low-ground pressure vehicles only. All such vehicles must enter and exit the area via the same route of travel (by backing up). Vehicles are strictly prohibited from turning on the surface of site(s).

GEN-3: Prior to the start of on-site construction work, a CSP-qualified **[insert discipline]** Resources Specialist will train construction personnel in **[insert discipline]** Resource identification and protection procedures.

GEN-4: Prior to the start of on-site construction work, and at the discretion of a **[insert who]**, a **[insert who]** will flag and/or fence all **[insert discipline or resource]** with a buffer of **[insert distance]** for avoidance during on-site construction activities. The **[insert who]** will remove the fencing from around the Environmentally Sensitive Area after project completion.

GEN-5: Prior to any earthmoving activities, a CSP-qualified **[insert who]** will approve all subsurface work, including the operation of heavy equipment within **[insert distance]** of the identified Environmentally Sensitive Area.

GEN-6: Prior to the start of **[insert type]** work, **[insert who]** will notify the **[insert Office name and who]** or **[insert alternative Office name and who]** a minimum of three weeks in advance, unless other arrangements are made, to schedule **[insert discipline or resource]** monitoring.

GEN-7: A CSP qualified **[insert who]** will monitor all ground-disturbing phases of this project at his/her discretion.

GEN-8: The **[insert who]** will post information signs near project areas with restricted access or closures lasting longer than 3 months. The signs will include the following information:

- Explanation for and description of the project; and
- Anticipated completion date.

GEN-9: District staff will employ Adaptive Use Management as a strategy to avoid significant effects on the environment. It involves a standard procedure of defining (1) use levels and use and resource conditions as a baseline during the preparation of the Change-in-Use Survey at the start of the Process and (2) performance standards for maintaining use at levels that do not result in significant effects on the environment. The performance standards will be tailored to each change-in-use proposal and its park unit. They will describe desired use and resource conditions necessary to maintain impacts at less-than-significant levels. All performance standards will relate to use conditions or resources that are observable in the field by park staff.

3.8.2 AESTHETICS AND VIEWS STANDARD PROJECT REQUIRMENTS

AES-1 Projects will be designed to incorporate appropriate scenic and aesthetic values of the CSP unit, including the choices for: specific building sites, scope and scale; building and fencing materials and colors; use of compatible aesthetic treatments on pathways, retaining walls or other ancillary structures; location of and materials used in parking areas, campsites and picnic areas; development of appropriate landscaping. The CSP unit scenic and aesthetic values will also consider views into the park from neighboring properties.

AES-2 **[insert who]** will store all project-related materials outside of the viewshed of **[insert name of street/place/building]**.

3.8.3 AIR QUALITY AND GREENHOUSE GAS EMISSIONS STANDARD PROJECT REQUIREMENTS

DUST CONTROL MEASURES

AQ-1: No more than 1.0 acre of ground disturbance (e.g., earth moving, grading, excavation, land clearing) will occur in any single day.

AQ-2: Prior to any ground disturbance, including grading, excavating, and land clearing, sufficient water must be applied to the area to be disturbed to minimize fugitive dust emissions.

AQ-3: Unpaved areas subject to vehicle travel and areas subject to mechanical grading, excavation, land clearing, or other forms of ground disturbance will be stabilized by being kept wet, treated with a chemical dust suppressant, or covered. Exposed areas will not be overwatered such that watering results in runoff. Unpaved areas subject to vehicle travel could also be stabilized through the effective application of gravel or through watering.

AQ-4: Suitable vegetative ground cover will be established on exposed, disturbed surfaces through seeding and watering as soon as possible, except for areas intended to be used as trails or for parking or staging. If a vegetated ground cover is not suitable to the area then this requirement does not apply.

AQ-5: Storage piles and disturbed areas not subject to vehicular traffic must be stabilized by being kept wet, treated with a chemical dust suppressant, or covered when material is not being added to or removed from the pile.

AQ-6: The speed of construction-related trucks, vehicles, and equipment traveling on unpaved areas will be limited to 15 miles per hour (mph).

AQ-7: All trucks or light equipment hauling soil, sand, or other earthen materials on public roads to or from the site will be covered or required to maintain at least two feet of freeboard.

AQ-8: Off-road construction equipment and on-road haul trucks leaving the park will be cleaned onsite to prevent silt, mud, and dirt, from being released or tracked off-site, as dictated by controlling agencies.

AQ-9: All visible dust, silt, or mud tracked-out on to public paved roadways as a result of construction-related activities will be removed at the conclusion of each construction work day, or a minimum of every 24 hours for continuous construction operations. Wet sweeping or a High Efficiency Particulate Air (HEPA) filter equipped vacuum device will be used for removal of track-out from paved roadways and paved parking areas.

AQ-10: Excavation, grading, land clearing, other mechanical ground disturbance, and demolition activities will be suspended when sustained winds exceed 15 miles per hour (mph) and/or instantaneous gusts exceed 25 mph.

AQ-11: Where a change-in-use results in vehicle travel on unpaved roads and other unpaved services, signs shall be posted limiting vehicle travel to 15 mph.

AQ-12: Construction-related ground disturbance activities will not be performed in areas identified as "moderately likely to contain naturally occurring asbestos" according to maps and guidance published by the California Geological Survey (CGS), formerly the California Department of Conservation Division of Mines and Geology. This determination would be based on a CGS publication titled *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos* (Churchill and Hill 2000), or whatever more current guidance from CGS exists at the time the change-in-use project is evaluated. Any NOA-related guidance provided by the applicable local air district shall also be followed. Some air districts may require that a site-specific investigation be performed by a qualified geologist, including the collection of soil and rock samples, to determine whether NOA is present. If a site-specific investigation identifies the presence of NOA, then an Asbestos Dust Control Plan will be developed and implemented in accordance with Section 93105 of the California Health and Safety Code.

AQ-13: New trail or road alignments and new parking areas will not be located in areas identified as "moderately likely to contain naturally occurring asbestos" according to maps and guidance published by the California Geological Survey (CGS), formerly the California Department of Conservation Division of Mines and Geology, unless a site-specific investigation performed by a Registered Geologist confirms that NOA-containing rock or dirt is not exposed at the surface of the trail. Alternatively, any trail or road alignments and parking areas that are not located over areas where NOA is exposed at the surface will be covered with an appropriate material, depending on the intended use of the trail, that would prevent entrainment of asbestos-containing dust into the air. Possible methods of covering NOA-containing material on the surface include paving and graveling with non-NOA-containing gravel.

EXHAUST EMISSIONS CONTROL MEASURES

AQ-14: Operation of large diesel- or gasoline-powered construction equipment (i.e., greater than 50 horsepower [hp]) will not exceed 16 equipment-hours per day, where an equipment-hour is defined as one piece of equipment operating for one hour. (daily CAPs, TACs, GHGs)

AQ-15: All diesel- and gasoline-powered equipment will be properly maintained according to manufacturer's specifications, and in compliance with all State and federal emissions requirements. Maintenance records will be available at the construction site for verification.

AQ-16: Haul truck trips to and from the site will be limited to 20 one-way trips per day. This includes trips for hauling gravel, materials, and equipment to and from the site.

AQ-17: The maximum number of construction worker-related commute trips for any change-in-use project at a park will not exceed 60 one-way worker commute trips per day.

AQ-18: No open burning of removed vegetation will be performed. All removed vegetative material will be either chipped on site or taken to an appropriate recycling site, biomass power plant, or if a site is not available, a licensed disposal site.

MOBILE-SOURCE EMISSIONS RELATED MEASURES

TRAN-1: In cases where addition of a use is proposed for trails within urban areas or immediately accessible by urban populations such that the new park users could meaningfully utilize the trails before or after normal weekday business hours (8 am to 5 pm), a designated CSP District staff person will, prior to implementing the change in use, first review the local jurisdiction's General Plan for guidance on level of service (LOS) changes, or Caltrans standards if the affected facilities are part of a state highway. If it is determined that (or uncertain whether) project traffic could potentially result in unacceptable LOS of local traffic facilities, CSP will coordinate with the applicable jurisdiction(s) that operate/maintain the traffic facilities in the vicinity of the trail heads and associated parking areas to determine the maximum number of peak hour trips that could be generated by the proposed additional use that would not cause significant adverse local traffic effects. If CSP demand projections identify an increase in visitation that would generate peak hour, weekday trips that exceed the maximum number of trips identified by the applicable agency, the proposed additional use would be disqualified from the proposed process and would require individual CEQA analysis, including project-specific traffic analysis. In addition, following implementation of the proposed additional use **[insert who]** will include follow-up consultation with the applicable agency as part of the Adaptive Use Management process to consider the actual traffic levels generated by the additional trail use and the LOS of the affected transportation facilities. If the increased trips generated by the additional trail users are found to exceed original projections and are also found to be causing an exceedance of applicable LOS standards, **[insert who]** will implement a management response to resolve the exceedance, in consultation with the applicable agency. Measures in the management response will include (but will not be limited to) public education actions to encourage visitation during non-peak traffic periods, restriction of the timing of certain types of trail use during peak traffic periods, altering the point(s) of access to transfer project-related traffic from impacted roadways/intersections to less constrained roadways/intersections, coordination with local transit operators to increase access to the trail, coordination with the local transportation department regarding improved bicycle connectivity (for addition of bicycle use), or a combination of these measures.

TRAN-4: **[insert who]** will assess parking capacity prior to implementing a proposed change in use. After implementation of the change in use, CSP staff will monitor parking levels as part of the Adaptive Use Management process. If monitoring indicates an exceedance of parking capacity (i.e., increased use of undesignated on-street parking or increased illegal parking due to overflow of parking lot facilities), the **[insert who]** will implement a management response to resolve the parking capacity issue. Measures in the management response may include, but would not be limited to re-designing parking facilities (including minor parking lot expansions in areas where environmental resources will not be affected), installing parking meters and/or applying time limits, working with local transportation departments to increase nearby off-site parking availability, directing users to other existing lots, and/or working with local transit operators to increase transit to the trail facility. CSP District personnel will determine which actions are feasible at the park unit.

TRAN-5: Prior to initiating construction activities the construction manager will have a Construction Traffic Management Plan (CTMP), prepared by a qualified professional, that will provide measures to reduce potential traffic obstruction or service level degradation at affected traffic facilities. The scope of the CTMP will depend on the type, intensity, and duration of the specific construction activities associated with each qualifying change-in-use project under the Process. Measures included in the CTMP could include (but are not be limited to) construction signage, flaggers for lane closures, construction schedule and/or delivery schedule restrictions, etc. The CTMP will be submitted to the local Public Works Department.

3.8.4 TERRESTRIAL BIOLOGICAL RESOURCES STANDARD PROJECT REQUIREMENTS

GENERAL BIOLOGICAL RESOURCE STANDARD PROJECT REQUIREMENTS

BIO-1: Prior to the start of on-site construction activities, **[insert who]** will determine the minimum area required to complete the work and define the boundaries of the work area on the project drawings and with flagging or fencing on the ground, as appropriate.

BIO-2: Prior to the start of on-site construction activities, a qualified biologist will train on-site construction personnel on the identification and life history of the pertinent sensitive species, work constraints, and any other pertinent information related to the species.

BIO-3: All construction will be consistent with the State Parks Trail Handbook guidelines.

BIO-4: Prior to the start of on-site construction activities, qualified biologists will conduct preconstruction surveys of the project area subject to construction disturbance for sensitive biological resources, to ensure that potential impacts to sensitive resources are avoided or minimized. These surveys and avoidance/minimization measures are described under separate topics below for sensitive natural communities, vegetation, terrestrial wildlife, and aquatic resources.

BIO-5: At the discretion of **[insert who]**, project activities will be monitored to ensure that impacts to sensitive biological resources are avoided or minimized.

BIO-6: Reports will be submitted to California State Parks for all biological surveys and monitoring activities conducted.

NATURAL COMMUNITY STANDARD PROJECT REQUIREMENTS

BIO-7: Prior to the start of on-site construction activities or establishment of a realignment route, a qualified biologist will survey the project area for sensitive natural communities. Sensitive natural communities or habitats are those of special concern to resource agencies or those that are afforded specific consideration, based on Section 404 of the Clean Water Act (CWA) and other applicable regulations. This concern would be due to locally or regionally declining status of these habitats, or because they provide important habitat to common and special-status species. Many of these communities are tracked in the California Natural Diversity Database (CNDDB). Appendix I summarizes CNDDB occurrences of sensitive natural communities in ecoregions where State Parks units are located.

BIO-8: Projects will be designed to avoid direct or indirect effects on all sensitive natural communities to the maximum extent practicable.

BIO-9: Projects will avoid or minimize impacts to federally protected wetlands to the extent practicable by conducting work in upland areas.

BIO-10: Natural wetland habitat such as marsh, riparian, and vernal pools will not be filled by stream-crossing construction projects. Equipment will remain on existing road or trail alignments to the maximum extent practicable. Equipment could travel off road or trail only when no other alternative is available and after the project inspector and District's Senior Environmental Scientist have reviewed the route.

BIO-11: Trail or road alignments will be designed to avoid or minimize effects on riparian habitats. Disturbance to riparian areas and habitat for aquatic- or riparian-dependent species will be minimized by aligning crossings perpendicular to and in narrow riparian areas to the extent feasible, and incorporating elevated crossing features such as boardwalks and bridge crossings in riparian areas and sensitive meadows.

BIO-12: Signage, fencing, planting, or other features will be used to discourage users from leaving trails and roads and entering wetland, riparian, meadow, and other sensitive habitats; any fencing will be designed to avoid interference with hydrology and wildlife movement. This measure will contribute to minimizing potential impacts to sensitive plant species/communities that occur adjacent to roads and trails.

VEGETATION STANDARD PROJECT REQUIREMENTS

BIO-13: A qualified biologist will conduct focused pre-construction surveys for special-status plant species with potential to be affected by a project. Species with potential to be affected and requiring pre-construction surveys will be determined based on the species' distribution and known occurrences relative to the project area and the presence of suitable habitat for the species in or near the project area. CNDDB provides records of occurrences of special-status species in the ecoregions where State Parks units are located. In addition to CNDDB records, other data sources will additionally be used to determine sensitive biological resources with potential to occur in a specific project area, including reconnaissance surveys, the California Native Plant Society's (CNPS's) online *Inventory of Rare and Endangered Plants*, U.S. Fish and Wildlife Service species lists, CSP data and input from CSP biologists, other local CSP or other professional knowledge, and relevant environmental documents and reports. Surveys to determine the presence or absence of special-status plant species will be conducted in suitable habitat that could be affected by the project, and timed to coincide with the blooming or other appropriate phenological period of the target species (as determined by a qualified biologist).

BIO-14: No special-status plant species will be cut, pruned, pulled back, removed, or damaged in any way. Special-status plant species include those in the following categories: 1) listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (FESA) or candidates for possible future listing; 2) listed or candidates for listing under the California Endangered Species Act (CESA); 3) considered by CDFG to be "rare, threatened or endangered in California" (California Rare Plant Ranks of 1A, presumed extinct in California; 1B, considered rare or endangered in California and elsewhere ; and 2, considered rare or endangered in California but more common elsewhere); 4) listed as rare under the California Native Plant Protection Act; 5) considered a locally significant species by CDFG or CNPS; or 6) otherwise meets the definition of rare or endangered under CEQA Guidelines §15380(b) and (d).

BIO-15: If special-status plant species are located within the project area, they will be avoided and protected by establishing a non-disturbance buffer zone around the plants with high-visibility fencing prior to construction. The appropriate size and shape of the buffer zone will be determined by a qualified biologist. Construction personnel will be instructed to keep project activities out of the fenced areas. A qualified biologist will periodically inspect the fencing to ensure that the fence is intact and impacts are being avoided.

BIO-16: Dust Control Measures (AQ-1 through AQ-11) listed under Air Quality and Greenhouse Gas Emissions Standard Project Requirements will be employed during all construction activities.

BIO-17: Erosion Control Measures (GEO-1 through GEO-9) listed under Geology and Soils Standard Project Requirements will be employed to avoid runoff of sediments, vehicle fluids, and other liquids into special plant communities.

BIO-18: All projects will be designed to minimize the removal of all native trees. Specifically, projects will be designed to retain and protect trees 24 inches diameter-at-breast-height (DBH) or greater to the maximum extent practicable. Limbs of these trees will be removed if required for access or safety considerations. Trees smaller than 24 inches DBH will be retained whenever practicable. Equipment operators will be required to avoid striking retained trees to minimize damage to the tree structure or bark.

BIO-19: The roots of retained trees will be avoided during excavation or other construction activities to the maximum extent practicable. Any trenching in a "structural root zone" will be completed by hand; no roots larger than **[insert diameter size]** in diameter will be cut or damaged.

BIO-20: No ground disturbance or staging will be allowed within **[insert number]** times the DBH of retention trees, unless approved in advance by a qualified biologist, forester, or certified arborist.

BIO-21: A **[insert who]** will be present during all ground-disturbing activities within the **[insert quantitative area]** of retained trees.

BIO-22: Project areas will be monitored and maintained by **[insert who]** for up to **[insert time period],** including regular watering and replacement planting, as necessary to assure an approximately **[insert percentage]** survival rate.

BIO-23: All herbicides will be handled, applied, and disposed of in accordance with the MSDS Fact Sheet and all local, State, and federal laws.

BIO-24: To maintain genetic integrity, only plant stock collected within the **[insert area name]** will be used for re-vegetation in the project area.

BIO-25: The percolation testing will be conducted at a minimum distance of **[insert quantitative distance]** of any significant tree over **[insert number]** DBH.

BIO-26: The design of road and trail alignments will consider desired snag retention needs for wildlife.

BIO-27: Construction activities that could spread invasive plants and noxious weeds will be subject to the following actions:

- Construction operators will ensure that clothing, footwear, and equipment used during construction is free of soil, seeds, vegetative matter or other debris or seed-bearing material before entering the park or from an area with known infestations of invasive plants and noxious weeds.

- All heavy equipment will be pressure washed prior to entering the park or from an area with known infestations of invasive plants and noxious weeds. Anti-fungal wash agents will be specified if the equipment has been exposed to any pathogen that could affect park resources.
- All earth-moving equipment, gravel, fill, or other materials will be weed free.

BIO-28: Install signage that informs the public about protecting sensitive vegetation, and identifies noxious weed and invasive plant species and issues in the project area. Signage containing information about sensitive plant species in the project area and how to avoid disturbing them while using the path and related facilities, and noxious weed and invasive plant species and how they are spread, will be installed at key trailheads and other locations, as applicable and relevant.

TERRESTRIAL WILDLIFE STANDARD PROJECT REQUIREMENTS

BIO-29: A qualified biologist will conduct pre-construction surveys for special-status wildlife species with potential to be directly or indirectly affected by a project, within **[insert distance]** of the project area. Species with potential to be affected and requiring pre-construction surveys will be determined based on the species' distribution and known occurrences relative to the project area and the presence of suitable habitat for those species in or near the project area. Appendix I summarizes CNDDB occurrences of special-status species in the ecoregions where State Parks units are located. In addition to CNDDB records, other data sources will additionally be used to determine sensitive biological resources with potential to occur in a specific project area, including reconnaissance surveys, U.S. Fish and Wildlife Service species lists, CSP data and input from CSP biologists, other local CSP or other professional knowledge, and relevant environmental documents and reports. For species subject to survey protocols that have been developed and accepted, survey timing and methodology will follow the protocol requirements or guidelines. The survey will be conducted no more than **[insert number]** days prior to the beginning of construction. Surveys for a special-status species with potential to occur in the project area may not be required if presence of the species is assumed.

BIO-30: All Projects will be designed to avoid take of wildlife species listed or proposed for listing under the federal Endangered Species Act (FESA), candidates for possible future listing under the FESA, wildlife species listed or candidates for listing under the California Endangered Species Act (CESA), and species designated as Fully Protected under the California Fish and Game Code. For other special-status wildlife species (e.g., species of special concern), project impacts will be avoided to the maximum extent practicable.

BIO-31: Project activities that could affect a special-status wildlife species will be scheduled to avoid the breeding season and/or other sensitive life-history periods of the species (e.g., breeding, hibernation, denning, etc.), as determined by a qualified biologist.

BIO-32: If work is required during the breeding or other sensitive life-history period of a special-status species that could be affected, impacts will be avoided or minimized by establishing non-disturbance buffers around the nests, dens, roosts, or other activity centers (depending on the species). The appropriate size and shape of the buffer zone will be determined by a qualified biologist, based on potential effects of project-related habitat disturbance, noise, dust, visual disturbance, and other factors. No project activity will commence within the buffer area until a qualified biologist confirms that the nest, den, or other activity center is no longer active/occupied. Monitoring of the activity center by a qualified biologist during and after construction activities will be required.

BIO-33: For projects within the range of marbled murrelet or northern spotted owl (e.g., in USFS Ecological Sections Central California Coast, Klamath Mountains, Northern California Coast, Northern California Coast Ranges, Southern California Coast, and Southern Cascades); if work must occur during the breeding season, the USFWS's *"Transmittal of Guidance: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California"* (dated July 31, 2006) will be used by a qualified biologist to allow limited construction activities that do not create noise disturbance above ambient levels.

If limited activities are allowed during the **[insert species name] [insert what breeding, nesting, etc.]** season, work activities will not begin until **[insert number]** hours after sunrise and will cease **[insert number]** hours before sunset each day.

BIO-34: If individuals or other recent signs of special-status species are observed within **[insert distance]** of the project area, a qualified biologist will be present on the site to monitor during construction activities.

BIO-35: If special-status species are known to occur in the project area, immediately prior to the start of work each day, a qualified biologist will conduct a visual inspection of the construction zone and adjacent areas, as appropriate.

BIO-36: If a special-status species is found on the project site, work in the vicinity of the animal will be delayed until the species moves out of the site on its own, or is temporarily relocated by a qualified biologist. To prevent trapping of special-status species, all holes and trenches will be covered at the close of each working day with plywood or similar materials, or will include escape ramps constructed of earth fill or wooden planks; all pipes will be capped. A qualified biologist, or other staff trained by a qualified biologist will inspect trenches and pipes for special-status species at the beginning of each workday. If a trapped animal is discovered, they will be released in suitable habitat at least **[insert quantitative distance]** from the project area.

BIO-37: Project activities will not remove any trees equal to or greater than **[insert number]**-inches DBH unless first inspected by a qualified biologist and determined to be unsuitable as breeding habitat for special-status bird or other species.

BIO-38: For projects within suitable habitat of the range of Alameda whipsnake (e.g., in USFS Ecological Sections Central California Coast, Central California Coast Ranges, or Great Valley), an exclusion fence will be placed near the grading limit for the duration of the grading and construction, and removed within 72 hours of completion of work, to prevent Alameda whipsnake from entering the project site and no monofilament plastic will be used for erosion control. In addition, SPR BIO-29 and BIO-36 require pre-project surveys and the covering and inspection of all holes and trenches at the close of each working day. If Alameda whipsnake is found within the fenced area, work in the vicinity will be delayed until the species moves out of the site on its own, or is relocated by a qualified biologist (SPR BIO-36).

3.8.5 AQUATIC BIOLOGICAL RESOURCES STANDARD PROJECT REQUIREMENTS

BIO-39: A qualified biologist will conduct an aquatic (and associated uplands) habitat assessment and pre-project surveys for special-status aquatic species (if suitable habitat is present) with potential to be directly or indirectly affected by a project, within **[insert distance]** of the project area. Species with potential to be affected and requiring pre-construction surveys will be determined based on the species' distribution and known occurrences relative to the project area and the presence of suitable habitat for those species in or near the project area. Appendix I summarizes CNDDB occurrences of special-status species in the ecoregions where State Parks units are located. In addition to CNDDB records, other data sources will be used to determine sensitive aquatic resources with potential to occur in a specific project area including reconnaissance surveys; U.S. Fish and Wildlife Service, National Marine Fisheries Service, and California Department of Fish and Game species lists, CSP data and input from CSP biologists, other local CSP or other professional knowledge, and relevant environmental documents and reports. For species subject to survey protocols that have established and accepted survey timing windows and methodologies, qualified biologists will follow the protocol requirements or guidelines. The survey will be conducted within **[insert number]** calendar days prior to the beginning of construction. Surveys for a special-status aquatic species with potential to occur in the project area may not be required if presence of the species is assumed. If any species are located, they will be avoided to the maximum extent practicable.

BIO-40: Project activities will occur during the non-breeding season and/or migration period, as determined by a qualified biologist. If work is required during the breeding, spawning, or migration season, as determined by a qualified biologist, a qualified biologist will conduct a survey to determine if the special-status species occurs within **[insert distance]** of the project area. The survey will be conducted no more than **[insert number]** calendar days prior to the beginning of construction.

BIO-41: Construction activities in close proximity to potential **[insert species name]** habitat will be limited to the dry season to avoid specific periods of animal activity (e.g., breeding, larval/juvenile development, etc.).

BIO-42: If individuals or other recent signs of special-status species are observed within **[insert distance]** of the project area, a qualified biologist will be present on site to monitor activities during the construction period.

BIO-43: If special-status aquatic species are known to occur in the vicinity of the project area, a qualified biologist will conduct surveys for **[insert species]** within the project area and up to **[insert number]** feet outside the project boundaries immediately prior to the start of project-related activities each day.

BIO-44: If **[insert species name]** is found on the project site, work in the vicinity of the animal will be delayed until the species moves out of the site on its own accord, or is temporarily relocated by **[insert agency name - approved or -permitted]** biologist.

BIO-45: To prevent trapping of special-status aquatic species that spend a portion of their lives in terrestrial habitats (e.g., salamanders, frogs, snakes, turtles), all holes and trenches will be covered with plywood or similar materials at the close of each working day, or escape ramps will be constructed of earth fill or wooden planks; all pipes will be capped. A qualified biologist, or other staff trained by a qualified biologist will inspect trenches and pipes for special-status species at the beginning of each workday. If a trapped animal is discovered, they will be released (by a qualified biologist) in suitable habitat at least **[insert quantitative distance]** from the project area.

BIO-46: All stream crossings will be designed to convey the 100-year, 24-hour storm event. All perennial stream crossings that are part of the project will be designed to maintain both upstream and downstream fish passage. Pedestrian bridges across stream habitats will be designed **[in**

consultation with appropriate resource agency(ies)] in a manner that does not impede stream flow and ensures year-round passage of anadromous and other aquatic species through the area.

BIO-47: Culverts or other stream crossings will not create barriers to upstream or downstream passage for aquatic-dependent species (e.g., bottomless culverts with natural bed material).

BIO-48: If water drafting becomes a necessary component of the proposed project, drafting sites will be planned to avoid adverse effects to special-status aquatic species and associated habitat, in-stream flows, and depletion of pool habitat. Screening devices will be used for water drafting pumps, and pumps with low entry velocity will be used to minimize removal of aquatic species, including juvenile fish, amphibian egg masses and tadpoles, from aquatic habitats.

BIO-49: Avoid vegetation removal that could reduce shaded areas and increase stream temperatures.

BIO-50: Project activities within or across drainages and streams will occur when the drainages are dry, unless it is not feasible to do so, in which case the following requirements will be applied.

- Construction will be minimized, and avoided to the extent feasible, during the wet season to prevent excessive siltation and sedimentation. However, during the wet season, no construction activities will occur within or immediately adjacent to known breeding habitats of special-status aquatic species. For any project requiring a permit from USACE, RWQCB, CDFG, NMFS, USFWS, CCC, or other agency for potential impacts to aquatic and wetland resources restrictions, construction timing, BMPs, and other protective measures will be developed and specified in consultation with the agencies during the permitting process.
- If water is present during construction, breeding, spawning, migration, and larval development periods of special-status species will be avoided.
- If water is present during construction, disturbance to pools and other stream habitats (e.g., runs, glides, riffles) with cobble-sized substrate and adjacent to stream banks will be minimized. In particular, rocks will not be collected from in-water environments from **[insert X month through X month]** month to avoid disturbing breeding activities, egg masses, and/or larvae/juveniles of special-status amphibians, reptiles, and fish species.

BIO-51: Appropriate BMPs will be implemented for construction within **[insert distance]** of aquatic habitats. Erosion control measures will be implemented to prevent sedimentation from adversely affecting aquatic features that potentially support special-status species including **[insert who]**. Appropriate BMPs will be developed and implemented to avoid water and wind related erosion and subsequent degradation of water quality, and will include sediment catchments and basins to intercept runoff from disturbed slopes.

BIO-52: If **[insert what]** are located within **[insert distance]** feet of the project area, no construction will occur within **[insert distance]** of the **[insert what]** during the **[insert what]** season, as determined by a qualified biologist.

BIO-53: Ground disturbance activities will not occur within close proximity **[insert distance]** to **[insert species name]** breeding habitats.

BIO-54: Staging areas will be located outside of sensitive habitats, and at least **[insert distance]** from vernal pools, **[insert distance]** from seasonal wetlands, **[insert distance]** from ponds, **[insert distance]** from streams, **[insert distance]** from riparian habitat, and at least **[xx feet]** from intertidal areas and other aquatic habitats known to have seasonal inhabitants (e.g., migrating birds, grunion runs).

BIO-55: Exclusionary fencing will be installed around all Environmentally Sensitive Areas (under the supervision of an approved biologist) as an initial construction task. Exclusion fencing, flagging, staking, and signage shall be placed to limit encroachment by construction personnel and equipment into sensitive aquatic habitats without affecting public access routes.

BIO-56: Construction activities within and adjacent to stream drainages or other aquatic habitats will be minimized, and avoided to the extent feasible, during the wet season to prevent excessive siltation and sedimentation. However, during the wet season, no construction activities will occur within or immediately adjacent to known breeding habitats of special-status aquatic species. For any project requiring a permit from USACE, RWQCB, CDFG, NMFS, USFWS, CCC, or other agency for potential impacts to aquatic and wetland resources restrictions, construction timing, BMPs, and other protective measures will be developed and specified in consultation with the agencies during the permitting process.

BIO-57: No refueling of construction related equipment will take place within **[xx feet]** of aquatic habitats. Use of protective measures such as booms will be considered in coastal areas and estuaries to control accidental spills of contaminants and/or sediments (from dredged material) outside of construction areas.

BIO-58: Monitor construction activities near stream drainages and other aquatic habitats and riparian areas. Construction activities near water courses and riparian areas will be monitored daily (by an approved biologist) to ensure these areas are not impacted by the project. Monitoring will include checking silt fences, erosion and sediment control BMPs, and environmentally sensitive area fencing to make sure they are functioning properly.

BIO-59: A buffer zone of **[insert distance as determined by the appropriate resource agency]** will be established around vernal pools and other sensitive aquatic habitats that have documented occurrences of **[insert species name]** to minimize potential indirect impacts. If listed species are absent, a buffer zone of **[xx feet]** will be established to protect these habitats.

BIO-60: For projects that require a CDFG Streambed Alteration Agreement, BMPs identified in the agreement will be developed and implemented.

BIO-61: If permanent stream crossings are necessary, crossing areas will be stabilized using appropriate techniques and materials **[as specified by the appropriate resource agency]**.

BIO-62: To avoid indirect construction-related impacts to aquatic habitats, BMPs will be implemented to minimize soil disturbance. Where soil disturbance is necessary, stabilization techniques (including the use of silt fences, check dams, fiber rolls or blankets, gravel bag berms, geotextiles, plastic covers, erosion control blankets/mats, covering of exposed areas with mulch, and temporary vegetation or permanent seeding) will be implemented.

3.8.6 CULTURAL AND PALEONTOLOGICAL RESOURCES STANDARD PROJECT REQUIREMENTS

CUL-1: If forest thinning activities are required within a culturally sensitive area, downed timber and other forest debris will be removed by aerial suspension; no portion of logs, slash or debris will be dragged across the surface.

CUL-2: Prior to the start of on-site construction work, the **[insert who]** will notify the Cultural Resources Supervisor, unless other arrangements are made in advance, a minimum of three weeks to schedule a Cultural Resources Specialist to monitor work, as necessary, to ensure that pre-approved removal and reconstruction of historic fabric will occur in a manner consistent with the Secretary of the Interior's Standards for Treatment of Historic Properties.

CUL-3: Before, during, and after construction, a **[insert who]** will photo-document all aspects of the project and will add the photos to the historical records (archives) for the park.

CUL-4: Prior to the start of on-site construction work, and to the extent not already completed, a **[insert who]** will map and record all cultural features (archaeological and built environment) within the proposed Area of Potential Effects (APE) to a level appropriate to the Secretary of the Interior's Standards.

CUL-5: Prior to the start of on-site construction work, and to the extent not already completed, a **[insert who]** will review geologic maps and literature and recommend whether a survey for and related professional-level report on paleontological resources within the project area is warranted.

CUL-6: In project area that contains particular sediments suitable for fossil preservation of significant paleontological resources, **[insert who]** will review and approve monitoring by a qualified paleontologist or geologist of earthmoving activities, including but not limited to grading, excavation or trenching, but generally excluding monitoring of drilling activities.

CUL-7: If anyone discovers potential paleontological resources during project construction or ground-disturbing activities, work within 100-feet of the find will be temporarily halted, the CSP State Representative will be notified immediately, and work will remain halted until a qualified paleontologist or geologist evaluates the significance of the find and recommends appropriate salvage or further mitigation procedures.

HISTORIAN'S STANDARD REQUIREMENTS

CUL-8: All historic work on built environment resources will comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings.

Historic character will be retained and preserved; where safe, original materials that still maintain structural integrity will be retained; and where replacement is required, materials and features will be replaced "in kind."

A qualified historian familiar with the project site's cultural/historic resources will monitor all construction activities at his/her discretion. All historic resources uncovered during the project will be recorded in place with a photograph and/or drawing showing any new or recovered material and archived, at the discretion of the monitor.

Upon completion of the project, **[insert who]** will record any modifications to historic buildings or structures, or alterations of historic fabric on as-built drawings.

ARCHAEOLOGIST'S STANDARD REQUIREMENTS

CUL-9: Prior to the start of any ground-disturbing activities, a qualified archaeologist will complete preconstruction testing to determine specific avoidance areas within the proposed APE that contains known significant or potentially significant archaeological resources.

If necessary, a qualified Cultural Resources Specialist will prepare a research design, including appropriate trenching and/or preconstruction excavations.

Based on preconstruction testing, project design and/or implementation will be altered, as necessary, to avoid impacts to significant archaeological resources or reduce the impacts to a less than significant level, as determined in consultation with a CSP-qualified archaeologist.

CUL-10: **[Insert who]** will manually remove or flush cut vegetation to avoid ground-disturbing activities; removal of roots will not be allowed.

CUL-11: In an APE considered highly sensitive for the discovery of buried archaeological features or deposits, including human remains, **[insert who]** will review and approve monitoring by a CSP-qualified Cultural Resources Specialist of any subsurface disturbance, including but not limited to grading, excavation or trenching.

CUL-12: **[insert who]** will review and approve monitoring of subsurface disturbance by a Native American monitor.

CUL-13: If anyone discovers previously undocumented cultural resources during project construction or ground-disturbing activities, work within 50 to 100 feet of the find will be temporarily halted, the CSP State Representative will be notified immediately, and work will remain halted until a qualified Cultural Resources Specialist or archaeologist evaluates the significance of the find and determines and implements the appropriate treatment and disposition in accordance with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation.

- If ground-disturbing activities uncover cultural artifacts or features (including but not limited to dark soil containing shellfish, bone, flaked stone, groundstone, or deposits of historic ash), when a qualified Cultural Resources Specialist is not onsite, **[insert who]** will contact the CSP State Representative immediately and **[insert who]** will temporarily halt or divert work within the immediate vicinity of the find until a qualified Cultural Resources Specialist or archaeologist evaluates the find and determines and implements the appropriate treatment and disposition of the find.
- If feasible, **[Insert who]** will modify the project to ensure that construction or ground-disturbing activities will avoid the unanticipated discovery of a significant cultural resources (historical resources) upon review and approval of a **[insert who]**.

CUL-14: In the event anyone discovers human remains or suspected human remains, work will cease immediately within 100 feet of the find and the project manager/site supervisor will notify the appropriate CSP personnel. The human remains and/or funerary objects will not be disturbed and will be protected by covering with soil or other appropriate methods. The CSP Sector Superintendent (or authorized representative) will notify the County Coroner, in accordance with Section 7050.5 of the California Health and Safety Code, and the Native American Heritage Commission; the superintendent will also notify the local Tribal Representative). If a Native American monitor is onsite at the time of the discovery, the monitor will notify his/her affiliated tribe or group. The local County Coroner will make the determination of whether the human bone is of Native American origin.

If the Coroner determines the remains represent Native American interment, the Native American Heritage Commission will be consulted to identify the most likely descendant and appropriate disposition of the remains. Work will not resume in the area of the find until proper disposition is complete (PRC Section 5097.98). No human remains or funerary objects will be cleaned, photographed, analyzed, or removed from the place of discovery prior to determination.

If it is determined the find indicates a sacred or religious site, the site will be avoided to the maximum extent practicable. Formal consultation with the State Historic Preservation Officer and review by the Native American Heritage Commission, as well as appropriate Tribal Representatives, will occur as necessary to define additional site mitigation or future restrictions.

CUL-15: PRIOR TO THE START OF ON-SITE CONSTRUCTION WORK, THE DISTRICT WILL DETERMINE IF THE PROJECT IS CONSISTENT WITH THE SECRETARY OF THE INTERIOR'S STANDARDS FOR THE TREATMENT OF HISTORIC PROPERTIES AND THE GUIDELINES FOR THE TREATMENT OF CULTURAL LANDSCAPES (36 CFR PART 68). ANY CONSTRUCTION THAT COULD AFFECT A CULTURAL LANDSCAPE WILL COMPLY WITH THE SECRETARY OF THE INTERIOR'S STANDARDS.**GENERAL STANDARD PROJECT REQUIREMENTS**

GEN-3: Prior to the start of on-site construction work, a CSP-qualified **[insert discipline]** Resources Specialist will train construction personnel in **[insert discipline]** Resource identification and protection procedures.

GEN-4: Prior to the start of on-site construction work, and at the discretion of a **[insert who]**, a **[insert who]** will flag and/or fence all **[insert discipline or resource]** with a buffer of **[insert distance]** for avoidance during on-site construction activities. The **[insert who]** will remove the fencing from around the Environmentally Sensitive Area after project completion.

GEN-5: Prior to any earthmoving activities, a CSP-qualified **[insert who]** will approve all subsurface work, including the operation of heavy equipment within **[insert distance]** of the identified Environmentally Sensitive Area.

GEN-6: Prior to the start of **[insert type]** work, **[insert who]** will notify the **[insert Office name and who]** or **[insert alternative Office name and who]** a minimum of three weeks in advance, unless other arrangements are made, to schedule **[insert discipline or resource]** monitoring.

3.8.7 GEOLOGY, SOILS AND MINERALS STANDARD PROJECT REQUIREMENTS

CONSTRUCTION GENERAL PERMIT AND SWPPP MEASURES

GEO-1: Prior to the start of construction involving ground-disturbing activities totaling 1 acre or more, CSP will direct the preparation of a Stormwater Pollution Prevention Plan (SWPPP) by a Qualified Stormwater Pollution Plan Developer (QSD) for CSP approval that identifies temporary Best Management Practices (BMPs) (e.g., tarping of any stockpiled materials or soil; use of silt fences, straw bale barriers, fiber rolls) and permanent (e.g., structural containment, preserving or planting of vegetation) for use in all construction areas to reduce or eliminate the discharge of soil, surface water runoff, and pollutants during all excavation, grading, trenching, repaving, or other ground-disturbing activities.

CONSTRUCTION-RELATED MEASURES

GEO-2: All construction, improvement, modification, or decommissioning of trails, and conversion of roads-to-trails, will be consistent with CSP BMPs, Departmental Operations Manuals (DOMs), and Trail Handbook guidelines.

GEO-3: A qualified geologist will review road decommissioning and road-to-trail conversion sites during change-in-use project planning to determine if any geologic or soil conditions exist that require additional assessment or alteration of prescriptions. If unique features do exist, a licensed geologist will conduct a geologic assessment/investigation.

GEO-4: Heavy equipment operators will be cautioned to minimize their exposure to unstable slopes that may occur naturally or result from the earthmoving process. Inspectors will continually evaluate slope geometry and caution operators if unstable conditions are indicated.

GEO-5: Prior to the start of on-site construction activities, CSP staff will determine the minimum area required to complete the work and define the boundaries of the work area on project drawings.

GEO-6: All construction activities will be suspended during heavy precipitation events (i.e., at least 1/2-inch of precipitation in a 24-hour period) or when heavy precipitation events are forecast.

GEO-7: No high ground pressure vehicles will be driven through project areas during the rainy season when soils are wet and saturated to avoid compaction and/or damage to soil structure. Existing compacted road surfaces are exempted as they are already well compacted from use.

GEO-8: Excavated spoil from project work will be placed in a stable location where it will not cause or contribute to slope failure, or erode and enter a stream channel or wetland. Spoil areas will be compacted in lifts and blended into the surrounding landscape to promote uniform sheet drainage. Stream flow will not be allowed to discharge onto spoil areas, regardless of discharge rate.

GEO-9: Bare ground will be mulched with vegetation removed during the work, or with other mulch materials, to the maximum extent practicable to minimize surface erosion.

GEO-10: Immediately following reconstruction, trails will be closed for a period following construction that allows for one wet-dry cycle (e.g., one winter’s duration) to allow the soil and materials to settle and compact before the trail opens to the public. Routine maintenance will also be performed on the trail as necessary to reduce erosion to the extent possible and to repair weather-related damage that could contribute to erosion.

PROJECT DESIGN-RELATED MEASURES

GEO-11: Trail stream crossings will have a drainage structures designed for the 100-year storm flow event or be capable of passing the 100-year peak flow without significant damage.

GEO-12: Trail stream crossings will be designed and constructed without the potential for stream diversion.

GEO-13: CSP staff will install appropriate energy dissipaters and employ other erosion control measures at water discharge points, as appropriate.

GEO-14: Install armored rock crossings at ephemeral drainages, micro drainages and swales to harden the trail tread in areas of potential interface between trail users and natural topographic drainage features.

GEO-15: All drainages (including micro drainages) will not be captured, diverted or coupled with other drainages by the trail.

GEO-16: Water will not be accumulated on the trail and drained off onto landforms where natural drainages do not exist.

GEO-17: Trail fillslopes will be designed with stable slope gradients as defined in CSP trail construction manuals, guidelines, and handbooks. Unstable fillslopes will be stabilized or removed.

GEO-18: Trail surfaces and ditches will be hydrologically disconnected from wetlands, streams and stream crossings to the extent feasible.

GEO-19: Provide outslope to the trail tread and remove any outer edge berm to facilitate sheet flow off the trail where the dispersed flow can be filtered by vegetation and organic litter.

GEO-20: When outsloping trail surfaces are not feasible, such as steep linear trail grades, construct rolling dips to direct runoff safely off the trail to prevent buildup of surface runoff and subsequent erosion. Water bars will be used as a last resort if outsloping and rolling dips, or minor rerouting are not feasible, or on trails receiving minimal use. Water bars will be constructed to divert water to controlled points along the trail and with rock armor at the downslope end for energy dissipation.

GEO-21: If soils and parent material geologic capability are not sustainable, overly steep grades will be mitigated with surface hardening techniques. Hardening techniques (such as high-quality compacted aggregate or road/trail structures such as steps or retaining walls) will keep the surface sustainable, firm and stable.

GEO-22: CSP staff will develop a rehabilitation plan for the decommissioned road or trail that includes using brush and trees removed from the new trail alignment for bio-mechanical erosion control (bundling slash and keying it in to fall of trail, filling damaged trails sections with soil and duff removed from the new trail alignment, constructing water bars, and replanting native trees and shrubs).

GEO-23: Both ends of the decommissioned road or trail or road-to-trail conversion will be clearly blocked, and scatter its length with vegetative debris from new trail construction to discourage continued use and degradation of the decommissioned portion of the road or trail.

GEO-24: Seasonally close trails to all users when soils are saturated and softened.

GEO-25: Install "pinch points" to reduce downhill bicycle speed and increase the line of sight at curves.

GEO-26: Construction or repair of barriers at switchbacks to discourage shortcuts and the creation of volunteer trails.

GEO-27: Educational signage and user safety plans will be provided in coastal areas subject to tsunamis, areas adjacent to enclosed waterbodies that are susceptible to seiches, and areas at risk for mudflows.

EVENT-RELATED MEASURES

GEO-28: After a large earthquake event (i.e., magnitude 5.0 or greater within 50 miles of the project site), CSP staff will inspect all project structures and features for damage, as soon as is possible after the event. Any damaged structures or features, including landslides, will be closed to park visitors, volunteers, residents, contractors, and staff until such features or structures have been evaluated and/or repaired.

GEO-29: After a large storm or rainfall event (i.e., ≥ 1" in 24 hours), **[insert who]** will inspect all project structures and features for damage, as soon as is possible after the event. Any damaged structures or features will be closed to park visitors, volunteers, residents, contractors, and staff until such features or structures have been evaluated and/or repaired.

3.8.8 GREENHOUSE GAS/CLIMATE CHANGE/SEA-LEVEL RISE STANDARD PROJECT REQUIREMENTS

CONSTRUCTION-RELATED EMISSION CONTROL MEASURES

AQ-1: No more than 1.0 acre of ground disturbance (e.g., earth moving, grading, excavating, land clearing) will occur in any single day.

AQ-14: Operation of large diesel- or gasoline-powered construction equipment (i.e., greater than 50 horsepower [hp]) will not exceed 16 equipment-hours per day, where an equipment-hour is defined as one piece of equipment operating for one hour.

AQ-15: All diesel- and gasoline-powered equipment will be properly maintained according to manufacturer's specifications, and in compliance with all State and federal emissions requirements. Maintenance records will be available at the construction site for verification.

AQ-16: Haul truck trips to and from the site will be limited to 20 one-way trips per day. This includes trips for hauling gravel, materials, and equipment to and from the site.

AQ-17: The maximum number of construction worker-related commute trips for any change-in-use project at a park will not exceed 60 one-way worker commute trips per day.

AQ-18: No open burning of removed vegetation will be performed. All removed vegetative material will be either chipped on site or taken to an appropriate recycling site, biomass power plant, or if a site is not available, a licensed disposal site.

MEASURES PERTINENT TO CARBON SEQUESTRATION

BIO-10: Natural wetland habitat such as marsh, riparian, and vernal pools will not be filled by stream-crossing construction projects. Equipment will remain on existing road or trail alignments to the maximum extent practicable. Equipment could travel off road or trail only when no other alternative is available and after the project inspector and District's Senior Environmental Scientist have reviewed the route.

BIO-18: All projects will be designed to minimize the removal of all native trees. Specifically, projects will be designed to retain and protect trees 24 inches diameter-at-breast-height (DBH) or greater to the maximum extent practicable. Limbs of these trees will be removed if required for access or safety considerations. Trees smaller than 24 inches DBH will be retained whenever practicable. Equipment operators will be required to avoid striking retained trees to minimize damage to the tree structure or bark.

BIO-19: The roots of retained trees will be avoided during excavation or other construction activities to the maximum extent practicable. Any trenching in a "structural root zone" will be completed by hand; no roots larger than **[insert diameter size]** in diameter will be cut or damaged.

BIO-20: No ground disturbance or staging will be allowed within **[insert number]** times the DBH of retention trees, unless approved in advance by a qualified biologist, forester, or certified arborist.

BIO-21: A **[insert who]** will be present during all ground-disturbing activities within the **[insert quantitative area]** of retained trees.

BIO-22: Project areas will be monitored and maintained by **[insert who]** for up to **[insert time period]**, including regular watering and replacement planting, as necessary to assure an approximately **[insert percentage]** survival rate.

BIO-25: The percolation testing will be conducted at a minimum distance of **[insert quantitative distance]** of any significant tree over **[insert number]** DBH.

CUL-10: **[Insert who]** will manually remove or flush cut vegetation to avoid ground-disturbing activities; removal of roots will not be allowed.

MEASURES PERTINENT TO RESILIENCY TO CLIMATE CHANGE

HAZ-8: Prior to the start of construction, **[insert who]** will develop a Fire Safety Plan for **[insert name]** approval. The plan will include the emergency calling procedures for both the California Department of Forestry and Fire Protection (CDF) and local fire department(s).

HAZ-9: All heavy equipment will be required to include spark arrestors or turbo chargers that eliminate sparks in exhaust and have fire extinguishers on-site.

HAZ-10: Construction crews will park vehicles **[insert distance]** from flammable material, such as dry grass or brush. At the end of each workday, construction crews will park heavy equipment over a non-combustible surface to reduce the chance of fire.

HAZ-11: CSP personnel will have a CSP radio at the park unit, that allows direct contact with Cal Fire and a centralized dispatch center, to facilitate the rapid dispatch of control crews and equipment in case of a fire.

HAZ-13: Under dry conditions, a filled water truck and/or fire engine crew will be onsite during activities with the potential to start a fire.

GEO-29: After a large storm or rainfall event (i.e., ≥ 1" in 24 hours), **[insert who]** will inspect all project structures and features for damage, as soon as is possible after the event. Any damaged structures or features will be closed to park visitors, volunteers, residents, contractors, and staff until such features or structures have been evaluated and/or repaired.

HYDRO-5: All construction activities will be suspended during heavy precipitation events (i.e., at least 1/2-inch of precipitation in a 24-hour period) or when heavy precipitation events are forecast. If the construction manager must suspend work the construction manager will install drainage and erosion controls appropriate to site conditions, such as covering (tarping) stockpiled soils, mulching bare soil areas, and by constructing silt fences, straw bale barriers, fiber rolls, or other control structures around stockpiles and graded areas, to minimize runoff effects.

3.8.9 HAZARDS AND HAZARDOUS MATERIALS STANDARD PROJECT REQUIREMENTS

HAZ-1 Avoid locating trail modifications in areas that could have been used previously for industrial/manufacturing uses, or other uses that could have involved use, handling, transport, or storage of hazardous materials (including but not limited to auto maintenance, gas station, equipment yard, dry cleaner, railroad, agriculture, mining, etc.). If such areas cannot be avoided, prior to any construction within such areas, **[insert implementing party]** shall hire a qualified professional to conduct a Phase 1 Environmental Site Assessment (ESA), limited to the area of proposed ground disturbance, that will identify the presence of any soil contamination at concentrations that could pose health risk to construction workers. If such levels of soil contamination are identified, the **[insert implementing party]** shall follow the recommendations in the Phase 1 ESA, which may include removal of contaminated soil in compliance with all EPA, OSHA, and DTSC requirements.

HAZ-2 If any construction will occur directly below overhead power poles with transformers, prior to construction, the soil directly beneath the transformers will be inspected for staining. If staining is present, the **[insert implementing party]** will avoid the stained soil, coordinate with the utility company for clean-up, or hire a qualified professional to provide recommendations that will be implemented.

HAZ-3 Prior to any excavation in the vicinity of underground utility easements, **[insert implementing party]** shall coordinate with the utility company to ensure avoidance of the utility line.

HAZ-4 Prior to the start of on-site construction activities, **[insert who]** will inspect all equipment for leaks and regularly inspect thereafter until equipment is removed from the project site. All contaminated water, sludge, spill residue, or other hazardous compounds will be contained and disposed of outside the boundaries of the site, at a lawfully permitted or authorized destination.

HAZ-5 Prior to the start of on-site construction activities, **[insert who]** will prepare a Spill Prevention and Response Plan (SPRP) as part of the Storm Water Pollution Prevention Plan (SWPPP) for **[insert who]** approval to provide protection to on-site workers, the public, and the environment from accidental leaks or spills of vehicle fluids or other potential contaminants. This plan will include (but not be limited to)

- a map that delineates construction staging areas, where refueling, lubrication, and maintenance of equipment will occur;
- a list of items required in a spill kit on-site that will be maintained throughout the life of the project;
- procedures for the proper storage, use, and disposal of any solvents or other chemicals used in the restoration process;
- and identification of lawfully permitted or authorized disposal destinations outside of the project site.

HAZ-6 **[Insert who]** will develop a Materials Management Plan to include protocols and procedures that will protect human health and the environment during remediation and/or maintenance activities that cause disturbances to the native soil and/or mine and mill materials causing the potential exposure to metals and dust resulting from materials disturbances. All work will be performed in accordance with a Site Health and Safety Plan. The Materials Management Plan will include the following (where applicable):

- Requirement that staff will have appropriate training in compliance with 29 CFR, Section 1910.120;
- Methods to assess risks prior to starting onsite work;
- Procedures for the management and disposal of waste soils generated during construction activities or other activities that might disturb contaminated soil;
- Monitoring requirements;
- Storm water controls;
- Record-keeping; and,
- Emergency response plan.

HAZ-7 **[Insert who]** will set up decontamination areas for vehicles and equipment at CSP unit entry/exit points. The decontamination areas will be designed to completely contain all wash water generated from washing vehicles and equipment. Best Management Practices (BMPs) will be installed, as necessary, to prevent the dispersal of wash water beyond the boundaries of the decontamination area, including over-spray.

HAZ-8 Prior to the start of construction, **[insert who]** will develop a Fire Safety Plan for **[insert name]** approval. The plan will include the emergency calling procedures for both the California Department of Forestry and Fire Protection (CDF) and local fire department(s).

HAZ-9 All heavy equipment will be required to include spark arrestors or turbo chargers that eliminate sparks in exhaust, and have fire extinguishers on-site.

HAZ-10 Construction crews will park vehicles **[insert distance]** from flammable material, such as dry grass or brush. At the end of each workday, construction crews will park heavy equipment over a non-combustible surface to reduce the chance of fire.

HAZ-11 CSP personnel will have a CSP radio at the park unit, that allows direct contact with CalFire and a centralized dispatch center, to facilitate the rapid dispatch of control crews and equipment in case of a fire.

HAZ-12 Prior to the start of on-site construction activities, **[insert who]** will clean and repair (other than emergency repairs) all equipment outside the project site boundaries.

HAZ-13 Under dry conditions, a filled water truck and/or fire engine crew will be onsite during activities with the potential to start a fire.

HAZ-14 **[Insert who]** will designate and/or locate staging and stockpile areas within the existing maintenance yard area or existing roads and campsites to prevent leakage of oil, hydraulic fluids, etc. into **[insert where i.e., native vegetation, sensitive wildlife areas, creek, river, stream , etc.]**.

3.8.10 HYDROLOGY, WATER QUALITY, AND SEDIMENTATION STANDARD PROJECT REQUIREMENTS

CONSTRUCTION GENERAL PERMIT AND SWPPP MEASURES

HYDRO-1: Prior to the start of construction involving ground-disturbing activities totaling 1 acre or more, CSP project staff will prepare and submit a Storm Water Pollution Prevention Plan (SWPPP) for CSP approval that identifies temporary Best Management Practices (BMPs) (e.g., tarping of any stockpiled materials or soil; use of silt fences, straw bale barriers, fiber rolls) and permanent (e.g., structural containment, preserving or planting of vegetation) for use in all construction areas to reduce or eliminate the discharge of soil, surface water runoff, and pollutants during all excavation, grading, trenching, repaving, or other ground-disturbing activities. The SWPPP will include BMPs for hazardous waste and contaminated soils management and a Spill Prevention and Control Plan (SPCP), as appropriate.

BASIN PLAN REQUIREMENT MEASURES

HYDRO-2: The project will comply with all applicable water quality standards as specified in the appropriate Regional Water Quality Control Board Basin Plan.

CONSTRUCTION-RELATED MEASURES

HYDRO-3: All trail design and construction will be consistent with the CSP BMPs and DOM 0306 policies and Trail Handbook guidelines.

HYDRO-4: No high ground pressure vehicles will be driven through project areas during the rainy season when soils are wet and saturated to avoid compaction and/or damage to soil structure. Existing compacted road surfaces are exempted as they are already well compacted from use.

HYDRO-5: All construction activities will be suspended during heavy precipitation events (i.e., at least 1/2-inch of precipitation in a 24-hour period) or when heavy precipitation events are forecast. If the construction manager must suspend work the construction manager will install drainage and erosion controls appropriate to site conditions, such as covering (tarping) stockpiled soils, mulching bare soil areas, and by constructing silt fences, straw bale barriers, fiber rolls, or other control structures around stockpiles and graded areas, to minimize runoff effects.

HYDRO-6: Construction activities extending into or occurring during the rainy season, or if an un-seasonal storm is anticipated, CSP staff will properly winterize the site by covering (tarping) any stockpiled materials or soils, mulching bare soil areas, and by constructing silt fences, straw bale barriers, fiber rolls, or other structures around stockpiles and graded areas.

HYDRO-7: Immediately following reconstruction, trails would be closed for a period following construction that allows for one wet- dry cycle (e.g. one winter's duration) to allow the soil and materials to settle and self-compact before the trail opens to the public. Routine maintenance will also be performed on the trail as necessary to reduce erosion to the extent possible and to repair weather-related damage that could contribute to erosion.

HYDRO-8: Treat rehabilitated trail segments that have less than a 50-foot natural buffer to stream channels with mulch applied to provide 50 percent to 70 percent surface coverage.

HYDRO-9: Salvage trees and brush removed prior to excavation for mulching bare soil areas after construction.

HYDRO-10: During dry, dusty conditions, all unpaved active construction areas will be wetted using water trucks, treated with a non-toxic chemical dust suppressant (e.g., emulsion polymers, organic material), or covered. Any dust suppressant product used must be environmentally benign (i.e., non-toxic to plants and shall not negatively impact water quality) and its use shall not be prohibited by the California Air Resources Board, U.S. EPA, or the SWRCB. Exposed areas will not be over-watered such that watering results in runoff. Unpaved areas subject to vehicle travel could also be stabilized through the effective application of wood chips, gravel, or mulch. The type of dust suppression method shall be selected by the contractor based on soil, traffic, and other site-specific conditions.

HYDRO-11: Excavation and grading activities will be suspended when sustained winds exceed 15 miles per hour (mph), instantaneous gusts exceed 25 mph, or when dust occurs from remediation related activities where visible emissions (dust) cannot be controlled by watering or conventional dust abatement controls.

HYDRO-12: Prior to the start of on-site construction activities, all equipment will be inspected for leaks and regularly inspected thereafter until equipment is removed from the project site. All contaminated water, sludge, spill residue, or other hazardous compounds will be contained and disposed of outside the boundaries of the site, at a lawfully permitted or authorized destination.

HYDRO-13: Staging and stockpile areas will be designated and/or located within the existing maintenance yard area or existing roads and campsites to prevent leakage of oil, hydraulic fluids, or other chemicals into lakes, streams, or other waterbodies.

HYDRO-14: Decontamination of equipment shall occur prior to delivery onto state park lands. Equipment shall be thoroughly inspected by the State's Representative upon delivery and may be rejected if in the opinion of the State's representative the equipment does not meet decontamination standards (defined elsewhere). Upon demobilization decontamination shall take place off-site.

HYDRO-15: All heavy equipment parking, refueling, and service will be conducted within designated areas outside of the 100-year floodplain to avoid watercourse contamination.

PROJECT DESIGN-RELATED MEASURES

HYDRO-16: Project planning will identify public water supply and Park water systems that could be affected. Persons responsible for the maintenance of these water systems will be consulted and if negative effects are anticipated, mutually agreeable mitigations will be developed.

HYDRO-17: CSP staff will install appropriate energy dissipaters and employ other erosion control measures at water discharge points, as appropriate.

HYDRO-18: Trails will be designed and constructed so that they do not significantly disrupt or alter the natural hydraulic flow patterns of the landform.

HYDRO-19: Trails located within 100-year flood hazard zones will be designed and constructed so that they do not significantly disrupt or alter natural flood flows.

HYDRO-20: Existing (altered) drainage patterns will be restored to pre-disturbance patterns. In some cases where pre-disturbance patterns cannot be restored, conversion work may require the realignment of a stream segment. To ensure that channel stability will be maintained, project planners will establish new drainage segments only after thorough review by a qualified geologist, geomorphologist, or hydrologist.

HYDRO-21: Install armored rock crossings at ephemeral drainages, micro drainages and swales to harden the trail tread in areas of potential interface between trail users and natural topographic drainage features.

HYDRO-22: Provide outslope to the trail tread and removing any outer edge berm to facilitate sheet flow off the trail where the dispersed flow can be filtered by vegetation and organic litter.

HYDRO-23: When outsloping trail surfaces is not feasible, such as steep linear trail grades, construct rolling dips to direct runoff safely off the trail to prevent buildup of surface runoff and subsequent erosion. Water bars will be used as a last resort, if outsloping and rolling dips or rerouting are not feasible or on trails receiving no use. Water bars will be constructed to divert water to controlled points along the trail and with rock armor at the downslope end for energy dissipation, where needed.

HYDRO-24: Install gravel surfacing on trail areas in areas with saturated or unstable soils, and on bridge approaches, to provide a stable tread surface.

HYDRO-25: Seasonally close trails to all users when soils are saturated and softened.

HYDRO-26: Install "pinch points" where necessary to reduce downhill bicycle speed and increase the line of sight at curves.

HYDRO-27: Construct or repair barriers at switchbacks to discourage shortcuts and the creation of volunteer trails.

HYDRO-28: CSP will provide educational signage and user safety plans in areas designated as flood-prone or within 100-year flood zones, coastal areas subject to tsunamis, areas adjacent to enclosed waterbodies that are susceptible to seiches, and areas at risk for mudflows.

3.8.11 NOISE STANDARD PROJECT REQUIREMENTS

N-1: Operation of noise-generating construction activity (equipment and power tools and haul truck delivery of equipment and materials) will abide by the time-of-day restrictions established by local jurisdictions (i.e., city and/or county) if such noise would be audible to receptors (e.g., residential land uses, schools, hospitals, places of worship) located in the applicable local jurisdictions. Cities and counties in California typically restrict construction-noise to particular daytime hours. If the local, applicable jurisdiction does not have a noise ordinance or policy restricting the time-of-day when noise-generating construction activity can occur, then noise-generating construction activity will be limited to the hours of 8:00 AM to 5:00 PM Monday through Friday.

N-2: All powered construction equipment and power tools will be used and maintained according to manufacturer specifications. All diesel- and gasoline-powered construction equipment will be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations.

N-3: Equipment engine shrouds will be closed during equipment operation.

N-4: All construction equipment and equipment staging areas will be located as far as possible from nearby noise-sensitive land uses (e.g., residential land uses, schools, hospitals, places of worship) located outside the park.

N-5: All motorized construction equipment will be shut down when not in use. Idling of equipment and haul trucks will be limited to 5 minutes.

N-6: No pile driving, blasting, or drilling will occur in areas that may adversely affect sensitive receptors outside the park unit.

N-7: Written notification of construction activities will be provided to any and all off-site noise-sensitive receptors (e.g., residential land uses, schools, hospitals, places of worship) located within 1,500 feet of locations where powered construction equipment and/or power tools will be operated. Notification will include anticipated dates and hours during which construction activities are anticipated to occur and contact information, including a daytime telephone number, of the project representative. Recommendations to assist noise-sensitive land uses in reducing interior noise levels (e.g., closing windows and doors) will also be included in the notification.

N-8: Construction activities involving heavy equipment (i.e., 50 horsepower [hp] or greater) will not operate within 50 feet of land uses that are potentially sensitive to ground vibration, including residential buildings, schools, hospitals, and places of worship. Heavy construction equipment will also not be operated within 30 feet of historically significant structures that could be vulnerable to structural damage from ground vibration, and known archaeological sites, that could be vulnerable to vibration-induced changes to the stratigraphic relations of the soil layers that are important to archaeological study.

3.8.12 POPULATION AND HOUSING STANDARD PROJECT REQUIREMENTS

AQ-17: The maximum number of construction worker-related commute trips for any change-in-use project at a park will not exceed 60 one-way worker commute trips per day.

3.8.13 PUBLIC SERVICES AND UTILITIES STANDARD PROJECT REQUIREMENTS

The Standard Project Requirements (SPRs) do not include a category of provisions specifically related to Public Services and Utilities management.

3.8.14 RECREATION STANDARD PROJECT REQUIRMENTS

The Standard Project Requirements (SPRs) do not include a category of provisions specifically related to recreation use management.

3.8.15 TRANSPORTATION AND TRAFFIC STANDARD PROJECT REQUIREMENTS

TRAN-1 In cases where addition of a use is proposed for trails within urban areas or immediately accessible by urban populations such that the new park users could meaningfully utilize the trails before or after normal weekday business hours (8 am to 5 pm), a designated CSP District staff person will, prior to implementing the change in use, first review the local jurisdiction's General Plan for guidance on level of service (LOS) changes, or Caltrans standards if the affected facilities are part of a state highway. If it is determined that (or uncertain whether) project traffic could potentially result in unacceptable LOS of local traffic facilities, CSP will coordinate with the applicable jurisdiction(s) that operate/maintain the traffic facilities in the vicinity of the trail heads and associated parking areas to determine the maximum number of peak hour trips that could be generated by the proposed additional use that would not cause significant adverse local traffic effects. If CSP demand projections identify an increase in visitation that would generate peak hour, weekday trips that exceed the maximum number of trips identified by the applicable agency, the proposed additional use would be disqualified from the proposed process and would require individual CEQA analysis, including project-specific traffic analysis. In addition, following implementation of the proposed additional use **[insert who]** will include follow-up consultation with the applicable agency as part of the Adaptive Use Management process to consider the actual traffic levels generated by the additional trail use and the LOS of the affected transportation facilities. If the increased trips generated by the additional trail users are found to exceed original projections and are also found to be causing an exceedance of applicable LOS standards, **[insert who]** will implement a management response to resolve the exceedance, in consultation with the applicable agency. Measures in the management response will include (but will not be limited to) public education actions to encourage visitation during non-peak traffic periods, restriction of the timing of certain types of trail use during peak traffic periods, altering the point(s) of access to transfer project-related traffic from impacted roadways/intersections to less constrained roadways/intersections, coordination with local transit operators to increase access to the trail, coordination with the local transportation department regarding improved bicycle connectivity (for addition of bicycle use), or a combination of these measures.

TRAN-2 For proposed addition of bicycle use, stop signs for cyclists will be installed at all locations where the trail crosses a roadway (including maintenance roads). Appropriate warning signs will be installed along the roadways and on pavement (as necessary) at the approach of bicycle crossings to warn drivers of potential crossing bicyclists.

TRAN-3 For proposed addition of equestrian use, **[insert who]** will ensure driveways/access points to parking facilities have adequate line-of-sight for horse trailers and that parking facilities are either designed to be "pull through" or include a designated "turn-around" for horse trailers (where vehicle parking is restricted). Parking and access for parking facilities accommodating vehicles with horse trailers will be designed per American Association of State Highway and Transportation Officials (AASHTO) standards.

TRAN-4 **[insert who]** will assess parking capacity prior to implementing a proposed change in use. After implementation of the change in use, CSP staff will monitor parking levels as part of the Adaptive Use Management process. If monitoring indicates an exceedance of parking capacity (i.e., increased use of undesignated on-street parking or increased illegal parking due to overflow of parking lot facilities), the **[insert who]** will implement a management response to resolve the parking capacity issue. Measures in the management response may include, but would not be limited to re-designing parking facilities (including minor parking lot expansions in areas where environmental resources will not be affected), installing parking meters and/or applying time limits, working with local transportation departments to increase nearby off-site parking availability, directing users to other existing lots, and/or working with local transit operators to increase transit to the trail facility. CSP District personnel will determine which actions are feasible at the park unit.

TRAN-5 Prior to initiating construction activities the construction manager will have a Construction Traffic Management Plan (CTMP), prepared by a qualified professional, that will provide measures to reduce potential traffic obstruction or service level degradation at affected traffic facilities. The scope of the CTMP will depend on the type, intensity, and duration of the specific construction activities associated with each qualifying change-in-use project under the Process. Measures included in the CTMP could include (but are not be limited to) construction signage, flaggers for lane closures, construction schedule and/or delivery schedule restrictions, etc. The CTMP will be submitted to the local Public Works Department.

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4 ENVIRONMENTAL SETTING, ENVIRONMENTAL IMPACTS, AND MITIGATION MEASURES

4.1 PROGRAMMATIC ENVIRONMENTAL IMPACT ANALYSIS APPROACH

4.1.1 PROGRAMMATIC LEVEL OF DETAIL

As noted in Chapter 3, Project Description, the Road and Trail Change-in-Use Evaluation Process (Process) would apply to change-in-use proposals that could occur at any state park, state recreation area, or state beach throughout California. The Process represents a program approach to evaluating and approving qualifying change-in-use proposals; the specific characteristics and locations of potential proposals are not known at this time. As such, the level of detail of the environmental impact analysis is also programmatic in that it addresses the full range of potential environmental effects of implementing the Process, but does not delve into specific project proposals or park units where a change-in-use proposal may occur. Environmental impact conclusions would be broadly applied to types of activities that would occur as a result of a proposed change in use, such as grading, trail feature construction, or changes in types of trail use. This approach is consistent with the State CEQA Guidelines provisions for a Program Environmental Impact Report (EIR), as described in Section 15168.

4.1.2 IMPACT ANALYSIS APPROACH

One of the objectives of the Process is to identify potential road and trail change-in-use projects in California State Parks (CSP) units that would be implemented in a manner that avoids or clearly mitigates potential significant effects on the environment. In other words, the Process will facilitate change-in-use proposals that would avoid significant effects on the environment through the incorporation of Standard Project Requirements (SPRs) and Project-Specific Requirements (PSRs) into the proposal description, or that would be clearly mitigated through the application of relevant mitigation measures from the Program EIR. Such change-in-use proposals would be within the scope of the Process and Program EIR and would be reviewed in accordance with State CEQA Guidelines Section 15168 (c-e) regarding use of a Program EIR with later activities.

This section explains the approach for conducting environmental impact analysis and determining the significance of environmental effects resulting from implementation of the Process. In doing so, it describes how the SPRs and PSRs are considered in the impact analysis and when it is appropriate to define mitigation measures for the change-in-use proposals.

ROLE OF SPRs AND PSRs IN THE CHANGE-IN-USE EVALUATION PROCESS

CSP has developed a list of potentially applicable SPRs that it has used for other projects throughout the State. They are environmental protection measures related to trail design, construction, or management that are intended to maintain potential environmental effects at less-than-significant levels. SPRs that are applicable to a change-in-use proposal are incorporated into its description prior to environmental review. Compliance with the SPRs is one of the criteria that qualify a change-in-use proposal for approval under the proposed Process. The SPRs are considered to be part of the proposed change-in-use project, because they are related to standard trail design features and use management actions or generally required construction management procedures. SPRs are listed in Chapter 3, Project Description, Section 3.8, CSP Standard Project Requirements - Road and Trail Change-In-Use Evaluation Process.

PSRs are features of the change-in-use proposal intended to protect the environment that are specific to the site, area, resources, or other conditions of an individual proposal, rather than generally applicable to projects statewide. Similar to the SPRs, the PSRs are incorporated into the proposal description prior to the project-level environmental review. Because PSRs are tailored to individual proposals, a centralized list of these requirements is not feasible to provide herein. These requirements are not known at this time, but would be identified at the time the description of an individual change-in-use proposal is being developed. Therefore, they are not considered in the determinations of environmental impacts at the general analysis level of the Program EIR.

IMPACT ANALYSIS AND DETERMINATION OF SIGNIFICANCE IN THE PROGRAM EIR

Under the proposed Process, CSP would determine a change-in-use project's effects on the environment after consideration of SPRs and PSRs incorporated into the project. For example, a change-in-use proposal may involve the potential removal of a tree, raising a question about potential effects to avian nesting habitat. Because an SPR prohibits the removal of trees large enough to be suitable for nesting habitat of specified bird species (unless a preconstruction survey confirms the tree is not suitable), that requirement, which is an environmental protection feature of the project description, would render the potential impact to avian nesting less than significant and no mitigation measure would be needed.

If an environmental impact cannot be avoided or maintained at a less-than-significant level after consideration of the SPRs and PSRs, then it would be a significant or potentially significant effect of implementing the Process and mitigation measures would be warranted, if feasible. For example, if an existing trail extends through wetland habitat and a change in use is proposed involving improvements to the trail surface, it would raise the question of potentially significant impacts to the wetland. The applicable SPR states that the proposal "will avoid or minimize impacts to federally protected wetlands to the extent practicable by conducting work in upland areas." If the trail alignment cannot avoid the wetland, and trail design can minimize but not eliminate significant effects on the wetland, the residual effect after considering SPRs may remain significant or potentially significant. In this case, wetland permitting would be required, which could result in the need for compensatory actions, such as restoration or enhancement of a wetland elsewhere in the park unit. This compensatory response to the significant impact would be adopted as a mitigation measure in the Program EIR. In this circumstance, the significance conclusion in the Program EIR would be "potentially significant" before mitigation and "less than significant" after considering the compensatory mitigation. Projects with effective compensatory mitigation, such as in this example, would remain in the Process for CSP review and approval. Because the potentially significant wetland impact and mitigation are included in the Program EIR, CSP could later apply the wetland mitigation approach to relevant, individual change-in-use proposals that are consistent with the Process and Program EIR. By complying with SPRs and adopting the mitigation measure, this example project would remain within the scope of the Process and the Program EIR.

If an environmental impact cannot be avoided or maintained at a less-than-significant level after consideration of the SPRs and PSRs and feasible mitigation is not available to clearly avoid the significant or potentially significant effect or reduce it to insignificance, the potential for an unavoidable significant impact would disqualify the change-in-use proposal from being approved and carried out through the Process. As a result of the disqualification, the prospect of an unavoidable significant environmental effect resulting from implementation of the Process would be precluded. If a District wished to further pursue the change in use, it would need to initiate a separate, project-specific planning and environmental review process, including appropriate CEQA documentation, likely a project EIR. The District could use this Program EIR analysis to address less-than-significant environmental impacts that apply to the individual project, so there would be no need for redundant evaluation; the project-level CEQA document could focus on the potentially significant impacts that are not addressed in the Program EIR or that remain potentially unavoidable after application of SPRs, PSRs, and Program EIR mitigation measures.

ANALYSIS OF IMPACTS RELATED TO NUMBER OF TRAIL USERS AND THE ROLE OF ADAPTIVE USE MANAGEMENT

While CSP expects that the number, timing, and use pattern of trail users would not change substantially over the long-term as a result of a change-in-use proposal (because the Process only involves existing trails and does not increase trail use opportunities, and other factors with a strong, long-term influence on use levels do not change, such as distance to user populations), it recognizes that there is uncertainty. Therefore, the proposed Process includes Adaptive Use Management (AUM) as an SPR designed to monitor and correct, if necessary, user-created trail effects. AUM involves a standard procedure of defining (1) use levels and use and resource conditions as a baseline during the preparation of the change-in-use survey at the start of the Process and (2) performance standards for maintaining use at levels that do not result in significant effects on the environment. The performance standards would be tailored to each change-in-use proposal and its park unit. They would describe desired use and resource conditions necessary to maintain impacts at less-than-significant levels. All performance standards would relate to use conditions or resources that are observable in the field by park staff.

Qualified CSP staff would inspect the trail and associated use areas that are affected by a change-in-use proposal. If staff observed adverse resource conditions, they would note any degradation that exceeds the performance standard, and the response or remedial actions recommended to resolve the issue. A follow-up inspection would occur after remedial actions were implemented. If after re-inspection, park staff determines the remedy to be effective, no further action would be required for that issue. If CSP staff is unable to remedy an identified issue, a Superintendent’s Order could be used to immediately reduce user types, seasonally or permanently close the road or trail, rescind the change in use temporarily or permanently, and/or any other action deemed necessary to protect the affected resource or use condition and maintain any adverse effect at a less-than-significant level. As a result of the AUM process, the prospect of significant adverse effects from increases in use or changes in use timing or pattern would be precluded.

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4.2 AESTHETICS AND VIEWS

This section evaluates the potential for projects that qualify for approval under the proposed Road and Trail Change-In-Use Evaluation Process (Process) to adversely affect existing scenic resources and views, as well as potential degrade of the existing visual character of the landscape surrounding change-in-use projects. This section also examines potential impacts related to light and glare. Cumulative impacts related to aesthetics and views are addressed in Section 6.1.2, Cumulative Impacts by Resource Topic, of this Program EIR.

4.2.1 ENVIRONMENTAL SETTING

The landscape of California is one of the world's most scenically diverse. As shown in Exhibits 4.2-1 through 4.2-4, CSP units are located in most geomorphic and ecological regions; therefore, the visual setting of CSP units varies nearly as widely as the visual setting of the State, itself. CSP units are located in the high deserts, low deserts, temperate rainforests, salt marshes, grasslands, wetlands, chaparral, oak woodlands, plateaus, montane forests, subalpine and alpine regions, sandy beaches, rocky coastline, and even dense urban areas. Some CSP units have ocean views; some have lake views; some have mountain views; and some have expansive views from hilltops, ridgelines, and mountaintops. Because CSP units exhibit such a diverse visual setting, it is not feasible to attempt to describe every specific visual resource at every CSP unit. This environmental setting discussion will instead focus on two general aspects of visual resources: scenic views (generally panoramic, but sometimes more limited views, either of a notable feature or sweeping landscape) and visual character (defining features of a place, such as trees and other flora, water and other geologic features, and cultural features).

SCENIC VIEWS

For the purposes of this discussion, scenic views are considered to be the visual environment experienced beyond an observer's immediate surroundings. Scenic views are often available along trails and roads. For a hiker or rider, a scenic view would not include only the trail or road, or the terrain immediately surrounding the trail or road, but any high-quality, more distant, often panoramic view.

The California Department of Transportation (Caltrans) Scenic Highway Program identifies over 50 eligible and officially designated scenic routes (Caltrans 2011). Some of these scenic routes pass through state parks. According to the Scenic Highway Program eligibility criteria, the eligible highway should, regardless of the particular landscape region, traverse an area with outstanding scenic view quality that contains striking views of flora, geology, or other unique natural attributes. Caltrans uses three specific criteria for assessing the visual quality of scenic views:

- Vividness - The extent to which the landscape is memorable. This is associated with the distinctiveness, diversity, and contrast of visual elements. A vivid landscape makes an immediate and lasting impression on the viewer.
- Intactness - The integrity of "visual order" in the landscape, which is the extent to which the natural landscape is free from visual intrusions. If all of the various elements of a landscape appear to "belong" together, there will be a high level of intactness.
- Unity - The extent to which visual intrusions are sensitive to and in visual harmony with the natural landscape. Unity, in other words, represents the degree to which the visual elements maintain a coherent visual pattern.

With respect to state parks, there are many more scenic views apart from those visible from a State Scenic Highway. In fact, these scenic vistas are often a trail user's destination. But the state scenic highway program criteria nevertheless provide a useful organizing concept for discussing the quality of scenic views.

CSP's mission includes protecting the state's most valued natural and cultural resources and creating opportunities for high-quality outdoor recreation. Because CSP units generally encompass large areas of land that have been selected based on their natural and/or cultural resources values, and this land is protected from unwarranted development, it is quite common for scenic views within CSP units to exhibit high levels of vividness, intactness, and unity in the landscape. Also, landscape characteristics of units in the State Parks System are diverse, distinctive, and naturally attractive. Considered as a whole, scenic views at CSP units generally exhibit high scenic quality.

Exhibits 4.2-1, 4.2-2, 4.2-3, and 4.2-4 show samples of the diverse landscape characteristics and scenic views located within CSP units. The purpose of these photographs is to illustrate the wide range of views and scenic landscapes in the State Parks System.

The other type of relevant scenic view is where a trail user at the CSP unit observes the surrounding landscape. In this instance, the observer is at the CSP facility and the scenic view may or may not include portions of the CSP unit. For example, an observer at a mountain may experience a broad and expansive scenic view composed mostly of the foothills and valley floor (which may not include CSP land). Specific examples of these scenic views at CSP units are provided in Exhibit 4.2-2. Note that these scenic views are generally observed from relatively high vantage points. It is important to distinguish between these two types of scenic views, because impacts to these views generally occur in different ways. An impact to scenic views of a CSP unit would occur, if a major construction project altered the landscape of the park in a manner that would be visible from a distance. An impact to scenic views observed from a CSP trail could result from smaller changes, including installation of utility poles that intrude into or obstruct a view, or a trail realignment that changes its location in relation to an existing scenic view observation point.

VISUAL CHARACTER

Whereas scenic views involve the observers looking beyond their current location, visual character is related to the landscape surrounding the location of the observer (although the scenic views do help define the visual character of a place). The observers more intimately experience the visual character of a place. It defines their immediate environment—the rocks, the trees, the lake, the waterfalls. As indicted above, CSP units are located throughout California's highly diverse landscape. Therefore, it is not practical to discuss the specific characteristics of each facility. However, the general categories of characteristics that define the character of the CSP units are all the same: trees and other flora, water bodies, topography, and other physical features, and cultural features (human-made features including historic structures and artifacts, as well as urban development).

Similar to the scenic views associated with CSP units, CSP preserves and protects the most valuable natural and cultural resources of the state. The visual character of CSP units tends to be high quality. In general, the visual character of CSP roads and trails tend to be higher quality, crossing remote and sometimes more pristine settings, particularly if the trail provides access to a scenic destination.

Exhibit 4.2-1 Examples of Scenic Views of CSP Units

Exhibit 4.2-2

Examples of Scenic Views from CSP Trails

Exhibit 4.2-3

Examples of Visual Character at CSP Units

Exhibit 4.2-4 Examples of Visual Character at CSP Units

LIGHT AND GLARE

Light impact in this discussion refers to unnatural nighttime lighting, which may intrude into sky darkness when added to an area that currently contains little or no artificial lighting. Glare refers to unnatural light or reflected natural light that creates annoyance. Levels of light and glare vary widely among CSP units. Trails are often located in remote areas with substantially dark skies; urban trails often align along natural landscapes where proximate lighting is reduced, but not absent, and urban sky glow may be present. (Sky glow is area-wide, illumination of the night sky from human-made light sources.) Lighting and glare levels tend to be much lower in the vicinity of trails. For the most part, CSP trail use occurs during daylight hours, because trails and roads in park units are generally closed between sunset and sunrise, except to campers. Trail lighting is not typical for most CSP units (with exception of some urban trails). After sunset, a camper using a trail or road would typically supply personal lighting (i.e., flashlights, headlamps, bike lights, etc.). These light sources are generally small and not conspicuous when seen from moderate to long distances.

For these reasons, CSP units, especially trails within these units, do not typically generate substantial light pollution and, therefore, do not contribute to sky glow or adversely affect the night-sky visibility.

Apart from urban trails, glare from sunlight reflecting off of surfaces (not including natural surfaces such as water or snow) is not generally an issue on CSP trails. Even in urban areas, trails tend to enter the natural landscape where sources of glare would typically be minimal.

Section 4.4, Terrestrial Resources, of this EIR analyzes the potential impacts that nighttime trail-user lighting may have on wildlife as a result of implementing the Process.

4.2.2 REGULATORY SETTING

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

No federal plans, policies, regulations, or laws relating to visual resources are applicable to the proposed Process.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

CALTRANS SCENIC HIGHWAY PROGRAM

Caltrans manages the California Scenic Highway Program. The goal of the program is to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to highways. Some of the scenic routes pass through CSP units.

CALIFORNIA STATE PARKS DEPARTMENTAL OPERATIONS MANUAL (DOM)

DOM Section 0312 addresses CSP's policies on Aesthetics and guides the management of the aesthetic resources under its jurisdiction. Visual elements of aesthetic resources include Sense of Place; Scenic Values and Viewsheds; and Scenic Protection Policies; Lightscape and Lightscape Protection Policy. The most relevant DOM provisions relate to protection of scenic values, viewsheds, and lightscapes.

DOM 0312.2, Scenic Values and Viewsheds, indicates that the principal objective in the management of scenic areas is preservation of the quality of the visual environment. Specific objectives in scenic resource management include the following:

- Identify and protect scenic resources and qualities;
- Avoid or minimize modifications to scenic resources;
- Remove intrusive human-made elements that are not significant cultural resources, including intrusive light and noise;
- Where modifications of scenic resources are necessary, design attractive structures, subordinate to the character of their surroundings and that appear to belong to their setting, in sympathy with the sense of place;
- Locate structures in the background as much as possible, isolated from primary views;
- Utilize visually harmonious materials, colors, textures, and scale that blend into and are subordinate to their landscape's background.

DOM 0312.3.1, Lightscape Protection, seeks to prevent the loss of dark conditions and of natural night skies, by enlisting the cooperation of park visitors, neighbors, and local government agencies to prevent or minimize the intrusion of artificial light into the night scene of the ecosystems of parks. CSP will not use artificial lighting in sensitive locations where the presence of the artificial lighting will disrupt dark-dependent natural resource components of a park. CSP will also:

- Restrict the use of artificial lighting in parks to those areas where security, basic human safety, and specific cultural resource requirements must be met;
- Utilize minimal impact lighting techniques;
- Shield the use of artificial lighting where necessary to prevent the disruption of the night sky, natural cave processes, physiological processes of living organisms, and similar natural processes; and
- Participate in the review process for developments adjacent to parks that may create impacts from lighting.

4.2.3 SIGNIFICANCE CRITERIA

Criteria for determining the significance of impacts related to visual resources are based on the environmental checklist form in Appendix G of the State CEQA Guidelines and mandatory findings of significance. Adverse impacts to aesthetics and views would be considered significant, if a project would:

- Have a substantial adverse effect on a scenic view?
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
- Substantially degrade the existing visual character or quality of the site and its surroundings?
- Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

4.2.4 IMPACT ANALYSIS METHODS AND APPLICABLE PROJECT REQUIREMENTS

IMPACT ANALYSIS METHODS

Taken as a whole, CSP units generally exhibit high-quality scenic views and visual character. This environmental analysis involves evaluating the various potential visual outcomes of change-in-use projects that would be approved under the proposed Process to allow different user types (including necessary minor trail modifications/improvements) and the potential impacts these projects could have on scenic views and existing visual character associated with CSP units.

This analysis will also evaluate the potential for new road and trail users and associated modifications and improvements to emit light or glare, and whether any potential light or glare emission could adversely affect sensitive receptors or result in substantial sky glow.

APPLICABLE STANDARD AND PROJECT-SPECIFIC REQUIREMENTS

The following Standard Project Requirements (SPRs) are related to aesthetics and could apply to qualifying projects under the proposed Process. Because SPRs would be applicable at all park units for an array of change-in-use project scenarios, placeholders are provided in several of the SPRs (such as for responsible parties), so that, depending on the location and type of project and associated resource issues, the requirement can be applied to specific projects and associated responsible parties. Note that although SPR AES-1 includes references to buildings, no new buildings would be included as part of implementation of the proposed Process, and no existing buildings would be altered.

AES-1 Projects will be designed to incorporate appropriate scenic and aesthetic values of the CSP unit, including the choices for: specific building sites, scope and scale; building and fencing materials and colors; use of compatible aesthetic treatments on pathways, retaining walls or other ancillary structures; location of and materials used in parking areas, campsites and picnic areas; development of appropriate landscaping. The CSP unit scenic and aesthetic values will also consider views into the park from neighboring properties.

AES-2 **[Insert who]** will store all project-related materials outside of the viewshed of **[insert name of street/place/building]**.

4.2.5 ENVIRONMENTAL IMPACTS OF THE PROCESS

This section will first provide an overview of types of changes in use and the specific impact mechanisms expected to result in direct and indirect aesthetic effects on visual resources. Significance will be determined after considering SPRs.

IMPACT 4.2-1 **Obstruction or Degradation of Scenic Views.** The proposed Process includes adding or removing non-motorized user types to or from existing CSP roads or trails and could involve minor modifications to the road or trail. These minor modifications would not include buildings or other structures that could either obstruct an existing view from a CSP road or trail or degrade an existing view of a CSP unit or feature. The proposed Process would not result in major physical alteration of an existing road or trail alignment such that existing views are no longer accessible to existing user types. The placement of new user types on an existing CSP road or trail would not substantially alter scenic views of the trail as seen from elsewhere in a CSP unit or as viewed from the trail. In addition, adding other user types, visitor access to scenic views could be increased and/or diversified to other trail users. Furthermore, implementation of SPRs AES-1 and AES-2 would maintain any temporary construction-related impacts to scenic views at less-than-significant levels, and would ensure that any materials used in trails modification would fit appropriately within the existing landscape. The impact to scenic views is considered **less than significant.**

As described above, scenic views are both from existing CSP trails (i.e., views of a valley floor from a mountain trail) or views of a CSP trail. Impacts to scenic views from existing CSP trails would occur if an obstruction, such as a building or utility pole, were placed in the line-of-sight of CSP trail users that currently experience the scenic vistas. Impacts could also occur if the trail alignment was altered to the degree that the existing views are no longer accessible. Impacts to scenic views of existing CSP units would occur if a conspicuous structure were to be placed in a visually prominent location that is currently part of a scenic view, or if the landscape were to be substantially altered (e.g., removal of large sections of forest or geologic features), such that the scenic view would be substantially degraded. None of these potential outcomes would occur for road or trail change-in-use proposals qualifying for approval under the proposed Process.

The proposed Process involves placement (or removal) of new user types on (or from) existing CSP roads and trails. All CSP roads and trails currently open to the public are accessible to hikers. Minor trail modifications could be associated with a qualifying project under the Process (e.g., addition of design features and BMPs, minor widening, minor alignment shift); however, projects that propose buildings or other conspicuous structures would not qualify under the Process. Furthermore, SPRs AES-1 and AES-2 would ensure that design and materials of road and trail modifications are consistent with the surrounding visual setting, including scenic views, and that equipment and materials storage during construction occur outside existing scenic viewsheds.

The views of CSP trails would not be substantially altered by the addition of user types from existing roads and trails because the users, if visible from outside of the immediate area at all, would generally not create a noticeable change of the overall scenic landscape, and at such distances, the specific user types would hardly be discernible. The addition of user types to an existing CSP road or trail would not alter existing scenic views either “from” or “of” existing CSP trails. In fact, to the extent that the quality of a scenic view is a function of the number and diversity of people who view it, providing access to these high quality scenic views for a greater diversity of user types enhances the public’s perception of the quality of the scenic views. With implementation of SPR AES-1 and AES-2, this impact is **less than significant**.

IMPACT 4.2-2	**Degradation of Visual Character or Features.** Projects qualifying for approval under the proposed Process would, at most, include minor physical alterations to existing CSP roads and trails. Under the Process, physical changes would be limited to minor trail widening or realignment, installation of BMPs, and other minor design improvements. Design improvements would avoid tree removal to the extent feasible, especially trees over 24-inches in diameter (according to SPR BIO-18). Furthermore, qualifying projects would not require removal or major alteration of existing landscapes or geologic features and the addition or removal of a user type from an existing road or trail would not substantially change visual character. The impact is **less than significant.**

The visual character of CSP units throughout the State varies greatly and generally exhibits high scenic quality, In many cases, important visual features (i.e. specimen trees, major rock outcroppings, waterfalls and other water bodies, etc.) enhance the visual character of trails in park units.

The proposed Process involves changing the allowed use of CSP trails to add or remove user types (e.g., bicyclists and/or equestrians) to trails undergoing evaluation through the Process. All trails currently allow at least hikers, and increasing or decreasing the diversity of user types would not substantially change the visual character of existing trails. The appearance of hikers, bicyclists, and equestrians are all common components of the landscape of the State Park System, so the addition of one of these uses on a trail would not be a substantial change in scenic characteristics of a park unit. Other power-driven mobility devices (OPDMDs) are already allowed on suitable trails, consistent with CSP policy, and the proposed change-in-use process would not change trail suitability or locations of the use of OPDMDs.

To accommodate additional user types, minor trail modifications, including potential minor realignments could be necessary. These trail improvements would be designed to minimize effects to the physical environment. For example, SPR BIO-18 requires minimizing removal of native trees, and avoidance of trees over 24 inches in diameter. Also, qualifying projects would be designed to avoid substantial alteration to existing geological features and water bodies (see HYDRO and GEO SPRs). Therefore, qualifying projects would not substantially affect the existing visual character or features of the scenic landscape. Furthermore, SPR AES-1 and AES-2 would ensure that design of and materials used for trail modifications would be consistent with the surrounding visual character, and that equipment and materials stored during construction would occur outside prominent viewsheds. Implementation of the proposed Process would result in a **less-than-significant** impact related to visual character and features.

IMPACT 4.2-3	**Increased Light or Glare.** Because most CSP roads and trails either occur in remote areas or traverse into the natural landscape if they are located in more urban areas, they are located mostly in natural settings with few structures. Therefore, levels of daytime glare and night lighting are generally low. The proposed Process would add or remove additional user types (e.g., bicyclists and/or equestrians) to existing roads and trails. The proposed Process would not result in the construction of buildings or large structures, although minor road or trail improvements could be necessary to accommodate the new user types. No additional permanent lighting is included in the facilities allowed to be implemented under the proposed Process. Roads and trails in CSP units are generally closed from sunset to sunrise, so nighttime use would be limited to overnight visitors (e.g., campers). None of the trail user types typically generate large quantities of light or glare (i.e., limited to headlamps, bike lanterns, or hand-held flashlights), and light and glare levels would be expected to remain substantially the same as existing conditions. Therefore, impacts associated with light and glare would be **less than significant.**

CSP units are usually located in rural or remote areas, in natural settings, and away from urbanization, or when in an urban setting the trails would typically extend into more natural landscapes without immediately proximate lighting. Exceptions do exist; however, trails in more urbanized areas would be less sensitive to increased light and glare than CSP units located in areas with low lighting levels and very few reflective surfaces. Therefore, the following discussion remains conservative (i.e., tending to overstate impacts) by focusing on rural and remote, light-sensitive CSP units.

Permanent lighting is not included as a potential improvement eligible for approval under the proposed Process. Therefore, no light and glare impacts would occur from the installation of building lights, parking lot lights, or fixed trailhead or trail lighting. If these improvements were sought by a District, they would follow the regular CEQA review process to determine environmental impacts.

Nighttime trail use is generally not permitted in the State Park System, because parks are closed between sunset and sunrise and the majority of trailhead parking areas close to users at dusk or the arrival of darkness. Nighttime trail use would be limited to overnight visitors, such as those camping in the park. Regardless, night lighting equipment used by hikers and bicyclists (headlamps, flashlights, bike lanterns, etc.) generally emits very little light, typically enough to see 10-20 feet of trail. The proposed Process would allow the removal of existing users or addition of new users (e.g., bicyclists and/or equestrians) to an existing road or trail; however, the presence of nighttime lighting would not change substantially, because nighttime road and trail use policy would remain the same with a change-in-use project (i.e., generally closed to nighttime use, except by overnight visitors). New trail users types would also employ the same types of lights as current users, i.e., those intended for the purpose of trail visibility.

Minor design modifications would be necessary in some instances to accommodate new user types. However, no large, conspicuous structures would be constructed or permanent light sources installed for projects qualifying for approval under the Process. Construction would occur only during daytime hours. Therefore, no temporary impacts from construction lighting would occur. Overall, lighting and glare generated by qualifying projects approved under the proposed Process would not change substantially from existing conditions. This impact would be **less than significant**.

4.2.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With integration of SPRs, the aesthetic and view impacts of a change-in-use project completed under this Process would be less than significant. Mitigation measures are not required. If a change-in-use proposal could not maintain aesthetic and view impacts at less-than-significant levels with SPRs, it would be disqualified from approval using this Process. If CSP pursued such a project further, the District would conduct a separate CEQA review process.

4.3 AIR QUALITY

This section describes the existing air quality conditions, applicable federal and State regulations, and includes an analysis of potential short- and long-term impacts to air quality. Cumulative air quality impacts are addressed in Section 6.1.2, Cumulative Impacts by Resource Topic, in Chapter 6, Cumulative and Growth-Inducing Impacts

4.3.1 ENVIRONMENTAL SETTING

Air quality is determined by such natural factors as topography, climate, and meteorology, in addition to the presence of air pollution sources. These factors are discussed separately below.

TOPOGRAPHY, METEOROLOGY, AND CLIMATE

Geographically, California is very diverse including 840 miles of coastline, many forests, lakes, rivers, valleys, and mountain ranges. Major rivers include the Sacramento, San Joaquin, and Colorado. Major Lakes include Lake Tahoe, Salton Sea, and Owens Lake. Elevation varies greatly in California from Mt. Whitney at 14,494 (highest mountain in contiguous 48 states) to 282 feet below sea level at Death Valley (lowest point in the United States).

The State can be distinguished by the Central Valley located in the middle of the State and surrounded by various mountain ranges. Multiple coastal mountain ranges lie to the west of the Central Valley, the Sierra Nevada to the east, the Cascade Range to the north, and the Tehachapi Mountains to the south. California also has expansive deserts such as the Mojave Desert located in southern California, and vast forests of Redwood and Douglas fir located in the northwest portion of the state.

The geographic features of the State affect the direction of air flow and, thus, directly affect the distribution and transportation of air pollutants. For example, air above low-lying land that is surrounded by mountains would collect more air pollutants as the wind flow hits the mountain range.

California has a Mediterranean climate characterized by hot, dry summers and cool, rainy winters with some portions of the State experiencing more extreme temperature differences than others. For example, coastal portions of the State often experience summer fog, as a result of the cool currents from the Pacific Ocean, and more moderate temperatures, whereas inland portions of the State such as the Central Valley experience more extreme temperature differences. Precipitation in California generally occurs in the winter months and typically the northern regions of the State experience more average annual rainfall than the southern portions of the State (Allan Carpenter and Carl Provorse, 1998).

EXISTING AIR QUALITY

CRITERIA AIR POLLUTANTS

Concentrations of emissions of criteria air pollutants (CAPs) are used to indicate the quality of the ambient air because these are the most prevalent air pollutants known to be deleterious to human health. A brief description of each criteria air pollutant is provided below. Emission source types and health effects are summarized in Table 4.3-1.

Table 4.3-1 Sources and Health Effects of Criteria Air Pollutants			
Pollutant	**Sources**	**Acute[1] Health Effects**	**Chronic[2] Health Effects**
Ozone	Secondary pollutant resulting from reaction of ROG and NO_X in presence of sunlight. ROG emissions result from incomplete combustion and evaporation of chemical solvents and fuels; NO_X results from the combustion of fuels	increased respiration and pulmonary resistance; cough, pain, shortness of breath, lung inflammation	permeability of respiratory epithelia, possibility of permanent lung impairment
Carbon monoxide (CO)	Incomplete combustion of fuels; motor vehicle exhaust	headache, dizziness, fatigue, nausea, vomiting, death	permanent heart and brain damage
Nitrogen dioxide (NO_2)	combustion devices; e.g., boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines	coughing, difficulty breathing, vomiting, headache, eye irritation, chemical pneumonitis or pulmonary edema; breathing abnormalities, cough, cyanosis, chest pain, rapid heartbeat, death	chronic bronchitis, decreased lung function
Sulfur dioxide (SO_2)	coal and oil combustion, steel mills, refineries, and pulp and paper mills	Irritation of upper respiratory tract, increased asthma symptoms	Insufficient evidence linking SO_2 exposure to chronic health impacts
Respirable particulate matter (PM_{10}) and fine particulate matter ($PM_{2.5}$)	fugitive dust, soot, smoke, mobile and stationary sources, construction, fires and natural windblown dust, and formation in the atmosphere by condensation and/or transformation of SO_2 and ROG	breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, premature death	alterations to the immune system, carcinogenesis
Lead	metal processing	reproductive/ developmental effects (fetuses and children)	numerous effects including neurological, endocrine, and cardiovascular effects

Notes: NO_X = oxides of nitrogen; ROG = reactive organic gases.
[1] "Acute" refers to effects of short-term exposures to criteria air pollutants, usually at relatively high concentrations.
[2] "Chronic" refers to effects of long-term exposures to criteria air pollutants, even at relatively low concentrations.
Sources: EPA 2011a.

OZONE

Ozone is a photochemical oxidant (a substance whose oxygen combines chemically with another substance in the presence of sunlight) and the primary component of smog. Ozone is not directly emitted into the air but is formed through complex chemical reactions between precursor emissions of reactive organic gases (ROG) and oxides of nitrogen (NO_X) in the presence of sunlight. ROG are volatile organic compounds that are photochemically reactive. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. NO_X are a group of gaseous compounds of nitrogen and oxygen that result from the combustion of fuels.

Emissions of the ozone precursors ROG and NO_X have decreased over the past several years because of more stringent motor vehicle standards and cleaner burning fuels. During the last 20 years the maximum amount of ROG and NO_X over an 8-hour period decreased by 17 percent. However, most counties in California are in nonattainment for ozone. Refer to Table 4.3-2 for details regarding the attainment status of ozone throughout California.

Table 4.3-2 Summary of California Air Quality Standards Attainment Status by County

County	Ozone	Respirable Particulate Matter (PM_{10})	Fine Particulate Matter ($PM_{2.5}$)
Alameda	U	N	N
Alpine	N	N	A
Amador	N	N	U
Butte	N	N	N
Calaveras	N	N	U
Colusa	N_T	N	A
Contra Costa	N	N	N
Del Norte	A	N	U
El Dorado	N	N	U
Fresno	N	N	N
Glenn	N	N	U
Humboldt	A	N	U
Imperial	N	N	U
Inyo	N	N	A
Kern	N	N	N_P
Kings	N	N	N
Lake	A	A	A
Lassen	A	N	U
Los Angeles	N	N	N_P
Madera	N	N	N
Marin	N	N	N
Mariposa	N	U	U
Mendocino	A	N	U
Merced	N	N	N
Modoc	A	N	U
Mono	N	N	A
Monterey	N	N	A
Napa	N	N	N
Nevada	N	N	U
Orange	N	N	N
Placer	N	N	N_P
Plumas	U	N	N_P
Riverside	N	N	N_P
Sacramento	N	N	N
San Benito	N	N	A
San Bernardino	N	N	N_P

Table 4.3-2 Summary of California Air Quality Standards Attainment Status by County			
County	Ozone	Respirable Particulate Matter (PM_{10})	Fine Particulate Matter ($PM_{2.5}$)
San Diego	N	N	N
San Francisco	N	N	N
San Joaquin	N	N	N
San Luis Obispo	N	N	A
San Mateo	N	N	N
Santa Barbara	N	N	U
Santa Clara	U	N	N
Santa Cruz	N	N	A
Shasta	N	N	A
Sierra	U	N	U
Siskiyou	A	A	U
Solano	N	N	N
Sonoma	N_P	N_P	N_P
Stanislaus	N	N	N
Sutter	N_T	N	A
Tehama	N	N	U
Trinity	A	N	U
Tulare	N	N	N
Tuolumne	N	U	U
Ventura	N	N	N
Yolo	N	N	U
Yuba	N_T	N	A

Notes:
N = Nonattainment; NT = Nonattainment-Transitional (i.e., A subcategory of the nonattainment designation that signals progress and implies the area is nearing attainment.); NP = Some portion of the county is classified as Nonattainment; A = Attainment; U = Unclassified (i.e., Any area that cannot be classified on the basis of available information as meeting or not meeting the CAAQS.)
All counties in California are designated as unclassified or in attainment with the CAAQS for CO, SO2, sulfates, and visibility reducing particulate matter. All counties in California are designated as unclassified or in attainment with the CAAQS for NO2 except for portions of Los Angeles and San Bernardino counties. All counties in California are designated as unclassified or in attainment with the CAAQS for lead except for portions of Los Angeles County. All counties in California are designated as unclassified or in attainment with the CAAQS for hydrogen sulfide except for portions of San Bernardino County.
Source: ARB 2011

Nitrogen Dioxide

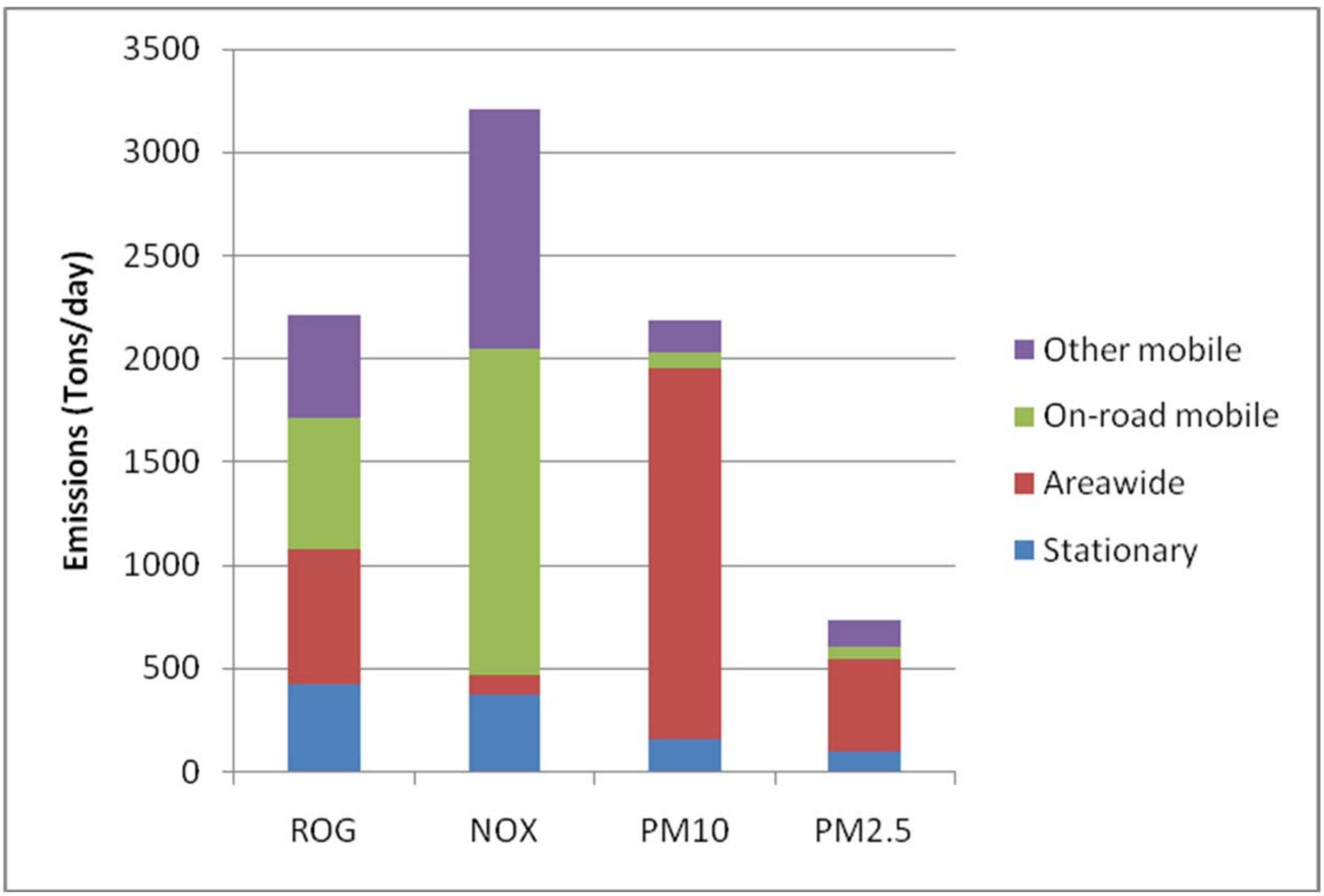
Nitrogen dioxide (NO_2) is a brownish, highly-reactive gas that is present in all urban environments. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO_2. The combined emissions of NO and NO_2 are referred to as NO_X and are reported as equivalent NO_2. Because NO_2 is formed and depleted by reactions associated with photochemical smog (ozone), the NO_2 concentration in a particular geographical area may not be representative of the local sources of NO_X emissions (EPA 2011a).

Particulate Matter

Respirable particulate matter with an aerodynamic diameter of 10 micrometers or less is referred to as PM_{10}. PM_{10} consists of particulate matter emitted directly into the air, such as fugitive dust, soot, and smoke from mobile and stationary sources, construction equipment, fires and natural windblown dust, and particulate matter formed in the atmosphere by reaction of gaseous precursors (ARB 2009: p. 1-12). Fine particulate matter ($PM_{2.5}$) includes a subgroup of smaller particles that have an aerodynamic diameter of 2.5 micrometers or less. PM_{10} emissions in California are dominated by emissions from area sources, primarily fugitive dust from vehicle travel on unpaved and paved roads, farming operations, construction and demolition, and particles from residential fuel combustion. Direct emissions of PM_{10} have increased slightly in California over the last 20 years, and are projected to continue. $PM_{2.5}$ emissions have remained relatively steady over the last 20 years and are projected to increase slightly through 2020. Emissions of $PM_{2.5}$ are dominated by the same sources as emissions of PM_{10} (ARB 2009: p. 3-12 - 3-15).

Emissions Inventory

Exhibit 4.3-1 summarizes emissions of criteria air pollutants within California for various source categories. According to California's emissions inventory, mobile sources are the largest contributor to the estimated annual average for air pollutant levels of ROG and NO_X accounting for approximately 51 percent and 86 percent respectively, of the total emissions. Areawide sources account for approximately 89 percent and 73 percent of California's PM_{10} and $PM_{2.5}$ emissions, respectively (ARB 2008).



Source: ARB 2008

Exhibit 4.3-1 **California 2008 Emissions Inventory**

TOXIC AIR CONTAMINANTS (TACS)

Concentrations of toxic air contaminants (TACs) are also used to indicate the quality of ambient air. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

According to the *California Almanac of Emissions and Air Quality* (ARB 2009), the majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most predominant being particulate-exhaust emissions from diesel-fueled engines (diesel PM). Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emissions control system is being used. Unlike some TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, the California Air Resources Board (ARB) has made preliminary concentration estimates based on a PM exposure method. This method uses the ARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of diesel PM. In addition to diesel PM, the TACs for which data are available that pose the greatest existing ambient risk in California are benzene, 1, 3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene.

Diesel PM poses the greatest health risk among these 10 TACs mentioned. Since 1990, the health risk associated with diesel PM has been in California has reduced by 52 percent. Overall, levels of most TACs, except para-dichlorobenzene and formaldehyde, have decreased since 1990 (ARB 2009: Chapter 5).

ODORS

Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell very minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; an odor that is offensive to one person may be perfectly acceptable to another (e.g., fast food restaurant). It is important to also note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word strong to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

NATURALLY OCCURRING ASBESTOS

Naturally occurring asbestos (NOA) was identified as a TAC in 1986 by ARB. NOA is located in many parts of California, and is commonly associated with ultramafic rocks, according to a special publication published by the California Geological Survey (Churchill and Hill 2000). Asbestos is the common name for a group of naturally occurring fibrous silicate minerals that can separate into thin but strong and durable fibers. Ultramafic rocks form in high-temperature environments well below the surface of the earth. By the time they are exposed at the surface by geologic uplift and erosion, ultramafic rocks may be partially to completely altered into a type of metamorphic rock called serpentinite. Sometimes the metamorphic conditions are right for the formation of chrysotile asbestos or tremolite-actinolite asbestos in the bodies of these rocks, along their boundaries, or in the soil.

Asbestos could be released from serpentinite or ultramafic rock if the rock is broken or crushed. Asbestos could also be released into the air due to vehicular traffic on unpaved roads on which asbestos-bearing rock has been used as gravel. Additionally, soil derived from asbestos-bearing rock could contain asbestos entrained into the air from new recreational uses added to route surfaces with exposed asbestos (USFS 2008: p. 2; ATSDR [no date]: p. 2; EPA 2005: p. 5-85). At the point of release, asbestos fibers could become airborne, causing air quality and human health hazards. Natural weathering and erosion processes act on asbestos bearing rock and soil, increasing the likelihood for asbestos fibers to become airborne if disturbed (California Geological Survey [CGS] 2002: p. 22).

4.3.2 REGULATORY SETTING

Federal, state, and local regulation of CAPs and TACs are discussed separately below.

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

CRITERIA AIR POLLUTANTS

At the federal level, the U.S. Environmental Protection Agency (EPA) implements the national air quality programs. EPA's air quality mandates are drawn primarily from the federal Clean Air Act (CAA), enacted in 1970. The most recent major amendments were made by Congress in 1990.

The CAA requires EPA to establish national ambient air quality standards (NAAQS). NAAQS are presented in Table 4.3-3 below. EPA has established primary and secondary NAAQS for the following criteria air pollutants: ozone, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead (ARB 2010a). The primary standards protect public health and the secondary standards protect public welfare. The EPA maintains and publishes National Area Designation Maps that display the most current data of national attainment status throughout California. The most recent revision was completed in August 30, 2011 (EPA 2011b).

The CAA also requires each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA reviews all state SIPs to determine whether they conform to the mandates of the CAA and its amendments and whether implementing them will achieve air quality goals. If EPA determines a SIP to be inadequate, a Federal Implementation Plan that imposes additional control measures may be prepared for the nonattainment area. If the state fails to submit an approvable SIP or to implement the plan within the mandated time frame, sanctions may be applied to transportation funding and stationary air pollution sources in the air basins.

Table 4.3-3 Ambient Air Quality Standards and Designations

Pollutant	Averaging Time	California Standards[2,3]	National Standards[1] Primary[3]
Ozone	1-hour	0.09 ppm (180 µg/m^3)	–
	8-hour	0.070 ppm (137 µg/m^3)	0.075 ppm (147 µg/m^3)
Carbon Monoxide (CO)	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)
	8-hour	9 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)
	8-hour (Lake Tahoe)	6 ppm (7 mg/m^3)	–
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)
	1-hour	0.18 ppm (339 µg/m^3)	–
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	–	0.030 ppm (80 µg/m^3)
	24-hour	0.04 ppm (105 µg/m^3)	0.14 ppm (365 µg/m^3)
	3-hour	–	0.5 ppm (1300 µg/m^3)[4]
	1-hour	0.25 ppm (655 µg/m^3)	–
Respirable Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	–
	24-hour	50 µg/m^3	150 µg/m3
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m^3	150 µg/m^3
	24-hour	–	35 µg/m^3
Lead[5]	30-day Average	1.5 µg/m^3	–
	Calendar Quarter	–	1.5 µg/m^3
	Rolling 3-Month Avg	–	0.15 µg/m^3
Sulfates	24-hour	25 µg/m^3	No National Standards
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m^3)	
Vinyl Chloride[5]	24-hour	0.01 ppm (26 µg/m^3)	
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient of 0.23 per kilometer —visibility of 10 mi or more	

Notes: µg/m^3 = micrograms per cubic meter; ppm = parts per million

[1] National standards (other than ozone, PM, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The PM_{10} 24-hour standard is attained when 99 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. The $PM_{2.5}$ 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the EPA for further clarification and current federal policies.

[2] California standards for ozone, CO (except Lake Tahoe), SO_2 (1- and 24-hour), NO_2, PM, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[3] Concentration expressed first in units in which it was promulgated [i.e., parts per million (ppm) or micrograms per cubic meter (µg/m^3)]. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[4] Secondary Standard

[5] ARB has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Source: ARB 2010a; ARB 2010b.

HAZARDOUS AIR POLLUTANTS (HAPs)

EPA has programs for identifying and regulating HAPs. Title III of the CAAA directed EPA to issue national emissions standards for HAPs (NESHAP). The NESHAP may be different for major sources than for area sources of HAPs. Major sources are defined as stationary sources with potential to emit more than 10 tons per year (TPY) of any HAP or more than 25 TPY of any combination of HAPs; all other sources are considered area sources.

The CAAA also requires EPA to issue vehicle or fuel standards containing reasonable requirements for exhaust emissions of TACs. Performance criteria were established to limit mobile-source emissions of toxics, including benzene, formaldehyde, and 1, 3-butadiene.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

CRITERIA AIR POLLUTANTS

ARB coordinates and oversees the State and local programs for controlling air pollution in California and implements the California Clean Air Act (CCAA), adopted in 1988. The CCAA requires ARB to establish California ambient air quality standards (CAAQS) (ARB 2010a), which are presented in Table 4.3-3 above. ARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned criteria air pollutants. In most cases, the CAAQS are more stringent than the NAAQS. Differences in the standards are generally explained by the health effects studies considered during the standard-setting process and the interpretation of the studies. In addition, the CAAQS incorporate a margin of safety to protect sensitive individuals.

The CCAA requires all local air quality management districts and air pollution control districts (air districts) in the State to achieve and maintain the CAAQS by the earliest practical date. The CCAA specifies that local air districts should focus particular attention on reducing the emissions from transportation and areawide emission sources. The CCAA provides districts with the authority to regulate indirect sources.

ARB also oversees local air district compliance with federal and State laws, approving local air quality plans, submitting SIPs to EPA, monitoring air quality, determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

CSP published the Department Operations Manual (DOM) 0305 Air Resources which contains policy guidance related to state air resources. It assesses park operations and uses that may contribute to local air pollution and takes appropriate corrective actions. It further promotes and pursues measures to protect air resource values from the adverse impacts of air pollution.

TOXIC AIR CONTAMINANTS

TACs in California are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807 [Statutes of 1983]) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588 [Statutes of 1987]). AB 1807 sets forth a formal procedure for ARB to designate substances as TACs. This process includes research, public participation, and scientific peer review before ARB can designate a substance as a TAC. ARB has identified more than 21 TACs to date and has adopted EPA's list of HAPs as TACs. Diesel PM was identified as a TAC by ARB in 1998. Once a TAC is identified, ARB then adopts an airborne toxics control measure for sources that emit particular TACs.

ARB has adopted diesel exhaust control measures and more stringent emissions standards for various transportation-related mobile sources of emissions, including transit buses, and off-road diesel equipment (e.g., dozers, pavers). Recent and upcoming milestones for transportation-related mobile sources include a low-sulfur diesel fuel requirement and tighter emissions standards for heavy-duty diesel trucks (2007) and off-road diesel equipment (2011). Over time, the replacement of older vehicles will result in a vehicle fleet that produces substantially lower levels of TACs than under current conditions. Mobile-source emissions of TACs (e.g., benzene, 1-3-butadiene, diesel PM) have been reduced significantly over the last decade and will be reduced further in California through a progression of regulatory measures (e.g., Low Emission Vehicle/Clean Fuels and Phase II reformulated gasoline regulations) and control technologies. With implementation of ARB's Risk Reduction Plan, it is expected that diesel PM concentrations will be 75 percent less than the estimated year-2000 level in 2010 and 85 percent less in 2020. Adopted regulations are also expected to continue to reduce formaldehyde emissions from cars and light-duty trucks. As emissions are reduced, it is expected that risks associated with exposure to the emissions will also be reduced.

AIR DISTRICTS

The CCAA requires that all local air districts in the State endeavor to achieve and maintain the CAAQS by the earliest practical date. The act specifies that local air districts should focus particular attention on reducing the emissions from transportation and areawide emission sources, and provides districts with the authority to regulate indirect sources.

There is at least one California State Parks (CSP) unit in each of the 35 air pollution control districts or air quality management districts (air districts) across California. Air districts attain and maintain air quality conditions in their respective jurisdictions through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy implemented by air districts includes the preparation of plans for the attainment of CAAQS and NAAQS, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. Air districts also inspect stationary sources of air pollution and respond to citizen complaints, monitor ambient air quality and meteorological conditions, and implement programs and regulations required by the CAA, CAAA, and the CCAA.

4.3.3 SIGNIFICANCE CRITERIA

Per Appendix G of the CEQA Guidelines, air quality impacts are considered significant if change-in-use projects implemented under the proposed Process would result in any of the following:

- conflict with or obstruct implementation of the applicable air quality plan;
- violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable NAAQS or CAAQS (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- expose sensitive receptors to substantial pollutant concentrations; or
- create objectionable odors affecting a substantial number of people.

As stated in Appendix G, the significance criteria established by air districts, including quantitative thresholds, may be relied upon to make the above determinations. Multiple air districts in California have published CEQA guidance with recommended quantitative thresholds for determining whether emissions from individual projects would be considered significant in the context of CEQA. Due to the differences in the quantitative thresholds recommended by various air districts in the State, this analysis applies whichever air district-recommended threshold is most stringent for each type of potential air quality impact. The mass emissions thresholds recommended by air districts are typically expressed in units of pounds per day (lb/day) or TPY and the mass emission thresholds recommended by different air districts are not the same. The most stringent (i.e., the lowest) mass emission thresholds are recommended by the Feather River Air Quality Management District (FRAQMD) (FRAQMD 2010). Thus, emission levels associated with a change-in-use project that are less than FRAQMD's recommended thresholds would also be less than the mass emission thresholds recommended by all other air districts. Thresholds for local mobile-source CO are directly based on the CAAQS for CO. Thresholds for TAC exposure are similar for multiple air districts in the State, including the Sacramento Metropolitan Air Quality Management District (SMAQMD 2009), the San Joaquin Valley Air Pollution Control District (SJVAPCD 2011), and the Bay Area Air Quality Management District (BAAQMD 2011), among others. Thus, for the purposes of this program-level analysis, implementation of change-in-use projects under the proposed Process would result in significant air quality impact if any individual project were to:

- result in construction-generated CAPs or precursor emissions that exceed 25 lb/day of NO_X, 25 lb/day of ROG, and/or 80 lb/day of PM_{10}.;
- generate long-term regional criteria air pollutant or precursor emissions that exceed 25 lb/day of NO_X, and ROG, and/or 80 lb/day of PM_{10}.;
- generate local mobile-source emissions that exceed or substantially contribute to CO concentrations that violate the 1-hour ambient-air quality standard of 20 parts per million (ppm) or the 8-hour standard of 9 ppm or, the 8-hour standard of 6 ppm in the Lake Tahoe Air Basin. ;
- expose sensitive receptors to TAC emissions that exceed 10 in 1 million for the Maximally Exposed Individual (MEI) to contract cancer and/or a noncarcinogenic Hazard Index of 1 for the MEI; or
- create objectionable odors affecting a substantial number of people. This threshold is also recommended by multiple air districts in the State.

4.3.4 IMPACT ANALYSIS METHODS AND APPLICABLE PROJECT REQUIREMENTS

IMPACT ANALYSIS METHODS

The environmental analysis in this Program EIR is general in nature and does not evaluate the air quality impacts of specific change-in-use projects. Instead, the analysis focuses on reasonable air quality-related impacts that could occur from the types of change-in-use projects that qualify for approval under the Process. Thus, attention is given to the Standard Project Requirements (SPRs) that would be used in the Process and their limitations and restrictions regarding the types, location, and intensity of emissions-generating activity.

Change-in-use projects could result in an incremental increase in emissions from short-term construction-related activities and long-term operation-related sources. The ARB-approved Urban Emissions Model (URBEMIS) 2007 Version 9.2.4 computer program was used to estimate the maximum daily emissions of CAPs and precursors associated with the construction of any single change-in-use project that could potentially occur under the proposed Process. This estimate accounts for those SPRs that would limit the types and amount of construction activity that could take place for any single change-in-use project and require implementation of best management practices (BMPs) including dust control measures. Pertinent limitations relate to the amount of off-road and other equipment use, number of construction workers, and area of ground disturbance.

URBEMIS was also used to estimate the maximum daily increase in emissions of CAPs and precursors associated with the operation of any single change-in-use project that could potentially occur under the proposed Process.

This estimate accounts for traffic-related SPRs that would limit the maximum allowable increase in daily vehicle trips associated with operation of a CSP unit.

The potential for increased vehicle trips associated with qualified change-in-use projects to contribute to exceedance of the NAAQS and CAAQS at congested intersections in the project area is evaluated qualitatively and with consideration of traffic-limiting SPRs.

Construction- and operation-related TAC emissions associated with change-in-use projects are also discussed qualitatively based on the potential for projects to result in increased exposure to sensitive receptors (e.g., residences, schools) to high concentrations of TACs. This discussion addresses the types of TAC-emitting activities that could occur in CSP units as a result of implementing the Process, such as diesel PM from construction equipment, NOA-containing fugitive dust emissions from use of trails (e.g., walking, jogging, horse riding, and mountain biking on unpaved surfaces), proximity to the nearest sensitive receptors, and the potential for long-term exposure.

The potential for construction and operation of a change-in-use project to create objectionable odors affecting a substantial number of people is also discussed qualitatively with a focus on the types of odor sources, their intensity, and their proximity to sensitive receptors.

All potential environmental impact topics addressed in the significance criteria are discussed in this section.

APPLICABLE STANDARD PROJECT REQUIREMENTS

The following SPRs would influence construction- and operation-related emissions-generating activities that could be associated with implementation of change-in-use projects under the proposed Process. These SPRs are based on emissions reduction measures required or recommended by air districts in California. In addition, modeling in URBEMIS was conducted to determine the level of emissions-generating activity (e.g., area graded, number of vehicle trips per day) that would result in an exceedance of the most stringent mass emission thresholds established by air districts in California. Because SPRs would be applicable at all park units for an array of change-in-use project scenarios, placeholders are provided in several of the SPRs (such as for responsible parties), so that, depending on the location and type of project and associated resource issues, the requirement can be applied to specific projects and associated responsible parties.

DUST CONTROL MEASURES

AQ-1: No more than 1.0 acre of ground disturbance (e.g., earth moving, grading, excavation, land clearing) will occur in any single day.

AQ-2: Prior to any ground disturbance, including grading, excavating, and land clearing, sufficient water must be applied to the area to be disturbed to minimize fugitive dust emissions.

AQ-3: Unpaved areas subject to vehicle travel and areas subject to mechanical grading, excavation, land clearing, or other forms of ground disturbance will be stabilized by being kept wet, treated with a chemical dust suppressant, or covered. Exposed areas will not be overwatered such that watering results in runoff. Unpaved areas subject to vehicle travel could also be stabilized through the effective application of gravel or through watering.

AQ-4: Suitable vegetative ground cover will be established on exposed, disturbed surfaces through seeding and watering as soon as possible, except for areas intended to be used as trails or for parking or staging. If a vegetated ground cover is not suitable to the area then this requirement does not apply.

AQ-5: Storage piles and disturbed areas not subject to vehicular traffic must be stabilized by being kept wet, treated with a chemical dust suppressant, or covered when material is not being added to or removed from the pile.

AQ-6: The speed of construction-related trucks, vehicles, and equipment traveling on unpaved areas will be limited to 15 miles per hour (mph).

AQ-7: All trucks or light equipment hauling soil, sand, or other earthen materials on public roads to or from the site will be covered or required to maintain at least two feet of freeboard.

AQ-8: Off-road construction equipment and on-road haul trucks leaving the park will be cleaned onsite to prevent silt, mud, and dirt, from being released or tracked off-site, as dictated by controlling agencies.

AQ-9: All visible dust, silt, or mud tracked-out on to public paved roadways as a result of construction-related activities will be removed at the conclusion of each construction work day, or a minimum of every 24 hours for continuous construction operations. Wet sweeping or a High Efficiency Particulate Air (HEPA) filter equipped vacuum device will be used for removal of track-out from paved roadways and paved parking areas.

AQ-10: Excavation, grading, land clearing, other mechanical ground disturbance, and demolition activities will be suspended when sustained winds exceed 15 miles per hour (mph) and/or instantaneous gusts exceed 25 mph.

AQ-11: Where a change in use results in vehicle travel on unpaved roads and other unpaved services, signs shall be posted limiting vehicle travel to 15 mph.

AQ-12: Construction-related ground disturbance activities will not be performed in areas identified as “moderately likely to contain naturally occurring asbestos” according to maps and guidance published by the California Geological Survey (CGS), formerly the California Department of Conservation Division of Mines and Geology. This determination would be based on a CGS publication titled *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos* (Churchill and Hill 2000), or whatever more current guidance from CGS exists at the time the change-in-use project is evaluated. Any NOA-related guidance provided by the applicable local air district shall also be followed. Some air districts may require that a site-specific investigation be performed by a qualified geologist, including the collection of soil and rock samples, to determine whether NOA is present. If a site-specific investigation identifies the presence of NOA, then an Asbestos Dust Control Plan will be developed and implemented in accordance with Section 93105 of the California Health and Safety Code.

AQ-13: New trail or road alignments and new parking areas will not be located in areas identified as “moderately likely to contain naturally occurring asbestos” according to maps and guidance published by the California Geological Survey (CGS), formerly the California Department of Conservation Division of Mines and Geology, unless a site-specific investigation performed by a Registered Geologist confirms that NOA-containing rock or dirt is not exposed at the surface of the trail. Alternatively, any trail or road alignments and parking areas that are not located over areas where NOA is exposed at the surface will be covered with an appropriate material, depending on the intended use of the trail, that would prevent entrainment of asbestos-containing dust into the air. Possible methods of covering NOA-containing material on the surface include paving and graveling with non-NOA-containing gravel.

Exhaust Emissions Control Measures

AQ-14: Operation of large diesel- or gasoline-powered construction equipment (i.e., greater than 50 horsepower [hp]) will not exceed 16 equipment-hours per day, where an equipment-hour is defined as one piece of equipment operating for one hour.

AQ-15: All diesel- and gasoline-powered equipment will be properly maintained according to manufacturer's specifications, and in compliance with all State and federal emissions requirements. Maintenance records will be available at the construction site for verification.

AQ-16: Haul truck trips to and from the site will be limited to 20 one-way trips per day. This includes trips for hauling gravel, materials, and equipment to and from the site.

AQ-17: The maximum number of construction worker-related commute trips for any change-in-use project at a park will not exceed 60 one-way worker commute trips per day.

AQ-18: No open burning of removed vegetation will be performed. All removed vegetative material will be either chipped on site or taken to an appropriate recycling site, biomass power plant, or if a site is not available, a licensed disposal site.

Mobile-Source Emissions Related Measures

TRAN-1: In cases where addition of a use is proposed for trails within urban areas or immediately accessible by urban populations such that the new park users could meaningfully utilize the trails before or after normal weekday business hours (8 am to 5 pm), a designated CSP District staff person will, prior to implementing the change in use, first review the local jurisdiction’s General Plan for guidance on level of service (LOS) changes, or Caltrans standards if the affected facilities are part of a state highway. If it is determined that (or it is uncertain whether) project traffic could potentially result in unacceptable LOS of local traffic facilities, CSP will coordinate with the applicable jurisdiction(s) that operate/maintain the traffic facilities in the vicinity of the trail heads and associated parking areas to determine the maximum number of peak hour trips that could be generated by the proposed additional use that would not cause significant adverse local traffic effects. If CSP demand projections identify an increase in visitation that would generate peak hour, weekday trips that exceed the maximum number of trips identified by the applicable agency, the proposed additional use would be disqualified from the proposed process and would require individual CEQA analysis, including project-specific traffic analysis. In addition, following implementation of the proposed additional use **[insert who]** will include follow-up consultation with the applicable agency as part of the Adaptive Use Management process to consider the actual traffic levels generated by the additional trail use and the LOS of the affected transportation facilities. If the increased trips generated by the additional trail users are found to exceed original projections and are also found to be causing an exceedance of applicable LOS standards, **[insert who]** will implement a management response to resolve the exceedance, in consultation with the applicable agency. Measures in the management response will include (but will not be limited to) public education actions to encourage visitation during non-peak traffic periods, restriction of the timing of certain types of trail use during peak traffic periods, altering the point(s) of access to transfer project-related traffic from impacted roadways/intersections to less constrained roadways/intersections, coordination with local transit operators to increase access to the trail, coordination with the local transportation department regarding improved bicycle connectivity (for addition of bicycle use), or a combination of these measures.

TRAN-4: **[insert who]** will assess parking capacity prior to implementing a proposed change in use. After implementation of the change in use, CSP staff will monitor parking levels as part of the Adaptive Use Management process. If monitoring indicates an exceedance of parking capacity (i.e., increased use of undesignated on-street parking or increased illegal parking due to overflow of parking lot facilities), the **[insert who]** will implement a management response to resolve the parking capacity issue. Measures in the management response may include, but would not be limited to re-designing parking facilities (including minor parking lot expansions in areas where environmental resources will not be affected), installing parking meters and/or applying time limits, working with local transportation departments to increase nearby off-site parking availability, directing users to other existing lots, and/or working with local transit operators to increase transit to the trail facility. CSP District personnel will determine which actions are feasible at the park unit.

TRAN-5: Prior to initiating construction activities the construction manager will have a Construction Traffic Management Plan (CTMP), prepared by a qualified professional, that will provide measures to reduce potential traffic obstruction or service level degradation at affected traffic facilities. The scope of the CTMP will depend on the type, intensity, and duration of the specific construction activities associated with each qualifying change-in-use project under the Process. Measures included in the CTMP could include (but are not be limited to) construction signage, flaggers for lane closures, construction schedule and/or delivery schedule restrictions, etc. The CTMP will be submitted to the local Public Works Department.

4.3.5 ENVIRONMENTAL IMPACTS AND MITIGATION

IMPACT 4.3-1 **Short-Term Construction-Generated Emissions of CAPs and Precursors.** Because change-in-use projects that qualify for approval under the Process would comply with SPRs that limit the type and intensity of construction-related activities, short-term construction-generated emissions would not exceed the mass emission thresholds recommended by air districts in California and, thus, would not contribute to pollutant concentrations that exceed the NAAQS or CAAQS or expose receptors to substantial pollutant concentrations. This would impact would be **less than significant.**

Construction activities associated with change-in-use projects could include site preparation (e.g., excavation, grading, and vegetation clearing), trail reconstruction, recontouring of slopes to reduce erosion and runoff, reconfiguration of parking and staging areas to accommodate new user groups, and construction of bridges and boardwalks. These activities could sometimes involve the use of off-road heavy-duty construction equipment (e.g., for conversion of road to trail) that would generate short-term exhaust emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$. Exhaust emissions would also be generated by haul trucks delivering supplies to construction sites and exporting soil and earthen material, and by worker commute trips. Fugitive dust emissions, including emissions of PM_{10} and $PM_{2.5}$, would also be generated by ground disturbance and earth movement activities (i.e., excavation, grading), as well as travel by haul trucks, vehicles, and equipment on dirt roadways and other unpaved surfaces. Fugitive dust emissions vary as a function of soil silt content, soil moisture, wind speed, and the area of disturbance.

URBEMIS was used to estimate the maximum daily emissions that could be generated by a hypothetical worst-case level of construction activity that would be qualified under the Process, as influenced by multiple SPRs. More specifically, change-in-use projects would be qualified for approval under the Process if ground disturbance would not exceed 1 acre per day, as required by AQ-1; if operation of heavy-duty equipment (i.e., greater than 50 horsepower) would not exceed 16 cumulative equipment-hours per day, as required by AQ-14; if no more than 60 one-way worker commute trips per day would occur at a construction site during any single day, as required by AQ-17; and if haul truck travel to and from the construction site would not exceed 20 one-way trips per day, as required by AQ-16. In addition, fugitive dust PM_{10} and $PM_{2.5}$ emissions would be limited by the dust control measures required by AQ-1 through AQ-13.

Table 4.3-4 summarizes the modeled daily emissions of CAPs and precursors associated with construction of the worst-case change-in-use project that would be qualified for approval under the proposed Process. Modeling input parameters were based on the SPRs discussed above, as well as default parameters representative of conditions in California. Refer to Appendix F for detailed modeling assumptions, inputs, and outputs.

As shown in Table 4.3-4, worst-case maximum daily levels of construction-related emissions would not exceed the applicable thresholds of significance for CAPs and precursors. Therefore, construction-related emissions would not contribute to emission concentrations that exceed the NAAQS and CAAQS and would not violate or contribute substantially to the nonattainment status designated for any CAP in any county. Moreover, construction-generated emissions would not expose sensitive receptors to substantial pollutant concentrations, and/or conflict with air quality planning efforts. As a result, this impact would be **less than significant.**

Table 4.3-4 Summary of Modeled Worst-Case Maximum Daily Criteria Air Pollutant and Precursor Emissions from Construction Activities

Construction Activity	Emissions (lb/day)			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Construction Activity	5	21	21[1]	5[1]
Thresholds of Significance[2]	25	25	80	N/A

Notes:
lb/day = pounds per day; ROG = reactive organic gases; NO_X = oxides of nitrogen; PM_{10} = particulate matter with aerodynamic diameter less than 10 microns; $PM_{2.5}$ = particulate matter with aerodynamic diameter less than 2.5 microns.
[1] Worst-case maximum daily levels of PM_{10} and $PM_{2.5}$ would be further reduced by implementation of the dust control measures required by SPRs AQ-1 through AQ-13. The extent of the reduction would differ according to the types of dust-generating activities performed for a particular project.
[2] These mass emission thresholds are the most stringent mass emission thresholds recommended by an air district in the state for the evaluation of CAPs and precursors from construction-related activity.
Detailed assumptions and modeling output files are included in Appendix F.
Source: Modeling Conducted by Ascent Environmental 2011.

IMPACT 4.3-2 **Generation of Long-Term Operational (Regional) Emissions of CAPs and Precursors.** Operation of individual change-in-use projects could potentially result in an increase in vehicle trips and associated mobile-source emissions of CAPs and precursors. However, because of the influence of SPRs, these potential increases would not exceed applicable thresholds recommended by air districts in California and, thus, would not substantially contribute to concentrations that exceed the NAAQS or CAAQS and/or conflict with air quality planning efforts. This impact would be **less than significant.**

Change-in-use projects qualified for approval under the Process would not result in the operation of new stationary emissions sources, such as back-up generators. Because no buildings or other indoor activity areas would be developed, change-in-use projects would not introduce new area sources of emissions, such as hot water heaters. Modifications to trails, parking areas, and staging areas would not result in a substantial increase in routine landscape maintenance activities.

Some change-in-use projects, nonetheless, could result in additional vehicle trips associated with increased visitation to particular CSP units. This outcome, for instance, could occur if mountain bikers and/or equestrians are permitted to access trails where they were previously prohibited. Associated increases in operational vehicle trips or, more specifically, increases in vehicle miles traveled (VMT) would result in increases in mobile-source emissions of CAPs and precursors.

CSP does not anticipate, however, that a net increase in VMT and associated mobile-source emissions from a change-in-use project would be substantial or sustained for the long-term. Foremost, it would be contrary to CSP's mission to make any design or operational use changes to any of its units that would overwhelm the capacity of any single unit or any single road or trail. This is addressed by multiple SPRs included in the proposed Process that aim to preserve biological diversity, protect natural and cultural resources, and create high-quality outdoor recreational opportunities. Also, increases in visitation to recreational areas by new user groups, and related vehicle trips, are often partially offset by decreases in visitation by other user groups. Typically, the decision to visit any particular recreational area by users seeking a high-quality recreational experience is influenced by the number of other users drawn to the area (i.e., the level of crowdedness).

Because change-in-use projects that qualify under the Process are not anticipated to affect overnight camping facilities, any associated change in vehicle trips would be by day-use visitors. Vehicle trips associated with day-use of CSP units typically occur during daytime hours.

Also, any noticeable incremental increase in visitation to a CSP unit would likely be by visitors who are located in close proximity to the unit and, therefore, the average length of their travel trips could be shorter. Long-distance travelers to CSP units would typically be visitors who currently travel long distances to parks; therefore, their average trip length, although longer than nearby visitors, would not necessarily be longer or shorter than their existing average trip length. To date, CSP's experience is that change-in-use projects do not result in a substantial incremental increase in daily visitation by users or a long-term increase in use.

In addition, trip reduction could also occur as a result of SPRs TRAN-1 and TRAN-4. TRAN-1 requires that management response measures be implemented to reduce the contribution of project-related trips to adverse traffic conditions (e.g., unacceptable levels of service at area intersections). TRAN-4 also requires trip reduction measures if CSP staff observe an exceedance in parking capacity at the affected CSP unit.

To provide a quantitative understanding about the incremental increase in operational mobile-source emissions that could be associated with a qualified change-in-use project, modeling was conducted to determine how much additional VMT would result in an exceedance of the thresholds of 25 lb/day of NO_X, 25 lb/day of ROG, and 80 lb/day of PM_{10}. This estimation was performed using the URBEMIS model with default parameters representative of conditions in California (e.g., meteorology, vehicle fleet). Modeling results indicate that the NO_X threshold of 25 lb/day is the limiting factor and that this threshold would not be exceeded unless the incremental increase in VMT exceeded 25,000 miles per day, or 500 one-way daily trips with an average trip length of 50 miles. Refer to Appendix F for detailed modeling assumptions, inputs, and outputs.

For the reasons described above, it is not anticipated that any single change-in-use project, or multiple change-in-use projects in the same air basin, would result in an incremental increase in VMT of more than 25,000 miles per day. This line of reasoning is conservative because trips associated with changes in use at CSP units could occur in place of other trips, so they would not be new trips. For instance, a family that completes a trip to a CSP unit to use a trail could do so instead of making a trip to another more distant recreational area, or to some other type of destination (e.g., shopping mall, movie theatre). For this reason, the net change in VMT and associated mobile-source emissions is likely to be lower than the sum of all VMT directly related to trips attracted to change-in-use projects. As a result, operational emissions of CAPs and precursors associated with qualifying change-in-use projects would not contribute to emission concentrations that exceed the NAAQS and CAAQS and would not violate or contribute substantially to the nonattainment status designated for any CAP in any county, and/or conflict with air quality planning efforts. Therefore, this impact would be **less than significant.**

IMPACT 4.3-3	**Generation of Local Mobile-Source CO Emissions.** Operation of the proposed project would not result in or substantially contribute to CO concentrations that exceed applicable ambient air quality standards. This impact would be **less than significant.**

CO concentration is a direct function of motor vehicle activity, particularly during peak commute hours, and meteorological conditions. Under specific meteorological conditions, background CO concentrations can reach unhealthy levels with respect to local sensitive land uses such as residential areas, schools, and hospitals when local traffic is heavy and very congested.

Emissions and ambient concentrations of CO have decreased dramatically in California with the introduction of the catalytic converter emission control technology for on-road motor vehicles in 1975. However, elevated localized concentrations of CO still warrant consideration in the environmental review process. Occurrences of localized CO concentrations (i.e., “hotspots”) are often associated with heavy traffic congestion at high-volume signalized intersections that operate at a poor level of service.

Implementation of the Process could result in various types of change-in-use projects throughout the State Park System. These projects could result in increases in traffic volumes on local and regional roadways from project-related construction activities (e.g., worker trips, haul truck delivery) and operational-related increases in trips associated with increased visitation to individual CSP units, likely for a short duration, based on CSP experience. Trips associated with construction activity would be limited by SPR AQ-17, which allows a maximum of 30 construction personnel per day, and SPR AQ-16, which limits haul truck travel to and from the construction site to 20 one-way trips per day. Worker commute trips and truck haul trips of this volume would not result in substantial increases in traffic on local or regional roadways and therefore would not contribute to localized impacts of CO emissions.

Increased vehicle trips would also be associated with the operation of qualified change-in-use projects that result in increased visitation to a CSP unit. These additional trips by visitors could result in increases in localized CO emissions, if a substantial amount of traffic were added to an already congested intersection. However, as discussed in Impact 4.3-2, it is not anticipated that any change-in-use project would result in substantial increases in traffic on local roadways leading to and from the respective CSP unit. Foremost, it would be contrary to CSP’s mission to implement any design or operational use changes to any CSP unit that would overwhelm its capacity or the use capacity of any single road or trail. Also, it is not anticipated that all of the additional trips would be occurring during the peak hour because day-use visitors to recreational areas typically arrive and depart throughout the day. Moreover, TRAN-1 would ensure that peak-hour trips would not result in increased levels of traffic congestion at area intersections and SPRs TRAN-4 and TRAN-5 would also limit the number of trips generated by a change-in-use project. For these reasons, it is not anticipated that additional operational trips associated with a qualified change-in-use project would contribute substantially to traffic congestion at affected intersections and result in localized CO “hot spots” that exceed the CAAQS and NAAQS for CO. Therefore, this impact would be **less than significant.**

IMPACT 4.3-4	**Exposure of Sensitive Receptors to Exhaust Emissions of Toxic Air Contaminants.** Short-term construction activities associated with change-in-use projects that qualify for approval under the Process would not result in the exposure of sensitive receptors to TAC emissions that would exceed air district thresholds. This impact would be **less than significant.**

Change-in-use projects that would be approved under the proposed Process would not result in the operation of new stationary sources of TACs and would not include development of any new sensitive receptors (e.g., residences, schools, hospitals). Construction of some individual trail change-in-use projects could, however, result in short-term exhaust emissions of diesel PM from on-site heavy duty equipment. Construction activities using diesel PM-generating equipment include site grading, excavation, and paving. Diesel PM was identified as a TAC by ARB in 1998.

The dose to which receptors are exposed is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Dose is a function of the concentration of a substance in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the exposed individual. Thus, the risks estimated for an exposed individual are higher if a fixed exposure occurs over a longer period. According to the Office of Environmental Health Hazard Assessment (OEHHA), Health Risk Assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the duration of exposure (OEHHA 2001: p. 9-10). However, the use of mobilized equipment for construction of qualified change-in-use projects under this Process would be minor and temporary, and exhaust emissions from this equipment would dissipate with increasing distance from the source (Zhu et al. 2002: p. 4333). Also, due to the linear nature of trails and roads, it is not anticipated that construction equipment would operate at the same point for any extended length of time. Moreover, several of the SPRs would limit exposure of sensitive receptors to emissions of TACs from construction-related activities. SPR AQ-14 would limit operation time of large diesel or gasoline-powered construction equipment to 16 equipment-hours per day. SPR AQ-15 would ensure that all diesel and gasoline-powered equipment is properly maintained to comply with all state and federal emissions requirements. SPRs N-4 and N-8 would require construction staging areas and construction activities to be located away from any nearby sensitive receptors, and SPR N-5 would reduce idling time of equipment and haul trucks. For these reasons, construction-related emissions of TACs would not expose sensitive receptors to substantial emissions of TACs. As a result, this impact would be **less than significant**.

Impact 4.3-5	**Exposure of Sensitive Receptor to Fugitive Dust Emissions Containing Naturally Occurring Asbestos.** Construction-related earth movement activities and operational activities on unpaved surfaces at some CSP units could result in disturbance of serpentine or other ultramafic rock or soil, which could result in fugitive dust emissions that contain NOA. However, all change-in-use projects qualified for approval under the Process would be subject to SPR AQ-12 and SPR AQ-13, which require implementation of appropriate controls to prevent park users and nearby sensitive receptors from exposure to re-entrained NOA. As a result, this impact would be **less than significant.**

As stated in the setting above, some areas of California contain serpentine or other ultramafic rock and soil that could potentially contain NOA. These types of rock and soil contain thin veins of asbestos that can become airborne when disturbed. Thus, change-in-use projects approved through this Process could result in dust-generating activities on in areas where NOA-containing materials are exposed at the surface. Re-entrainment of NOA-containing dust may result from ground disturbance activities during construction, including vehicle travel on unpaved surfaces, excavation, grading, and earth movement. Operational activities, such as hiking, jogging, horse riding and biking, may also result in fugitive dust that contains NOA if NOA-containing rock or soil is exposed at the surface.

The CGS, formerly the California Department of Conservation Division of Mines and Geology published *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos (*Churchill and Hill 2000*).* SPR AQ-12 requires that CSP use this publication, or any other recommendation by CGS at the time of the change-in-use project proposal, to determine the risk for NOA at the project site. If, it is determined that NOA could be present at the project site, then SPR AQ-12 also requires that an Asbestos Dust Control Plan be developed and implemented by CSP, or its contractors. The Asbestos Dust Control Plan would comply with Section 93105 of the California Health and Safety Code and would ensure appropriate controls are in place to reduce exposure to airborne NOA during construction. Moreover, SPR AQ-13 requires that new trail and road alignments, and new parking areas, not be located on surfaces with exposed NOA-containing materials. Therefore, because every qualified change-in-use project included in this Process would comply with these requirements, the potential for sensitive receptors and park users to be exposed to airborne NOA would be minimized. Thus, this impact would be **less than significant.**

IMPACT 4.3-6 **Exposure of Sensitive Receptors to Excessive Odors.** The short-term construction and the long-term operation of projects qualified for approval under the Process would not result in the exposure of sensitive receptors to excessive odorous emissions. Therefore, this impact would be **less than significant.**

Short-term construction activities associated with some change-in-use projects could include the temporary generation of objectionable odors associated with diesel equipment exhaust and off-gas emissions during asphalt paving. However, multiple SPRs would limit exposure of sensitive receptors to excessive levels of odorous emissions generated by construction-related activities. SPR AQ-14 would limit operation time of large diesel or gasoline-powered construction equipment to 16 equipment-hours per day. SPR AQ-15 would ensure that all diesel and gasoline-powered equipment is properly maintained to comply with all State and federal emissions requirements, and SPR N-4 and N-8 would require construction staging areas and construction activities to be located away from any nearby sensitive receptors. Also, SPR N-5 would reduce idling time of equipment and haul trucks. Because every change-in-use project approved under this Process would be subject to the above SPRs, all construction-related odor sources would be sufficiently dispersed and would not adversely affect off-site receptors.

Change-in-use projects approved under the proposed Process would not include the development of any new sensitive land uses or of any new major odor sources (e.g., wastewater treatment plant, landfill). Therefore, both construction and operation of qualified change-in-use projects would not result in exposure of a substantial number of people to objectionable odors. As a result, this would impact would be **less than significant**.

4.3.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With integration of SPRs, the air quality impacts of a change-in-use project completed under this Process would be less than significant. Mitigation measures are not required. If a change-in-use proposal could not maintain air quality impacts at less-than-significant levels with SPRs, it would be disqualified from approval using this Process. If CSP pursued such a project further, the District would conduct a separate CEQA review process.

4.4 TERRESTRIAL BIOLOGICAL RESOURCES

This section describes the terrestrial biological resources that are known or have the potential to occur in the study area. Biological resources include common vegetation and wildlife, sensitive plant communities, and special-status plant and animal species. Federal, State, and local regulations related to biological resources are summarized. Potential impacts from implementation of the proposed Process are analyzed, and mitigation measures are provided for those impacts determined to be significant or potentially significant. Cumulative terrestrial biological resource impacts are addressed in Chapter 6, Cumulative and Growth-Inducing Impacts of this Program EIR.

4.4.1 ENVIRONMENTAL SETTING

STUDY AREA FOR TERRESTRIAL BIOLOGY

This Program EIR analyzes potential impacts to biological resources as a result of implementing the Process for change-in-use proposals within the State Park System that could include potentially up to 252 park units statewide. This analysis area covers nearly the entire geographic extent of California and includes numerous habitats, sensitive plant communities, and special-status plant and animal species. To organize the biological resources setting description and environmental analysis of the statewide Program, and to evaluate and develop resource protection measures in change-in-use proposals that are relevant to specific parks in different ecological regions across California, this analysis is organized in the context of ecological regions or "ecoregions." Generally, an ecoregion (also sometimes called a "bioregion") is a geographic area with similar or recurring patterns of physical and biological characteristics that may include geology, soils, geomorphology, hydrology, climate, vegetation types, animal species composition, biodiversity, and land use history. The primary purpose of organizing this analysis by ecoregions is to:

- document the range of key biological resources that could be affected by project implementation, and identify the sensitive resources that potentially occur on or in the vicinity of park units based on vegetation communities, special-status species, sensitive habitats, and the park units that occur within the same ecoregion;
- provide a more refined understanding, environmental analysis, and documentation of Process impacts, resource- or region-specific permitting and regulatory requirements, and defensible mitigation on a biologically-based, regional or subregional level;
- provide a starting point for State Park personnel considering a change-in-use proposal to understand how the proposal could affect specific biological resources at a project level, by focusing the range of potential biological impacts on the resources present in the ecoregion where the project is located; and
- allow for developing region-specific mitigation in Project-Specific Requirements (PSRs), if needed.

Importantly, while the ecoregion organization in this Program EIR provides a comprehensive approach to the program-level environmental impact analysis and facilitates and focuses project-level, biological impact evaluation and mitigation definition, it does not preclude or replace the need for project-level environmental review. Additional project-level biological analysis may include field assessments, confirmation of biological resources that could be affected, protocol or other pre-construction surveys for special-status species, and the application and implementation during construction phase of Standard Project Requirements (SPRs), Project-Specific Requirements (PSRs), and mitigation measures. Key elements of additional site-specific analyses are identified in the SPRs and mitigation measures, as needed.

POTENTIALLY AFFECTED AREA

Several ecoregion classification systems have been developed by various agencies and organizations locally, nationally, and internationally. However, no single system is optimal for characterizing the range of existing resource conditions, management issues, and potential change-in-use impacts across all State Parks properties; each classification was developed for different purposes and has its own benefits and limitations. Therefore, the following criteria were used to evaluate a range of available classifications and to identify one that is most appropriate to the Process, considering the various tradeoffs associated with each approach.

Hierarchical Framework

Ecological systems and natural resources function and are recognized at multiple spatial scales. Ecoregion classifications that are based on a hierarchical framework organize the primary environmental variables of ecosystems into an orderly, related set of spatial scales; ecosystem processes and patterns at one level or scale influence or constrain those at lower levels. At broad scales, descriptions and mapping of ecosystems are coarse and typically based on regional abiotic drivers, such as climate, latitude, and major landform patterns; whereas those at increasingly finer scales of the same classification system are more directly correlated with local factors, such as soils, precipitation, vegetation, and land use. Organizing ecosystems within a hierarchical framework provides a means of analyzing impacts at an appropriate scale, while allowing for the ability to examine conditions and management issues occurring at finer levels, if needed. Because of the broad (statewide) distribution of park units potentially using the Process, combined with unique park- or region-specific issues requiring evaluation in the program, a preferred ecoregion classification for the project should include multiple hierarchical levels for flexibility.

Resolution and Number of Regions Relative to the Distribution of State Parks

The size and number of individual ecological units or regions in California are different for each classification system. Examining the distribution of CSP's lands relative to ecoregion boundaries among the different classification systems is important for selecting a system that best represents the statewide diversity in natural resources among the numerous park units. For example, approximately 30 percent of CSP's' land is distributed along the coast and coast ranges. Some classifications group portions of these different areas into a single ecoregion, whereas others split them into multiple ecoregions (e.g., coast and coast range) with unique descriptions according to topography and latitude. Because the physical and biological resources, roads and trails management issues, and potential impacts of the Process may differ substantially between these areas, an ecoregion classification that can distinguish between them is more useful. Because using ecoregions is inherently a coarse-level approach to characterizing resource conditions and potential impacts across approximately 250 park units, classifications with more subareas (i.e., greater degree of "splitting") to distinguish between parks are generally preferred.

Quality and Relevance of Available Ecoregion Descriptions

The environmental variables used to define ecoregions in California are different for each classification system, depending on its purpose. Because an ecoregion approach is being used to organize the setting and analysis for certain natural resources issues in the Program EIR, an appropriate classification system needs to: (1) be based on a set of variables that directly relate to resource conditions, management issues, and potential impacts considered in the Program EIR; (2) include adequate descriptions of these variables at the appropriate spatial scale; and (3) include descriptions that can easily be further developed and refined specifically for the Program EIR, if needed. Ideally, considering the statewide scope of the Program, a preferred ecoregion classification would be based on and describe a combination of soils, geology, hydrology, vegetation, biological communities, as well as primary land uses and, possibly, cultural history and uses.

ECOREGION CLASSIFICATION SYSTEMS EVALUATED

The following six existing ecoregion classification systems were evaluated:

- California Biodiversity Council (CBC) Bioregions (FRAP 2004);
- California Wildlife Action Plan Regions (CDFG 2007);
- California Geomorphic Provinces (CDC 2002);
- U.S. Forest Service (USFS) Ecoregions (Ecological Subregions of California, Section and Subsection level) (USFS 1997, 1998);
- Environmental Protection Agency (EPA) Ecoregions, Level III (EPA 2005); and
- The Nature Conservancy (TNC) Ecoregions (TNC 2009).

These systems were initially identified based on their availability, level of documentation, and contemporary applications in land management planning. Key characteristics of these classifications relative to the evaluation criteria, combined with the geographic distribution of State Park System properties, were examined to identify a preferred approach for the Program EIR.

ECOREGION SYSTEM SELECTED AND USED IN THE PROGRAM EIR

Table 4.4-1 summarizes the attributes used to evaluate the different ecoregion classification systems, and the relative comparison of ecoregion systems according to these attributes. Based on the evaluation of advantages and disadvantages of different ecoregion approaches, the USFS Ecoregions system (Section and Subsection levels) was selected for the Program EIR. This system was selected based on the key attributes listed below.

- Multiple hierarchical levels of organization, including Domain, Division, Province, Section, and Subsection levels for flexibility as to the scale of application.
- Well-documented and useful descriptions that offer strong evidence supporting the system's organization.
- For each section and subsection, a classification system that is based on and describes a combination of geomorphology, soils, geology, hydrology, vegetation, as well as primary land uses and cultural history and uses.
- Vegetation types and descriptions that follow *A Manual of California Vegetation* (Sawyer and Keeler-Wolf 2009), which is considered the current standard for vegetation classification in California and is consistent with the National Vegetation Classification System.
- Highest resolution and number of regions (19 sections, 190 subsections), which best distinguish park units between key areas (e.g., coast vs. coast range; Sierra Nevada vs. foothills).
- Use of USFS Ecoregions to develop California Wildlife Habitat Relationships (CWHR) species range maps; therefore, the mapped California ranges for many special-status species correspond well with USFS Ecoregion boundaries.
- Used in other State Parks projects and documents, including Natural Parks Report (2005) and Acquisition Guidelines for Natural Resources and Sustainable Ecosystems (2008-2009).

Table 4.4-1 Comparison of Ecoregion Classification Systems Evaluated						
Key Attributes	**CBC Bioregions**	**CA Wildlife Action Plan Regions**	**CA Geomorphic Provinces**	**USFS Ecoregions**	**EPA Ecoregions**	**TNC Ecoregions**
Hierarchical Framework	No	No	No	Yes	Yes	No
Resolution/Number of Regions	10	9	8	19 sections, split further into 190 subsections	12	11
Distinguishes between key regions or subregions (e.g., coast vs. coast range; Sierra Nevada vs. foothills)	No	No	No	Yes	Yes	No
Quality and Relevance of Available Descriptions	Biological information in descriptions provides limited use for Program EIR	Biologically-based descriptions are available and moderately useful for Program EIR	No biologically-based descriptions available	Biologically-based descriptions are available and useful for Program EIR; classification uses contemporary vegetation typing system (Sawyer and Keeler-Wolf 1995, 2009)	Biological information in descriptions provides limited use for Program EIR	Descriptions are incomplete
Other Attributes						
Source	FRAP	CDFG	CDC	USFS	EPA	TNC
Year	2004	2007	2002	1997	2005	2009
Accessible Electronic Download to GIS	Yes	No	Yes	Yes	Yes	Yes

Acronym Definitions:
CBC = California Biodiversity Council
CDC = California Department of Conservation
EPA = U.S. Environmental Protection Agency
FRAP = Fire and Resource Assessment Program, California Department of Forestry and Fire Protection
TNC = The Nature Conservancy
USFS = U.S. Forest Service, Department of Agriculture

OVERVIEW OF ECOREGION DESCRIPTION CONTENT

The environmental setting for terrestrial biological resources was developed to focus on the existing dominant common and sensitive resources that potentially occur in the vicinity of park units and their surrounding regions, based on their ecoregion location. These resources are characterized primarily at the USFS Ecological Section and Subsection level (Exhibit 3-1; see Appendix G for USFS Ecological Section and Subsection Maps). The program-level setting for terrestrial biological resources broadly assumes that the common and sensitive biological resources identified within an Ecological Section or Subsection could potentially occur within or adjacent to park units within the Section or Subsection. In this analysis, USFS Ecological Sections and Subsections are also referred to generally as “ecoregions.”

Each ecoregion description includes a summary of the primary or characteristic common and sensitive biological resources. Tables that summarize vegetation communities and habitats, sensitive natural communities, special-status species, critical habitat, and park units by Ecological Section and Subsection are included and referenced in each ecoregion description. Because of the program level and statewide scope of this analysis, the environmental setting and ecoregion descriptions are not intended to provide a full inventory of all common and sensitive biological resources that are known or could occur in a particular CSP unit. During project-level planning and evaluation, a combination of data sources and survey efforts would additionally be used to determine the specific biological resources known or with potential to occur in a particular CSP unit or project area.

The following introduces the types of content summarized in each ecoregion description; the descriptions themselves are provided at the end of this section.

VEGETATION COMMUNITIES AND WILDLIFE HABITATS

Dominant vegetation communities and habitat descriptions were developed using those provided in *Ecological Subregions of California: Section and Subsection Descriptions* (USFS 1997, 1998). Other site-specific resources not described among the broader ecoregion resources may be present; these would be addressed during project-level environmental review.

SENSITIVE BIOLOGICAL RESOURCES

The California Natural Diversity Database (CNDDB) and its GIS application were used as the primary sources to identify and map previously reported occurrences of special-status species and sensitive natural communities within Ecological Section/Subsections and the vicinities of park units within each Section and Subsection. The CNDDB is a statewide database, managed by the California Department of Fish and Game (CDFG) that is continually updated with the location and condition of the State’s rare and declining species and habitats. Although the CNDDB is the most current and reliable tool available for tracking occurrences of special-status species statewide, it contains only those records that have been reported to CDFG. For key special-status species that have ranges not well-represented by CNDDB distribution data, CWHR range maps were additionally used to determine potential for occurrence within Ecological Sections and Subsections.

At the project-evaluation level of analysis, in addition to CNDDB records, other data sources would additionally be used to determine sensitive biological resources with potential to occur in a project area, including reconnaissance surveys, the California Native Plant Society’s (CNPS’s) online *Inventory of Rare and Endangered Plants*, U.S. Fish and Wildlife Service species lists, CSP data and input from CSP biologists, other local CSP or other professional knowledge, and relevant environmental documents and reports.

Special-Status Species

Special-status species are plants and animals in the following categories:

- Listed or proposed for listing as threatened or endangered under federal Endangered Species Act (FESA) or candidates for possible future listing;
- Listed or candidates for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA);

- Listed as fully protected under the California Fish and Game Code;
- Animals identified by CDFG as species of special concern;
- Plants considered by CDFG to be "rare, threatened or endangered in California" (California Rare Plant Ranks of 1A, presumed extinct in California; 1B, considered rare or endangered in California and elsewhere ; and 2, considered rare or endangered in California but more common elsewhere). Note, that while these rankings do not afford the same type of legal protection as FESA or CESA, the uniqueness of these species requires special consideration under CEQA;
- Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA Section15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G); or
- Otherwise meets the definition of rare or endangered under CEQA Section 15380(b) and (d).

Sensitive Natural Communities

Sensitive natural communities or habitats are those of special concern to resource agencies or those that are afforded specific consideration, based on Section 404 of the Clean Water Act (CWA), California Coastal Act (e.g., Environmentally Sensitive Habitat Areas in coastal zones), and other applicable regulations. This concern may be due to locally or regionally declining status of these habitats, or because they provide important habitat to common and special-status species. Many of these communities are tracked in the CNDDB.

Critical Habitat

Critical habitat is a U.S. Fish and Wildlife Service (USFWS)-designated geographic area that is considered essential for the conservation of a threatened or endangered species that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species, but that will be needed for its recovery. A critical habitat designation only affects activities performed by Federal agencies or that involve a Federal permit, license, or funding, and that are likely to destroy or adversely modify the area of critical habitat. Although CSP, as a state agency, is not required to consult with USFWS for actions within critical habitat, DOM 0311.5.2.1(b) states that it is the policy of CSP to work with agencies to help ensure that any formal delineation of critical habitat on State Park System lands is compatible with State Park System management goals.

ECOREGION SECTIONS

CENTRAL CALIFORNIA COAST ECOLOGICAL SECTION

The Central California Coast Section consists of mountains, hills, valleys, and plains in the southern Coast Ranges of California. Elevations range from sea level to 3,800 feet. The Central California Coast Section is divided into 12 subsections and within these there are 62 CSP units (Appendix H). Three Subsections (North Coastal Santa Lucia Range, Santa Cruz Mountains, and Watsonville Plain – Salinas Valley) contain a majority of the CSP units.

Dominant vegetation includes blue oak, broom, cheatgrass, coast live oak, chamise, valley oak, redwood, Douglas-fir-tanoak, and California sagebrush (Table 4.4-2). More than 348 special-status plants and wildlife are known to occur within the Central California Coast Section (Appendix I-1). Plant species include Santa Cruz tarplant (*Holocarpha macradenia*), Contra Costa goldfields (*Lasthenia conjugens*), and marsh sandwort (*Arenaria paludicola*). Wildlife species include California red-legged frog (*Rana draytonii*), California tiger salamander (*Ambystoma californiense*), American badger (*Taxidea taxus*), burrowing owl (*Athene cunicularia*), pallid bat (*Antrozous pallidus*), tricolored blackbird (*Agelaius tricolor*), marbled murrelet (*Brachyramphus marmoratus*), California clapper rail (*Rallus longirostris obsoletus*), California spotted owl (*Strix occidentalis occidentalis*), California brown pelican (*Pelecanus occidentalis californicus*), and western snowy plover (*Charadrius alexandrinus nivosus*). Twenty-six rare natural communities are found throughout the Ecoregion (Appendix I-1), including northern coastal salt marsh, serpentine bunchgrass, and valley needlegrass grassland. Designated critical habitat within subsections containing CSP units is listed in Appendix J-1a and mapped in Appendix J-1b and includes eight plant species and 17 wildlife species.

CENTRAL CALIFORNIA COAST RANGES ECOLOGICAL SECTION

The Central California Coast Ranges Section is the interior part of the southern Coast Ranges, immediately east of the Central California Coast Section and south of the Carquinez Strait. Elevations range from 100 to 5,200 feet. Ten CSP units occur within five of the 11 Subsections of the Central California Coast Ranges Section (Appendix H-1). Two subsections (Diablo Range and Eastern Hills) contain 70 percent of the CSP units within this Section.

Predominant vegetation communities in this section include coast live oak, blue oak, cheatgrass, chamise, valley oak and mixed chaparral shrublands (Table 4.4-2). The Central California Coast Ranges Section includes at least 139 known special-status plant and wildlife species (Appendix I-2). Plant species include large-flowered fiddleneck (*Amsinckia grandiflora*), Contra Costa goldfields (*Lasthenia conjugens*), and San Joaquin spearscale (*Atriplex joaquiniana*). Wildlife species include San Joaquin kit fox (*Vulpes macrotis mutica*), California tiger salamander, California red-legged frog, American badger, burrowing owl, coast horned lizard (*Phrynosoma blainvillii*), foothill yellow-legged frog (*Rana boylii*), pallid bat, and western pond turtle (*Emys marmorata*). Thirteen rare Natural Communities are found throughout the Ecoregion (Appendix I-2), including sycamore alluvial woodland, valley sink scrub, Great Valley mesquite scrub, and valley needlegrass grassland. Designated critical habitat within the subsections containing CSP units is listed in Appendix J-2a and mapped in Appendix J-2b and includes two plant species and eight wildlife species. The California condor (*Gymnogyps californianus*) is being reintroduced in the southern part of the Ecoregion.

COLORADO DESERT ECOLOGICAL SECTION

The Colorado Desert Section is a very hot part of the Basin and Range Province that is sometimes called the Salton Trough. The surfaces of sediments in the middle of the trough are about 275 feet below sea-level. Elevations range from the current level of the Salton Sea, about 230 feet below sea level, to 2,200 feet. The Colorado Desert Section is further divided into four subsections, three of which contain the six CSP units within the Ecoregion (Appendix H-1).

Predominant vegetation communities in this section include creosote bush - white bursage, allscale, mesquite, ocotillo, and fan palm (Table 4.4-2). Approximately 110 special-status plant and wildlife species occur within the Colorado Desert Section (Appendix I-3). Plant species include chaparral sand-verbena (*Abronia villosa* var. *aurita*) and triple-ribbed milk-vetch (*Astragalus tricarinatus*). Wildlife species include desert pupfish (*Cyprinodon macularius*), American badger, California red-legged frog, , burrowing owl, flat-tailed horned lizard (*Phrynosoma mcallii*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), western mastiff bat (*Eumops perotis californicus*), and western yellow bat (*Lasiurus xanthinus*). Six rare Natural Communities are found throughout the Ecoregion (Appendix I-3), including desert fan palm oasis woodland, active desert dunes, and transmontane alkali marsh. Designated critical habitat within the subsections containing CSP units is listed in Appendix J-3a and mapped in Appendix J-3b and includes four wildlife species: desert pupfish (*Cyprinodon macularius*), peninsular bighorn sheep (*Ovis canadensis nelsoni*), Coachella Valley fringe-toed lizard (*Uma inornata*), and desert tortoise (*Gopherus agassizii*).

GREAT VALLEY ECOLOGICAL SECTION

The Great Valley Section contains the alluvial plains of the Sacramento and San Joaquin Valleys. Summers are hot and dry and winters are mild. Elevations range from sea level to 2,000 feet. The Great Valley section is divided into 26 subsections. Fourteen of these subsections contain a total of 30 CSP units (Appendix H-1).

Predominant vegetation communities in this section include cheatgrass, valley oak, vernal pools and wetland communities, blue oak, allscale, and saltgrass (Table 4.4-2). The Great Valley Section contains approximately 211 special-status plant and wildlife species (Appendix I-4). Plant species include woolly rose-mallow (*Hibiscus lasiocarpos* var. *occidentalis*), recurved larkspur (*Delphinium recurvatum*), heartscale (*Atriplex cordulata*), brittlescale (*Atriplex depressa*), and Sanford's arrowhead (*Sagittaria sanfordii*). Wildlife species include giant garter snake (*Thamnophis gigas*), American badger, burrowing owl, mountain plover (*Charadrius montanus*), tricolored blackbird, and western pond turtle. Twenty-seven rare Natural Communities are found throughout the Ecoregion (Appendix I-4), including coastal and valley freshwater marsh, Great Valley oak riparian forest, and Northern hardpan vernal pool. Designated critical habitat within the subsections containing CSP units is listed in Appendix J-4a and mapped in Appendix J-4b and includes twelve plant species and fourteen wildlife species, including vernal pool tadpole shrimp (*Lepidurus packardi*), steelhead (*Oncorhynchus mykiss)*, and vernal pool fairy shrimp (*Branchinecta lynchi*).

KLAMATH MOUNTAINS ECOLOGICAL SECTION

The Klamath Mountains Section is between the Southern Cascades Mountains and the Coast Range mountains. The southern limit is the northern end of the Great Valley. Elevations range from 200 to 9,000 feet. The Klamath Mountains section is divided into 21 subsections. Five CSP units are located throughout five of these subsections (Appendix H-1).

Predominant vegetation communities in this section include Douglas-fir, Douglas-fir – tanoak, Jeffrey pine, mixed conifer, white fir, Douglas-fir – ponderosa pine, canyon live oak, Oregon white oak, mixed chaparral shrublands, red fir, and mixed subalpine forest (Table 4.4-2). More than 150 special-status plant and wildlife species occur within the Klamath Section (Appendix I-5). Plant species include Heckner's lewisia (*Lewisia cotyledon* var. *heckneri*), white-flowered rein orchid (*Piperia candida*), Shasta chaenactis (*Chaenactis suffrutescens*), Dudley's rush (*Juncus dudleyi*), and water bulrush (*Schoenoplectus subterminalis*). Wildlife species include northern spotted owl (*Strix occidentalis caurina*), foothill yellow-legged frog, northern goshawk (*Accipiter gentilis*), Pacific fisher (*Martes pennanti* (*pacifica*) DPS), Pacific tailed frog (*Ascaphus truei*), and western pond turtle. Nine rare Natural Communities are found throughout the Ecoregion (Appendix I-5), including Darlingtonia seep and northern interior cypress forest. Designated critical habitat within the subsections containing CSP units is listed in Appendix J-5a and mapped in Appendix J-5b and includes four wildlife species: marbled murrelet, northern spotted owl, steelhead, and chinook salmon (*Oncorhynchus* (=*Salmo*) *tshawytscha*).

MOJAVE DESERT ECOLOGICAL SECTION

The Mojave Desert Section is the hot part of the Basin and ranges from the southern end of the Sierra Nevada and the north-northeastern side of the Transverse Ranges to Nevada and Arizona. Elevations range from 280 feet below sea level to 7,900 feet above sea level. Seven CSP units are located in three of the 16 subsections of the Mojave Desert Section (Appendix H-1).

Predominant vegetation communities in this section include creosote bush, creosote bush - white bursage, allscale, mixed saltbush, iodine bush, Joshua Tree, shadscale, black bush, mesquite, California Juniper, singleleaf pinyon - Utah juniper, and white fir (high peaks) (Table 4.4-2). More than 171 special-status plant and wildlife species occur within the Mojave Desert Section (Appendix I-6). Plant species include alkali mariposa-lily (*Calochortus striatus*), Charlotte's phacelia (*Phacelia nashiana*), Clokey's cryptantha (*Cryptantha clokeyi*), Red Rock poppy (*Eschscholzia minutiflora* ssp. *twisselmannii*), and Red Rock tarplant (*Deinandra arida*). Wildlife species include desert tortoise, American badger, burrowing owl, Crissal thrasher (*Toxostoma crissale*), Le Conte's thrasher (*Toxostoma lecontei*), pallid bat, and Townsend's big-eared bat (*Corynorhinus townsendii*). Ten rare Natural Communities are found throughout the Ecoregion (Appendix I-6), including Mojave riparian forest and valley oak woodland. Designated critical habitat within the subsections containing CSP units is listed in Appendix J-6a and mapped in Appendix J-6b and includes five wildlife species: arroyo (= arroyo southwestern) toad, desert tortoise, California condor, Inyo California towhee, and southwestern willow flycatcher (*Empidonax traillii extimus*).

MONO ECOLOGICAL SECTION

The Mono Section is in the western part of the Great Basin, just east of the Sierra Nevada. Elevations range from 4,400 to 14,200 feet. The Mono Section is divided into 13 subsections, two of these subsections are completely within the state of Nevada. Two of these subsections contain one CSP unit each (Appendix H-1).

Predominant vegetation communities in this section include big sagebrush, Utah juniper, singleleaf pinyon, shadscale, low sagebrush, Jeffrey pine, white fir, aspen, and bristlecone pine (Table 4.4-2). More than 55 special-status plant and wildlife species occur within the Mono Section (Appendix I-7). Plant species include Masonic Mountain jewel-flower (*Streptanthus oliganthus*), dune horsebrush (*Tetradymia tetrameres*), foxtail thelypodium (*Thelypodium integrifolium* ssp. *complanatum*), golden violet (*Viola purpurea* ssp. *aurea*), and Torrey's blazing star (*Mentzelia torreyi*). Wildlife species include Mount Lyell shrew (*Sorex lyelli*), pygmy rabbit (*Brachylagus idahoensis*), and western white-tailed jackrabbit (*Lepus townsendii townsendii*). The Mono pumice flat, a rare Natural Community, is found in the Mono Ecoregion (Appendix I-7). Designated critical habitat for Sierra Nevada bighorn sheep is located within the subsections containing CSP units (Appendix J-7a and J-7b).

NORTHERN CALIFORNIA COAST ECOLOGICAL SECTION

The Northern California Coast Section encompasses mountains, hills, valleys, and plains in the northern California Coast Ranges and small parts of the Klamath mountains. Elevations range from sea level to 3,000 feet. The Northern California Coast section is divided into 13 subsections. Eight of these subsections contain a total of 59 CSP units (Appendix H-1).

Predominant vegetation communities in this section include redwood, Douglas-fir - tanoak, Oregon white oak, broom, cheatgrass, tanoak, and coast live oak (Table 4.4-2). More than 315 special-status plant and wildlife species occur within the Northern California Coast Section (Appendix I-8). Plant species include pink sand-verbena (*Abronia umbellata* var. *breviflora*), coastal triquetrella (*Triquetrella californica*), dark-eyed gilia (*Gilia millefoliata*), Humboldt Bay owl's-clover (*Castilleja ambigua* ssp. *humboldtiensis*), and short-leaved evax (*Hesperevax sparsiflora* var. *brevifolia*). Wildlife species include tidewater goby (*Eucyclogobius newberryi*), northern spotted owl, foothill yellow-legged frog, pallid bat, and western snowy plover. Twenty-three rare Natural Communities are found throughout the Ecoregion (Appendix I-8), including coastal and valley freshwater marsh, northern coastal salt marsh, coastal brackish marsh, and northern vernal pool. Designated critical habitat within the subsections containing CSP units is listed in Appendix J-8a and mapped in Appendix J-8b and includes four plant species and nine wildlife species, including Contra Costa goldfields, California red-legged frog, marbled murrelet, and northern spotted owl.

NORTHERN CALIFORNIA COAST RANGES ECOLOGICAL SECTION

The Northern California Coast Ranges Section is in the interior part of the northern California Coast Range mountains, north of the Carquinez Straight. Elevations range from 300 to 8,100 feet. The Northern California Coast Ranges Section is divided into six subsections. Two of these subsections contain a total of four CSP units (Appendix H-1).

Predominant vegetation communities in this section include Douglas-fir - tanoak, blue oak, Oregon white oak, chamise, cheatgrass, mixed conifer, and white fir (Table 4.4-2). More than 124 special-status plant and wildlife species occur within the Northern California Coast Ranges Section (Appendix I-9). Plant species include Burke's goldfields (*Lasthenia burkei*), few-flowered navarretia (*Navarretia leucocephala* ssp. *pauciflora*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), serpentine cryptantha (*Cryptantha dissita*), and adobe-lily (*Fritillaria pluriflora*). Wildlife species include American badger, foothill yellow-legged frog, pallid bat, tricolored blackbird, and western pond turtle. Thirteen rare Natural Communities are found throughout the Ecoregion (Appendix I-9). Designated critical habitat within the subsections containing CSP units is listed in Appendix J-9a and mapped in Appendix J-9b and includes one plant species, slender Orcutt grass, and four wildlife species, marbled murrelet, northern spotted owl, steelhead, and chinook salmon.

NORTHERN CALIFORNIA INTERIOR COAST RANGES ECOLOGICAL SECTION

The Northern California Interior Coast Ranges Section is the southeastern edge of the northern California Coast Ranges mountains, south of Cache Creek, and hills and terraces along the west side and north end of the Sacramento Valley. Elevations range from 200 to 3,000 feet. The Northern California Interior Coast Ranges Section is divided into three subsections, however, there is only one CSP unit within the Tehama Terraces subsection (Appendix H-1).

Predominant vegetation communities in this section include blue oak, chamise, cheatgrass, and foothill pine (Table 4.4-2). This section includes more than 34 special-status plant and wildlife species (Appendix I-10). Plant species include slender Orcutt grass, Boggs Lake hedge-hyssop, and adobe-lily. Wildlife species include pallid bat, burrowing owl, tricolored blackbird, and western pond turtle. Six rare Natural Communities are found throughout the Ecoregion (Appendix I-10), including Great Valley cottonwood riparian forest, northern hardpan vernal pool, and valley needlegrass grassland. Designated critical habitat within the subsections containing CSP units is listed in Appendix J-10a and mapped in Appendix J-10b and includes one plant species, slender Orcutt grass, and four wildlife species, vernal pool tadpole shrimp, steelhead, vernal pool fairy shrimp, and chinook salmon.

SIERRA NEVADA ECOLOGICAL SECTION

The Sierra Nevada Section is the temperate to very cold parts of the Sierra Nevada, which is a north-northwest aligned mountain range that is much steeper on the east than on the west side. Elevations range from 1,000 to 14,495 feet. Local relief ranges from 500 to 2,000 feet. The Sierra Nevada Section is divided into 21 subsections. Ten of these subsections contain a total of 22 CSP units (Appendix H-1).

Predominant vegetation communities in this section include mixed conifer, ponderosa pine, Jeffrey pine, white fir, red fir, lodgepole pine, huckleberry oak, western juniper, aspen, big sagebrush, mixed subalpine forest, mountain hemlock, whitebark pine, and giant sequoia (Table 4.4-2). The Sierra Nevada section contains more than 283 special-status plant and wildlife species (Appendix I-11). Plant species include slender Davy's sedge (*Carex davyi*), mud sedge (*Carex limosa*), Tahoe yellow cress (*Rorippa subumbellata*), and closed-throated beardtongue (*Penstemon personatus*). Wildlife species include American badger, California spotted owl, northern goshawk, Pacific fisher, and Sierra Nevada yellow-legged frog (*Rana sierrae*). Fourteen rare Natural

Communities are found throughout the Ecoregion (Appendix I-11), including Darlingtonia seep, southern interior cypress forest, and valley oak woodland. Designated critical habitat within the subsections containing CSP units is listed in Appendix J-11a and mapped in Appendix J-11b and includes four wildlife species: California condor, Sierra Nevada bighorn sheep, southwestern willow flycatcher, and California red-legged frog.

SIERRA NEVADA FOOTHILLS ECOLOGICAL SECTION

The Sierra Nevada Foothills Section comprises the hot foothills of the Sierra Nevada, and the southwestern end of the Cascade Ranges, adjacent to the Great Valley. Elevations range from 200 to 5,000 feet. The Sierra Nevada Foothills Section is divided into five subsections. Three of these subsections contain a total of 11 CSP units (Appendix H-1).

Predominant vegetation communities in this section include blue oak , broom, cheatgrass, chamise, mixed chaparral, foothill pine, and valley oak (Table 4.4-2). This section includes more than 128 special-status plant and wildlife species (Appendix I-12). Plant species include Madera leptosiphon (*Leptosiphon serrulatus*), Hartweg's golden sunburst (*Pseudobahia bahiifolia*), and succulent owl's-clover (*Castilleja campestris* ssp. *succulenta*). Wildlife species include golden eagle (*Aquila chrysaetos*), burrowing owl, pallid bat, tricolored blackbird, and western pond turtle. Fifteen rare Natural Communities are found throughout the Ecoregion (Appendix I-12), including Central Valley drainage hardhead/Squawfish stream, northern basalt flow vernal pool, and northern hardpan vernal pool. Designated critical habitat within the subsections containing CSP units is listed in Appendix J-12a and mapped in Appendix J-12b and includes seven plant species and eight wildlife species, including San Joaquin Orcutt grass, hairy Orcutt grass, California condor, vernal pool tadpole shrimp, and California tiger salamander.

SONORAN DESERT ECOLOGICAL SECTION

The Sonoran Desert Section is the hot part of the Basin and Range Province, from the eastern end of the Transverse Ranges and the Salton Trough east to Arizona. Elevations range from 250 to 4,400 feet. The Sonoran Desert Section is divided into five subsections, however, there is only one CSP unit entirely within onesubsection (Appendix H-1).

Predominant vegetation communities in this section include creosote bush, creosote bush - white bursage, mixed salt bush, blue palo verde - ironwood - smoke tree, mesquite, ocotillo, and foothill paloverde – saguaro (Table 4.4-2). This section includes more than 59 special-status plant and wildlife species (Appendix I-13). Plant species include triple-ribbed milk-vetch (*Astragalus tricarinatus*), bitter hymenoxys (*Hymenoxys odorata*), and Munz's cholla (*Cylindropuntia munzii*). Wildlife species include razorback sucker (*Xyrauchen texanus*), Yuma clapper rail (*Rallus longirostris yumanensis*), American badger, Colorado River cotton rat (*Sigmodon arizonae plenus*), and yellow-breasted chat (*Icteria virens*). Two rare Natural Communities are found in the Ecoregion (Appendix I-13), desert fan palm oasis woodland and Sonoran cottonwood willow riparian forest. Designated critical habitat within the subsection is listed in Appendix J-13a and mapped in Appendix J-13b and includes two wildlife species: razorback sucker and desert tortoise.

SOUTHERN CALIFORNIA COAST ECOLOGICAL SECTION

The Southern California Coast Section contains mountains, hills, valleys, and plains of the Transverse Ranges and of the Peninsular Ranges that are close enough to the Pacific Ocean for the climate to be modified greatly by marine influence. Elevations range from sea level to 3,000 feet. The Southern California Coast Section is divided into ten subsections. Eight of these subsections contain a total of 38 CSP units (Appendix H-1).

Predominant vegetation communities in this section include California sagebrush - California buckwheat, mixed chaparral shrublands, coast live oak, chamise, valley oak, and mixed sage (Table 4.4-2). This section includes more than 262 special-status plant and wildlife species (Appendix I-14). Plant species include Blochman's dudleya (*Dudleya blochmaniae* ssp. *blochmaniae*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), and Plummer's mariposa-lily (*Calochortus plummerae*). Wildlife species include least Bell's vireo (*Vireo bellii pusillus*), American badger, coast horned lizard, pallid bat, San Diego desert woodrat (*Neotoma lepida intermedia*), and western pond turtle. Thirty-six rare Natural Communities are found throughout the Ecoregion (Appendix I-14), including southern coast live oak riparian forest, southern sycamore alder riparian woodland, and southern cottonwood willow riparian forest. Designated critical habitat within the subsections containing CSP units is listed in Appendix J-14a and mapped in Appendix J-14b and includes 13 plant species and 16 wildlife species, including Braunton's milk-vetch (*Astragalus brauntonii*), least Bell's vireo , coastal California gnatcatcher (*Polioptila californica californica*), and steelhead.

SOUTHERN CALIFORNIA MOUNTAINS AND VALLEYS ECOLOGICAL SECTION

The Southern California Mountains and Valleys Section includes mountains, hills and valleys of the Transverse Ranges and the Peninsular Ranges that are near the Pacific Ocean, but not bordering it. Elevations range from 300 to 11,500 feet. The Southern California Mountains and Valleys Section is divided into 16 subsections. Twelve of these subsections contain a total of 14 CSP units (Appendix H-1).

Predominant vegetation communities in this section include mixed chaparral shrublands, chamise, canyon live oak, coast live oak, ponderosa pine, Jeffrey pine, white fir, and lodgepole pine (Table 4.4-2). This section includes more than 355 special-status plant and wildlife species (Appendix I-15). Plant species include Nevin's barberry (*Berberis nevinii*), Mojave tarplant (*Deinandra mohavensis*), lemon lily (*Lilium parryi*), and Parry's spineflower (*Chorizanthe parryi* var. *parryi*). Wildlife species include least Bell's vireo, arroyo toad (*Anaxyrus californicus*), golden eagle, American badger, coast horned lizard, and two-striped garter snake (*Thamnophis hammondii*). Twenty-five rare Natural Communities are found throughout the Ecoregion (Appendix I-15), including desert fan palm oasis woodland, southern coast live oak riparian forest, and southern cottonwood willow riparian forest. Designated critical habitat within the subsections containing CSP units is listed in Appendix J-15a and mapped in Appendix J-15b and includes 18 plant species and 17 wildlife species, including arroyo (=arroyo southwestern) toad, quino checkerspot butterfly (*Euphydryas editha quino*), and southwestern willow flycatcher.

SOUTHERN CASCADES ECOLOGICAL SECTION

The Southern Cascades Section comprises the southern Cascade Ranges. The crest of the mountain chain is aligned toward the north-northwest between the Sierra Nevada and Mt. Shasta and toward the north from Mt. Shasta northward. Elevations range from 2,000 to 14,000 feet. The Southern Cascades Section is divided into 13 subsections, however only two subsections contain the two CSP units in the section (Appendix H-1).

Predominant vegetation communities in this section include ponderosa pine, big sagebrush, Idaho fescue, western juniper, mixed conifer, white fir, red fir, and lodgepole pine (Table 4.4-2). The Southern Cascades Section includes more than 74 special-status plant and wildlife species (Appendix I-16). Plant species include slender Orcutt grass, Boggs Lake hedge-hyssop, Modoc County knotweed (*Polygonum polygaloides* ssp. *esotericum*), and Lemmon's milk-vetch (*Astragalus lemmonii*). Wildlife species include Shasta crayfish (*Pacifastacus fortis*), northern spotted owl, northern goshawk, Pacific fisher, and tricolored blackbird. Eight rare Natural Communities are found throughout the Ecoregion (Appendix I-16), including Big Lake, northern basalt flow vernal pool, and Pit River drainage rough sculpin/Shasta crayfish spring stream. Designated critical habitat within the subsections containing CSP units is listed in Appendix J-16a and mapped in Appendix J-16b and includes 2 plant species, Greene’s tuctoria (*Tuctoria greenei*) and slender Orcutt grass, and one wildlife species, northern spotted owl.

Table 4.4-2 Vegetation Communities and Park Units Within Ecological Sections[1]

USFS Ecological Section	Geographic Summary	Vegetation Communities[2] and Habitats				Park Units Within Ecological Section	
		Predominant Vegetation	Other Vegetation Potentially Within All Subsections But Not Extensive	Riparian Communities	Vegetation Dominated by Exotic Plants		
Central California Coast	This section consists of mountains, hills, valleys, and plains in the southern Coast Ranges of California.	Blue oak, broom, cheatgrass, coast live oak , chamise, valley oak, redwood, Douglas-fir – tanoak, and California sagebrush.	Beaked sedge, black cottonwood, bulrush, bulrush – cattail, cattail, California oatgrass, creeping ryegrass, duckweed, foothill needlegrass, Mexican elderberry, mosquito fern, nodding needlegrass, one-sided bluegrass, pondweeds with floating leaves, pondweeds with submerged leaves, purple needlegrass, saltgrass, sedge and spikerush.	Arroyo willow , buttonbush, California sycamore, Fremont cottonwood, mixed willow, mulefat, narrowleaf willow, red willow, sitka willow, and white alder.	Broom, California annual grassland , cheatgrass, eucalyptus, giant reed, iceplant, pampas grass.	〉 Andrew Molera SP 〉 Ano Nuevo SP 〉 Asilomar State Beach 〉 Bean Hollow State Beach 〉 Benicia Capitol SHP 〉 Benicia SRA 〉 Big Basin Redwoods SP 〉 Burleigh H. Murray Ranch 〉 Butano SP 〉 Candlestick Point SRA 〉 Carmel River State Beach 〉 Castle Rock SP 〉 Castro Adobe 〉 Estero Bluffs SP 〉 Fort Ord Dunes SP 〉 Garrapata SP 〉 Gray Whale Cove State Beach 〉 Half Moon Bay State Beach 〉 Harmony Headlands SP 〉 Hatton Canyon 〉 Hearst San Simeon SHM 〉 Hearst San Simeon SP 〉 Henry Cowell Redwoods SP 〉 John Little SNR 〉 John Marsh Home SHP 〉 Julia Pfeiffer Burns SP 〉 Limekiln SP 〉 Los Osos Oaks SNR 〉 Manresa State Beach 〉 Marina State Beach 〉 Martial Cottle Park SRA	〉 Montana de Oro SP 〉 Montara State Beach 〉 Monterey State Beach 〉 Monterey SHP 〉 Morro Bay SP 〉 Morro Strand State Beach 〉 Moss Landing State Beach 〉 Mount Diablo SP 〉 Natural Bridges State Beach 〉 New Brighton State Beach 〉 Oceano Dunes SVRA 〉 Pescadero State Beach 〉 Pfeiffer Big Sur SP 〉 Pismo State Beach 〉 Point Lobos Ranch 〉 Point Lobos SNR 〉 Point Sal State Beach 〉 Point Sur SHP 〉 Pomponio State Beach 〉 Portola Redwoods SP 〉 Salinas River State Beach 〉 San Gregorio State Beach 〉 San Juan Bautista SHP 〉 Santa Cruz Mission SHP 〉 Seacliff State Beach 〉 Sunset State Beach 〉 The Forest of Nisene Marks SP 〉 Thornton State Beach 〉 Twin Lakes State Beach 〉 Wilder Ranch SP 〉 Zmudowski State Beach
Central California Coast Ranges	This section is the interior part of the southern Coast Ranges of California, south of the Carquinez Strait. It is inland from the coast far enough that the climate is modified only slightly by marine influence. It is bounded on the northeast by the alluvial plain of the San Joaquin Valley and on the southwest by the coastal part of the southern Coast Ranges. It extends south to the Transverse Ranges.	Coast live oak, blue oak, cheatgrass, chamise, valley oak and mixed chaparral shrublands.	Beaked sedge, bulrush, bulrush - cattail, cattail, creeping ryegrass, duckweed, foothill needlegrass, introduced perennial grassland, Mexican elderberry, mosquito fern, nodding needlegrass, one-sided bluegrass, pondweeds with floating leaves, pondweeds with submerged leaves, purple needlegrass, quillwort, saltgrass, sedge and spikerush.	Arroyo willow, buttonbush, California sycamore, Fremont cottonwood, mixed willow, mulefat, narrowleaf willow, red willow and white alder.	California annual grassland, cheatgrass, giant reed and tamarisk.	〉 Bethany Reservoir SRA 〉 Carnegie SVRA 〉 Fremont Peak SP 〉 Henry W. Coe SP 〉 Hollister Hills SVRA 〉 John Marsh Home SHP 〉 Lake Del Valle SRA 〉 Mount Diablo SP 〉 Pacheco SP 〉 San Luis Reservoir SRA	

Table 4.4-2 Vegetation Communities and Park Units Within Ecological Sections[1]

USFS Ecological Section	Geographic Summary	Vegetation Communities[2] and Habitats				Park Units Within Ecological Section
		Predominant Vegetation	Other Vegetation Potentially Within All Subsections But Not Extensive	Riparian Communities	Vegetation Dominated by Exotic Plants	
Colorado Desert	This section is a very hot part of the Basin and Range Province that is sometimes called the Salton Trough. The surface of sediments in the middle of the trough are about 275 feet below sea-level.	Creosote bush - white bursage, allscale, mixed salt bush, mesquite, ocotillo and fan palm.	Bulrush, bulrush-cattail, cattail, duckweed, mosquito fern, one-sided bluegrass, pondweeds with floating leaves, pondweeds with submerged leaves, saltgrass, sedge and spikerush.	Black willow, Fremont cottonwood, mixed willow, mulefat, narrowleaf willow and red willow.	California annual grassland, giant reed and tamarisk.	〉 Anza-Borrego Desert SP 〉 Desert Cahuilla/Freeman Project 〉 Heber Dunes SVRA 〉 Indio Hills Palms 〉 Ocotillo Wells SVRA 〉 Salton Sea SRA
Great Valley	This section contains the alluvial plains of the Sacramento and San Joaquin Valleys. Summers are hot and dry and winters are mild. Oceanic influence on climate is slight in the middle of the Great Valley, which receives some marine air through the Carquinez Straits, but becomes negligible at the north and south ends of the Valley.	Annual grassland, cheatgrass, valley oak, vernal pools and wetland communities, blue oak, allscale and saltgrass.	Bulrush, bulrush - cattail, cattail, duckweed, Mexican elderberry, mosquito fern, one-sided bluegrass, pondweeds with floating leaves, pondweeds with submerged leaves, saltgrass, sedge and spikerush.	Arroyo willow, black willow, buttonbush, California sycamore, Fremont cottonwood, mixed willow, mulefat, narrowleaf willow, Pacific willow, red willow and white alder.	California annual grassland, cheatgrass, common reed, eucalyptus, introduced perennial grassland, Kentucky bluegrass and tamarisk.	〉 Bidwell Mansion SHP 〉 Bidwell-Sacramento River SP 〉 Brannan Island SRA 〉 Butte City Project 〉 California State Capitol Museum 〉 Caswell Memorial SP 〉 Clay Pit SVRA 〉 Colonel Allensworth SHP 〉 Colusa-Sacramento River SRA 〉 Delta Meadows 〉 Folsom Lake SRA 〉 Folsom Powerhouse SHP 〉 Franks Tract SRA 〉 George J. Hatfield SRA 〉 Governors Mansion SHP 〉 Great Valley Grasslands SP 〉 John Marsh Home SHP 〉 Lake Oroville SRA 〉 Leland Stanford Mansion SHP 〉 McConnell SRA 〉 Old Sacramento SHP 〉 Prairie City SVRA 〉 San Luis Reservoir SRA 〉 State Indian Museum (SHP) 〉 Sutter Buttes SP 〉 Sutters Fort SHP 〉 Tule Elk SNR 〉 Turlock Lake SRA 〉 William B. Ide Adobe SHP 〉 Woodson Bridge SRA
Klamath Mountains	The Klamath Mountains section is between the Southern Cascade Mountains and the Coast Range mountains. Its southern limit is the northern end of the Great Valley.	Douglas-fir, Douglas-fir – tanoak, Jeffrey pine, mixed conifer, white fir, Douglas-fir – ponderosa pine, canyon live oak, Oregon white oak, mixed chaparral shrublands, mixed chaparral shrublands, red fir, and mixed subalpine forest.	Beaked sedge, bulrush, bulrush - cattail, bur-reed, cattail, creeping ryegrass, duckweed, Idaho fescue, introduced perennial grassland, mosquito fern, one-sided bluegrass, pondweeds with floating leaves, pondweeds with submerged leaves, quillwort, sedges, spikerush, and tufted hairgrass.	Arroyo willow, black cottonwood, Fremont cottonwood, mixed willow, montane wetland shrub habitat, mulefat, narrowleaf willow, Pacific willow, red willow, sandbar willow, and white alder.	Broom, cheatgrass, and Kentucky bluegrass.	〉 Castle Crags SP 〉 Del Norte Coast Redwoods SP 〉 Jedediah Smith Redwoods SP 〉 Shasta SHP 〉 Weaverville Joss House SHP
Modoc Plateau	This section corresponds to most of the Modoc Plateau, which is related structurally to the Basin and Range Province and lithologically to the Columbia Plateau.	Big sagebrush, western juniper, Idaho fescue, bluebunch wheatgrass, ponderosa pine, white fir, low sagebrush, Jeffrey pine, lodgepole pine, aspen, and sedge meadow communities.	Bulrush, bulrush - cattail, bur-reed, cattail, duckweed, mosquito fern , one-sided bluegrass, pondweeds with floating leaves, pondweeds with submerged leaves, sedges, spikerush, and yellow pond-lily.	Arroyo willow, black cottonwood, mixed willow, montane wetland shrub habitat, narrowleaf willow, mixed willow, red willow, and subalpine wetland shrub habitat.	Cheatgrass, crested wheatgrass, introduced perennial grassland, and Kentucky bluegrass.	No CSP ownership at this time.
Mojave Desert	This section is the hot part of the Basin and ranges from the southern end of the Sierra Nevada and the north-northeastern side of the Transverse Ranges to Nevada and Arizona.	Creosote bush, creosote bush - white bursage, allscale, mixed saltbush, iodine bush, Joshua tree, shadscale, black bush, mesquite, California Juniper, singleleaf pinyon - Utah juniper, and white fir (high peaks).	Bulrush, bulrush - cattail, cattail, cordgrass, duckweed, mosquito fern, one-sided bluegrass, pondweeds with floating leaves, pondweeds with submerged leaves, sedge, and spikerush.	Arrow weed, black willow, Fremont cottonwood, mixed willow, mulefat, narrowleaf willow, and red willow.	California annual grassland, common reed, and tamarisk.	〉 Antelope Valley Ca Poppy Preserve (SNR) 〉 Antelope Valley Indian Museum SHP 〉 Arthur B. Ripley Desert Woodland SP 〉 Providence Mountains SRA 〉 Red Rock Canyon SP 〉 Saddleback Butte SP 〉 Silverwood Lake SRA

Table 4.4-2 Vegetation Communities and Park Units Within Ecological Sections[1]

USFS Ecological Section	Geographic Summary	Vegetation Communities[2] and Habitats: Predominant Vegetation	Other Vegetation Potentially Within All Subsections But Not Extensive	Riparian Communities	Vegetation Dominated by Exotic Plants	Park Units Within Ecological Section
Mono	This section is in the western part of the Great Basin, just east of the Sierra Nevada.	Big sagebrush, Utah juniper, singleleaf pinyon, shadscale, low sagebrush, Jeffrey pine, white fir, aspen, and bristlecone pine.	Bulrush, bulrush - cattail, bur-reed, cattail, cordgrass, ditch-grass, duckweed, mosquito fern, one-sided bluegrass, pondweeds with floating leaves, pondweeds with submerged leaves, sedge, and spikerush.	Arroyo willow, black cottonwood, black willow, common reed, Fremont cottonwood, mixed willow, narrowleaf willow, red willow, and water birch.	Cheatgrass, crested wheatgrass, introduced perennial grassland, Kentucky bluegrass, and tamarisk.	〉 Bodie SHP 〉 Mono Lake Tufa SNR
Northern California Coast	This section encompasses mountains, hills, valleys, and plains in the northern California Coast Ranges and small parts of the Klamath mountains that are close enough to the Pacific Ocean for the climate to be modified greatly by marine influence. Summers are characterized by fog, cool temperatures, and higher humidity than that inland.	Redwood, Douglas-fir - tanoak, Oregon white oak, broom, cheatgrass, tanoak and coast live oak.	Bulrush, bulrush - cattail, burreed, California oatgrass, cattail, common reed, creeping ryegrass, duckweed, fen habitat, Idaho fescue, mosquito fern, one-sided bluegrass, pondweeds with floating leaves, pondweeds with submerged leaves, sedge, spikerush, tufted hairgrass and yellow pond-lily.	Arroyo willow, hooker willow, mixed willow, narrowleaf willow, Pacific willow, red willow, sandbar willow and sitka willow.	Broom, giant reed, cheatgrass, eucalyptus, iceplant, Kentucky bluegrass, pampas grass and yellow bush lupine north of Sonoma County.	〉 Admiral William Standley SRA 〉 Angel Island SP 〉 Annadel SP 〉 Armstrong Redwoods SNR 〉 Austin Creek SRA 〉 Azalea SNR 〉 Bale Grist Mill SHP 〉 Benbow Lake SRA 〉 Bothe-Napa Valley SP 〉 Caspar Headlands State Beach 〉 Caspar Headlands SNR 〉 China Camp SP 〉 Del Norte Coast Redwoods SP 〉 Fort Humbolt SHP 〉 Fort Ross SHP 〉 Greenwood State Beach 〉 Grizzly Creek Redwoods SP 〉 Harry A. Merlo SRA 〉 Hendy Woods SP 〉 Humboldt Lagoons SP 〉 Humboldt Redwoods SP 〉 Jack London SHP 〉 Jedediah Smith Redwoods SP 〉 John B. Dewitt Redwoods SNR 〉 Jug Handle SNR 〉 Kruse Rhododendron SNR 〉 Little River State Beach 〉 MacKerricher SP 〉 Mailliard Redwoods SNR 〉 Manchester SP 〉 Marconi Conference Center SHP 〉 Mendocino Headlands SP 〉 Montgomery Woods SNR 〉 Mount Tamalpais SP 〉 Navarro River Redwoods SP 〉 Olompali SHP 〉 Patricks Point SP 〉 Pelican State Beach 〉 Petaluma Adobe SHP 〉 Point Cabrillo Light Station SHP 〉 Prairie Creek Redwoods SP 〉 Reynolds WC 〉 Richardson Grove SP 〉 Robert Louis Stevenson SP 〉 Russian Gulch SP 〉 Salt Point SP 〉 Samuel P. Taylor SP 〉 Schooner Gulch State Beach 〉 Sinkyone Wilderness SP 〉 Smithe Redwoods SNR 〉 Sonoma Coast SP 〉 Sonoma SHP 〉 Standish-Hickey SRA 〉 Sugarloaf Ridge SP 〉 Tolowa Dunes SP 〉 Tomales Bay SP 〉 Trinidad State Beach 〉 Van Damme SP 〉 Westport-Union Landing State Beach
Northern California Coast Ranges	This section is the interior part of the northern California Coast Ranges mountains, north of the Carquinez Straight. Marine air modifies winter and summer temperatures, but the section is inland from the coast far enough that oceanic effects are greatly diminished.	Douglas-fir - tanoak, blue oak, Oregon white oak, chamise, cheatgrass, mixed conifer, and white fir.	Bulrush, bulrush - cattail, California oatgrass, cattail, creeping ryegrass, duckweed, Idaho fescue, mosquito fern, nodding needlegrass, one-sided bluegrass, pondweeds with floating leaves, pondweeds with submerged leaves, quillwort, sedge, spikerush, tufted hairgrass, and yellow pond-lily.	Arroyo willow, black cottonwood, black willow, Fremont cottonwood, mixed willow, mulefat, narrowleaf willow, Pacific willow, red willow, and white alder.	Cheatgrass, Kentucky bluegrass, and tamarisk.	〉 Anderson Marsh SHP 〉 Clear Lake SP 〉 Hendy Woods SP 〉 Montgomery Woods SNR

Table 4.4-2 Vegetation Communities and Park Units Within Ecological Sections[1]

USFS Ecological Section	Geographic Summary	Vegetation Communities[2] and Habitats				Park Units Within Ecological Section
		Predominant Vegetation	Other Vegetation Potentially Within All Subsections But Not Extensive	Riparian Communities	Vegetation Dominated by Exotic Plants	
Northern California Interior Coast Ranges	This section is the southeastern edge of the northern California Coast Ranges mountains, south of Cache Creek, and hills and terraces along the west side and north end of the Sacramento Valley.	Blue Oak, chamise, cheatgrass, and foothill pine.	Bulrush, bulrush - cattail, cattail, creeping ryegrass, duckweed, mosquito fern, nodding needlegrass, one-sided bluegrass, pondweeds with floating leaves, pondweeds with submerged leaves, purple needlegrass, saltgrass, sedge, and spikerush.	Arroyo willow, black willow, buttonbush, Fremont cottonwood, mixed willow, mulefat, narrowleaf willow, Pacific willow, red willow, and white alder.	Cheatgrass, eucalyptus, and tamarisk.	〉 William B. Ide Adobe SHP
Northwestern Basin and Range	This section comprises the northern, and particularly the northwestern, part of the Great Basin in the Basin and Range Province.	Big sagebrush, mixed saltbush, greasewood, and shadscale	Bulrush, bulrush - cattail, bur-reed, cattail, cordgrass, duckweed, mosquito fern, one-sided bluegrass, pondweeds with floating leaves, pondweeds with submerged leaves, sedge, and spikerush.	Arroyo willow, black willow, common reed, mixed willow, narrowleaf willow, red willow, and water birch	Cheatgrass, crested wheatgrass, introduced perennial grassland, and Kentucky bluegrass.	No CSP ownership at this time.
Sierra Nevada	This section is the temperate to very cold parts of the Sierra Nevada, which is a north-northwest aligned mountain range that is much steeper on the east than on the west side.	Mixed conifer, Ponderosa pine, Jeffrey pine, white fir, red fir, lodgepole pine, Huckleberry oak, western Juniper, aspen, big sagebrush, mixed subalpine forest, mountain hemlock, whitebark pine, and giant sequoia.	Bulrush, bulrush - cattail, Bur-reed, common reed, cattail, creeping ryegrass, ditch-grass, duckweed, holodiscus, mosquito fern, one-sided bluegrass, pondweeds with floating leaves, pondweeds with submerged leaves, quillwort, saltgrass, sedge, spikerush, tufted hairgrass, and yellow pond-lily.	Black cottonwood, mixed willow, montane wetland shrub habitat, mountain alder, narrowleaf willow, Pacific willow, and red willow.	Broom, California annual grassland, cheatgrass, introduced perennial grassland, Kentucky bluegrass, and tamarisk.	〉 Auburn SRA 〉 Burton Creek SP 〉 Calaveras Big Trees SP 〉 Columbia SHP 〉 D.L. Bliss SP 〉 Donner Memorial SP 〉 Ed Zberg Sugar Pine Point SP 〉 Emerald Bay SP 〉 Empire Mine SHP 〉 Grover Hot Springs SP 〉 Indian Grinding Rock SHP 〉 Kings Beach SRA 〉 Lake Oroville SRA 〉 Lake Valley SRA 〉 Malakoff Diggins SHP 〉 Mono Lake Tufa SNR 〉 Plumas-Eureka SP 〉 South Yuba River SP 〉 Tahoe SRA 〉 Tomo-Kahni SHP 〉 Ward Creek 〉 Washoe Meadows SP
Sierra Nevada Foothills	This section comprises the hot foothills of the Sierra Nevada, and the southwestern end of the Cascade Ranges, adjacent to the Great Valley.	Blue oak , needlegrass grasslands, chamise, mixed chaparral, foothill pine, and valley oak.	Bulrush, bulrush - cattail, cattail, common reed, deerbrush, duckweed, mosquito fern, one-sided bluegrass, pondweeds with floating leaves, pondweeds with submerged leaves, purple needlegrass, quillwort, sedge, spikerush, and tufted hairgrass.	Arroyo willow, black willow, buttonbush, California sycamore, Fremont cottonwood, mixed willow, narrowleaf willow, mulefat, Pacific willow, red willow, and white alder.	Broom, California annual grassland, cheatgrass, giant reed, introduced perennial grassland, Kentucky bluegrass, and tamarisk.	〉 Auburn SRA 〉 California Mining and Mineral Museum 〉 Folsom Lake SRA 〉 Folsom Powerhouse SHP 〉 Fort Tejon SHP 〉 Lake Oroville SRA 〉 Marshall Gold Discovery SHP 〉 Millerton Lake SRA 〉 Prairie City SVRA 〉 Railtown 1897 SHP 〉 South Yuba River SP
Sonoran Desert	This section is the hot part of the Basin and Range Province, from the eastern end of the Transverse Ranges and the Salton Trough east to Arizona.	Creosote bush, creosote bush - white bursage, mixed salt bush, blue palo verde - ironwood - smoke tree, mesquite, ocotillo, and foothill paloverde – saguaro.	Bulrush, bulrush - cattail, cattail, duckweed, mosquito fern, pondweeds with floating leaves, pondweeds with submerged leaves, saltgrass, sedge, and spikerush.	Arrow weed, black willow, Fremont cottonwood, mixed willow, mulefat, narrowleaf willow, and red willow.	Giant reed and tamarisk.	〉 Picacho SRA

Table 4.4-2 Vegetation Communities and Park Units Within Ecological Sections[1]

USFS Ecological Section	Geographic Summary	Vegetation Communities[2] and Habitats				Park Units Within Ecological Section
		Predominant Vegetation	Other Vegetation Potentially Within All Subsections But Not Extensive	Riparian Communities	Vegetation Dominated by Exotic Plants	
Southeastern Great Basin	This section comprises the southern Great Basin in the Basin and Range geomorphic province.	Big sagebrush, singleleaf pinyon, Utah juniper, low sagebrush, shadscale, mixed saltbrush, and bristlecone pine	Bulrush, bulrush - cattail, cattail, cordgrass, duckweed, mosquito fern, one-sided bluegrass, pondweeds with floating leaves, pondweeds with submerged leaves, sedge, and spikerush.	Arrow weed, black willow, Fremont cottonwood, mixed willow, narrowleaf willow, and red willow.	Tamarisk.	No CSP ownership at this time.
Southern California Coast	This section contains mountains, hills, valleys, and plains of the Transverse Ranges and of the Peninsular Ranges that are close enough to the Pacific Ocean for the climate to be modified greatly by marine influence.	California sagebrush - California buckwheat, mixed chaparral shrublands, coast live oak, chamise, valley oak, and mixed sage.	Alkali sacaton, bulrush, bulrush - cattail, cattail, creeping ryegrass, duckweed, foothill needlegrass, Mexican elderberry, mosquito fern, nodding needlegrass, one-sided bluegrass, pondweeds with floating leaves, pondweeds with submerged leaves, purple needlegrass, saltgrass, seep weed, sedge, and spikerush.	Arroyo willow, Black willow, California sycamore, Fremont cottonwood, Mixed willow, Mulefat, Narrowleaf willow, Pacific willow, Red willow, and White alder.	Broom, California annual grassland, Eucalyptus, Giant reed, Iceplant, Introduced perennial grassland, Kentucky bluegrass, Pampas grass, and Tamarisk.	〉 Bolsa Chica State Beach 〉 Border Field SP 〉 Cardiff State Beach 〉 Carlsbad State Beach 〉 Carpinteria State Beach 〉 Chino Hills SP 〉 Chumash Painted Cave SHP 〉 Crystal Cove SP 〉 Doheny State Beach 〉 El Capitan State Beach 〉 Emma Wood State Beach 〉 Gaviota SP 〉 Huntington State Beach 〉 La Purisima Mission SHP 〉 Leo Carrillo SP 〉 Los Angeles SHP 〉 Los Encinos SHP 〉 Malibu Creek SP 〉 Malibu Lagoon State Beach 〉 McGrath State Beach 〉 Old Town San Diego SHP 〉 Pio Pico SHP 〉 Point Mugu SP 〉 Point Sal State Beach 〉 Refugio State Beach 〉 Rio de Los Angeles State Park SRA 〉 Robert H. Meyer Memorial State Beach 〉 San Buenaventura State Beach 〉 San Clemente State Beach 〉 San Elijo State Beach 〉 San Onofre State Beach 〉 Santa Susana Pass SHP 〉 Silver Strand State Beach 〉 South Carlsbad State Beach 〉 Topanga SP 〉 Torrey Pines SNR 〉 Verdugo Mountains 〉 Will Rodgers SHP
Southern California Mountains and Valleys	This section includes mountains, hills and valleys of the Transverse Ranges and the Peninsular Ranges that are near the Pacific Ocean, but not bordering it. Much of the section is close enough to the Pacific Ocean for the climate to be modified moderately marine influence.	Mixed chaparral shrublands, chamise, canyon live oak, coast live oak, ponderosa pine, Jeffrey pine, white fir, and lodgepole pine.	Bulrush, bulrush - cattail, cattail, duckweed, Mexican elderberry, mosquito fern, one-sided bluegrass, pondweeds with floating leaves, pondweeds with submerged leaves, one-sided bluegrass, saltgrass, sedge, and spikerush.	Arroyo willow, California sycamore, Fremont cottonwood, mixed willow, mulefat, narrowleaf willow, red willow, and white alder.	Broom, California annual grassland, cheatgrass, eucalyptus, giant reed, introduced perennial grassland, Kentucky bluegrass, and tamarisk.	〉 Anza-Borrego Desert SP 〉 California Citrus SHP 〉 Chino Hills SP 〉 Cuyamaca Rancho SP 〉 Desert Cahuilla/Freeman Project 〉 Hungry Valley SVRA 〉 Indio Hills Palms 〉 Lake Perris SRA 〉 Mount San Jacinto SP 〉 Palomar Mountain SP 〉 San Pasqual Battlefield SHP 〉 San Timoteo Canyon 〉 Silverwood Lake SRA 〉 Wildwood Canyon

Table 4.4-2 Vegetation Communities and Park Units Within Ecological Sections[1]

USFS Ecological Section	Geographic Summary	Vegetation Communities[2] and Habitats				Park Units Within Ecological Section
		Predominant Vegetation	Other Vegetation Potentially Within All Subsections But Not Extensive	Riparian Communities	Vegetation Dominated by Exotic Plants	
Southern Cascades	This section comprises the southern Cascade Ranges. The crest of the mountain chain is aligned toward the north-northwest between the Sierra Nevada and Mt. Shasta and toward the north from Mt. Shasta northward.	Ponderosa pine, big sagebrush, Idaho fescue, western juniper, mixed conifer, white fir, red fir, and lodgepole pine.	Aspen, bulrush, bulrush - cattail, bur-reed, common reed, cattail, creeping ryegrass, ditch-grass, duckweed, holodiscus, Mosquito fern, one-sided bluegrass, pondweeds with floating leaves, pondweeds with submerged leaves, quillwort, saltgrass, sedge, spikerush, tufted hairgrass, and yellow pond-lily.	Arroyo willow, black cottonwood, black willow, mixed willow, montane wetland shrub habitat, mountain alder, narrowleaf willow, Pacific willow, red willow, and water birch.	Broom, California annual grassland, cheatgrass, introduced perennial grassland, Kentucky bluegrass, and tamarisk.	〉 Ahjumawi Lava Springs SP 〉 McArthur-Burney Falls Memorial SP

[1]Vegetation community classification and nomenclature follows *A Manual of California Vegetation (*Sawyer and Keeler-Wolf 1995, Sawyer et al. 2009). The principal unit is called "Alliance" or "," which is a floristically defined vegetation type identified by its dominant and/or characteristic species.
[2]Source: *Ecological Subregions of California: Section and Subsection Descriptions* (USDA 1997, 1998).

4.4.2 REGULATORY SETTING

Biological and forest resources in California are protected and/or regulated by a variety of federal and state laws and policies. Key regulatory and conservation planning issues applicable to the proposed Process are discussed below.

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

FEDERAL ENDANGERED SPECIES ACT

USFWS (and in some cases NOAA's National Marine Fisheries Service [NMFS or NOAA Fisheries]) regulates the taking of a species listed as threatened or endangered under the FESA. In general, persons subject to FESA (including private parties) are prohibited from "taking" endangered or threatened fish and wildlife species on private property, and from "taking" endangered or threatened plants in areas under Federal jurisdiction or in violation of state law. Under FESA, the definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." USFWS has also interpreted the definition of "harm" to include significant habitat modification that could result in take. If a proposed project would result in take of a Federally-listed species, either the project applicant must acquire an incidental-take permit, under Section 10(a) of FESA, or if a federal discretionary action is involved, the federal agency consult with USFWS under Section 7 of the FESA.

BALD AND GOLDEN EAGLE PROTECTION ACT

The Bald and Golden Eagle Protection Act declares it is illegal to take bald eagles, including their parts, nests, or eggs unless authorized. "Take" is defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." Disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause injury to an eagle; a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or nest abandonment. In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

SECTION 404 OF THE CLEAN WATER ACT

Section 404 of the Federal CWA requires a project applicant to obtain a permit before engaging in any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. Fill material is material placed in waters of the United States where the material has the effect of replacing any portion of a water of the United States with dry land, or changing the bottom elevation of any portion of a water of the United States. Waters of the United States include navigable waters of the United States; interstate waters; all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce; relatively permanent tributaries to any of these waters, and wetlands adjacent to these waters. Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Potentially jurisdictional wetlands typically must meet three wetland delineation criteria: hydrophytic vegetation, hydric soil types, and wetland hydrology. Wetlands that meet the delineation criteria may be jurisdictional under Section 404 of CWA pending USACE verification.

SECTION 401 WATER QUALITY CERTIFICATION

Under Section 401 of the CWA, an applicant for a Section 404 permit must obtain a certificate from the appropriate state agency stating that the intended dredging or filling activity is consistent with the State's water quality standards and criteria. In California, the authority to grant water quality certification is delegated by the State Water Resources Control Board to the nine Regional Water Quality Control Boards (RWQCB).

MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act (MBTA), first enacted in 1918, provides for protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA provides that it shall be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. The current list of species protected by the MBTA can be found in Title 50 of the Code of Federal Regulations (CFR), Section 10.13 (50 CFR 10.13). The list includes nearly all migratory birds native to the United States.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

CALIFORNIA ENDANGERED SPECIES ACT

The California Endangered Species Act (CESA) prohibits the taking of state-listed endangered or threatened species, as well as candidate species being considered for listing. Project proponents may obtain a Section 2081 incidental take permit if the impacts of the take are minimized and fully mitigated, and the take would not jeopardize the continued existence of the species. A "take" of a species, under CESA, is defined as an activity that would directly or indirectly kill an individual of a species. The CESA definition of take does not include "harm" or "harass" as is included in the federal act. As a result, the threshold for a take under CESA may be higher than under FESA.

CALIFORNIA NATIVE PLANT PROTECTION ACT (1977)

The Native Plant Protection Act (NPPA) (Fish and Game Code section 1900 et seq.) was enacted in 1977 and allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants that are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants, but includes some exceptions for agricultural and nursery operations; emergencies; and after properly notifying CDFG for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations.

PORTER-COLOGNE WATER QUALITY CONTROL ACT

The Porter-Cologne Water Quality Control Act requires that each of the nine RWQCBs prepare and periodically update basin plans for water quality control. Each basin plan sets forth water quality standards for surface water and groundwater and actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Basin plans offer an opportunity to protect wetlands through the establishment of water quality objectives. The RWQCB's jurisdiction includes waters of the U.S. as well as areas that meet the definition of "waters of the state." Waters of the state is defined as any surface water or groundwater, including saline waters, within the boundaries of the state. The RWQCB has the discretion to take jurisdiction over areas not Federally protected under Clean Water Act Section 404 provided they meet the definition of waters of the state. Mitigation requiring no net loss of wetlands functions and values of waters of the state is typically required by the RWQCB.

SECTION 1602 OF THE CALIFORNIA FISH AND GAME CODE

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by CDFG under Sections 1600 et seq. of the California Fish and Game Code. Under Section 1602, it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by CDFG, or use any material from the streambeds, without first notifying CDFG of such activity and obtaining a final agreement authorizing such activity. "Stream" is defined as a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish or other aquatic life. CDFG's jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife.

FULLY PROTECTED SPECIES

Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species and do not provide for authorization of incidental take. CDFG has informed nonfederal agencies and private parties that their actions must avoid take of any fully protected species. On October 8, 2011, Governor Brown signed Senate Bill (SB) 618, authorizing the California Department of Fish and Game to permit the incidental take of fully protected species, if the species is covered and conserved in a Natural Community Conservation Plan (NCCP).

PROTECTION FOR BIRD NESTS AND RAPTORS

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (e.g., hawks, owls, eagles, and falcons), including their nests or eggs. Section 3513 of the California Fish and Game Code codifies the federal Migratory Bird Treaty Act.

CALIFORNIA COASTAL ACT

The California Coastal Act (CCA), administered by the California Coastal Commission (CCC), includes policies for development proposed within the coastal zone and recognizes California ports, harbors, and coastline beaches as economic and coastal resources. Decisions to implement specific development, where feasible, are to be based on consideration of alternative locations and designs in order to minimize any adverse environmental impacts. The CCC regulates all jurisdictional wetlands that are under the joint jurisdiction of USACE and RWQCBs, as well as riparian habitat under jurisdiction of CDFG. The CCA also defines "Environmentally Sensitive Habitat Area" as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments" (Section 30107.5). The CCA requires that such areas be protected and that development projects within or adjacent to such areas be planned and sited to prevent degradation of environmentally sensitive areas.

CALIFORNIA STATE PARKS DEPARTMENTAL OPERATION MANUAL

CSP Departmental Operation Manual (DOM) provide internal guidance to District personnel regarding an array of use, operational, and resource management activities conducted in State Park units. Chapter 0300 of CSP's DOM is the basic natural resource internal guidance document for the State Park System and supersedes all previous related internal guidance documents. The policies, definitions, processes, and procedures contained in Chapter 0300 of the DOM guide the internal management of natural resources under the jurisdiction of CSP, including naturally occurring physical and biological resources and associated intangible values, such as natural sounds and scenic qualities. The chapter guides and directs the various internal programs of the CSP that affect the recognition, protection, restoration, and maintenance of the natural resources so that their heritage values may be effectively perpetuated and enjoyed by present and future generations of State Park System visitors. Sections pertinent to Biological Resources include DOM 0310 Plant Resources and DOM 0311 Animal Resources.

DOM 0310 Plant Resources

The general goal of plant management in the State Park System is to protect, restore, and maintain native plant populations and naturally occurring plant communities. When feasible, this will be accomplished through maintenance or re-establishment of natural processes such as fire, flooding, and succession. Programs include Natural Succession, Vegetation Management, Plant Protection, Exotic Plant Control, Disposition of Woody Plant Material and Debris, and Monitoring.

DOM 0311 Animal Resources

This section sets forth policies common to all units of the CSP System for management of animal resources, including individuals, populations, and their habitats, both terrestrial and aquatic. The primary goal is to protect, restore, maintain, and interpret natural animal populations and their habitats for the purpose of establishing and maintaining self-sustaining populations in a natural ecological setting. Programs include Habitat Management, Genetic Diversity Preservation, Habitat Restoration, and Animal Management.

4.4.3 SIGNIFICANCE CRITERIA

Criteria for determining the significance of impacts related to biological resources were based on the environmental checklist form in Appendix G of the State CEQA Guidelines and mandatory findings of significance. Impacts on biological resources resulting from implementation of the proposed Process would be considered significant if the project would:

- Substantially reduce the habitat of a fish or wildlife species;
- Cause a fish or wildlife species to drop below self-sustaining levels;
- Threaten to eliminate a plant or animal community;
- Substantially reduce the number or restrict the range of an endangered, rare, or threatened species;
- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFG or USFWS;
- Have a substantial adverse effect on federally-protected wetlands, as defined by Section 404 of the Clean Water Act, through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or State conservation plan.

4.4.4 IMPACT ANALYSIS METHODS AND APPLICABLE PROJECT REQUIREMENTS

IMPACT ANALYSIS METHODS

The program-level impact analysis generally assumes that vegetation communities and wildlife habitats, sensitive natural communities, and special-status species identified within an Ecological Section or Subsection could potentially occur and be directly or indirectly affected by implementing the Road and Trail Change-In-Use Evaluation Process in park units within the Section or Subsection, depending on the type, timing, and specific nature of the project activity. For potential impacts to special-status species and sensitive natural communities, the analysis and discussion is organized and presented by the type of project action and impact mechanism, common and sensitive habitats that could be affected by change-in-use projects within specific Ecological Sections and Subsections, and groups of special-status species that could be affected by change-in-use projects within specific Ecological Sections and Subsections.

Mitigation measures are provided for impacts determined to be significant or potentially significant after SPRs are considered. If needed, biological mitigation measures are identified that will be incorporated into a change-in-use proposal's PSR. PSRs are written for, and applied to, proposals based on specific actions unique to a project and/or area that are necessary to complete the project while protecting resources. These differ from SPRs in that SPRs apply to projects statewide at all parks as required. They can be influenced and focused, based on the resources known to occur within certain Ecological Sections or Subsections.

APPLICABLE STANDARD PROJECT REQUIREMENTS

The following SPRs are related to biological resources and could apply to qualifying projects under the proposed Process. Because SPRs would be applicable at all park units for an array of change-in-use project scenarios, placeholders are provided in several of the SPRs (such as for responsible parties), so that, depending on the location and type of project and associated resource issues, the requirement can be applied to specific projects and associated responsible parties.

GENERAL BIOLOGICAL RESOURCE STANDARD PROJECT REQUIREMENTS

BIO-1: Prior to the start of on-site construction activities, **[insert who]** will determine the minimum area required to complete the work and define the boundaries of the work area on the project drawings and with flagging or fencing on the ground, as appropriate.

BIO-2: Prior to the start of on-site construction activities, a qualified biologist will train on-site construction personnel on the identification and life history of the pertinent sensitive species, work constraints, and any other pertinent information related to the species.

BIO-3: All construction will be consistent with the State Parks Trail Handbook guidelines.

BIO-4: Prior to the start of on-site construction activities, qualified biologists will conduct preconstruction surveys of the project area subject to construction disturbance for sensitive biological resources, to ensure that potential impacts to sensitive resources are avoided or minimized. These surveys and avoidance/minimization measures are described under separate topics below for sensitive natural communities, vegetation, terrestrial wildlife, and aquatic resources.

BIO-5: At the discretion of **[insert who]**, project activities will be monitored to ensure that impacts to sensitive biological resources are avoided or minimized.

BIO-6: Reports will be submitted to California State Parks for all biological surveys and monitoring activities conducted.

Natural Community Standard Project Requirements

BIO-7: Prior to the start of on-site construction activities, a qualified biologist will survey the project area for sensitive natural communities. Sensitive natural communities or habitats are those of special concern to resource agencies or those that are afforded specific consideration, based on Section 404 of the Clean Water Act (CWA) and other applicable regulations. This concern would be due to locally or regionally declining status of these habitats, or because they provide important habitat to common and special-status species. Many of these communities are tracked in the California Natural Diversity Database (CNDDB). Appendix I summarizes CNDDB occurrences of sensitive natural communities in ecoregions where State Parks units are located.

BIO-8: Projects will be designed to avoid direct or indirect effects on all sensitive natural communities to the maximum extent practicable.

BIO-9: Projects will avoid or minimize impacts to federally protected wetlands to the extent practicable by conducting work in upland areas.

BIO-10: Natural wetland habitat such as marsh, riparian, and vernal pools will not be filled by stream-crossing construction projects. Equipment will remain on existing road or trail alignments to the maximum extent practicable. Equipment could travel off road or trail only when no other alternative is available and after the project inspector and District's Senior Environmental Scientist have reviewed the route.

BIO-11: Trail or road alignments will be designed to avoid or minimize effects on riparian habitats. Disturbance to riparian areas and habitat for aquatic- or riparian-dependent species will be minimized by aligning crossings perpendicular to and in narrow riparian areas to the extent feasible, and incorporating elevated crossing features such as boardwalks and bridge crossings in riparian areas and sensitive meadows.

BIO-12: Signage, fencing, planting, or other features will be used to discourage users from leaving trails and roads and entering wetland, riparian, meadow, and other sensitive habitats; any fencing will be designed to avoid interference with hydrology and wildlife movement. This measure will contribute to minimizing potential impacts to sensitive plant species/communities that occur adjacent to roads and trails.

Vegetation Standard Project Requirements

BIO-13: A qualified biologist will conduct focused pre-construction surveys for special-status plant species with potential to be affected by a project. Species with potential to be affected and requiring pre-construction surveys will be determined based on the species' distribution and known occurrences relative to the project area and the presence of suitable habitat for the species in or near the project area. CNDDB provides records of occurrences of special-status species in the ecoregions where State Parks units are located. In addition to CNDDB records, other data sources will additionally be used to determine sensitive biological resources with potential to occur in a specific project area, including reconnaissance surveys, the California Native Plant Society's (CNPS's) online *Inventory of Rare and Endangered Plants*, U.S. Fish and Wildlife Service species lists, CSP data and input from CSP biologists, other local CSP or other professional knowledge, and relevant environmental documents and reports. Surveys to determine the presence or absence of special-status plant species will be conducted in suitable habitat that could be affected by the project, and timed to coincide with the blooming or other appropriate phenological period of the target species (as determined by a qualified biologist).

BIO-14: No special-status plant species will be cut, pruned, pulled back, removed, or damaged in any way. Special-status plant species include those in the following categories: 1) listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (FESA) or candidates for possible future listing; 2) listed or candidates for listing under the California Endangered Species Act (CESA); 3) considered by CDFG to be “rare, threatened or endangered in California” (California Rare Plant Ranks of 1A, presumed extinct in California; 1B, considered rare or endangered in California and elsewhere ; and 2, considered rare or endangered in California but more common elsewhere); 4) listed as rare under the California Native Plant Protection Act; 5) considered a locally significant species by CDFG or CNPS; or 6) otherwise meets the definition of rare or endangered under CEQA Guidelines §15380(b) and (d).

BIO-15: If special-status plant species are located within the project area, they will be avoided and protected by establishing a non-disturbance buffer zone around the plants with high-visibility fencing prior to construction. The appropriate size and shape of the buffer zone will be determined by a qualified biologist. Construction personnel will be instructed to keep project activities out of the fenced areas. A qualified biologist will periodically inspect the fencing to ensure that the fence is intact and impacts are being avoided.

BIO-16: Dust Control Measures (AQ-1 through AQ-11) listed under Air Quality and Greenhouse Gas Emissions Standard Project Requirements will be employed during all construction activities.

BIO-17: Erosion Control Measures (GEO-1 through GEO-9) listed under Geology and Soils Standard Project Requirements will be employed to avoid runoff of sediments, vehicle fluids, and other liquids into special plant communities.

BIO-18: All projects will be designed to minimize the removal of all native trees. Specifically, projects will be designed to retain and protect trees 24 inches diameter-at-breast-height (DBH) or greater to the maximum extent practicable. Limbs of these trees will be removed if required for access or safety considerations. Trees smaller than 24 inches DBH will be retained whenever practicable. Equipment operators will be required to avoid striking retained trees to minimize damage to the tree structure or bark.

BIO-19: The roots of retained trees will be avoided during excavation or other construction activities to the maximum extent practicable. Any trenching in a “structural root zone” will be completed by hand; no roots larger than **[insert diameter size]** in diameter will be cut or damaged.

BIO-20: No ground disturbance or staging will be allowed within **[insert number]** times the DBH of retention trees, unless approved in advance by a qualified biologist, forester, or certified arborist.

BIO-21: A **[insert who]** will be present during all ground-disturbing activities within the **[insert quantitative area]** of retained trees.

BIO-22: Project areas will be monitored and maintained by **[insert who]** for up to **[insert time period],** including regular watering and replacement planting, as necessary to assure an approximately **[insert percentage]** survival rate.

BIO-23: All herbicides will be handled, applied, and disposed of in accordance with the MSDS Fact Sheet and all local, State, and federal laws.

BIO-24: To maintain genetic integrity, only plant stock collected within the **[insert area name]** will be used for re-vegetation in the project area.

BIO-25: The percolation testing will be conducted at a minimum distance of **[insert quantitative distance]** of any significant tree over **[insert number]** DBH.

BIO-26: The design of road and trail alignments will consider desired snag retention needs for wildlife.

BIO-27: Construction activities that could spread invasive plants and noxious weeds will be subject to the following actions:

- Construction operators will ensure that clothing, footwear, and equipment used during construction is free of soil, seeds, vegetative matter or other debris or seed-bearing material before entering the park or from an area with known infestations of invasive plants and noxious weeds.
- All heavy equipment will be pressure washed prior to entering the park or from an area with known infestations of invasive plants and noxious weeds. Anti-fungal wash agents will be specified if the equipment has been exposed to any pathogen that could affect park resources.
- All earth-moving equipment, gravel, fill, or other materials will be weed free.

BIO-28: Install signage that informs the public about protecting sensitive vegetation, and identifies noxious weed and invasive plant species and issues in the project area. Signage containing information about sensitive plant species in the project area and how to avoid disturbing them while using the path and related facilities, and noxious weed and invasive plant species and how they are spread, will be installed at key trailheads and other locations, as applicable and relevant.

TERRESTRIAL WILDLIFE STANDARD PROJECT REQUIREMENTS

BIO-29: A qualified biologist will conduct pre-construction surveys for special-status wildlife species with potential to be directly or indirectly affected by a project, within **[insert distance]** of the project area. Species with potential to be affected and requiring pre-construction surveys will be determined based on the species' distribution and known occurrences relative to the project area and the presence of suitable habitat for those species in or near the project area. Appendix I summarizes CNDDB occurrences of special-status species in the ecoregions where State Parks units are located. In addition to CNDDB records, other data sources will additionally be used to determine sensitive biological resources with potential to occur in a specific project area, including reconnaissance surveys, U.S. Fish and Wildlife Service species lists, CSP data and input from CSP biologists, other local CSP or other professional knowledge, and relevant environmental documents and reports. For species subject to survey protocols that have been developed and accepted, survey timing and methodology will follow the protocol requirements or guidelines. The survey will be conducted no more than **[insert number]** days prior to the beginning of construction. Surveys for a special-status species with potential to occur in the project area may not be required if presence of the species is assumed.

BIO-30: All Projects will be designed to avoid take of wildlife species listed or proposed for listing under the federal Endangered Species Act (FESA), candidates for possible future listing under the FESA, wildlife species listed or candidates for listing under the California Endangered Species Act (CESA), and species designated as Fully Protected under the California Fish and Game Code. For other special-status wildlife species (e.g., species of special concern), project impacts will be avoided to the maximum extent practicable.

BIO-31: Project activities that could affect a special-status wildlife species will be scheduled to avoid the breeding season and/or other sensitive life-history periods of the species (e.g., breeding, hibernation, denning, etc.), as determined by a qualified biologist.

BIO-32: If work is required during the breeding or other sensitive life-history period of a special-status species that could be affected, impacts will be avoided or minimized by establishing non-disturbance buffers around the nests, dens, roosts, or other activity centers (depending on the species). The appropriate size and shape of the buffer zone will be determined by a qualified biologist, based on potential effects of project-related habitat disturbance, noise, dust, visual disturbance, and other factors. No project activity will commence within the buffer area until a qualified biologist confirms that the nest, den, or other activity center is no longer active/occupied. Monitoring of the activity center by a qualified biologist during and after construction activities will be required.

BIO-33: For projects within the range of marbled murrelet or northern spotted owl (e.g., in USFS Ecological Sections Central California Coast, Klamath Mountains, Northern California Coast, Northern California Coast Ranges, Southern California Coast, and Southern Cascades); if work must occur during the breeding season, the USFWS's *"Transmittal of Guidance: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California"* (dated July 31, 2006) will be used by a qualified biologist to allow limited construction activities that do not create noise disturbance above ambient levels.

If limited activities are allowed during the **[insert species name] [insert what breeding, nesting, etc.]** season, work activities will not begin until **[insert number]** hours after sunrise and will cease **[insert number]** hours before sunset each day.

BIO-34: If individuals or other recent signs of special-status species are observed within **[insert distance]** of the project area, a qualified biologist will be present on the site to monitor during construction activities.

BIO-35: If special-status species are known to occur in the project area, immediately prior to the start of work each day, a qualified biologist will conduct a visual inspection of the construction zone and adjacent areas, as appropriate.

BIO-36: If a special-status species is found on the project site, work in the vicinity of the animal will be delayed until the species moves out of the site on its own, or is temporarily relocated by a qualified biologist. To prevent trapping of special-status species, all holes and trenches will be covered at the close of each working day with plywood or similar materials, or will include escape ramps constructed of earth fill or wooden planks; all pipes will be capped. A qualified biologist, or other staff trained by a qualified biologist will inspect trenches and pipes for special-status species at the beginning of each workday. If a trapped animal is discovered, they will be released in suitable habitat at least **[insert quantitative distance]** from the project area.

BIO-37: Project activities will not remove any trees equal to or greater than **[insert number]**-inches DBH unless first inspected by a qualified biologist and determined to be unsuitable as breeding habitat for special-status bird or other species.

BIO-38: For projects within suitable habitat of the range of Alameda whipsnake (e.g., in USFS Ecological Sections Central California Coast, Central California Coast Ranges, or Great Valley), an exclusion fence will be placed near the grading limit for the duration of the grading and construction, and removed within 72 hours of completion of work, to prevent Alameda whipsnake from entering the project site and no monofilament plastic will be used for erosion control. In addition, SPR BIO-29 and BIO-36 require pre-project surveys and the covering and inspection of all holes and trenches at the close of each working day. If Alameda whipsnake is found within the fenced area, work in the vicinity will be delayed until the species moves out of the site on its own, or is relocated by a qualified biologist (SPR BIO-36).

4.4.5 ENVIRONMENTAL IMPACTS AND MITIGATION

CONSTRUCTION IMPACTS

IMPACT 4.4-1 **Construction-Related Disturbance or Removal of Special-Status Plant Species.** Under the proposed Process, the potential removal of or damage to special-status plant species as a result of project excavation, grading, or other construction activities would be avoided by compliance with SPRs for vegetation (BIO-13 through BIO-17). The SPRs include conducting preconstruction plant surveys, flagging, and fencing of areas to be protected to ensure complete avoidance of impacts. If removal of or damage to special-status plant species as a result of construction or operation related to a change-in-use proposal cannot be avoided despite the environmentally protective influence of the SPRs and Adaptive Use Management, and the change-in-use proposal could not avoid significant environmental impacts or clearly mitigate them to a less-than-significant level, the proposal would be disqualified from approval under the proposed Process. If the District intended to pursue the project further, CSP would need to initiate independent project planning and environmental review, but could tier the subsequent environmental document off the Program EIR. The project-level document need only examine the effects not adequately addressed in the Program EIR. Therefore, because impacts to special-status plant species would be avoided through implementation of SPRs, this impact would be **less than significant.**

Implementation of the proposed Process could result in construction-related disturbance or removal of special-status plant species if they occur in a project area, unless effective resource protection measures are implemented. Special-status plant species include those in the following categories: 1) listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (FESA) or candidates for possible future listing; 2) listed or candidates for listing under the CESA; 3) considered by CDFG to be “rare, threatened or endangered in California” (California Rare Plant Ranks of 1A, presumed extinct in California; 1B, considered rare or endangered in California and elsewhere; and 2, considered rare or endangered in California but more common elsewhere); 4) listed as rare under the California Native Plant Protection Act; 5) considered a locally significant species; or 6) otherwise meets the definition of rare or endangered under CEQA Section 15380(b) and (d).

Appendix I summarizes CNDDB occurrences of special-status plant species in the ecoregions where CSP units are located. This analysis conservatively assumes that the special-status plant species identified within an Ecological Section or Subsection could potentially occur within the CSP units within the Section or Subsection and be directly or indirectly affected by implementation of the proposed Process, depending on the presence of suitable habitat and the type, timing, and specific nature of the project actions. During project-level planning and evaluation, in addition to CNDDB records, other data sources would be used to determine special-status plant species with potential to occur in a specific project area, including reconnaissance surveys, the California Native Plant Society's (CNPS's) online *Inventory of Rare and Endangered Plants*, U.S. Fish and Wildlife Service species lists, CSP data and input from CSP biologists, other local CSP or other professional knowledge, and relevant environmental documents and reports.

Appendix J summarizes critical habitat for federally listed plant species in the ecoregions where CSP units are located and includes maps by ecoregion. A critical habitat designation only affects activities performed by Federal agencies or that involve a Federal permit, license, or funding, and that are likely to destroy or adversely modify the area of critical habitat. Although CSP as a state agency is not required to consult with USFWS for actions within critical habitat, DOM 0311.5.2.1(b) states that it is the policy of CSP to work with agencies to help ensure that any formal delineation of critical habitat on State Park system lands is compatible with State Park System management goals.

Project actions that could result in removal or disturbance of special-status plant species include trail reconstruction or maintenance; rerouting of trail alignments; closure, decommissioning, and restoration of existing roads and trails to natural conditions; conversion of existing roads to trails; and construction of appurtenant facilities. Most ground disturbances resulting from the proposed Process would occur within existing disturbed road and trail prisms. Because ground disturbances would be limited mostly to these existing disturbed areas, potential impacts to suitable habitat for special-status plants would be very infrequent and are not expected. However, construction-related disturbances could occasionally occur in or otherwise affect areas that may support special-status plant populations outside of existing road and trail prisms. If special-status plants are present in those affected areas, construction activities could result in vegetation removal or trampling, deposition of dust or debris, soil compaction, or disturbance to root systems that could affect their survival.

Implementation of SPRs BIO-14 requires that a qualified biologist conduct focused preconstruction surveys for special-status plant species with the potential to be affected by a project. At the project-evaluation level, species with potential to be affected and requiring preconstruction surveys would be determined based on the species' distribution and known occurrences relative to the project area and the presence of suitable habitat for the species in or near the project area. Surveys to determine the presence or absence of special-status plant species would be conducted in suitable habitat that could be affected directly or indirectly by the project, and timed to coincide with the blooming or other appropriate phenological period of the target species (as determined by a qualified biologist). If any special-status plants are located, they would be avoided and protected under the Process. If special-status plant species are located within the project area they would be avoided in accordance with SPRs BIO-14 and BIO-15, which require establishing and maintaining a non-disturbance buffer zone around sensitive plants during construction. Construction-related dust and erosion impacts would be minimized in accordance with SPRs BIO-16 and BIO-17. If removal of or damage to special-status plants as a result of construction related to a change-in-use proposal cannot be avoided, the project would be disqualified from approval using the Process. If CSP elected to pursue the project further, it would require an independent, project-specific CEQA review.

Although implementation of the proposed Process could result in the potential for construction-related disturbance or removal of special-status plant species, implementation of SPRs BIO-13 through BIO-17 would reduce potential impacts to a **less-than-significant level** through implementation of appropriate avoidance measures.

IMPACT 4.4-2	**Construction-Related Disturbance or Loss of Sensitive Habitats (Jurisdictional Wetlands, Riparian Habitat, and Other Special-Status Natural Communities).** Under the proposed Process, project-related construction activity and the disturbance or removal of sensitive habitats would be minimized by compliance with SPRs for Natural Communities (SPRs BIO-7 through BIO-12). While SPRs would avoid and protect most sensitive habitats, the potential for removal of riparian and wetland vegetation and the placement of fill into waters of the United States may not be entirely avoided. This impact would be **potentially significant.**

Implementation of the proposed Process could result in construction-related disturbance or removal of sensitive habitats, including wetlands and other waters of the United States and riparian habitat. Sensitive natural communities or habitats are those of special concern to resource agencies or those that are afforded specific consideration, based on Section 404 of the Clean Water Act (CWA), Sections 1600 et seq. of the California Fish and Game Code, California Coastal Act (e.g., Environmentally Sensitive Habitat Areas), and other applicable regulations. Depending on their specific locations, project actions that could result in removal or disturbance of sensitive habitats include trail reconstruction or maintenance; rerouting of trail alignments; closure, decommissioning, and restoration of existing roads and trails to natural conditions; conversion of existing roads to trails; and construction of appurtenant facilities. Most ground disturbances resulting from the projects qualifying for approval under the proposed Process would occur within existing disturbed road and trail prisms. Because ground disturbances would be limited mostly to these existing disturbed areas, potential impacts to sensitive habitats would likely be infrequent and minor. However, construction-related disturbances could occasionally occur in or otherwise directly or indirectly affect areas that may support sensitive habitats, particularly wetlands and riparian habitats, outside of existing road and trail prisms. For example, projects designed to achieve long-term improvements to trail, natural resources, and hydrologic conditions could involve the installation of improved stream crossings and bridges across wetlands and riparian areas, or decommissioning of facilities and restoration in sensitive areas. Construction activities could result in short-term impacts that are unavoidable to achieve long-term improvements, including minor vegetation removal or trampling, hydrologic changes, deposition of dust or debris, soil compaction, or other disturbances that could temporarily affect their condition and function. Additionally, any project-related construction adjacent to wetlands or other sensitive habitat could similarly indirectly or directly affect those resources, unless effective best management practices (BMPs) and other appropriate resource protection measures are implemented.

Appendix I summarizes CNDDB occurrences of special-status natural communities in the ecoregions where CSP units are located. This analysis conservatively assumes that the special-status natural communities identified within an Ecological Section or Subsection could potentially occur within the CSP units within the Section or Subsection and be directly or indirectly affected by implementation of the proposed Process, depending on the habitat conditions and the type, timing, and the specific nature of the project actions. During project-level planning and evaluation, other data sources would additionally be used to determine special-status natural communities and other sensitive habitats (e.g., waters of the United States) with potential to occur in a specific project area, including reconnaissance surveys, existing CSP data, and input from CSP biologists.

SPR BIO-7 requires that a qualified biologist survey the project area for sensitive natural communities with the potential to be affected by a project, and SPR BIO-8 requires that sensitive natural communities be avoided to the maximum extent practicable under the Process. Implementation of SPRs BIO-9 through11 would specifically avoid or minimize impacts to waters of the United States, including wetlands, to the maximum extent practicable by conducting work in upland areas and incorporating elevated crossing features where appropriate.

While SPRs BIO-7 through BIO 12 would avoid and protect most sensitive habitats, the potential to remove some riparian and wetland vegetation and the placement of fill material into waters of the United States may not be entirely avoided, because of the frequency of occurrence of these resources across CSP units statewide and their proximity to likely change-in-use projects. Potential project-related sources of wetland and riparian habitat disturbances or loss that could occur include, but are not limited to, unanticipated or unforeseen runoff from nearby project areas; minor fill or disturbance if road or trail work (e.g., reroutes, maintenance, conversion, improvements) needs to occur adjacent to a wetland or riparian zone; decommissions or trail upgrades that may occur within wetlands or other sensitive habitats to improve water quality and resource conditions; and stream-crossing projects that require some temporary or permanent riparian vegetation disturbance or minor ground disturbance. Although implementation of SPRs BIO-7 through BIO-12 would avoid or minimize most of these effects, the remaining potential for loss of riparian and wetland habitat would be a **potentially significant** impact.

Mitigation Measure 4.4-2. Delineate Waters of the United States and Obtain Authorization for Fill and Required Permits.

Prior to the start of any construction activity that could affect waters of the United States, including wetlands, despite implementation of SPRs, a delineation of waters of the United States that would be affected by project implementation will be conducted by a qualified biologist through the formal Section 404 wetland delineation process. The delineation will be submitted to and verified by the appropriate District of USACE. If, based on the verified delineation, it is determined that fill of waters of the United States would result from implementation of the project, authorization for such fill will be secured from the appropriate District of USACE through the Section 404 permitting process. The amount of wetlands or other Waters of the United States that would be removed or disturbed during project implementation will be quantified and replaced or restored/enhanced in accordance with USACE and federal regulations. Habitat restoration, enhancement, and/or replacement will be at a location and by methods agreeable to USACE as determined during the permitting processes for CWA Section 404. In coastal areas, the California Coastal Commission and/or counties with an approved Local Coastal Plan have regulatory authority over some activities in Environmentally Sensitive Habitat Areas (e.g., coastal wetlands).

In addition, any project that would divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream, or lake that supports wildlife resources is subject to regulation by CDFG under Sections 1600 et seq. of the California Fish and Game Code. If any project under the Process would result in such an effect (e.g., stream-crossing projects that would remove riparian vegetation), CSP will obtain a Lake or Streambed Alteration Agreement from CDFG and implement all terms required for permit compliance. Because the regulatory processes and requirements of the Clean Water Act, Section 404, and California Fish and Game Code, Section 1600 et seq., include performance criteria for compensating affected habitat (e.g., no net loss of wetland habitat value), it is reasonable to expect that compliance with these laws and regulations would mitigate potentially significant effects to wetland and riparian habitats to a ***less-than-significant level.***

Level of Significance After Mitigation

Implementation of Mitigation Measure 4.4-2 would reduce significant impacts associated with loss of riparian habitat and fill of waters of the U.S. to a less-than-significant level by providing replacement or restoration/enhancement in accordance with USACE and other regulations.

IMPACT 4.4-3	**Introduction and Spread of Invasive Plant Species.** Under the proposed Process, the potential for project construction and changes in use to introduce and spread invasive plants would be minimized by compliance with SPRs BIO-27 and BIO-28. Under these requirements, construction operators would ensure that clothing, footwear, and equipment used during construction are free of soil, seeds, vegetative matter or other debris or seed-bearing material; and all heavy equipment would be pressure washed prior to entering the park or from an area with known infestations of invasive plants and noxious weeds. Also, educational signage that identifies invasive plants and how they are spread would be installed, to discourage users from leaving established trails and roads and inadvertently spreading invasive plants. This potential impact would be **less than significant.**

Populations of several invasive plant species occur on and near CSP units statewide. The California Invasive Plant Council (Cal-IPC) recognizes more than 200 nonnative plants that invade wildlands in California. Invasiveness rankings, ecological impact potential, habitat associations, and floristic regions for these species are summarized in the California Invasive Plant Database (http://www.cal-ipc.org/ip/inventory/weedlist.php) and described in the California Invasive Plant Inventory (Cal-IPC 2006, 2007). Examples of highly invasive species in various ecoregions of California include cheatgrass (*Bromus tectorum*), yellow starthistle (*Centaurea solstitalis*), Scotch broom (*Cytisus scoparius*), Saharan mustard (*Brassica tournefortii*), pampasgrass (*Cortaderia selloana*), saltceder (tamarisk) (*Tamarix ramosissima*), Eurasian watermilfoil (*Myriophyllum spicatum*), iceplant (*Carpobrotus edulis),* perennial pepperweed (tall whitetop) (*Lepidium latifolium*), and numerous other species.

Project construction activities, implemented as part of the proposed Process, could introduce and spread invasive plants to presently uninfested areas, unless effective preventative measures are implemented. Project actions that could result in the introduction and spread of invasive plants include: trail reconstruction or maintenance; rerouting of trail alignments; closure, decommissioning, and restoration of existing roads and trails to natural conditions; conversion of existing roads to trails; and addition of appurtenant facilities. Noxious weeds and invasive plants and their seeds may be dispersed by construction equipment and personnel clothing. Construction of trail reroutes could create new pathways for the introduction and spread of weeds and invasive plants into areas that are not presently infested. Bicyclists and pedestrians using trails and roads could inadvertently pick up seeds as they pass through infested areas and transport them to presently uninfested areas. In addition to any seed transported by horse riders and equipment, horses have the potential to spread seeds via their coats, hoofs, and manure. While it has been found that horse manure may contain viable seeds for invasive plants (Quinn et al. 2006: p. 1), it is less clear if these species are able to germinate, become established, and spread along trail corridors (Pickering et al. 2010: p. 554). The introduction or spread of invasive plants could result in a reduction or elimination of native species diversity or abundance, degradation of sensitive natural communities, and reduced habitat quality for special-status plant and animal species.

The proposed Process includes required measures to avoid the potential spread of invasive plants from construction activities and changes in road and trail use patterns. Implementation of SPR BIO-27 requires construction operators to ensure that clothing, footwear, and equipment used during construction are free of soil, seeds, vegetative matter or other debris or seed-bearing material; and that all heavy equipment would be pressure washed prior to entering the park or from an area with known infestations of invasive plants and noxious weeds. SPR BIO-28 requires the installation of educational signage that identifies invasive plants and how they are spread, to discourage users from leaving established trails and roads and inadvertently spreading invasive plants.

Although implementation of the proposed Process could result in the potential for introduction and spread of invasive plants, which could reduce native species diversity and abundance, degrade sensitive natural communities, or reduce habitat quality for special-status species, implementation of SPRs BIO-27 and BIO-28 would reduce potential impacts to a **less-than-significant level.**

IMPACT 4.4-4 **Short-Term, Construction-Related Disturbance or Loss of Special-Status Wildlife Species and Habitats, and Wildlife Movement Corridors.** Under the proposed Process, the potential disturbance or loss of special-status wildlife species and habitats as a result of project excavation, grading, or other construction activities would be avoided or minimized by compliance with SPRs for terrestrial wildlife (BIO-29 through BIO-38). The SPRs include conducting preconstruction surveys, avoiding any take of federally or state listed species, scheduling construction activities to avoid the breeding season and/or other sensitive life-history periods of special-status species that could be affected, and/or establishing non-disturbance buffers around breeding sites or other activity centers if necessary. Additionally, the proposed Process is not expected to substantially affect known wildlife movement corridors, create new movement barriers, bifurcate any important habitat areas, or prevent wildlife from continuing to access or travel between habitat areas in the vicinity. If impacts to special-status wildlife species or wildlife movement corridors as a result of construction related to a change-in-use proposal cannot be avoided (e.g., if project-level evaluation determines that impacts to a FESA-listed species or its occupied habitat could occur despite implementation of SPRs, or if applicable SPRs required to avoid the impact are identified as not feasible to implement for a particular project), the project would be disqualified from approval using the Process. If the CSP intended to pursue the project further, it would need to initiate independent project planning and environmental review, but could tier the subsequent environmental document off the Program EIR. However, the project-level document need only examine the effects not adequately addressed in the Program EIR. Therefore, because short-term, construction-related impacts to wildlife species and habitats would be avoided or minimized through implementation of SPRs, this impact would be **less than significant.**

Implementation of the proposed Process could result in construction-related disturbance or loss of special-status bird, mammal, reptile, and terrestrial invertebrate species and their habitats if they occur in a project area, unless effective wildlife protection measures are implemented. Special-status wildlife species include those in the following categories: 1) listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (FESA) or candidates for possible future listing; 2) listed or candidates for listing under the CESA; 3) listed as Fully Protected under the California Fish and Game Code); 4) designated by CDFG as a species of special concern; 5) considered a locally significant species; or 6) otherwise meets the definition of rare or endangered under CEQA Section15380(b) and (d).

Appendix I summarizes CNDDB occurrences of special-status wildlife species in the ecoregions where CSP units are located. This analysis conservatively assumes that the special-status species identified within an Ecological Section or Subsection could potentially occur within the CSP units within the Section or Subsection and be directly or indirectly affected by implementation of the proposed Process, depending on the presence of suitable habitat and the type, timing, and specific nature of the project actions. During project-level planning and evaluation, in addition to CNDDB records, other data sources would additionally be used to determine special-status wildlife species with potential to occur in a specific project area, including reconnaissance surveys, USFWS species lists, CSP data and input from CSP biologists, other local CSP or other professional knowledge, and relevant environmental documents and reports.

Appendix J summarizes USFWS-designated critical habitat for federally listed wildlife species in the ecoregions where CSP units are located and includes maps by ecoregion. A critical habitat designation only affects activities performed by Federal agencies or that involve a Federal permit, license, or funding, and that are likely to destroy or adversely modify the area of critical habitat. Although CSP as a state agency is not required to consult with USFWS for actions within critical habitat, DOM 0311.5.2.1(b) states that it is the policy of CSP to work with agencies to help ensure that any formal delineation of critical habitat on State Park system lands is compatible with State Park System management goals.

Specific change-in-use project actions that could affect special-status wildlife include trail reconstruction or maintenance; rerouting of trail alignments; closure, decommissioning, and restoration of existing roads and trails to natural conditions; conversion of existing roads to trails; and construction of appurtenant facilities. In the short term, construction activities associated with these or other change-in-use actions could temporarily disturb foraging, movement, and reproductive activities of special-status wildlife species, as a result of vegetation removal, noise, dust generation, or other project-related factors. Although not expected, any removal or disturbance of occupied breeding habitat would be a significant impact if special-status species were taken or deterred from occupying breeding locations. Construction could also result in noise, dust, and other disturbances to special-status animals in the vicinity of project sites, resulting in potential site abandonment and mortality to young.

Because ground disturbances would be limited mostly to existing disturbed road and trail prisms and adjacent areas, which currently experience noise and other disturbances associated with motorized and non-motorized use and maintenance, potential impacts to suitable habitat for special-status wildlife would be very infrequent and are not expected. Also, project activities associated with change-in-use actions under the proposed Process are expected to be dispersed and localized (relative to home range and habitat use areas of most wildlife species), and completed over a short period at each location. The potential felling of some green trees or snags, and disturbances to herbaceous or shrub species in these areas that may be required for some change-in-use projects would be limited and are not expected to significantly contribute to changes in habitat structure or composition in CSP units.

Despite change-in-use projects being limited mostly to existing disturbed road and trail prisms, construction-related disturbances could occasionally occur in or otherwise affect areas that may support special-status wildlife species outside of existing road and trail prisms. Therefore, the proposed Process includes SPRs designed to avoid or minimize impacts to special-status wildlife species. SPR BIO-29 requires that a qualified biologist conduct preconstruction surveys for special-status wildlife species with the potential to be affected by a project. At the project-evaluation level, species with potential to be affected and requiring preconstruction surveys would be determined based on the species' distribution and known occurrences relative to the project area and the presence of suitable habitat for the species in or near the project area. If any special-status wildlife species are located, they would be avoided and protected under the Process. Under SPR BIO-30, projects would be designed to avoid any take of wildlife species listed or proposed for listing under the FESA, candidates for possible future listing under the FESA, wildlife species listed or candidates for listing under the CESA, and species designated as Fully Protected under the California Fish and Game Code. For other special-status wildlife species (e.g., species of special concern), project impacts would be avoided to the maximum extent practicable. If any special-status wildlife species could be affected by a change-in-use project, SPR BIO-31 requires scheduling construction activities to avoid the breeding season and/or other sensitive life-history periods of the species (e.g., breeding, hibernation, denning, etc.), as determined by a qualified biologist. If work is required during the breeding or other sensitive life-history period of a special-status species that could be affected, SPR BIO-32 requires impacts to be avoided or minimized by establishing non-disturbance buffers around the nests, dens, roosts, or other activity centers (depending on the species). No project activity would commence within the buffer area until a qualified biologist confirms that the nest, den, or other activity center is no longer active/occupied. If impacts to special-status wildlife as a result of construction related to a change-in-use proposal cannot be avoided, the project would be disqualified from approval using the Process. If CSP intended to pursue the project further, it would require an independent, project-specific CEQA review.

Because implementation of change-in-use projects would be limited mostly to existing disturbed road and trail prisms and adjacent areas, which currently experience noise and other disturbances associated with motorized and non-motorized use and maintenance, project areas are not expected to function as significant movement corridors for common or sensitive wildlife species; and potential impacts to suitable habitat and movement requirements for most wildlife species would be very infrequent and are not expected. Conversion of trails for use by bicycles or other uses are not expected to create permanent barriers to the movement of resident or migrating wildlife that could utilize native habitats along trails. The types of change-in-use projects that qualify under the proposed Process are not expected to create new movement barriers, bifurcate any important habitat areas, or prevent wildlife from continuing to access or travel between habitat areas in the vicinity. Because of the limited extent and magnitude of potential impacts to special-status wildlife species, and with incorporation of SPRs designed to protect special-status wildlife, implementation of the proposed Process is not expected to disturb the foraging, reproductive, or movement behavior of special-status wildlife species substantially above existing disturbance levels, or result in take of any state or federally listed species. Additionally, projects resulting from the proposed Process are not expected to substantially affect known wildlife movement corridors, create new movement barriers, bifurcate any important habitat areas, or prevent wildlife from continuing to access or travel between habitat areas in the vicinity. This impact would be **less than significant.**

LONGER-TERM OPERATIONAL IMPACTS RESULTING FROM CHANGES IN ROAD OR TRAIL SYSTEM AND USE

IMPACT 4.4-5	**Long-Term and Operational Effects on Common and Sensitive Biological Resources.** Most of the long-term effects of implementing the proposed Process on biological resources are expected to be beneficial or neutral, because (1) any change in use must be developed and implemented with the objective of natural and cultural resource protection, (2) the specific purpose of many change-in-use proposals would be to correct existing conditions that contribute to resource degradation, (3) most actions and ground disturbances would occur within existing disturbed areas, and (4) SPRs to protect biological resources during construction and over the long-term are incorporated into the Process. However, there is uncertainty about whether trail use would substantially change in timing or use pattern, resulting in the potential for effects on sensitive habitats and special-status species, or other biological resources impacts. Therefore, the proposed Process includes Adaptive Use Management as a SPR designed to monitor and correct, if necessary, user-created trail issues. With implementation of SPRs to protect biological resources, including Adaptive Use Management, potential long-term adverse impacts to biological resources as a result of the proposed Process would be **less than significant.**

Projects that qualify for approval under the proposed Process would be designed and implemented to complement and carry out CSP's resources stewardship mission, practices, and policies. The long-term objectives of many change-in-use projects would be to improve environmental conditions. Specific long-term and operational effects of change-in-use projects on biological resources, including special-status species and sensitive habitats, would depend on several factors, such as the type and location of changes in use and management, the resources potentially affected, and the spatial scale over which change-in-use patterns are considered. The following summarizes potential long-term beneficial and adverse effects on biological resources resulting from the major types of projects that would be considered in a change-in-use proposal, followed by a discussion of potential long-term effects of several specific trail uses that could be related to a change-in-use proposal.

TRAIL AND ROAD DECOMMISSIONING AND UPGRADES

Change-in-use proposals could include projects to close, decommission, and/or restore existing roads and trails to natural conditions. These projects are not expected to adversely affect vegetation communities or wildlife habitats over the long term, because upgrades would occur within existing road and trail prisms. Trail and road decommissioning and upgrades are expected to improve terrestrial wildlife habitat and native vegetation overall. Disturbances to vegetation along decommissioned trails and roads as a result of existing mechanized (e.g., bikes), motorized, or pedestrian use would be eliminated; vegetation communities are expected to benefit from plant establishment and succession on decommissioned trails. Trail and road upgrades could involve installing BMPs, improving hardened surfaces, and repairing damaged areas. Upgrades designed to reduce erosion and improve water quality would likely require less frequent maintenance and associated disturbance to adjacent vegetation. Furthermore, the occurrence of problem areas on trails and roads could decrease, which should in turn reduce the frequency of off-route travel and disturbance by pedestrian, mechanized (e.g. bikes), and motorized users attempting to avoid such areas. The long-term effects of trail and road decommissioning and upgrades on water quality, vegetation, and other biological resources would be beneficial.

CONVERSION OF ROADS TO TRAILS

Increased non-motorized recreation, such as mountain biking, hiking and equestrian use could occur at specific locations where roads would be converted to trails. Because these uses are presently allowed and occur on existing roads that could be converted to trails under a change-in-use proposal, whether and to what extent increases in these types of uses would occur is difficult to predict. In general, additional non-motorized trail coverage and new trail systems could attract more non-motorized users if the public perceives them as more logical, safer, and more enjoyable than existing trail systems. The effects of additional non-motorized recreation on special-status wildlife depend on several factors, including the type, magnitude, frequency, and predictability of recreation activity; location and timing of activity; and the sensitivity of a species based on its life history characteristics (Knight and Cole 1995b). It is assumed that individuals of all special-status wildlife species are sensitive, to some degree, to increases in non-motorized uses. Generally, activities associated with increased non-motorized access could result in wildlife mortality (e.g., due to collisions); harassment; noise disturbance; and disturbances to breeding activities.

Because non-motorized uses are presently allowed on roads that would be converted to trails, the proposed Process is not expected to increase non-motorized uses and associated disturbances to wildlife significantly above existing levels. Because converting roads to trails would occur within existing road prisms and reduce the existing disturbance footprint, long-term effects on vegetation would be beneficial (i.e., because trail alignments within a converted road corridor would be narrower, therefore, consuming less land area and allowing landscape restoration of much of the prior road corridor after the conversion).

REROUTE OF TRAIL ALIGNMENTS

The projects qualifying for approval under the proposed Process would not include construction of new trails or actions that add motorized uses to a road or trail. Projects, however, could include rerouting of trail alignments to correct otherwise unsustainable road and trail conditions where realignment begins and ends at an existing trail, extends only as far as necessary to avoid the unsustainable condition, and causes no significant environmental effects. Some vegetation would be removed or disturbed to construct trail reroutes, depending on the location and necessary length of a reroute. However, reroutes would not be located within sensitive habitats or areas known to be occupied by special-status plant or wildlife species. All of the SPRs discussed for construction-related impacts to sensitive plant and wildlife resources (BIO 7 through BIO 38) would apply to trail reroutes and are intended to avoid significant long-term effects on biological resources. Additionally, any trail reroutes that occur are expected to be infrequent, short in length, and relatively minor.

If trail reroutes allow new access to an area, a potential long-term effect of a new trail system is the establishment of new user-created or "volunteer" trails in previously undisturbed areas. By providing new or improved access to previously inaccessible or less accessible areas, constructed trail reroutes could provide new take-off points for off-trail recreationists. However, the likelihood of this effect, the locations where it would occur, and its impact on special-status wildlife species and sensitive habitats are presently unknown. CSP experience indicates that a trail reroute, when properly aligned, could resolve an existing problem of volunteer trails by providing a designed trail that would support the recreational use currently being accommodated by unauthorized trails. In this case, the reroute would facilitate closure and restoration of volunteer trails while maintaining recreational opportunities.

LONG-TERM TRAIL USE AND OPERATIONAL IMPACTS

OVERVIEW

The extent to which trail users would increase or otherwise substantially change the types of uses, timing, or use pattern under the proposed Process is unknown, but it has been CSP's experience that over time the levels and patterns of use would return to an equilibrium similar to pre-project conditions, because many factors influence trail use. Each user group creates activity on trails that could lead to the potential for varying levels of biological impacts. Trampling of vegetation and disturbance of wildlife, including direct mortality, are impacts that could result from most types of trail uses. Some degree of biological resource impact is an inevitable consequence of recreation use in any form. The effects of additional recreational uses on wildlife depend on several factors, including the type, magnitude, frequency, and predictability of recreation activity; location and timing of activity; and the sensitivity of a species based on its life history characteristics (Knight and Cole 1995b). The addition of recreational uses (horses, mountain biking, or OPDMDs) has the potential to increase wildlife mortality (e.g., due to collisions); harassment; noise disturbance; and disturbances to breeding activities. Effects can be immediate and obvious, such as direct mortality, or they can be less detectable, such as minor stresses that at key times may interfere with the survival and reproduction of individual animals. Impacts to vegetation can be minimized through careful trail design and trail maintenance, including implementation of SPR GEO-23 and GEO-26.

The effects of various forms of recreation on wildlife have been examined in numerous studies, but results have been difficult to generalize due to factors such as lack of clear understanding of cause-and-effect relationships, poor study design, or limited applicability outside of the local situation (Knight and Gutzwiller 1995, Youmans 1999). However, there is a growing body of evidence to suggest that recreational activities can harm wildlife (Knight and Cole 1995a). For example, Boyle and Samson (1985) reviewed 166 articles that contained original data on the effects of outdoor recreation on wildlife. They found that 81 percent of the studies reported negative effects on wildlife. Several authors have reviewed current literature and attempted to develop a conceptual framework for how wildlife responds to recreational disturbances (Joslin and Youmans 1999, Liddle 1997, Knight and Gutzwiller 1995).

Disturbance caused by recreation along trails may elicit behavioral or physiological responses in wildlife and effects may be short- or long-term (Youmans 1999). Common behavioral responses include disruption of normal activities, agitation, movement away from the disturbance, or abandonment of the area. Behavioral responses clearly vary among species, but responses also vary among individuals or populations. An individual's response can be affected by age, sex, season, group size, motivational state, responses of cohorts, and habitat security (Knight and Cole 1995a). Physiological responses are often not observable and reliance on overt behavior as an indicator of stress can be misleading (Stemp 1983 in Youmans 1999). Behavioral responses, such as flight or disruption of feeding, have energetic costs, which can reduce vigor. However, less obvious physiological responses, such as elevated heart rate or changes in alertness or posture, have energetic costs as well (Youmans 1999). Most studies have focused on short-term effects such as temporary displacement, nest abandonment, or alarm calling. Long- term effects such as decreased reproductive success or changes in species composition, have not been adequately evaluated in the literature (Knight and Cole 1995b).

Wildlife responses to recreation are also influenced by the characteristic of the disturbance (type of activity, distance away, direction of movement, speed, predictability, frequency, and magnitude), timing (e.g., breeding season, winter) and location (e.g., above versus below, in the open versus screened by topography or vegetation) (Knight and Cole 1995b). The distance at which a disturbance is perceived by an animal has been termed corridors of disturbance (Liddle 1997) or zones of influence (Knight and Gutzwiller 1995).

Under the proposed Process, some of these general recreation impacts may occur in association with changes in trail use by hikers, mountain bike riders, horseback riders, and use of OPDMDs. The following sections discuss each of these uses.

HIKERS

Although each user group creates biological resource impacts, those caused by hikers are typically minor when exercising proper trail etiquette on adequately-maintained trails and in good weather conditions. Nevertheless, impacts do occur with use (or misuse) of trails. Hikers could shortcut trails on switchbacks or get closer to natural attractions, resulting in trampling of native vegetation. Trail widening also occurs from users hiking side-by-side or in areas where there is insufficient room to pass other users. Direct mortality from hikers is rare, but may occur. For example, reptiles basking on trails may be unable to flee from oncoming users. Although nighttime use is infrequent, because State Park roads and trails are generally closed between sunset and sunrise, except to overnight campers, it has the potential to disrupt wildlife. Artificial light is often used for human comfort and safety along trails, in the form of spotlights and other hand-held or mounted light-sources. Effects of nighttime lighting are discussed further under “Mountain Biking,” below.

HORSES

The greater weight of horse and rider impacts vegetation by direct trampling and soil compaction. Equestrians, like other users, could shortcut trails, resulting in trampling of native vegetation. Trail widening also occurs from users riding side-by-side or in areas where there is insufficient room to pass other users. Grazing by horses could result in compaction and loss of vegetation. Horse manure has the potential to increase the spread of invasive species. While it has been found that horse manure may contain viable seeds for invasive plants (Quinn et al. 2006: p. 1), it is less clear if these species are able to germinate, become established, and spread along trail corridors (Pickering et al. 2010: p. 554). Little information exists on the impacts of direct mortality of wildlife from horses.

MOUNTAIN BIKING

Compared to other forms of outdoor recreation, biological effects of mountain biking on wildlife are not well-documented in published studies, although some literature is available. Mountain biking can affect wildlife through three primary mechanisms: stress or disturbance, habitat alteration, and collision/mortality (Liddle 1997, Quinn and Chernoff 2010). The significance of the disturbance is a function of the type, timing, intensity, duration, and spatial distribution/locations of use (Quinn and Chernoff 2010). Taylor and Knight (2003) found little difference between the behavioral responses of mule deer, bison, and pronghorn antelope to hikers and mountain bikers; they also reported that wildlife reacted most strongly to recreationists off trails, highlighting the importance of users to stay on designated trails. Thurston and Reader (2001) found that the impacts of biking and hiking on vegetation, as measured in their study, were not significantly different and increased with activity intensity. Impacts unique to mountain bikes primarily result from increased speed and relative silence compared to other uses. A fast-moving and quiet mountain biker can approach an animal without being detected until the rider is within the animal's "flight response zone" (Quinn and Chernoff 2010), which can cause a rapid stress response or result in collision. Similar to hikers and horses, mountain bikes could shortcut trails on switchbacks or get closer to natural attractions, resulting in trampling of native vegetation. Trail widening also occurs in areas where there is insufficient room to pass other users. In their current review of ecological effects of mountain biking, Quinn and Chernoff (2010) stated that incidences of direct mortality of wildlife from mountain biking are rare, and the most frequent casualties have been insects. However, very few studies on the direct mortality of wildlife from mountain bikers have been reported.

As a general recreational trend, nighttime trail use by mountain bikers and hikers is increasing in popularity. Nighttime trail use can disturb and modify the behavior of terrestrial wildlife through physical, noise, and light stressors. In general, most animals are not well-adapted or habituated to those types of anthropogenic stimuli at night. Artificial light is used for comfort and safety along trails at night, in the form of spotlights, other hand-held sources (e.g., flashlights), or mounted light-sources. The effects of artificial lighting by mountain bikers, hikers, and other users on wildlife are not well-documented; most studies have focused on "light pollution," where the light source is relatively regular or permanent (e.g., at buildings, complexes, parking lots, along streets), rather than intermittent, irregular, and very brief, such as from a hiker or biker passing through an area. Some studies of light pollution have reported adverse effects of artificial lighting on terrestrial wildlife. (Effects of artificial lighting on aquatic wildlife such as amphibians are discussed in Section 4.5, Aquatic Biological Resources.) Many terrestrial mammals are nocturnal, including bats, badgers, most small carnivores, and most rodents. Reproduction, movements, and other activities of these nocturnal species occur primarily or partially at night. Although very few studies have been conducted, particularly for wild populations, a review conducted by Beier (2006) concluded that artificial night lighting likely affects nocturnal mammals by disrupting foraging patterns, increasing visibility and predation risk, disrupting circadian rhythms, increasing mortality on roads, and disrupting dispersal movements. Also, artificial night lighting has been shown to affect flight behavior and orientation of migrating birds (Gauthreaux Jr. and Belser 2006) and breeding habitat quality for terrestrial birds (de Molenaar et al. 2006). However, the extent to which some of these effects could also result from rapid and brief shifts in illumination from intermittent sources of light used by hikers and bikers is not clear.

The magnitude and frequency of these potential effects of nighttime hiking and biking under the proposed Process are unknown but expected to be relatively low. Nighttime trail use is far less common than daytime trail use. For the most part, CSP road and trail use occurs during daylight hours, because park roads and trails are generally closed between sunset and sunrise, except to campers. Night lighting equipment used by hikers (headlamps, flashlights, lanterns, etc.) generally emits very little light, typically enough to see 10-20 feet of trail. The proposed Process would allow the addition of new users (e.g., bicyclists and/or equestrians); however, these new user types are not expected to substantially increase nighttime trail use and most nighttime lighting equipment would be similar to that used by existing hikers utilizing these trailheads. Nighttime bicyclists could use lights that are brighter than hikers (faster speeds require better visibility); however, most bicyclists are day users and relatively few are expected to use CSP trails at night. Also, because bicyclists travel through areas relatively fast and their lighting focuses narrowly on the trail ahead, the range and duration of artificial lighting by these users in a given location is expected to be very limited and confined mostly to non-sensitive areas within the trail corridor. Additionally, although the existing increasing trend in nighttime use of trails could continue statewide, it is not expected to substantially increase in the State Park System as a result of the proposed Process, because of the existing policy to generally close roads and trails for nighttime use.

OTHER POWER-DRIVEN MOBILITY DEVICES (OPDMDS)

According to the American Disabilities Act, Title II, Section 35.104, other power-driven mobility devices (OPDMDs) are defined as "any mobility device powered by batteries, fuel, or other engines — whether or not designed primarily for use by individuals with mobility disabilities — that is used by individuals with mobility disabilities for the purpose of locomotion, including golf cars, electronic personal assistance mobility devices (EPAMDs), such as the Segway® PT, or any mobility device designed to operate in areas without defined pedestrian routes, but that is not a wheelchair within the meaning of this section. This definition does not apply to Federal wilderness areas; wheelchairs in such areas are defined in Section 508(c)(2) of the ADA, 42 U.S.C. 12207(c)(2)." OPDMDs are wheeled devices that would be expected to have impacts similar to those associated with mountain biking, with the exception that OPDMDs are not intended to be used as higher-speed, high-performance recreational vehicles and are typically operated at speeds less than 5 miles per hour. General use of OPDMDs could result in damage to vegetation and development of bare soil conditions from stripping or uprooting, development of alternate short cut routes in wide trail corridors, and direct mortality of wildlife. However, while use of OPDMDs could result in biological effects, their use is an existing condition on State Park System trails and OPDMD use would not be modified as a result of change-in-use decisions.

ADAPTIVE USE MANAGEMENT AND IMPACT SUMMARY

Most of the long-term effects of implementing the proposed Process on biological resources are expected to be beneficial or neutral, because (1) any change in use must be developed and implemented with the objective of natural and cultural resource protection, (2) a benefit of change-in-use proposals would be to correct existing conditions that contribute to resource degradation, (3) most actions and ground disturbances would occur within existing disturbed areas, and (4) SPRs to protect biological resources during construction and over the long-term are incorporated into the Process.

However, there is no reliable data to suggest that the number of trail users would increase, decrease or otherwise substantially change in timing or use pattern, resulting in the potential for effects on sensitive habitats and special-status species, or other biological resources impacts. Therefore, the proposed Process includes AUM as a SPR designed to monitor and correct, if necessary, user-created trail issues. Adaptive management is a well-established concept used in natural resources management. Adaptive strategies are commonly included in projects affecting natural resources and natural systems, where conditions and effects can change over time, such as ecosystem restoration projects, water resources projects, or, in this case, projects involving on-going recreation use in natural settings.

AUM will involve a standard procedure of describing (1) existing use and resource conditions as a baseline during the preparation of the change-in-use survey at the start of the Process and (2) performance standards for maintaining use at levels that do not result in significant effects on the environment. The performance standards would be tailored to each change-in-use proposal and its park unit. They would describe desired use and resource conditions necessary to maintain impacts at less-than-significant levels. All performance standards would relate to use conditions or resources that are observable in the field by CSP staff. Recommended performance standards to avoid long-term significant impacts to biological resources include:

- No unplanned user-created trails originating from a change-in-use action (e.g., trail reroute),
- Maintenance of vegetation conditions without substantial trampling or other degradation from trail and related recreation use,
- No substantial increase in user-created disturbance to sensitive habitats (e.g., wetlands) adjacent to trails and roads treated by change-in-use actions,

- No increased use of areas occupied by special-status plant or wildlife species,
- No evidence of increased, direct wildlife mortality associated with change-in-use actions, and
- No new populations of invasive plants associated with change-in-use actions.

Qualified CSP staff would inspect the route and associated use areas that are affected by a change-in-use proposal at least semi-annually during the first five years following implementation of the change in use and would prepare an Adaptive Management Report (AMR) at the end of each year regarding achievement of the performance standards established for the project, consistent with CSP DOM 0313.1.1.5. The AMR would be available for public review at the District Headquarters. The report would include the results of observations of use and resource conditions noted for the performance standards, any degradation that exceeds the performance standard, and response or remedial actions recommended to resolve the issue. A follow-up inspection would occur within three months following implementation of the remedial action to assess the effectiveness of any required remedies. If after re-inspection, park staff determine the remedy to be effective, no further action would be required for that issue. If CSP staff is unable to remedy an identified issue, a Superintendent's Order would be used to immediately reduce user type, seasonally or permanently close the route, rescind the change in use temporarily or permanently, and/or any other action deemed necessary to protect the affected resource or use condition and maintain any adverse effect at a less-than-significant level. As a result of the AUM process, the prospect of significant adverse effects from increases in use or changes in use timing or pattern would be precluded during the five years following implementation.

Five years after implementation of a change-in-use proposal, qualified CSP staff would inspect the route and associated use areas that are affected by the proposal at least semi-annually and would prepare an AMR at the end of each year regarding achievement of the performance standards established for the project. The AMR would be available for public review at the District Headquarters. The report would include the results of observations of use and resource conditions noted for the performance standards ("Condition Assessment"), any degradation that exceeds the performance standard and response or remedial actions recommended to resolve the issue is implemented. The follow-up inspection would occur within six months to assess the effectiveness of any required remedies. If after re-inspection, park staff determines the remedy to be effective, no further action would be required for that issue. If CSP staff is unable to remedy an identified issue, a Superintendent's Order would be used to immediately reduce user type, seasonally or permanently close the route, rescind the change in use temporarily or permanently, and/or any other action deemed necessary to protect the affected resource or use condition and maintain any adverse effect at a less-than-significant level. As a result, the prospect of significant adverse effects from increases in use or changes in use timing or pattern would be precluded for a sufficient time to allow incorporation of the road or trail with its changed use into the routine, long-term resources management activities of the park.

4.4.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With integration of SPRs and mitigation recommended above, the biology-related impacts of a change-in-use project completed under this Process would be less than significant. If a change-in-use proposal could not maintain biological impacts at less-than-significant levels with SPRs and mitigation, it would be disqualified from approval using this Process. If CSP pursued such a project further, it would conduct a separate CEQA review process.

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4.5 AQUATIC BIOLOGICAL RESOURCES

This section describes the aquatic biological resources that are known or have the potential to occur in areas supporting CSP units. Aquatic resources include all perennial and seasonal marine, estuarine, and freshwater habitats; and special-status mammals, fish, amphibians, aquatic reptiles, and invertebrates. Federal, State, and local regulations related to biological resources are summarized. Potential impacts of the proposed Process are analyzed, and mitigation measures are provided for those impacts determined to be significant or potentially significant. This analysis area covers nearly the entire geographic extent of California and includes numerous habitats, sensitive plant communities, and special-status plant and animal species. Because both terrestrial and aquatic biological resources will be following the same ecoregional approach (USFS 1997, 1998) to assessing and analyzing potential impacts, details of this approach are provided in Section 4.4, Terrestrial Biological Resources. Cumulative aquatic biological resource impacts are addressed in Section 6.1.2, Cumulative Impacts by Resource Topic, of this Program EIR.

4.5.1 ENVIRONMENTAL SETTING

This section provides an overview of types of information provided for each ecoregion including dominant vegetation communities, descriptions of existing aquatic habitats, and presence of sensitive natural aquatic communities and special-status aquatic species in locations where CSP units occur.

OVERVIEW OF ECOREGION DESCRIPTION CONTENT

The environmental setting for aquatic biological resources was developed to focus on the existing marine, estuarine, and freshwater resources that potentially occur in the vicinity of park units and their surrounding regions, based on their ecoregion location. These resources are characterized primarily at the USFS Ecological Section and Subsection level (Exhibit 3-1; see Appendix G for USFS Ecological Section and Subsection Maps). The program-level setting for aquatic biological resources broadly assumes that the common and sensitive aquatic biological resources identified within an Ecological Section or Subsection could potentially occur within or adjacent to park units within the Section or Subsection. In this analysis, USFS Ecological Sections and Subsections are also referred to generally as “ecoregions.” Generally, an ecoregion (also sometimes called a “bioregion”) is a geographic area with similar or recurring patterns of physical and biological characteristics that may include geology, soils, geomorphology, hydrology, climate, vegetation types, animal species composition, biodiversity, and land use history.

Each ecoregion description includes a summary of the primary or characteristic aquatic biological resources of the ecoregion and all sensitive aquatic biological resources. Tables that summarize aquatic habitats, sensitive natural communities, special-status species, critical habitat, and park units by Ecological Section and Subsection are included and referenced in each ecoregion description. Since this analysis is conducted at a program level and the study area is very large (statewide), the environmental setting and ecoregion descriptions are not intended to provide a full inventory of all common and sensitive aquatic biological resources that are known or could occur in a particular Park unit.

The following introduces the types of content summarized in each ecoregion description; the descriptions themselves are provided at the end of this section.

VEGETATION COMMUNITIES AND WILDLIFE HABITATS

Dominant vegetation communities and habitat descriptions were developed using those provided in *Ecological Subregions of California: Section and Subsection Descriptions* (USFS 1997, 1998). Vegetation community nomenclature and descriptions are based on *A Manual of California Vegetation* (Sawyer and Keeler-Wolf 1995, Sawyer et al. 2009) and are provided in Section 4.4, Terrestrial Biological Resources. Other site-specific resources not described among the broader ecoregion resources may be present; these would be addressed during project-level environmental review.

SENSITIVE AQUATIC BIOLOGICAL RESOURCES

The California Natural Diversity Database (CNDDB) and its GIS application were used as the primary sources to identify and map previously reported occurrences of special-status aquatic species and sensitive natural communities within Ecological Section/Subsections and the vicinities of CSP units within each Section and Subsection. The CNDDB is a statewide database, managed by the California Department of Fish and Game (CDFG) that is continually updated with the location and condition of the State's rare and declining species and habitats. Although the CNDDB is the most current and reliable tool available for tracking occurrences of special-status species statewide, it contains only those records that have been reported to CDFG. For key special-status species that have ranges not well-represented by CNDDB distribution data, California Wildlife Habitat Relationship (CWHR) range maps were additionally used to determine potential for occurrence within Ecological Sections and Subsections.

Special-Status Species

Special-status aquatic species include the following categories:

- Listed or proposed for listing as threatened or endangered under federal Endangered Species Act (FESA) or candidates for possible future listing;
- Listed or candidates for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA);
- Listed as fully protected under the California Fish and Game Code;
- Aquatic species identified by CDFG as species of special concern;
- Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA Section 15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G); or
- Otherwise meets the definition of rare or endangered under CEQA Section 15380(b) and (d).

Sensitive Natural Communities

Sensitive natural communities or habitats are those of special concern to resource agencies or those that are afforded specific consideration, based on Section 404 of the Clean Water Act (CWA) and other applicable regulations. This concern may be due to locally or regionally declining status of these habitats, or because they provide important habitat to common and special-status species. Many of these communities are tracked in the CNDDB.

Critical Habitat

Critical habitat is a U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS)-designated geographic area that is considered essential for the conservation of a threatened or endangered species that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species, but that will be needed for its recovery.

ECOREGION SECTIONS

CENTRAL CALIFORNIA COAST ECOLOGICAL SECTION

The Central California Coast Section consists of mountains, hills, valleys, and plains in the southern Coast Ranges of California, with elevations ranging from sea level to 3,800 feet. The Central California Coast Section is divided into 12 subsections, containing 62 CSP units (Appendix H-1). Three Subsections (North Coastal Santa Lucia Range, Santa Cruz Mountains, and Watsonville Plain – Salinas Valley) contain the majority of the CSP units.

Vegetation typical of this ecoregion is discussed under Terrestrial Biological Resources (Section 4.4).

Aquatic features within this ecoregion include a variety of freshwater, estuarine, and marine habitats. Lakes within this ecoregion are primarily comprised of stock ponds and reservoirs for municipal water supply. Additional aquatic features within this section include seeps, vernal pools, and freshwater marshes. The coastline supports tidepools, estuaries, and lagoons; and salt marshes occur occasionally along the edges of both San Francisco and San Pablo Bays. Drainages range from ephemeral and intermittent to perennial streams and the tidally-influenced Sacramento/San Joaquin River Delta. Most of the major drainages in the Central California Coast Ecoregion flow westerly into the Pacific Ocean. These drainages include the San Lorenzo, Pajaro, Carmel, Lower Sacramento, Big Sur, and Santa Maria Rivers; Soquel, Coyote, San Simeon, and San Antonio Creeks; and Elkhorn Slough.

Of the 86 special-status animal species within the Central California Coast section, 21 are aquatic species (Appendix I-1). Fish include coho salmon – central California coast ESU (*Oncorhynchus kisutch*), steelhead – southern California DPS, and south/central California coast DPS (*O. mykiss*); tidewater goby (*Eucyclogobius newberryi*); arroyo chub (*Gila orcuttii*); hardhead (*Mylopharodon conocephalus*); Sacramento perch (*Archoplites interruptus*); and Sacramento splittail (*Pogonichthys macrolepidotus*). Amphibians include arroyo toad (*Anaxyrus californicus*), California red-legged frog (*Rana draytonii*), foothill yellow-legged frog (*R. boylii*), western spadefoot (*Spea hammondii*), Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*), California tiger salamander (*A. californiense*), and Coast Range newt (*Taricha torosa*). One aquatic reptile is known to occur in the Central California Coast Ecoregion, the western pond turtle (*Emys marmorata*). Special-status aquatic invertebrates within this ecoregion include Conservancy fairy shrimp (*Branchinecta conservatio*), vernal pool fairy shrimp (*B. lynchi*), and vernal pool tadpole shrimp (*Lepidurus packardi*). Special-status marine mammal species include Steller sea lion (*Eumetopias jubatus*) and southern sea otter (*Enhydra lutris nereis*).

Of the 26 rare Natural Communities found within the Ecoregion, 11 occur in aquatic habitats (Appendix I-1). Examples of rare aquatic Natural Communities within the Central California Coast Ecoregion include Alkali seep, Coastal Brackish Marsh, North Central Coast Drainage Sacramento Sucker/Roach River, North Central Coast Short-Run Coho Stream, Northern Claypan Vernal Pool, and Northern Coastal Salt Marsh. Designated critical habitat within the Ecoregion is listed in Appendix J-1a and mapped in Appendix J-1b and includes eleven aquatic species: tidewater goby, delta smelt, green sturgeon - southern DPS (*Acipenser medirostris*), steelhead – central California coast and south central California coast ESUs, arroyo toad, California red-legged frog, California tiger salamander, Conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, and Steller sea-lion.

CENTRAL CALIFORNIA COAST RANGES ECOLOGICAL SECTION

The Central California Coast Ranges Section is located in the interior part of the southern Coast Ranges, immediately east of the Central California Coast Section and south of the Carquinez Strait, with elevations ranging from 100 to 5,200 feet. Ten CSP units occur within five of the 11 Subsections of the Central California

Coast Ranges Section (Appendix H-1), with two subsections (Diablo Range and Eastern Hills) containing 70 percent of the CSP units.

Vegetation typical of this ecoregion is discussed under Terrestrial Biological Resources (Section 4.4).

Aquatic features within this ecoregion include a variety of both freshwater and alkaline habitats. Lakes within this ecoregion are primarily comprised of stock ponds and reservoirs for municipal water supply, crop irrigation, and livestock; although occasional large reservoirs, such as San Luis Reservoir, are also present. Other aquatic features within this section include seeps, springs, vernal pools, freshwater marshes, and alkali marshes. Drainages range from ephemeral and intermittent drainages to perennial streams. Drainages in the Central California Coast Ranges Ecoregion tend to be small and most flow easterly into the Great Valley; however, a few streams flow northwest into Monterey Bay and west into San Francisco Bay. These drainages include the Cuyama, Estrella, Pajaro, Salinas, and Santa Maria Rivers; and Coyote Creek.

Of the 48 special-status animal species within the Central California Coast Ranges section, 11 are aquatic species (Appendix I-2). Three special-status fish, steelhead – central California coast DPS and south central California coast DPS, and San Joaquin roach (*Lavinia symmetricus* ssp.), occur within this ecoregion. Amphibians include California red-legged frog, foothill yellow-legged frog, western spadefoot, California tiger salamander, and Coast Range newt. One aquatic reptile, the western pond turtle, is also known to occur in the Central California Coast Ranges Ecoregion. Special-status aquatic invertebrates within this ecoregion include longhorn fairy shrimp (*Branchinecta longiantenna*) and vernal pool fairy shrimp.

Of the 13 rare Natural Communities found within the Ecoregion, five occur in aquatic habitats (Appendix I-2). These include Alkali Seep, Cismontane Alkali Marsh, North Central Coast Drainage Sacramento Sucker/Roach River, Northern Claypan Vernal Pool, and Northern Vernal Pool. Designated critical habitat within the Ecoregion is listed in Appendix J-2a and mapped in Appendix J-2b and includes six aquatic species: delta smelt, steelhead – south central California coast DPS, California red-legged frog, California tiger salamander, longhorn fairy shrimp, and vernal pool fairy shrimp.

COLORADO DESERT ECOLOGICAL SECTION

The Colorado Desert Section is a very hot part of the Basin and Range Province that is sometimes called the Salton Trough; with elevations ranging from the current level of the Salton Sea, about 230 feet below sea level, to 2,200 feet. In the middle of the trough, the sediment surface is about 275 feet below sea-level. The Colorado Desert Section is further divided into four subsections, three of which contain the six CSP units within the Ecoregion (Section Matrix Appendix H-1).

Vegetation typical of this ecoregion is discussed under Terrestrial Biological Resources (Section 4.4).

Aquatic features within this ecoregion include groundwater springs and runoff from seasonal rains that form alluvial fans, desert arroyos, desert fan palm oases, freshwater marshes, brine lakes, desert washes, and perennial and ephemeral streams such as the Whitewater River and Carrizo and San Felipe creeks. The region's most significant aquatic system is the Salton Sea. In addition, irrigation canals and associated detention ponds are prevalent throughout the Imperial Valley.

Of the 52 special-status animal species within the Colorado Desert section, nine are aquatic species (Appendix I-3). Two fish occur within this ecoregion: the razorback sucker (*Xyrauchen texanus*) and the desert pupfish (*Cyprinodon macularius*). Amphibians include Sierra Madre yellow-legged frog (*Rana muscosa*),lowland (=Yavapai, San Sebastian & San Felipe) leopard frog (*Lithobates yavapaiensis*), northern leopard frog (*L. pipiens*) arroyo toad, Couch's spadefoot (*Scaphiopus couchii*), Sonoran desert toad (*Incilius alvarius*), and desert slender salamander (*Batrachoseps major aridus*).

Of the six rare Natural Communities found within the Ecoregion, one occurs in an aquatic habitat (Appendix I-3), Transmontane Alkali Marsh. Designated critical habitat within the Ecoregion is listed in Appendix J-3a and mapped in Appendix J-3b and includes one aquatic species, desert pupfish.

GREAT VALLEY ECOLOGICAL SECTION

The Great Valley Section contains the alluvial plains of the Sacramento and San Joaquin Valleys; with elevations ranging from sea level to 2,000 feet and hot and dry summers are and mild winters. The Great Valley section is divided into 26 subsections and fourteen of these subsections contain 30 CSP units (Appendix H-1).

Vegetation typical of this ecoregion is discussed under Terrestrial Biological Resources (Section 4.4).

Aquatic features within this ecoregion include a variety of both freshwater and alkaline habitats. Lakes within this ecoregion are primarily comprised of stock ponds and reservoirs for municipal water supply, crop irrigation, and livestock. Other aquatic features within this section include seeps, springs, vernal pools and seasonal wetlands, freshwater marshes, alkali marshes, and rice fields. Drainages range from ephemeral and intermittent drainages to irrigation canals, major perennial streams and large rivers. The major rivers in the Great Valley include the Sacramento, American, Feather, and San Joaquin Rivers, which flow into San Francisco Bay and ultimately the Pacific Ocean. Tributaries to these rivers include numerous large creeks and smaller rivers, including Butte, Coon, Deer, Lone Tree, Mill, Laguna, Dry, and Poso Creeks; and the Yuba, Cosumnes, Calaveras, Kaweah, Mokelumne, Stanislaus, Tuolumne, Merced, Kern, Chowchilla, Fresno, and Tule Rivers.

Of the 83 special-status animal species within the Great Valley section, 21 are aquatic species (Appendix I-4). Fish include chinook salmon – Sacramento River winter-run ESU, Central Valley spring-run ESU, and Central Valley Fall & Late Fall-Run ESU (*Oncorhynchus tshawytscha*), California Central Valley steelhead DPS, green sturgeon southern DPS, delta smelt (*Hypomesus transpacificus*), hardhead, Sacramento perch, Sacramento splittail, and Kern brook lamprey (*Entosphenus hubbsi*). Amphibians include California red-legged frog, foothill yellow-legged frog, northern leopard frog, western spadefoot, and California tiger salamander. Two special-status aquatic reptiles are known to occur in the Great Valley Ecoregion: giant garter snake (*Thamnophis gigas*) and western pond turtle. Special-status aquatic invertebrates within this ecoregion include Conservancy fairy shrimp, longhorn fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp.

Of the 27 rare Natural Communities found within the Ecoregion, 11 occur in aquatic habitats (Appendix I-4). Examples of rare aquatic Natural Communities within the Great Valley Ecoregion include Alkali seep, Central Valley Drainage Fall Run Chinook Stream, Central Valley Drainage Valley Floor River, Cismontane Alkali Marsh, Coastal and Valley Freshwater Marsh, Northern Basalt Flow Vernal Pool, and Northern Hardpan Vernal Pool. Designated critical habitat within the Ecoregion is listed in Appendix J-4a and mapped in Appendix J-4b and includes ten aquatic species: delta smelt, chinook salmon – Central Valley spring-run ESU, California Central Valley steelhead DPS, green sturgeon - southern DPS California red-legged frog, California tiger salamander, Conservancy fairy shrimp, longhorn fairy shrimp, vernal pool tadpole shrimp, and vernal pool fairy shrimp.

KLAMATH MOUNTAINS ECOLOGICAL SECTION

The Klamath Mountains Section is situated between the Southern Cascades Mountains and the Coast Range Mountains with the southern limit at the northern end of the Great Valley. Elevations range from 200 to 9,000 feet. The Klamath Mountains section is divided into 21 subsections, with five CSP units located in five subsections (Appendix H-1).

Vegetation typical of this ecoregion is discussed under Terrestrial Biological Resources (Section 4.4).

A wide range of aquatic features are present within the Klamath Mountains Section. Lakes within this region range from small glacial tarns and snowmelt ponds to alpine lakes and large reservoirs for hydroelectric power generation, such as Whiskeytown and Trinity Lakes. Other aquatic features within this section include seeps, springs, fens, bogs, and marshes. Drainages in the Klamath Mountains tend to be large, swiftly flowing rivers and streams situated in deeply incised canyons. Most of the drainages flow to the west, but a few drain easterly into the Sacramento River. Major rivers in the Klamath Mountains section include the Klamath, Mad, McCloud, Trinity, Smith, Salmon, Scott, and Sacramento Rivers.

Of the 43 special-status animal species within the Klamath Mountains section, 23 are aquatic species (Appendix I-5). Special-status fish within this ecoregion include chinook salmon – Sacramento River winter-run ESU, Central Valley spring-run ESU, and spring-run Klamath-Trinity Rivers population; coastal cutthroat trout (*Oncorhynchus clarkii clarkii*); McCloud River redband trout (*O. mykiss* ssp.); summer-run steelhead trout (*O. mykiss irideus*); bigeye marbled sculpin (*Cottus klamathensis macrops*); hardhead, and Pit roach (*Lavinia symmetricus mitrulus*). Amphibians include Cascades frog (*Rana cascadae*), foothill yellow-legged frog, Pacific tailed frog (*Ascaphus truei*), Shasta salamander (*Hydromantes shastae*), Siskiyou Mountains salamander (*Plethodon stormi*), Del Norte salamander (*P. elongatus*), and southern torrent salamander (*Rhyacotriton variegatus*). One aquatic reptile, western pond turtle, is known to occur in the Klamath Mountains Ecoregion.

Of the six rare Natural Communities found within the Ecoregion, five occur in aquatic habitats (Appendix I-5): Alkali Seep, Darlingtonia Seep, Lower McCloud River/Canyon River, Lower Pit River/Canyon River (Hardhead/Tule Perch River), and Pit River Drainage Rainbow/Redband Trout Stream. Designated critical habitat within the Ecoregion is listed in Appendix J-5a and mapped in Appendix J-5b and includes three aquatic species, chinook salmon – Central Valley spring-run ESU, California Central Valley steelhead DPS, and green sturgeon – southern DPS.

MOJAVE DESERT ECOLOGICAL SECTION

The Mojave Desert Section ranges from the southern end of the Sierra Nevada and the north-northeastern side of the Transverse Ranges to Nevada and Arizona and is the hot part of the Basin. Elevations range from 280 feet below sea level to 7,900 feet above sea level. Seven CSP units are located in three of the 16 subsections within the Mojave Desert Section (Appendix H-1).

Vegetation typical of this ecoregion is discussed under Terrestrial Biological Resources (Section 4.4).

Aquatic features within this ecoregion include alkali playas, groundwater springs and runoff from seasonal rains that form alluvial fans, desert washes, ephemeral and intermittent streams, and occasional perennial streams including the Mojave, Amargosa, and Whitewater rivers.

Of the 48 special-status animal species within the Mojave Desert section, six are aquatic species (Appendix I-6). Two special-status fish occurs within the Mojave Desert ecoregion, Amargosa pupfish (*Cyprinodon nevadensis amargosae*) and Mohave tui chub (*Siphateles bicolor mohavensis*). Three special-status amphibians occur within this ecoregion: arroyo toad, Sierra Madre yellow-legged frog, and California red-legged frog. One special-status aquatic reptile, western pond turtle, is known to occur in the Mojave Desert Ecoregion.

Of the ten rare Natural Communities found within the Ecoregion, one occurs in an aquatic habitat (Appendix I-6), Transmontane Alkali Marsh. Designated critical habitat within the Ecoregion is listed in Appendix J-6a and mapped in Appendix J-6b and includes one aquatic species, arroyo toad.

MONO ECOLOGICAL SECTION

The Mono Section is located in the western part of the Great Basin, just east of the Sierra Nevada, with elevations ranging from 4,400 to 14,200 feet. The Mono Section is divided into 13 subsections, with two of these subsections located entirely within the state of Nevada. Two of the 13 subsections contain one CSP unit each (Appendix H-1).

Vegetation typical of this ecoregion is discussed under Terrestrial Biological Resources (Section 4.4).

Aquatic features within this ecoregion include large freshwater and brackish lakes, such as Lake Crowley and Mono Lake, and swift-flowing rivers and streams. Rivers and streams typically flow through deeply incised canyons at higher elevations, and in alluvial channels at lower elevations. Major rivers within this ecoregion include the East and West Walker rivers.

Of the 15 special-status animal species within the Mono section, two are aquatic species (Appendix I-7): Amargosa pupfish and Sierra Nevada yellow-legged frog (*Rana sierrae*).

This Ecoregion does not support any rare aquatic Natural Communities (Appendix I-7), and critical habitat is not present for any aquatic species within this Ecoregion.

NORTHERN CALIFORNIA COAST ECOLOGICAL SECTION

The Northern California Coast Section encompasses mountains, hills, valleys, and plains in the northern California Coast Range and small portions of the Klamath Mountains, and stretches from the Golden Gate Bridge to the Oregon border. Elevations range from sea level to about 3,000 feet. The Northern California Coast section is divided into 13 subsections and eight of these subsections contain 59 CSP units (Appendix H-1).

Vegetation typical of this ecoregion is discussed under Terrestrial Biological Resources (Section 4.4).

Aquatic features within this ecoregion include a variety of freshwater, estuarine, and marine habitats. Lakes within this ecoregion include natural lakes, stock ponds and reservoirs for municipal water supply, livestock, and hydropower generation. Salt marshes occur occasionally along the edges of San Francisco and San Pablo bays. Other aquatic features within this section include seeps, vernal pools, and freshwater marshes. Coastal areas support tidepools, estuaries, and lagoons. Drainages range from ephemeral and intermittent drainages to perennial streams and the tidally-influenced Sacramento/San Joaquin River Delta. Most of the major drainages in the Northern California Coast Ecoregion drain westerly into the Pacific Ocean; although a few, such as the Napa River, drain south into San Pablo Bay. Major rivers within this ecoregion include the Russian, Garcia, Navarro, Gualala, Salmon, Mattole, Big, Eel, Mad, Klamath, and Smith Rivers.

Of the 76 special-status animal species within the Northern California Coast section, 30 are aquatic or marine species (Appendix I-8). These include steelhead – central California coast, Klamath Mountains Province, and northern California DPSs; coho salmon – central California coast and southern Oregon/northern California coast ESUs; chinook salmon – California coastal and southern Oregon and northern California coastal ESUs; tidewater goby; green sturgeon – southern DPS; Gualala roach (*Lavinia symmetricus parvipinnis*); Navarro roach (*L. symmetricus navarroensis*) (which occurs only in the Navarro River); Tomales roach (*L. symmetricus* ssp.) (which occurs only in tributaries to Tomales Bay); Russian River tule perch (*Hysterocarpus traskii pomo*); Del Norte salamander; southern torrent salamander; California red-legged frog; northern red-legged frog (*Rana aurora*); California freshwater shrimp (*Syncaris pacifica*); vernal pool fairy shrimp; Steller sea lion; and the southern sea otter.

Of the 23 rare Natural Communities found within the Ecoregion, nine occur in aquatic habitats (Appendix I-8). Rare aquatic Natural Communities within the Northern California Coast Ecoregion include Coastal and Valley Freshwater Marsh, Coastal Brackish Marsh, Fen, North Central Coast Fall-Run Steelhead Stream, North Central Coast Summer Steelhead Stream, Northern Coastal Salt Marsh, Northern Hardpan Vernal Pool, Northern Vernal Pool, and Sphagnum Bog. Designated critical habitat within the Ecoregion is listed in Appendix J-8a and mapped in Appendix J-8b and includes seven aquatic species: tidewater goby, chinook salmon –California coastal ESU, steelhead – central California coast and northern California DPSs, green sturgeon – southern DPS, California red-legged frog, vernal pool fairy shrimp, and Steller sea lion.

NORTHERN CALIFORNIA COAST RANGES ECOLOGICAL SECTION

The Northern California Coast Ranges Section is situated in the interior part of the northern California Coast Range Mountains from the Carquinez Straight north to the Klamath Mountains; with elevations ranging from 300 to 8,100 feet. The Northern California Coast Ranges Section is divided into six subsections and two of these subsections contain four CSP units (Appendix H-1).

Vegetation typical of this ecoregion is discussed under Terrestrial Biological Resources (Section 4.4).

Aquatic features within this ecoregion are dominated by lakes and swiftly flowing streams and rivers. Lakes range from small mountain lakes to large lakes, such as Clear Lake and Lake Mendocino. Streams and rivers within this section typically occur in deeply incised canyons. Other aquatic features within this section include seeps, vernal pools, and freshwater marshes. Most of the major drainages in the Northern California Coast Ranges Ecoregion drain westerly; although a few, such as Cache Creek, drain easterly into the Sacramento River. Major drainages within this ecoregion include Putah, Cache, Mill, and Stony creeks; and the Russian, Eel, Mad, and Trinity rivers.

Of the 34 special-status animal species within the Northern California Coast Ranges section, 14 are aquatic species (Appendix I-9). Special-status fish within the Northern California Coast Ranges ecoregion include steelhead – Central California coast DPS and coho – southern Oregon/northern California coasts ESU, chinook – California coastal ESU, coastal cutthroat trout, Clear Lake hitch (*Lavinia exilicauda chi*) (which is restricted to Clear Lake and its tributaries), hardhead, Russian River tule perch and Sacramento perch. Special-status amphibians within this section include southern torrent salamander, foothill yellow-legged frog, and Pacific tailed frog. One special-status aquatic reptile, the western pond turtle, is known to occur in the Northern California Coast Ranges Ecoregion. One special-status aquatic invertebrate occurs within this ecoregion, California freshwater shrimp.

Of the 13 rare Natural Communities found within the Ecoregion, seven occur in aquatic habitats (Appendix I-9): Central Valley Drainage Rainbow Trout/Cyprinid Stream, Clear Lake Drainage Cyprinid/Catostomid Stream, Clear Lake Drainage Resident Trout Stream, Clear Lake Drainage Seasonal Fish Spawning Stream, Coastal and Valley Freshwater Marsh, Northern Basalt Flow Vernal Pool, and Northern Volcanic Ash Vernal Pool. Designated critical habitat within the Ecoregion is listed in Appendix J-9a and mapped in Appendix J-9b and includes two aquatic species, chinook salmon – California coastal ESU and steelhead – northern California DPS.

NORTHERN CALIFORNIA INTERIOR COAST RANGES ECOLOGICAL SECTION

The Northern California Interior Coast Ranges Section is located in the southeastern edge of the northern California Coast Range Mountains and includes areas north of Putah Creek, and hills and terraces along the west side and north end of the Sacramento Valley. Elevations range from approximately 200 to 3,000 feet. The Northern California Interior Coast Ranges Section is divided into three subsections, with only one CSP unit located within the Tehama Terraces Subsection (Appendix H-1).

Vegetation typical of this ecoregion is discussed under Terrestrial Biological Resources (Section 4.4).

Aquatic features within this ecoregion are dominated by swiftly flowing streams and rivers. Lakes are typically small, consisting primarily of constructed features used for irrigation and flood control; however, occasional reservoirs, such as Black Butte Lake, are also present. Streams and rivers within this section typically occur in deeply incised canyons. Other aquatic features within this section include seeps, vernal pools, and freshwater marshes. Major drainages in the Northern California Interior Coast Ranges Ecoregion drain easterly into the Sacramento River and include Clear, Cow, Deer, Mill, Paynes, Putah, Cache, Stone Corral, Stony, and Cottonwood Creeks.

Of the 18 special-status animal species within the Northern California Interior Coast Ranges section, eight are aquatic species (Appendix I-10); chinook salmon – Central Valley spring-run, Sacramento River winter-run, and Central Valley fall and late fall-run ESUs; steelhead - Central Valley ESU; western pond turtle; western spadefoot; vernal pool fairy shrimp; and vernal pool tadpole shrimp.

Of the six rare Natural Communities found within the Ecoregion, one occurs in an aquatic habitat (Appendix I-10), Northern Hardpan Vernal Pool. Designated critical habitat within the Ecoregion is listed in Appendix J-10a and mapped in Appendix J-10b and includes five aquatic species: chinook salmon – Central Valley spring-run ESU, California Central Valley steelhead DPS, green sturgeon – southern DPS, vernal pool fairy shrimp, and vernal pool tadpole shrimp.

SIERRA NEVADA ECOLOGICAL SECTION

The Sierra Nevada Section is comprised of the temperate to very cold parts of the Sierra Nevada Mountains, consisting of a north-northwest aligned mountain range that is much steeper on the east side than on the west. Elevations range from about 1,000 to 14,495 feet, with local relief ranging from 500 to 2,000 feet. The Sierra Nevada Section is divided into 21 subsections and ten of these subsections contain 22 CSP units (Appendix H-1).

Vegetation typical of this ecoregion is discussed under Terrestrial Biological Resources (Section 4.4).

A wide range of aquatic features are present within the Sierra Nevada Section. Lakes within this region range from small glacial tarns and snowmelt ponds to alkali lakes, such as Honey Lake; to very large lakes, such as Lake Tahoe. Other aquatic features within this section include isolated desert marshes and streams, seeps, springs, fens, bogs, and marshes. Drainages range from small ephemeral drainages and intermittent streams to large perennial rivers such as the Truckee and Feather Rivers. Several rivers drain the northwest slope of the Sierras including the Feather, Yuba, Bear, American, Stanislaus, Cosumnes, Calaveras, Tuolumne, and Merced Rivers. The southern portion of the Sierras is drained by the San Joaquin, Chowchilla, Fresno, King, Tule, and Kern Rivers. Northwest slope drainages flow into the Sacramento River and the southwest slope drainages flow into either the San Joaquin River or into natural basins (e.g. Buena Vista Lake). The Sacramento and San Joaquin Rivers ultimately converge in the Sacramento-San Joaquin River Delta/San Francisco Bay before reaching the Pacific Ocean. The eastern side of the Sierra Nevada is drained by several rivers including the Truckee, Carson, Owens, and West Walker Rivers. East slope rivers generally drain eastward and into natural basins forming inland lakes such as Honey Lake, Pyramid Lake, Topaz Lake, Mono Lake, and Owens Lake.

Of the 71 special-status animal species within the Sierra Nevada section, 21 are aquatic species (Appendix I-11). Special-status fish species include Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*), Paiute cutthroat trout (*O. clarkii seleniris*), Owens pupfish (*Cyprinodon radiosus*), Owens tui chub (*Siphateles bicolor snyderi*), Owens speckled dace (*Rhinichtys osculus* ssp.), and Owens sucker (*Catostomus fumeiventris*). Amphibians include California red-legged frog, Cascades frog , foothill yellow-legged frog, Sierra Nevada yellow-legged frog, northern leopard frog, Yosemite toad (*Anaxyrus canorus*), Breckenridge Mountain slender salamander (*Batrachoseps* sp.), Tehachapi slender salamander (*B. stebbinsi*), Mount Lyell salamander (*Hydromantes platycephalus*), limestone salamander (*Hydromantes brunus*), Owens Valley web-toed salamander (AKA Oak Creek salamander) (*H.* sp.), and yellow-blotched salamander (*Ensatina eschscholtzii croceator*). One aquatic reptile, western pond turtle, is known to occur in the Sierra Nevada range.

Of the fourteen rare Natural Communities found within the Ecoregion, nine occur in aquatic habitats (Appendix I-11), including Central Valley Drainage Hardhead/Squawfish Stream, Central Valley Drainage Resident Rainbow Trout Stream, Central Valley Drainage Spring Stream, Darlingtonia Seep, Fen, Great Basin Cutthroat Trout/Paiute Sculpin Stream, Great Basin Sucker/Dace/Redside Stream with Cutthroat Trout, Sacramento-San Joaquin Foothill/Valley Ephemeral Stream, and Sphagnum Bog. Designated critical habitat within the Ecoregion is listed in Appendix J-11a and mapped in Appendix J-11b and includes one amphibian species, California red-legged frog.

SIERRA NEVADA FOOTHILLS ECOLOGICAL SECTION

The Sierra Nevada Foothills Section comprises the foothills of the Sierra Nevada and the southwestern end of the Cascade Range adjacent to the Great Valley, with elevations ranging from 200 to 5,000 feet. The Sierra Nevada Foothills Section is divided into five subsections and three of these subsections contain 11 CSP units (Appendix H-1).

Vegetation typical of this ecoregion is discussed under Terrestrial Biological Resources (Section 4.4).

Aquatic features within this ecoregion are dominated by swiftly flowing streams and rivers. Lakes range from small stock ponds to large reservoirs, such as Lake Oroville and Folsom Lake. Other aquatic features within this section include seeps, vernal pools, and freshwater marshes. Streams and rivers within this section typically occur in deeply incised canyons. The major drainages in the Sierra Nevada Foothills Ecoregion drain westerly into the Great Valley. All of the large rivers draining the west slope of the Sierra Nevada's flow through this region. Major rivers within this ecoregion include the Feather, Bear, Yuba, American, Mokelumne, Stanislaus, Cosumnes, Calaveras, Tuolumne, Chowchilla, Fresno, Merced, Kings, Kaweah, Tule, San Joaquin, and Kern Rivers.

Of the 46 special-status animal species within the Sierra Nevada Foothills section, 18 are aquatic species (Appendix I-12). Special-status fish within the Sierra Nevada Foothills ecoregion include chinook salmon – Central Valley spring-run, Sacramento River winter-run, and Central Valley fall and late fall-run ESUs; steelhead – California Central Valley DPS; Red Hills roach (*Lavinia symmetricus* ssp.); and San Joaquin roach. Special status amphibians within this section include Sierra Madre yellow-legged frog, California red-legged frog, foothill yellow-legged frog, western spadefoot, California tiger salamander, limestone salamander, Tehachapi slender salamander, and yellow-blotched salamander. One special-status aquatic reptile, the western pond turtle, is known to occur in the Sierra Nevada Foothills Ecoregion. Special-status aquatic invertebrates present within this ecoregion include Conservancy fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp.

Of the 15 rare Natural Communities found within the Ecoregion, seven occur in aquatic habitats (Appendix I-12), including Central Valley Drainage Hardhead/Squawfish Stream, Central Valley Drainage Rainbow Trout/Cyprinid Stream, Northern Basalt Flow Vernal Pool, and Northern Claypan Vernal Pool. Designated critical habitat within the Ecoregion is listed in Appendix J-12a and mapped in Appendix J-12b and includes seven aquatic species: Central Valley spring-run chinook salmon ESU, California Central Valley steelhead DPS, California red-legged frog, California tiger salamander, Conservancy fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp.

SONORAN DESERT ECOLOGICAL SECTION

The Sonoran Desert Section is the hot part of the Basin and Range Province, extending from the eastern end of the Transverse Ranges and the Salton Trough east to Arizona. Elevations range from about 250 to 4,400 feet. The Sonoran Desert Section is divided into five subsections; however, only one CSP unit occurs within two of these subsections (Appendix H-1).

Vegetation typical of this ecoregion is discussed under Terrestrial Biological Resources (Section 4.4).

Aquatic features within this ecoregion include groundwater springs and runoff from seasonal rains that form alluvial fans, desert arroyos, desert fan palm oases, desert washes, and ephemeral and intermittent streams.

Of the 36 special-status animal species within the Sonoran Desert section, five are aquatic species (Appendix I-13): Colorado pikeminnow (*Ptychocheilus lucius*), razorback sucker, desert pupfish, Couch's spadefoot, and lowland (=Yavapai, San Sebastian & San Felipe) leopard frog.

Neither of the two rare Natural Communities found within this Ecoregion occur in aquatic habitats (Appendix I-1). Designated critical habitat within the Ecoregion is listed in Appendix J-13a and mapped in Appendix J-13b and includes one aquatic species, razorback sucker.

SOUTHERN CALIFORNIA COAST ECOLOGICAL SECTION

The Southern California Coast Section contains mountains, hills, valleys, and plains of the Transverse Range and of the Peninsular Range situated within close proximity to the Pacific Ocean where the climate is modified by the marine influence. Elevations range from sea level to about 3,000 feet. The Southern California Coast Section is divided into ten subsections and eight of these subsections contain 38 CSP units (Appendix H-1).

Vegetation typical of this ecoregion is discussed under Terrestrial Biological Resources (Section 4.4).

Aquatic features within this ecoregion include a variety of lakes and drainages. Lakes within this ecoregion range from small stock ponds to occasional large lakes, such as Lake Casitas. Other aquatic features within this section include seeps, vernal pools, and freshwater marshes. Coastal areas support tidepools, estuaries, lagoons, and salt marshes. Drainages are primarily ephemeral and intermittent, and occur in typically alluvial channels that flow directly to the ocean. Major drainages within this ecoregion include the San Diego, San Gabriel, San Luis Rey, Santa Margarita, Ventura, Santa Clara, Los Angeles, Santa Ynez, Santa Maria, and Santa Ana Rivers; and Calleguas and San Antonio Creeks.

Of the 81 special-status animal species within the Southern California Coast section, 19 are aquatic species (Appendix I-14). Special-status fish within the Southern California Coast ecoregion include unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), steelhead – southern California DPS, tidewater goby, Santa Ana sucker (*Catostomus santaanae*), arroyo chub, and Santa Ana speckled dace (*Rhinichthys osculus* ssp.). Special-status amphibians within this section include Sierra Madre yellow-legged frog, California red-legged frog, foothill yellow-legged frog, northern leopard frog, arroyo toad, western spadefoot, California tiger salamander, and Coast Range newt. Two special-status reptiles, the western pond turtle and green sea turtle (*Chelonia mydas*), are known to occur in the Southern California Coast Ecoregion. Special-status aquatic invertebrates within this ecoregion include Riverside fairy shrimp (*Streptocephalus woottoni*), San Diego fairy shrimp (*Branchinecta sandiegonensis*), and vernal pool fairy shrimp.

Of the 36 rare Natural Communities found within the Ecoregion, 12 occur in aquatic habitats (Appendix I-14). Examples of rare aquatic Natural Communities within the Southern California Coast Ecoregion include Cismontane Alkali Marsh, Coastal and Valley Freshwater Marsh, Northern Coastal Salt Marsh, San Diego Mesa Claypan Vernal Pool, Southern California Coastal Lagoon, Southern California Threespine Stickleback Stream, and Southern Vernal Pool. Designated critical habitat within the Ecoregion is listed in Appendix J-14a and mapped in Appendix J-14b and includes eight aquatic species: tidewater goby, Santa Ana sucker, southern California steelhead DPS, California red-legged frog, California tiger salamander, Riverside fairy shrimp, San Diego fairy shrimp, and vernal pool fairy shrimp.

SOUTHERN CALIFORNIA MOUNTAINS AND VALLEYS ECOLOGICAL SECTION

The Southern California Mountains and Valleys Section includes mountains, hills and valleys of the Transverse Range and the Peninsular Range that are situated near the Pacific Ocean, but not bordering it. Elevations range from about 300 to 11,500 feet. The Southern California Mountains and Valleys Section is divided into 16 subsections and twelve of these subsections contain 14 CSP units (Appendix H-1).

Vegetation typical of this ecoregion is discussed under Terrestrial Biological Resources (Section 4.4).

Aquatic features within this ecoregion include a variety of lakes and drainages. Lakes within this ecoregion are primarily reservoirs for municipal water supply and flood control. These impoundments range in size from relatively small features to large reservoirs such as Lake Arrowhead and Big Bear Lake. Other aquatic features within this section include seeps, vernal pools, and freshwater marshes. Drainages are primarily ephemeral and intermittent, and occur in typically alluvial channels that flow either westerly toward the ocean or eastward towards the Mojave and Colorado Deserts. Major drainages within this ecoregion include the Cuyama, Los Angeles, San Diego, San Jacinto, San Luis Rey, Santa Margarita, Santa Ana, San Gabriel, Ventura, Santa Clara, Santa Maria, and Santa Ynez Rivers; and Mill and San Felipe Creeks.

Of the 93 special-status animal species within the Southern California Mountains and Valleys section, 22 are aquatic species (Appendix I-15). Special-status fish within the Southern California Mountains and Valleys ecoregion include Mohave tui chub, unarmored threespine stickleback, desert pupfish, steelhead – southern California DPS, Santa Ana sucker, arroyo chub, and Santa Ana speckled dace. Special status amphibians within this section include Sierra Madre yellow-legged frog, California red-legged frog, northern leopard frog, arroyo toad, western spadefoot, desert slender salamander, California tiger salamander, large-blotched salamander (*Ensatina eschscholtzii klauberi*), yellow-blotched salamander, and Coast Range newt. One special-status aquatic reptile, the western pond turtle, is known to occur in the Southern California Mountains and Valleys Ecoregion. Special-status aquatic invertebrates within this ecoregion include Conservancy fairy shrimp, Riverside fairy shrimp, San Diego fairy shrimp, and vernal pool fairy shrimp.

Of the 26 rare Natural Communities found within the Ecoregion, four occur in aquatic habitats (Appendix I-15); Coastal and Valley Freshwater Marsh, Southern California Arroyo Chub/Sana Ana Sucker Stream, Southern California Threespine Stickleback Stream, and Southern Interior Basalt Flow Vernal Pool. Designated critical habitat within the Ecoregion is listed in Appendix J-15a and mapped in Appendix J-15b and includes eight aquatic species: Santa Ana sucker, southern California steelhead DPS, California red-legged frog, Sierra Madre yellow-legged frog, arroyo toad, Conservancy fairy shrimp, San Diego fairy shrimp, and vernal pool fairy shrimp.

SOUTHERN CASCADES ECOLOGICAL SECTION

The Southern Cascades Section comprises the southern Cascade Range. The crest of the mountain chain is aligned toward the north-northwest between the Sierra Nevada Mountains and Mt. Shasta, and toward the north from Mt. Shasta northward. Elevations range from approximately 2,000 to 14,000 feet. The Southern Cascades Section is divided into 13 subsections; however, two subsections contain the only two CSP units in the section (Appendix H-1).

Vegetation typical of this ecoregion is discussed under Terrestrial Biological Resources (Section 4.4).

A wide range of aquatic features are present within the Southern Cascades Section. Lakes within this region range from small mountain lakes to large natural lakes and reservoirs, such as Lake Almanor, Lake Shasta, and Meiss Lake. Drainages in the Southern Cascades tend to be relatively large, slow flowing rivers and streams in alluvial channels. Other aquatic features within this section include seeps, springs, fens, bogs, and marshes. Drainages flow westward to the Klamath and Sacramento rivers and easterly to the Modoc Plateau. Major drainages in the Southern Cascades include the Shasta, Klamath, Sacramento, McCloud, Pit, and North Fork Feather Rivers; and Cow, Battle, Mill, Deer, and Butte Creeks.

Of the 35 special-status animal species within the Southern Cascades section, 14 are aquatic species (Appendix I-16). Special-status fish within the Southern Cascades ecoregion include Lost River sucker (*Deltistes luxatus*), shortnose sucker (*Chasmistes brevirostris*), hardhead, Pit roach, McCloud River redband trout, rough sculpin (*Cottus asperrimus*), and bigeye marbled sculpin. Special status amphibian species within this section include Cascades frog, foothill yellow-legged frog, Oregon spotted frog (*Rana pretiosa*), Pacific tailed frog, and western spadefoot. One special-status aquatic reptile, the western pond turtle, is known to occur in the Southern Cascades Ecoregion. One special-status aquatic invertebrate, the Shasta crayfish (*Pacifastacus fortis*), is known to occur in the Southern Cascades ecoregion.

Of the eight rare Natural Communities found within the Ecoregion, seven occur in aquatic habitats (Appendix I-16): Big Lake, Lower McCloud River/Canyon River, Lower Pit River/Canyon River (Hardhead/Tule Perch River), Northern Basalt Flow Vernal Pool, Pit River Drainage Rough Sculpin/Shasta Crayfish Spring Stream, Pit River Drainage Speckled Dace/Pit Sculpin Stream, and Pit River Drainage Squawfish/Sucker Valley Stream. No critical habitat has been designated for aquatic species within the Ecoregion (Appendix J-16a).

4.5.2 REGULATORY SETTING

Aquatic resources in California are protected and/or regulated by a variety of federal and state laws and policies. Key regulatory and conservation planning issues applicable to the proposed project are discussed below. Federal regulatory requirements associated with aquatic resources include the Federal Endangered Species Act provided below, and sections 404 and 401 (Water Quality Certification) of the CWA are addressed in the Terrestrial Biological Resources Section 4.4.2, Regulatory Setting. State regulatory requirements associated with aquatic resources include the California Endangered Species Act provided below, and the Porter-Cologne Water Quality Control Act, Section 1602 of the California Fish and Game Code, and Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code regarding take of fully protected species which are addressed in the Terrestrial Biological Resources Section 4.4.2, Regulatory Setting.

All aquatic habitats in the CSP study area are considered to be sensitive and are protected under federal, state, and local regulations designed to protect water quality, wetlands (e.g., waters of the U.S., and other features), and the plants and wildlife species that occur in these habitats. The regulatory agencies that oversee protection of aquatic resources include USACE (Section 404 of the CWA), U.S. Environmental Protection Agency (U.S. EPA)

(Section 404[b][1] of the CWA), U.S. Fish and Wildlife Service (USFWS) (Sections 7 and 10 of the Endangered Species Act), National Oceanographic and Atmospheric Administration/National Marine Fisheries Service (NMFS) (Section 7 of the Endangered Species Act); State of California Regional Water Quality Control Board (RWQCB) (Section 401 of the CWA), and California Department of Fish and Game (CDFG) (California Fish and Game Code and California Endangered Species Act). In coastal areas, the California Coastal Commission (CCC) and/or counties with an approved Local Coastal Plan have regulatory authority (i.e., Coastal Development Permit) over some activities in Environmentally Sensitive Habitat Areas including coastal wetlands and other aquatic habitats.

Aquatic habitats can have varying jurisdictions depending on the aquatic resource and location, and these jurisdictions are often overlapping. Exhibit 4.5-1 below provides an example of overlapping jurisdiction along a stream corridor with adjacent wetlands. Individual regulatory agencies have specific protocols developed through their permitting authority that require consultation before approval of a project that may result in impacts to aquatic habitats (e.g., USACE jurisdictional wetland delineation and permit, RWQCB certification of the USACE permit, and a CDFG 1602 Streambed Alteration Agreement). In addition to the USACE, RWQCB and CDFG, the NMFS and USFWS may also have regulatory authority over sensitive species and habitats depending on the location and lead agency, and the CCC (and/or counties with approved Local Coastal Plans) may have regulatory authority over some activities in Environmentally Sensitive Habitat Areas (wetlands and other aquatic features) in coastal areas. A brief description of the regulatory agencies that oversee protection of aquatic resources and general activities that evoke a permitting action is presented below.

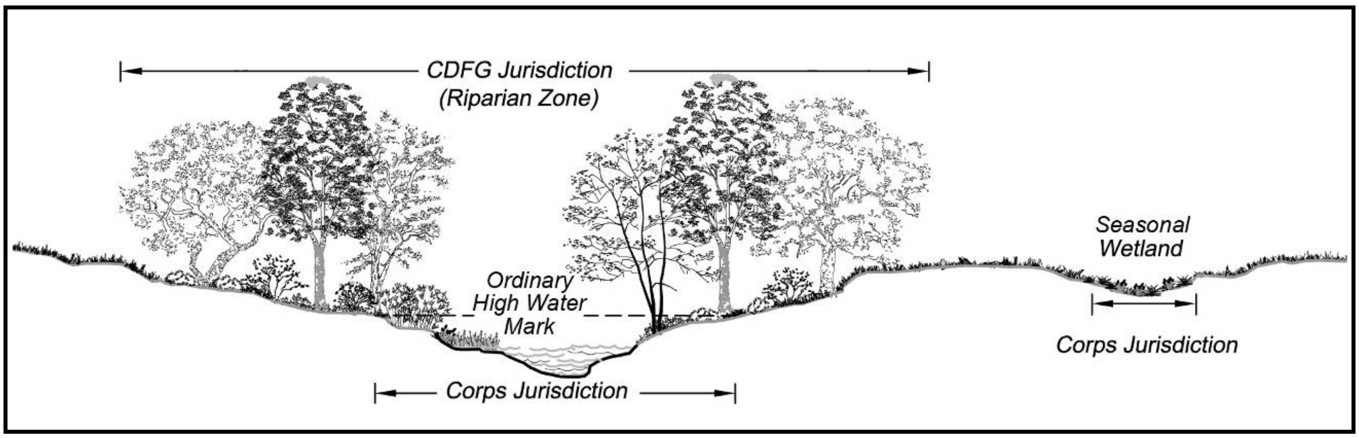

Exhibit 4.5-1 **Stream and Wetland Jurisdictions**

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

FEDERAL ENDANGERED SPECIES ACT

USFWS regulates the taking of aquatic species (including non-anadromous fish, amphibians and aquatic reptiles, and invertebrates listed as threatened or endangered under the Federal Endangered Species Act (FESA). NOAA's National Marine Fisheries Service [NMFS or NOAA Fisheries] regulates and protects marine species and anadromous fish species listed as threatened or endangered under the FESA.

In general, persons subject to FESA (including private parties) are prohibited from "taking" endangered or threatened fish and wildlife species on private property, and from "taking" endangered or threatened plants in areas under Federal jurisdiction or in violation of state law. Under FESA, the definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Both USFWS and NMFS have also interpreted the definition of "harm" to include significant habitat modification that could result in take. If a proposed project would result in take of a Federally-listed species, either the project applicant must acquire an incidental-take permit, under Section 10(a) of FESA, or if a federal discretionary action is involved, the federal agency must consult with USFWS or NMFS under Section 7 of the FESA to obtain a Biological Opinion with an Incidental Take Authorization.

U.S. Army Corps of Engineers

Fill of waters of the U.S., including wetlands, requires a Section 404 permit from the U.S. Army Corps of Engineers. Section 404 submittals include a description of the proposed action, purpose and need, description of the existing environment, description of the features to be impacted, other agency approvals (e.g., Section 7 of the Endangered Species Act [USFWS and/or NMFS], Section 401 of the CWA, Section 106 of the National Historic Preservation Act, and California Fish and Game Code [Section 1600]).

Jurisdictional delineations of aquatic habitat and USACE verification of the boundaries and extent of the habitat is required as part of the 404 permit process. Jurisdictional delineations map and quantify the extent of wetlands and other waters of the U.S. that are subject to USACE jurisdiction, and regulated under the federal CWA. Field investigations involve the collection of site-specific data, including soil characteristics, assessment of plant species composition, and evaluations of hydrologic conditions. Wetland delineations are conducted in accordance with the Corps of Engineers Wetlands Delineation Manual (Arid West or Western Mountains and Valleys, as applicable).

U.S. Fish and Wildlife Service – National Oceanic and Atmospheric Administration/National Marine Fisheries Service

If threatened, endangered or petitioned species or their habitat is proposed for impact, protocol-level surveys may be required for those species with established survey protocols, and the information will be prepared to support Section 7 Consultation. The documentation required to support consultation typically consists of a Biological Assessment (BA). A Section 7 Consultation with NOAA/NMFS will be required for potential effects to federally listed threatened, endangered, or petitioned fish species under their jurisdiction (e.g., marine species and anadromous fish) and Critical Habitat, and with the USFWS regarding potential project-related effects to all other federally listed species and Critical Habitat.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

California Endangered Species Act

CDFG regulates the taking of aquatic species including anadromous and non-anadromous fish, amphibians, aquatic reptiles, and invertebrates listed as threatened or endangered under the California Endangered Species Act (CESA), which prohibits the taking of state-listed endangered or threatened species, as well as candidate species being considered for listing. Project proponents may obtain a Section 2081 incidental take permit if the impacts of the take are minimized and fully mitigated, and the take would not jeopardize the continued existence of the species. However, CDFG typically stipulates conditions necessary to mitigate potential impacts to listed species through a 1602 Streambed Alteration Agreement. A “take” of a species, under CESA, is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" an individual of a species. The CESA definition of “take” does not include “harm” or “harass” as is included in the federal act. As a result, the threshold for a take under CESA may be higher than under FESA.

California Regional Water Quality Control Board

Prior to authorization of wetland fill by USACE; the project must obtain water quality certification from the RWQCB pursuant to Section 401 of the CWA. Waters that may not be considered under USACE jurisdiction may still be considered Waters of the State.

California Department of Fish and Game

Impacts to aquatic habitats under the jurisdiction of CDFG require authorization under Section 1600 of the California Fish and Game Code. CDFG has jurisdiction over projects that will divert or obstruct the natural flow of water; change the streambed (i.e., bed and bank) of any stream; or propose to use any material from a streambed. Jurisdiction generally extends into adjacent riparian habitats associated with streams or channels under their jurisdiction. If impacts to CDFG-jurisdictional features occur, a Streambed Alteration Agreement would be required. In addition, impacts to species protected under the CESA would be considered and evaluated in accordance with Sections 2081 (b) and (c) of the CESA.

California Coastal Commission

In coastal areas, the CCC and/or counties with an approved Local Coastal Plan (LCP) have regulatory authority (i.e., Coastal Development Permit) over some activities in Environmentally Sensitive Habitat Areas including coastal wetlands and other aquatic habitats.

California State Parks

The California Department of Parks and Recreation Natural Resources Departmental Operations Manual (DOM) provides policies for the recognition, protection, restoration, and maintenance of natural resources so that their heritage values may be effectively perpetuated and enjoyed by present and future generations of State Park System visitors. The policies, definitions, processes, and procedures contained in the manual guide the management of the natural resources under the jurisdiction of CSP, including naturally occurring physical and biological resources and associated intangible values, such as natural sounds and scenic qualities. Section 0306 provides specific policies and guidelines for appropriate use of park aquatic resources as determined through the Department’s planning process, which considers visitor uses together with natural system function. These policies include Water Resources Planning and Management, Watershed Management, Watershed and Stream Protection, Stream Management, Stream Restoration, Floodplain Management, Wetlands Management, Coastal Lagoon Processes and Management, Coastal Lagoon and Breaching, Water Quality and Quantity, and Water Rights.

4.5.3 SIGNIFICANCE CRITERIA

Criteria for determining the significance of impacts related to biological resources were based on the environmental checklist form in Appendix G of the State CEQA Guidelines and mandatory findings of significance.

Impacts on biological resources resulting from implementation of the proposed project would be considered significant if the project would:

- Substantially reduce the habitat of a fish or wildlife species;
- Cause a fish or wildlife species to drop below self-sustaining levels;
- Threaten to eliminate a plant or animal community;

- Substantially reduce the number or restrict the range of an endangered, rare, or threatened species;
- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFG or USFWS;
- Have a substantial adverse effect on federally-protected wetlands, as defined by Section 404 of the CWA, through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or,
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or State conservation plan.

4.5.4 IMPACT ANALYSIS METHODS AND APPLICABLE PROJECT REQUIREMENTS

IMPACT ANALYSIS METHODS

The program-level impact analysis generally assumes that aquatic habitats, sensitive natural aquatic communities, and special-status species identified within an Ecological Section or Subsection could potentially occur and be directly or indirectly affected by implementing the proposed Process in CSP units, depending on the type, timing, and specific nature of the project activity. For potential impacts to special-status species and sensitive natural communities, the analysis and discussion is organized and presented by the type of project action and impact mechanism, common and sensitive habitats that could be affected by change-in-use projects within specific Ecological Sections and Subsections, and groups of special-status species that could be affected by change-in-use projects within specific Ecological Sections and Subsections.

Mitigation measures are provided for impacts determined to be significant or potentially significant after Standard Project Requirements (SPRs) are considered. If needed, biological mitigation measures are identified that will be incorporated into a change-in-use proposal's SPRs, whereas SPRs apply to projects statewide at all parks as required, they can be influenced and focused, based on the resources known to occur within certain Ecological Sections or Subsections.

APPLICABLE STANDARD PROJECT REQUIREMENTS

The following Standard Project Requirements (SPRs) are related to biological resources and could apply to qualifying projects under the proposed Process. Because SPRs would be applicable at all park units for an array of change-in-use project scenarios, placeholders are provided in several of the SPRs (such as for responsible parties), so that, depending on the location and type of project and associated resource issues, the requirement can be applied to specific projects and associated responsible parties**.**

GENERAL BIOLOGICAL RESOURCES STANDARD PROJECT REQUIREMENTS

Standard Project Requirements (SPRs) for general biological resources, natural communities, and vegetation (BIO-1 through BIO-38) are the same for both terrestrial and aquatic biological resources, and are presented in Section 4.4, Terrestrial Biological Resources.

AQUATIC BIOLOGICAL RESOURCES STANDARD PROJECT REQUIREMENTS

BIO-39: A qualified biologist will conduct an aquatic (and associated uplands) habitat assessment and pre-project surveys for special-status aquatic species (if suitable habitat is present) with potential to be directly or indirectly affected by a project, within **[insert distance]** of the project area. Species with potential to be affected and requiring pre-construction surveys will be determined based on the species' distribution and known occurrences relative to the project area and the presence of suitable habitat for those species in or near the project area. Appendix I summarizes CNDDB occurrences of special-status species in the ecoregions where State Parks units are located. In addition to CNDDB records, other data sources will be used to determine sensitive aquatic resources with potential to occur in a specific project area including reconnaissance surveys; U.S. Fish and Wildlife Service, National Marine Fisheries Service, and California Department of Fish and Game species lists, CSP data and input from CSP biologists, other local CSP or other professional knowledge, and relevant environmental documents and reports. For species subject to survey protocols that have established and accepted survey timing windows and methodologies, qualified biologists will follow the protocol requirements or guidelines. The survey will be conducted within **[insert number]** calendar days prior to the beginning of construction. Surveys for a special-status aquatic species with potential to occur in the project area may not be required if presence of the species is assumed. If any species are located, they will be avoided to the maximum extent practicable.

BIO-40: Project activities will occur during the non-breeding season and/or migration period, as determined by a qualified biologist. If work is required during the breeding, spawning, or migration season, as determined by a qualified biologist, a qualified biologist will conduct a survey to determine if the special-status species occurs within **[insert distance]** of the project area. The survey will be conducted no more than **[insert number]** calendar days prior to the beginning of construction.

BIO-41: Construction activities in close proximity to potential **[insert species name]** habitat will be limited to the dry season to avoid specific periods of animal activity (e.g., breeding, larval/juvenile development, etc.).

BIO-42: If individuals or other recent signs of special-status species are observed within **[insert distance]** of the project area, a qualified biologist will be present on site to monitor activities during the construction period.

BIO-43: If special-status aquatic species are known to occur in the vicinity of the project area, a qualified biologist will conduct surveys for **[insert species]** within the project area and up to **[insert number]** feet outside the project boundaries immediately prior to the start of project-related activities each day.

BIO-44: If **[insert species name]** is found on the project site, work in the vicinity of the animal will be delayed until the species moves out of the site on its own accord, or is temporarily relocated by **[insert agency name - approved or -permitted]** biologist.

BIO-45: To prevent trapping of special-status aquatic species that spend a portion of their lives in terrestrial habitats (e.g., salamanders, frogs, snakes, turtles), all holes and trenches will be covered with plywood or similar materials at the close of each working day, or escape ramps will be constructed of earth fill or wooden planks; all pipes will be capped. A qualified biologist, or other staff trained by a qualified biologist will inspect trenches and pipes for special-status species at the beginning of each workday. If a trapped animal is discovered, they will be released (by a qualified biologist) in suitable habitat at least **[insert quantitative distance]** from the project area.

BIO-46: All stream crossings will be designed to convey the 100-year, 24-hour storm event. All perennial stream crossings that are part of the project will be designed to maintain both upstream and downstream fish passage. Pedestrian bridges across stream habitats will be designed **[in consultation with appropriate resource agency(ies)]** in a manner that does not impede stream flow and ensures year-round passage of anadromous and other aquatic species through the area.

BIO-47: Culverts or other stream crossings will not create barriers to upstream or downstream passage for aquatic-dependent species (e.g., bottomless culverts with natural bed material).

BIO-48: If water drafting becomes a necessary component of the proposed project, drafting sites will be planned to avoid adverse effects to special-status aquatic species and associated habitat, in-stream flows, and depletion of pool habitat. Screening devices will be used for water drafting pumps, and pumps with low entry velocity will be used to minimize removal of aquatic species, including juvenile fish, amphibian egg masses and tadpoles, from aquatic habitats.

BIO-49: Avoid vegetation removal that could reduce shaded areas and increase stream temperatures.

BIO-50: Project activities within or across drainages and streams will occur when the drainages are dry, unless it is not feasible to do so, in which case the following requirements will be applied:

- Construction will be minimized, and avoided to the extent feasible, during the wet season to prevent excessive siltation and sedimentation. However, during the wet season, no construction activities will occur within or immediately adjacent to known breeding habitats of special-status aquatic species. For any project requiring a permit from USACE, RWQCB, CDFG, NMFS, USFWS, CCC, or other agency for potential impacts to aquatic and wetland resources restrictions, construction timing, BMPs, and other protective measures will be developed and specified in consultation with the agencies during the permitting process.
- If water is present during construction, breeding, spawning, migration, and larval development periods of special-status species will be avoided.
- If water is present during construction, disturbance to pools and other stream habitats (e.g., runs, glides, riffles) with cobble-sized substrate and adjacent to stream banks will be minimized. In particular, rocks will not be collected from in-water environments from **[insert X month through X month]** month to avoid disturbing breeding activities, egg masses, and/or larvae/juveniles of special-status amphibians, reptiles, and fish species.

BIO-51: Appropriate BMPs will be implemented for construction within **[insert distance]** of aquatic habitats. Erosion control measures will be implemented to prevent sedimentation from adversely affecting aquatic features that potentially support special-status species including **[insert who]**. Appropriate BMPs will be developed and implemented to avoid water and wind related erosion and subsequent degradation of water quality, and will include sediment catchments and basins to intercept runoff from disturbed slopes.

BIO-52: If **[insert what]** are located within **[insert distance]** feet of the project area, no construction will occur within **[insert distance]** of the **[insert what]** during the **[insert what]** season, as determined by a qualified biologist.

BIO-53: Ground disturbance activities will not occur within close proximity **[insert distance]** to **[insert species name]** breeding habitats.

BIO-54: Staging areas will be located outside of sensitive habitats, and at least **[insert distance]** from vernal pools, **[insert distance]** from seasonal wetlands, **[insert distance]** from ponds, **[insert distance]** from streams, **[insert distance]** from riparian habitat, and at least **[xx feet]** from intertidal areas and other aquatic habitats known to have seasonal inhabitants (e.g., migrating birds, grunion runs).

BIO-55: Exclusionary fencing will be installed around all Environmentally Sensitive Areas (under the supervision of an approved biologist) as an initial construction task. Exclusion fencing, flagging, staking, and signage shall be placed to limit encroachment by construction personnel and equipment into sensitive aquatic habitats without affecting public access routes.

BIO-56: Construction activities within and adjacent to stream drainages or other aquatic habitats will be minimized, and avoided to the extent feasible, during the wet season to prevent excessive siltation and sedimentation. However, during the wet season, no construction activities will occur within or immediately adjacent to known breeding habitats of special-status aquatic species. For any project requiring a permit from USACE, RWQCB, CDFG, NMFS, USFWS, CCC, or other agency for potential impacts to aquatic and wetland resources restrictions, construction timing, BMPs, and other protective measures will be developed and specified in consultation with the agencies during the permitting process.

BIO-57: No refueling of construction related equipment will take place within **[xx feet]** of aquatic habitats. Use of protective measures such as booms will be considered in coastal areas and estuaries to control accidental spills of contaminants and/or sediments (from dredged material) outside of construction areas.

BIO-58: Monitor construction activities near stream drainages and other aquatic habitats and riparian areas. Construction activities near water courses and riparian areas will be monitored daily (by an approved biologist) to ensure these areas are not impacted by the project. Monitoring will include checking silt fences, erosion and sediment control BMPs, and environmentally sensitive area fencing to make sure they are functioning properly.

BIO-59: A buffer zone of **[insert distance as determined by the appropriate resource agency]** will be established around vernal pools and other sensitive aquatic habitats that have documented occurrences of **[insert species name]** to minimize potential indirect impacts. If listed species are absent, a buffer zone of **[xx feet]** will be established to protect these habitats.

BIO-60: For projects that require a CDFG Streambed Alteration Agreement, BMPs identified in the agreement will be developed and implemented.

BIO-61: If permanent stream crossings are necessary, crossing areas will be stabilized using appropriate techniques and materials **[as specified by the appropriate resource agency]**.

BIO-62: To avoid indirect construction-related impacts to aquatic habitats, BMPs will be implemented to minimize soil disturbance. Where soil disturbance is necessary, stabilization techniques (including the use of silt fences, check dams, fiber rolls or blankets, gravel bag berms, geotextiles, plastic covers, erosion control blankets/mats, covering of exposed areas with mulch, and temporary vegetation or permanent seeding) will be implemented.

4.5.5 ENVIRONMENTAL IMPACTS AND MITIGATION

CONSTRUCTION IMPACTS

IMPACT 4.5-1 **Construction-Related Disturbance or Loss of Common and Sensitive Aquatic Habitats.** Under the proposed Process, the disturbance or removal of common and sensitive aquatic habitats as a result of construction would be minimized by compliance with SPRs for aquatic resources (SPRs BIO-4 and BIO-5, BIO-7 through 12, BIO-39, BIO-41, BIO-46, BIO-48 through BIO-51, BIO-53 through BIO-55, and BIO-60 through BIO-62). While SPRs would avoid and protect most aquatic habitats, the potential for disturbance or removal of some aquatic habitats (including waters of the U.S.), riparian and wetland vegetation, and streambeds and/or banks may not be entirely avoided. Any impact to aquatic habitat would require oversight and approval from one or more agencies that regulate the use and protection of aquatic resources. This impact would be **potentially significant.**

Implementation of the proposed Process could result in construction-related disturbance or loss of common and sensitive aquatic habitats, including wetlands and other waters of the United States and designated Critical Habitat. Sensitive natural aquatic communities or habitats are those of special concern to resource agencies or those that are afforded specific consideration, based on Section 404 of the CWA, Sections 1600 et seq. of the California Fish and Game Code, and other applicable regulations. All aquatic habitats are of concern to resource agencies because of their regulation under Section 404 of the CWA. Additionally, any aquatic habitat that supports aquatic wildlife resources is subject to regulation by the California Department of Fish and Game under Sections 1600 et seq. of the California Fish and Game Code, and other applicable regulations. In coastal areas, the CCC and/or counties with an approved LCP have regulatory authority (i.e., Coastal Development Permit) over some activities in Environmentally Sensitive Habitat Areas including coastal wetlands and other aquatic habitats.

Appendix I summarizes CNDDB occurrences of special-status, natural aquatic communities and designated Critical Habitat in the ecoregions where CSP units are located. This analysis conservatively assumes that the special-status natural aquatic communities or designated Critical Habitat identified within an Ecological Section or Subsection could potentially occur within the CSP units within the Section or Subsection and be directly or indirectly affected by implementation of the proposed Process, depending on the habitat conditions and the type, timing, and the specific nature of the project actions. During project-level planning and evaluation, other data sources would additionally be used to determine special-status natural aquatic communities and other sensitive aquatic habitats (e.g., waters of the United States) with potential to occur in a specific project area, including reconnaissance surveys, existing CSP data, and input from CSP biologists.

Depending on their specific locations, project actions that could result in loss or disturbance of sensitive or common aquatic habitats include trail reconstruction or maintenance; rerouting of trail alignments; construction or maintenance of bridges or trail crossings at aquatic habitats (e.g., streams); closure, decommissioning, and restoration of existing roads and trails (located near aquatic habitats) to natural conditions; conversion of existing roads to trails; and construction of appurtenant facilities. Most ground disturbances resulting from the proposed Process would occur within existing disturbed road and trail prisms. With the exception of bridge or trail construction and maintenance at aquatic habitats (e.g., stream crossings), ground disturbances would be limited mostly to existing disturbed areas and potential impacts to sensitive aquatic habitats would likely be infrequent and minor. However, construction-related disturbances could occasionally occur in or otherwise directly or indirectly affect aquatic habitats including streams, ponds, and other wetland features, located outside of existing road and trail prisms. For example, projects designed to achieve long-term improvements to trail, natural resources, and hydrologic conditions could involve the installation of improved stream crossings and bridges across wetlands and riparian areas, stabilization or maintenance of stream bed and banks and bridges at crossings, or decommissioning of facilities and restoration in sensitive areas. Construction activities within and adjacent to stream drainages or other aquatic habitats could potentially result in both direct and indirect impacts to common and sensitive aquatic habitats, especially during the wet season.

Construction activities could result in short-term impacts to aquatic habitats that are unavoidable to achieve long-term improvements, including minor disturbance to bed and/or banks of aquatic habitats, minor vegetation removal or trampling, hydrologic changes, deposition of dust or debris, soil compaction, or other disturbances that could temporarily affect aquatic habitat condition and function. Additionally, any project-related construction adjacent to wetlands or other aquatic habitats could similarly directly or indirectly affect those resources, unless effective BMPs and other appropriate resource protection measures are implemented.

SPR BIO-39 requires that a qualified biologist conduct a habitat assessment survey of the project area to identify and describe aquatic habitats (including associated upland habitat for aquatic species with terrestrial habitat requirements) with the potential to be affected by a project, and SPR BIO-8 requires that sensitive natural aquatic communities will be avoided to the maximum extent practicable under the Process. Implementation of SPRs BIO-4 and BIO-5, BIO-7 through BIO-12, BIO-41, BIO-46, BIO-48 through BIO-51, BIO-53 through BIO-56, and BIO-60 through BIO-62 would specifically avoid or minimize impacts to common and sensitive aquatic habitats, including waters of the United States, to the maximum extent practicable by conducting work in upland areas and incorporating elevated crossing features where appropriate. While these SPRs would avoid and protect most aquatic habitats, the potential for disturbance or loss of some aquatic habitat and the placement of fill material into waters of the United States may not be entirely avoided, due to the frequency of these resources across CSP units statewide and their proximity to projects that qualify for implementation under the Process. Potential project-related sources of aquatic habitat disturbances or loss could occur including, but are not limited to, unanticipated or unforeseen runoff from nearby project areas; minor fill or disturbance to aquatic habitats resulting from erosion control measures, bridge construction (pier/support placement), rock placement, and other activities; road or trail work (e.g., reroutes, maintenance, conversion, improvements) adjacent to aquatic habitats; decommissions or trail upgrades that may occur within or adjacent to aquatic habitats to improve water quality and resource conditions; and stream-crossing projects that require minor ground disturbance or some temporary or permanent disturbance to aquatic habitats. Impacts to the bed and bank of a drainage feature and/or streamside vegetation resulting from construction activities could adversely affect jurisdictional wetlands regulated by USACE and associated riparian habitat under the jurisdiction of CDFG. For any project requiring a permit from USACE, RWQCB, CDFG, NMFS, USFWS, CCC, or other agency for potential impacts to aquatic and wetland resources restrictions, construction timing, BMPs, and other protective measures will be developed and specified in consultation with the agencies during the permitting process. Although implementation of SPRs would avoid or minimize most of these effects, the remaining potential for loss of aquatic habitat is a **potentially significant** impact.

If a potentially unavoidable disturbance to aquatic habitat would adversely affect a special-status aquatic species, the project would be disqualified from approval using the Process. If CSP pursued the project further, it would require an independent, project-specific CEQA review. Potential impacts to special-status aquatic species are discussed below in Impact 4.5-2.

Mitigation Measure 4.5-1. Consult with Appropriate Resource Agencies and Obtain Authorization for Impacts and Required Permits.

Prior to the start of any construction activity that could affect aquatic habitat, after implementation of SPRs, CSP will consult with appropriate Federal, State, and/or local agencies. Depending on the type of aquatic habitat and regulatory status, these agencies may include USACE (Section 404 of the CWA), EPA (Section

404(b)(1) of the CWA), State RWQCB (Section 401 of the CWA), USFWS (Section 7 of the FESA), NMFS (Section 7 of the FESA), and CDFG (California Fish and Game Code and Section 10 of the CESA). In coastal areas, the CCC and/or counties with an approved Local Coastal Plan have regulatory authority over some activities in Environmentally Sensitive Habitat Areas. Additional resource avoidance and protection measures may be identified and required through consultation with the appropriate agencies. If required, the amount of aquatic habitat that would be removed or disturbed during project implementation will be replaced or restored/enhanced in accordance with the appropriate regulations, outcome of agency consultation, and any permit requirements.

A delineation of waters of the United States that would be affected by project implementation will be conducted by a qualified biologist through the formal Section 404 wetland delineation process as described in Mitigation Measure 4.4-2 (Delineate Waters of the United States and Obtain Authorization for Fill and Required Permits) in Section 4.4, Terrestrial Biological Resources.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of Mitigation Measure 4.5-1 would reduce the potential loss or disturbance of aquatic habitats to a less-than-significant level by implementing, in addition to SPRs, resource avoidance, protection, and/or compensation (i.e., replacement or restoration/enhancement) identified and required through consultation with the appropriate agencies with jurisdiction over specific aquatic habitats.

IMPACT 4.5-2 **Construction or Other Project-Related Disturbance or Impacts to Special-Status Aquatic Species and Habitats.** Under the proposed Process, the potential for impacts to special-status aquatic species as a result of project-related construction activities would be avoided by compliance with SPRs for Aquatic Resources (BIO-39 through BIO-45, BIO-48, BIO-51 through BIO-55, and BIO-59). SPRs include conducting preconstruction habitat assessments and species surveys, flagging, and fencing of areas to be protected (Environmental Sensitive Areas) to ensure complete avoidance of impact. If avoidance of direct and indirect impacts to special-status aquatic species resulting from construction or other activities related to a project that qualifies for implementation under the Process cannot be ensured, the project would be disqualified from approval using the Process. If CSP elected to pursue the project further, it would require an independent, project-specific CEQA review. This impact would be **less than significant.**

Implementation of the proposed Process could result in construction-related disturbance or impacts to special-status aquatic species if they occur in a project area, unless appropriate and effective resource protection measures are implemented. Special-status aquatic species include marine mammals (e.g., southern sea otter, Steller sea lion), fish (e.g., green sturgeon, chinook and coho salmon, steelhead), invertebrates (e.g., black and green abalone), and aquatic reptiles (e.g., green sea turtle); freshwater fish (e.g., tidewater goby, hardhead, Lahontan cutthroat trout) and invertebrates (vernal pool fairy shrimp, San Diego fairy shrimp, Shasta crayfish) ; amphibians (e.g., California red-legged frog, California tiger salamander, Coast Range newt) ; and aquatic reptiles (San Francisco garter snake, giant garter snake, western pond turtle) in the following categories: 1) listed or proposed for listing as threatened or endangered under the FESA or candidates for possible future listing; 2) listed or candidates for listing under the CESA; and 3) considered by CDFG to be “Species of Concern in California.” The majority of these species spend their entire lives in aquatic habitats; however, two groups of aquatic species, amphibians (e.g., some frogs and salamanders) and aquatic reptiles (e.g., turtles and some snakes) have terrestrial (upland) habitat requirements during specific periods of their life cycles. In general, amphibians require aquatic habitats for breeding and larval development, but juvenile and adult stages of some species spend the remainder of their adult lives (except during breeding periods) in terrestrial habitats (e.g., California tiger salamander and tree frogs). In contrast, many turtles spend much of their lives in or near aquatic habitats and use upland habitats for egg laying. As a result, both aquatic and potentially suitable upland habitats would need to be evaluated for those aquatic species that have both aquatic and terrestrial habitat requirements.

Appendix I summarizes CNDDB occurrences of special-status aquatic species including marine mammals, fish, and invertebrates; and freshwater fish, invertebrates, amphibians, and aquatic reptiles in the ecoregions where CSP units are located. This analysis conservatively assumes that the special-status aquatic species identified within an Ecological Section or Subsection could potentially occur within the CSP units within the Section or Subsection and be directly or indirectly affected by implementation of projects that qualify under the Process, depending on the presence of suitable habitat and the type, timing, and specific nature of the project actions. During project-level planning and evaluation, in addition to CNDDB records, other data sources would additionally be used to determine special-status aquatic species with potential to occur in a specific project area, including reconnaissance surveys, USFWS, NMFS, and CDFG species lists, CSP data and input from CSP biologists, other local CSP or other professional knowledge, and relevant environmental documents and reports.

Project actions that could result in disturbance or impacts to special-status aquatic species (including those species that spend a portion of their lives in upland habitats [small mammal burrows] such as the California tiger salamanders and tree frogs) include trail reconstruction or maintenance; rerouting of trail alignments; construction or maintenance of bridges or trail crossings at aquatic habitats (e.g., streams); closure, decommissioning, and restoration of existing roads and trails to natural conditions; conversion of existing roads to trails; and construction of appurtenant facilities. In the short term, construction activities associated with these or other change-in-use actions could temporarily disturb foraging, movement, and reproductive activities of special-status aquatic species, as a result of vegetation removal, noise, dust generation, or other project-related factors. Although not expected, any removal or disturbance of occupied breeding habitat would be a substantial impact if special-status species were taken or deterred from occupying breeding locations. Construction could also result in noise, dust, and other disturbances to special-status animals in the vicinity of project sites, resulting in potential site abandonment and mortality.

Because ground disturbances would be limited mostly to existing disturbed road and trail prisms and adjacent areas, which currently experience noise and other disturbances associated with motorized and non-motorized use and maintenance, potential impacts to suitable habitat for aquatic special-status wildlife would be very infrequent and are not expected. Also, project activities associated with projects that qualify for implementation under the proposed Process are expected to be dispersed and localized (relative to home range and habitat use areas of most wildlife species), and completed over a short period at each location. The potential felling of some green trees or snags, and disturbances to other vegetation in these areas, that may be required for some change-in-use projects would be limited and are not expected to significantly contribute to changes in aquatic habitat conditions in CSP units.

Despite change-in-use projects being limited mostly to existing disturbed road and trail prisms, construction-related disturbances could occasionally occur in or otherwise affect areas that may support special-status aquatic species outside of existing road and trail prisms. If special-status aquatic species are present in those affected areas, construction activities could result in disturbance, displacement, entrapment and suffocation, or mortality. Some types of projects, such as trail or bridge construction or other work conducted within or adjacent to special-status aquatic species and associated habitats could indirectly degrade aquatic habitats and water quality, if project activities were conducted during wet periods or other sensitive life history periods for aquatic species. For example, precipitation events during construction could increase erosion and transport of sediment from construction areas to nearby aquatic habitats. Increased erosion could elevate water turbidity and sediment deposition into aquatic habitats, which could result in disruption of breeding, spawning, and movement/migration patterns of special-status aquatic species. Also, as discussed in Impact 4.4-2 in Section 4.4, Terrestrial Biological Resources, while several SPRs would avoid and protect most aquatic and other sensitive habitats, the potential to remove some riparian and wetland vegetation and the placement of fill material into waters of the United States may not be entirely avoided, due to the frequency of these resources across CSP units statewide and their proximity to likely change-in-use projects. Potential project-related sources of aquatic, wetland, and riparian habitat disturbances or loss could include, but are not limited to, unanticipated or unforeseen runoff from nearby project areas; minor fill or disturbance if road or trail work (e.g., reroutes, maintenance, conversion, improvements) needs to occur adjacent to a wetland, pond, stream/riparian zone, or other aquatic feature; decommissions or trail upgrades that may occur within wetlands to improve water quality and resource conditions; and stream-crossing projects that require some temporary or permanent riparian vegetation disturbance or minor ground disturbance.

To minimize and avoid the potential for project-related disturbance or loss of special-status aquatic species, the proposed Process includes several additional SPRs to protect aquatic habitats and special-status species. Implementation of SPR BIO-39 requires that a qualified biologist conduct an aquatic (and associated uplands for those species with terrestrial habitat requirements) habitat assessment and focused preconstruction surveys for special-status aquatic species (if suitable habitat is present) with the potential to be affected by a project. At the project-evaluation level, species with potential to be affected and requiring preconstruction surveys would be determined based on the species' distribution and known occurrences relative to the project area and the presence of suitable habitat for the species in or near the project area. Surveys to determine the presence or absence of special-status aquatic species would be conducted in suitable habitat that could be affected directly or indirectly by the project, and timed to coincide with the appropriate survey period(s) of the target species (as determined by a qualified biologist) to maximize the potential for detection. If any special-status aquatic species are located within the project area they would be avoided and protected under the Process in accordance with SPRs BIO-39 through 45, BIO-48, BIO-52, BIO-55, and BIO-59, which require conducting habitat assessments and special-status species surveys (if habitat is present), determining appropriate work periods for avoiding breeding, spawning, and/or migration periods, establishing and maintaining a non-disturbance buffer zone around special-status species habitats and/or species during construction, installing exclusionary fencing and covering holes and other excavations to avoid entrapment, and daily visual inspections and monitoring by a qualified biologist. Soil disturbance, dust, erosion, and other construction-related impacts to special-status species would be avoided in accordance with SPRs BIO-48, BIO-51, and BIO-53 and 54, which require utilizing a variety of BMPs and other impact avoidance measures. If avoiding disturbances or loss of special-status aquatic species as a result of construction related to a change-in-use proposal cannot be ensured (e.g., based on the presence of special-status aquatic species adjacent to a project site, and uncertainty about feasibility or effectiveness of working within non-sensitive periods established in SPRs, etc.), the project would be disqualified from approval using the Process. If CSP wished to pursue the project further, it would require an independent, project-specific CEQA review.

Although implementation of the proposed Process could result in construction-related disturbance or impacts to special-status aquatic species, implementation of SPRs BIO-39 through BIO-44, BIO-48, BIO-51 through BIO-56, and BIO-59 would maintain potential impacts at a less-than-significant level.

LONGER-TERM OPERATIONAL IMPACTS RESULTING FROM CHANGES IN ROAD OR TRAIL SYSTEM AND USE

IMPACT 4.5-3 **Long-Term and Operational Effects on Special-Status Aquatic Species and Aquatic Habitats.** Most of the long-term effects of implementing the proposed Process on aquatic biological resources are expected to be beneficial or neutral, because (1) any change in use must be developed and implemented with the objective of natural and cultural resource protection, (2) the specific purpose of many change-in-use proposals would be to correct existing conditions that contribute to resource degradation, (3) most actions and ground disturbances would occur within existing disturbed areas, and (4) SPRs to protect biological resources during construction and over the long-term are incorporated into the Process. However, there is uncertainty about whether trail use would substantially change in timing or use pattern, resulting in the potential for effects on sensitive habitats and special-status species, or other biological resources impacts. Additionally, potential long-term (operational) indirect effects on special-status aquatic species and/or aquatic habitats may also occur in association with trail use by hikers, mountain bikers, horseback riders, and use of other power-driven mobility devices (OPDMDs). Therefore, the proposed Process includes Adaptive Use Management (AUM) as a SPR designed to monitor and correct, if necessary, user-created trail issues. With implementation of SPRs to protect biological resources, including AUM, potential long-term adverse impacts to biological resources as a result of the proposed Process would be **less than significant.**

Most of the long-term effects of implementing projects that qualify under the proposed Process on aquatic biological resources are expected to be beneficial or neutral, because (1) any change in use must be developed and implemented with the objective of natural and cultural resource protection, (2) the specific purpose of many change-in-use proposals would be to correct existing conditions that contribute to resource degradation, (3) most actions and ground disturbances would occur within existing disturbed areas, and (4) SPRs to protect biological resources during construction and over the long-term are incorporated into the Process. However, potential long-term indirect effects could include water- and wind- related erosion of new or modified trails, surface runoff and sedimentation of aquatic habitats and associated degradation of water quality, impacts to special-status species associated with these environmental effects and impacts associated with changes in recreational use (which may include changes in the type and extent of visitor use, frequency of use, and seasonality), and effects associated with volunteer trail crossings through or adjacent to aquatic habitats.

As discussed in more detail in Section 4.4, Terrestrial Biological Resources, long-term operational impacts may occur in association with trail and road change-in-use patterns associated with recreational use by hikers, mountain bike riders, horseback riders, and use of OPDMDs. Potential impacts of these user groups may include increased erosion; impacts to aquatic features (wetlands and stream crossings) and species (e.g., frogs and salamanders) resulting from hikers, horses and/or bikes traversing these habitats and adjacent areas; deviating from established trails (e.g., cutting across trails, creating short-cuts); and horses urinating/defecating in or near aquatic features.

As a general recreational trend, nighttime trail use by mountain bikers and hikers is increasing in popularity. Nighttime trail use can disturb and modify the behavior of wildlife through physical, noise, and light stressors. In general, most animals are not well-adapted or habituated to those types of anthropogenic stimuli at night. Artificial light is used for comfort and safety along trails at night, in the form of spotlights, other hand-held sources (e.g., flashlights), or mounted light-sources. The effects of artificial lighting by mountain bikers, hikers, and other users on wildlife are not well-documented; most studies have focused on “light pollution,” where the light source is relatively regular or permanent (e.g., at buildings, complexes, parking lots), rather than intermittent, irregular, and very brief, such as from a hiker or biker passing through an area. Some studies of light pollution have reported adverse effects of artificial lighting on aquatic wildlife, such as amphibians. Many amphibian species are nocturnal, where reproduction, movements, and other activities occur primarily or partially at night. The few studies that are available have shown that nocturnal frogs, toads, and salamanders are responsive and sensitive to artificial lighting, although the type and magnitude of response varies with species, light duration and intensity, foraging behavior, developmental biology, and other factors (Buchanan 2006, Wise and Buchanan 2006). In general, increased ambient lighting, changes to spectral properties of night light, and disruptions to photoperiod caused by certain types and amounts of artificial lighting can affect the physiology, foraging and movement behavior, predation risk, mate choice, and larval development of frog and salamander populations (see Rich and Longcore 2006). The extent to which some of these effects could also result from rapid and brief shifts in illumination from intermittent sources of light used by hikers and bikers is not clear; although, a few studies of rapid increases in illumination have been conducted. Buchanan (1993) showed that rapid increases in illumination from a headlamp can temporarily blind frogs (Buchanan 1993). Other studies indicated that foraging success of amphibians can either be enhanced (Wise and Buchanan 2006) or reduced (Buchanan 1993) by a rapid increase in illumination, probably depending on the eye sensitivities of certain species to light.

The magnitude and frequency of these potential effects of nighttime hiking and biking under the proposed Process would not change substantially from current conditions. Nighttime trail use is far less common than daytime trail use, because roads and trails in park units are generally closed at night, except to overnight campers. Night lighting equipment used by hikers (headlamps, flashlights, lanterns, etc.) generally emits very little light, typically enough to see 10-20 feet of trail. The proposed Process would allow the addition of new users (e.g., bicyclists and/or equestrians); however, these new user types are not expected to substantially change nighttime trail use, recognizing the continuation of current policy to close roads and trails at night. . Additionally, although the existing increasing trend in nighttime use of trails could continue statewide, it is not expected to substantially increase as a result of the proposed Process.

Although most of the long-term effects of implementing the proposed Process on biological resources are expected to be beneficial or neutral, there is uncertainty about whether trail use would substantially change in timing or use pattern, resulting in the potential for effects on aquatic habitats and special-status species, or other biological resources impacts. Therefore, the proposed Process includes AUM as a SPR designed to monitor and correct, if necessary, user-created trail issues. AUM involves a standard procedure of defining (1) use levels and use and resource conditions as a baseline during the preparation of the change-in-use survey at the start of the Process and (2) performance standards for maintaining use at levels that do not result in significant effects on the environment. The performance standards would be tailored to each change-in-use proposal and its park unit. They would describe desired use and resource conditions necessary to maintain impacts at less-than-significant levels. All performance standards would relate to use conditions or resources that are observable in the field by park staff. Recommended performance standards to avoid long-term significant impacts to aquatic biological resources are the same as those prescribed for terrestrial biological resources, and are presented in the *Adaptive Use Management and Impact Summary* in Section 4.4, Terrestrial Biological Resources.

With implementation of SPRs to protect biological resources and AUM, potential long-term adverse impacts to biological resources as a result of the proposed Process would be less than significant.

4.5.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With integration of SPRs and mitigation recommended above, the aquatic biology-related impacts of a change-in-use project completed under this Process would be less than significant. If a change-in-use proposal could not maintain aquatic biological impacts at less-than-significant levels with SPRs and mitigation, it would be disqualified from approval using this Process. If CSP pursued such a project further, the District would conduct a separate CEQA review process.

4.6 CULTURAL AND PALEONTOLOGICAL RESOURCES

This section describes the cultural and paleontological resources that are known or have the potential to occur in California State Parks (CSP) units. Cultural resources include archaeological sites of prehistoric or historic origin, built or architectural resources older than 50 years and traditional or ethnographic resources. This section also addresses fossil deposits of paleontological importance. A wide variety of cultural resources are found throughout California and a rich cultural resources heritage has been documented within CSP units. Documented cultural and paleontological resources make a substantial contribution to our understanding of the fossil record or local, regional or national prehistory or history.

Federal, State, and local regulations related to cultural and paleontological resources are summarized. Potential impacts of the proposed Process are analyzed, and mitigation measures are provided for those impacts determined to be significant. Cumulative cultural and paleontological resources impacts are addressed in Section 6.1.2, Cumulative Impacts by Resource Topic of this Program EIR.

4.6.1 ENVIRONMENTAL SETTING

Archaeological resources include both prehistoric and historic remains of human activity. Built environment resources include an array of historic buildings, structures, and objects serving as a physical connection to California's past. Traditional or ethnographic cultural resources include Native American sacred sites (traditional cultural properties), traditional cultural places, and traditional resources of any ethnic community that are important for maintaining the cultural traditions of any group.

"Historical resources" is a term with defined statutory meaning and includes any prehistoric or historic archaeological site, district, built environment resource, or traditional cultural resource recognized as historically or culturally significant (California Public Resources Code [PRC] Section21084.1; 14 California Code of Regulations [CCR] Section15064.5(a)).

Paleontological resources include mineralized, partially mineralized, or unmineralized bones and teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains that are more than 5,000 years old and occur mainly in Pleistocene or older sedimentary rock units.

CULTURAL RESOURCE SETTING

PREHISTORIC OVERVIEW

California was occupied by different prehistoric cultures dating to at least 12,000 to 13,000 years ago. Evidence for the presence of humans during the Paleoindian Period prior to about 8,000 years ago is relatively sparse and scattered throughout the State; most surface finds of fluted Clovis or Folsom projectile points or archaeological sites left by these highly mobile hunter-gatherers are associated with Pleistocene lakeshores, the Channel Islands, or the central and southern California coast (Rondeau et al. 2007: pp. 63-69). Archaeological evidence from two of the Northern Channel Islands located off the coast from Santa Barbara indicates the islands were colonized by Paleoindian peoples at least 12,000 years ago, likely via seaworthy boats (Erlandson et al. 2007: pp. 56-57). By 10,000 years ago, inhabitants of this coastal area were using fishhooks, weaving cordage and basketry, hunting marine mammals and sea birds, and producing ornamental shell beads for exchange with people living in the interior of the State (Erlandson et al. 2007: p. 60-62). This is the best record of early maritime activity in the Americas, and combined with the fluted points, indicates California was colonized by both land and sea during the Paleoindian period (Jones and Klar 2007b: p. 303).

With climate changes between 10,000 and 7,000 years ago at the end of the Pleistocene and into the early Holocene, Lower Archaic peoples adjusted to the drying of pluvial lakes, rise in sea level, and substantial alterations in vegetation communities. By some 6,000 years ago, vegetation communities similar to those of the present were established in the majority of the State, while the changes in sea level also affected the availability of estuarine resources (Jones and Klar 2007b: pp. 300-301). The archaeological record indicates subsistence patterns during the Lower Archaic and subsequent Middle Archaic Period shifted to an increased emphasis on plant resources, as evidenced by an abundance of milling implements in archaeological sites dating between 8,000 and 3,000 years ago.

The addition of milled wild grass seeds, acorns, or pine nuts, depending on geographic location, supplemented a diet procured as part of a seasonal foraging pattern, one that incorporated a wide range of natural resources including game animals, wild plants, waterfowl, fish, and other plant parts such as berries and greens. Subsistence patterns varied somewhat as groups throughout the State became better adapted to their regional or local environments, moving seasonally between lower and higher elevations, or between the coast and inland riverine systems. As these seasonally mobile groups became better adapted locally or regionally, they developed distinct cultural patterns that have been defined by archaeologists working in different regions of the State, and synthesized in three major publications produced over the past three decades (Moratto 1984; Chartkoff and Chartkoff 1984; Jones and Klar 2007a).

After approximately 3,000 years ago during the Upper Archaic and Late Prehistoric Periods, the complexity of the prehistoric archaeological record reflects increases in specialized adaptations to locally available resources such as acorns and salmon, in permanently occupied settlements, and in the expansion of regional populations and trade networks (Moratto 1984; Chartkoff and Chartkoff 1984; Jones and Klar 2007a). During the Upper Archaic, marine shell beads and obsidian continue to be the hallmark of long-distance trade and exchange networks developed during the preceding period (Hughes and Milliken 2007: pp. 259-270). Large shell midden/mounds at coastal and inland sites in central and southern California, for example, attest to the regular reuse of these locales over hundreds of years or more from the Upper Archaic into the Late Prehistoric period. In the San Francisco Bay region alone, over 500 shell mounds were documented in the early 1900s (Moratto 1984:226-227).

Changes in the technology used to pursue and process resources are some of the hallmarks of the Late Prehistoric period. These include an increase in the prevalence of mortars and pestles, a diversification in types of watercraft and fishhooks, and the earliest record for the bow and arrow in the State that occurs in both the Mojave Desert and northeast California nearly 2,000 years ago (Jones and Klar 2007b: pp. 305-307). The period also witnessed the beginning of ceramic manufacture in the southeast desert region, southwest Great Basin, and parts of the Central Valley.

During the Late Prehistoric period, the development of social stratification and craft specialization accompanied the increase in sedentism, as indicated by the variety of artifacts, including bone tools, coiled and twined basketry, obsidian tools, marine shell beads, personal ornaments, pipes, and rattles, by the use of clamshell disk beads and strings of dentalium shell as a form of currency, and by variation in burial types and associated grave goods (Moratto 1984; Chartkoff and Chartkoff 1984; Jones and Klar 2007a). Pictographs, painted designs that are likely less than 1,000 years old, and other non-portable rock art created during this period likely had a religious or ceremonial function (Gilreath 2007: p. 278). Osteological evidence points to intergroup conflict and warfare in some regions during this period (Jones and Klar 2007b: p. 313), and there also appears to have been a decline or disruption in the long-distance trade of obsidian and shell beads approximately 1,200 years ago in parts of the State (Hughes and Milliken 2007: p. 270).

The number of changes in subsistence, foraging, and land use patterns characteristic of the Late Prehistoric are reflective of the patterns known from historic-period Native American groups. The end of the Late Prehistoric period is generally recognized as the year 1769, although direct contact with non-indigenous peoples by many interior groups did not occur until the early to mid-1800s, when the Spanish mission system and subsequent historic events had their greatest effect on native California populations (see e.g., Castillo 1978: pp. 99-109; Cook 1978: pp. 91-93).

Thousands of archaeological sites dating to the period before historic contact have been documented within CSP units. Examples include the large housepit villages, middens, bedrock mortars, trails, and cairns located within Ahjumawi Lava Springs State Park (SP). The Coyote Creek Archaeological District within Henry W. Coe SP is listed on the National Register of Historic Places (NRHP) and preserves prehistoric sites dating between 1499 and 1000 A.D. At Anderson Marsh State Historic Park (SHP), the middens or lithic scatter sites protected within the Anderson Marsh Archaeological District, also listed on the NRHP, could date as early as 10,000 years ago. These are but a few general examples; archaeological site information is sensitive and the location of specific sites is treated as confidential and not available to the public.

ETHNOGRAPHIC OVERVIEW

At the time of European contact, California was the home of approximately 310,000 indigenous peoples with a complex of cultures distinguished by linguistic affiliation and territorial boundaries (Kroeber 1925; Cook 1978: p. 91; Heizer 1978a; Ortiz 1983; d'Azevedo 1986). At least 70 distinct native Californian cultural groups, with even more subgroups, inhabited the vast lands within the State. The groups and subgroups spoke between 74 and 90 languages, plus a large number of dialects (Shipley 1978: p. 80; University of California at Berkeley 2009-2010). These are assigned by linguists to five primary language families that are also found in other parts of western North America (Athabaskan, Algic, Uto-Aztecan, Penutian, and Hokan) and two unaffiliated families (Chumashan and Yukian) (Golla 2007: p. 80) (Exhibit 4.6-1).

The distribution of the language families in the exhibit illustrates the fluidity of population movements prior to historic contact. Linguistic prehistory suggests Penutian speakers appear to have migrated into California in several waves from the Columbian Plateau and northern Great Basin, and also internally within the State (Golla 2007: pp. 74-78). Members of the Uto-Aztecan language group, Numic-speaking and Takic-speaking peoples appear to have migrated westward into California from 1,000 to 2,000 years ago. The discontinuous geographical distribution of Hokan speakers in the northern, central coast, and southern regions of the State suggest they are remnants of formerly widespread language groups. The fact that many Athabaskan, Algic, Penutian, and Uto-Aztecan languages show evidence of Hokan language influence reinforces this interpretation.

In general, these mainly sedentary, complex hunter-gatherer groups of indigenous Californians shared similar subsistence practices (hunting, fishing, and collecting plant foods), settlement patterns, technology, material culture, social organization, and religious beliefs (Kroeber 1925; Heizer 1978a; Ortiz 1983; d'Azevedo 1986). Permanent villages were situated along the coast, interior waterways, and near lakes and wetlands. Population density among these groups varied, depending mainly on availability and dependability of local resources, with the highest density of people in the northwest coast and Santa Barbara Channel areas and the least in the State's desert region (Cook 1976: pp. 4, 38, 43). Networks of foot trails were used to connect groups to hunting or plant gathering areas, rock quarries, springs or other water sources, villages, ceremonial places, or distant trade networks (Heizer 1978b: pp. 690-693).

Source: Parus 2011, Kroeber 1925, Hinton 1994, Golla 2007, ESRI World Terrain Basemap 11/4/2011

Exhibit 4.6-1 **California Native American Language Families**

Dietary staples varied among groups, depending on local availability of seasonal resources and the geographic location of each group (Kroeber 1925; Heizer 1978a; Ortiz 1983; d'Azevedo 1986). The acorn was a plant staple throughout the Central Valley and foothills, whereas mesquite or yucca was relied on by those inhabiting the southern desert areas, and pine nuts in much of the high country. Native Californians also consumed a rich variety of plant parts such as greens, nuts, seeds and berries, large and small mammals such as deer, antelope and rabbits, waterfowl and other birds, fresh-water and salt-water fish, marine mammals, shellfish, reptiles, and insects. Coastal groups relied on marine resources, while northern and central interior groups depended on fall salmon runs. Groups living along the lower Colorado River, including the Chemehuevi, Halchidhoma, Kumeyaay, Mojave, and Quechan, practiced floodplain farming and planted typical Southwest crops, including beans, corn, squash, and melons.

Material culture varied among the State's indigenous peoples and included a variety of utilitarian, ornamental, and ceremonial items (Kroeber 1925; Heizer 1978a; Ortiz 1983; d'Azevedo 1986). Utilitarian items included basketry, netting, stone and bone tools, milling implements, watercraft, fishing implements and weirs, and ceramics. Milling implements included portable stone pestles and bedrock mortars, best exemplified by more than 1,000 mortar depressions (*chaw'se*) formed from grinding seeds and acorns into meal, some of which are decorated with petroglyphs, preserved at Indian Grinding Rock SHP. Ornamental and ceremonial items included marine shell beads and pendants, medicine tubes, effigies, pipes, charmstones, and musical instruments. California's Native American groups also created rock art images; one of the best examples in North America is preserved at Chumash Painted Cave SHP.

The size of villages and satellite villages depended on local resource availability, including the distance traveled to temporary encampments to collect seasonally available resources, such as acorns or pine nuts (Kroeber 1925; Heizer 1978a; Ortiz 1983; d'Azevedo 1986). Village structures varied with locally available material, from conical plank or bark houses in the northern part of the State and the Sierra Nevada Mountains, to thatch or earth covered semi-subterranean dwellings in the Central Valley, and conical homes made with tule matting in the desert areas. The villages of most groups had aboveground granaries, sweathouses, and ceremonial chambers; many also had separate cemetery areas depending if internment or cremation was their standard mortuary practice. Simpler, seasonal shelters were made from brush or thatched with grass and tule.

In cooperation with local Native American groups, several CSP units contain recreated villages or structures. Trails within Patrick's Point SP, for example, guide visitors through the recreated Yurok village of Sumêg. The village includes traditional family houses, a dance house, and a sweathouse, as well as a native plant garden. Indian Grinding Rock SHP includes a Miwok village with a ceremonial roundhouse (*hun'ge*), bark houses and acorn granaries, as well as a museum with an outstanding collection of regional Sierra Nevadan Indian artifacts.

The social organization of California's native peoples varied throughout the State, with villages or political units generally organized under a headman who was also the head of a lineage or extended family or achieved the position through wealth (Bean 1978: pp. 673-674). For some groups, the headman also functioned as the religious ceremonial leader. Influenced by their Northwest Coast neighbors, the differential wealth and power of individuals was the basis of social stratification and prestige between elites and commoners for the Chilula, Hupa, Karok, Tolowa, Wiyot, and Yurok in the northwest corner of the State. Socially complex groups were also located along the southern California coast where differential wealth resulted in hierarchical classes and hereditary village chiefs among the Chumash, Gabrielino, Juaneño, and Luiseño (Bean and Smith 1978: p. 543; Arnold and Graesch 2004: pp. 3-4).

At the time of Spanish contact, religious practices among native Californian groups varied, but ethnographers have recognized several major religious systems (Bean and Vane 1978: pp. 662-669). Many of the groups in the north-central part of the State practiced the *Kuksu* cult, primarily a ceremonial and dance organization, with a powerful shaman as the leader. Log drums, flutes, rattles, and whistles accompanied the elaborate ceremonial dances. The World Renewal cult in the northwestern corner of the State extended as far north as Alaska, entailed a variety of annual rites to prevent natural disasters, maintain natural resources and individual health, and were funded by the wealthy class. The *Toloache* cult was widespread in central and southern California and involved the use of narcotic plant (commonly known as datura or jimsonweed) materials to facilitate the acquisition of power. On the southern coast among Takic-speaking groups, the basis of Gabrielino, Juaneño, and Luiseño religious life was the *Chinigchinich* cult, which appeared to have developed from the Toloache cult. Chinigchinich, the last of a series of heroic mythological figures, gave instruction on laws and institutions, taught people how to dance, and later withdrew into heaven where he rewarded the faithful and punished those who disobeyed his laws. The Chinigchinich religion seems to have been relatively new when the Spanish arrived, and could have been influenced by Christianity.

Trade and exchange networks were a significant part of the economy and social organization among California's Native American groups (Heizer 1978b: pp. 690-693). Obsidian, steatite, beads, acorns, baskets, animal skins, and dried fish were among the variety of traded commodities. Inland groups supplied obsidian from sources along the Sierra Nevada Mountains, in Napa Valley, and in the northeast corner of the State. Coastal groups supplied marine shell beads, ornaments, and marine mammal skins. In addition to trading specific items, clamshell disk beads made from two clam species available on the Pacific coast were widely used as a form of currency (Kroeber 1922: p. 278). In northwestern California, groups used strings of dentalium shell as currency.

The effect of Spanish settlement and missionization in California marks the beginning of a devastating disruption of native culture and lifeways, with forced population movements, loss of land and territory (including traditional hunting and gathering locales), enslavement, and decline in population numbers from disease, malnutrition, starvation, and violence during the historic period (Castillo 1978: pp. 99-109). In the 1830s, foreign disease epidemics swept through the densely populated Central Valley, adjacent foothills, and North Coast Ranges decimating indigenous population numbers (Cook 1978: pp. 91-93). By 1850, with their lands, resources and way of life being overrun by the steady influx of non-native people during the Gold Rush, California's native population was reduced to about 100,000; by 1900, there were only 20,000 or less than seven percent of the pre-contact number. Existing reservations were created in California by the federal government beginning in 1858 but encompass only a fraction of native lands.

In 2004, the Native American population in California was estimated at over 383,000 (OPR 2005: p. 6). Although acknowledged as non-federally recognized California Native American tribes on the contact list maintained by the Native American Heritage Commission (NAHC), many groups continue to await federal tribal status recognition. As of 2005, there were 109 federally recognized tribes within the state, along with dozens of non-federally recognized tribes. Members of these tribes have specific cultural beliefs and traditions with unique connections to areas of California that are their ancestral homelands.

CSP actively engages local California Indian communities in the planning process so places of spiritual significance or natural resource gathering locales are protected and access provided to recognized practitioners. In Mount Diablo SP, for example, the mountain is sacred and considered the creation point for the Miwok people. According to Maidu legend, the volcanic peaks in Sutter Buttes SP, known as *Histum Yani* or Spirit Mountain, are where the spirits of their people rest before journeying to the afterlife. In McArthur-Burney Memorial Falls SP, situated between Mount Shasta and Lassen Peak, the falls and the pool at its base remain a sacred area to the local Pit River people, the Atsugewi and Achumawi. Tomo-Kahni SHP has an unusual history because it was created by a combination of park officials, Kawaiisu tribal elders, and anthropologists to protect a unique village site, pictographs, and a blend of desert and mountain habitats. The Cultural Preserve has no visitor facilities and no signs, and can only be viewed on a guided tour. At Malibu Creek SP, the Chumash still consider many sites in and around the park as sacred.

Historic Overview

Post-contact history for the State is generally divided into the Spanish period (1769–1822), Mexican period (1822–1848), and American period (1848–present). The establishment of Fort Ross by Alaska-based Russian traders also influenced post-contact history for a short period (1809–1841) in the region north of San Francisco Bay. Although there were brief visits along the Pacific coast by European explorers (Spanish, Russian, and British) between 1529 and 1769 of the territory claimed by Spain, the expeditions did not journey inland.

Spanish Period (1769–1822)

Spain's colonization of California began in earnest in 1769 with the overland expeditions from San Diego to San Francisco Bay by Lt. Colonel Gaspar de Portolá, and the establishment of a mission and settlement at San Diego. Between 1769 and 1823, the Spanish and the Franciscan Order established a series of 21 missions paralleling the coast along El Camino Real between San Diego and Sonoma (Rolle 1969: p. 74). Between 1769 and 1782, Spain built four presidios (San Diego, Monterey, San Francisco, and Santa Barbara) to protect the missions, and by 1871 had established two additional pueblos at Los Angeles and San José.

Under Spanish law, large tracts of land, including cattle ranches and farms, fell under the jurisdiction of the missions. Native Americans were removed from their traditional lands, converted to Christianity, concentrated at the missions, and used as labor on the mission farms and ranches (Castillo 1978: pp. 100-102). Since the mission friars had civil as well as religious authority over their converts, they held title to lands in trust for indigenous groups. The lands were to be repatriated once the native peoples learned Spanish laws and culture.

Russian Period (1809–1841)

In 1809, Alaska-based Russians started exploring the northern California coast with the goal of hunting otter and seal and feeding their Alaskan colonies. The first Russian settlement, reconstructed at Fort Ross SHP, was established in 1811–1812 by the Russian–American Fur Company to protect the lucrative marine fur trade and to grow produce for their Alaskan colonies. In 1841, as a result of the decline in local sea otter population and the failure of their agricultural colony, combined with a change in international politics, the Russians withdrew from California (Schuyler 1978: p. 75).

Mexican Period (1822–1848)

Following independence from Spain in 1822, the economy during the Mexican period depended on the extensive rancho system, carved from the former Franciscan missions and at least 500 land grants awarded in the State's interior to Mexican citizens (Beck and Haase 1974: p. 24; Staniford 1975: pp. 98-99). Captain John Sutter, who became a Mexican citizen, received the two largest land grants in the Sacramento Valley. In 1839, Sutter founded the trading and agricultural empire named New Helvetia that was headquartered at Sutter's Fort, now a SHP, near the divergence of the Sacramento and American Rivers in today's City of Sacramento (Hoover et al. 2002: p. 302).

Mexico also opened California to exploration by American fur trappers and mountain men. In 1826, Jedediah Smith was the first American trapper to enter California; his party explored along the Sierra Nevada Mountains and entered the Sacramento Valley (Gunsky 1989: pp. 9-11). Other fur trappers and mountain men, some with the Hudson's Bay Company, entered California in the late 1820s and 1830s (Hoover et al. 2002: pp. xiii-xiv). By the mid-1840s, a number of American settlers had arrived in California via overland routes. These included the ill-fated Donner Party, whose tragic attempt to cross the Sierra Nevada Mountains during the winter of 1846-1847 is commemorated at Donner Memorial SP.

Following adoption of the Secularization Act of 1833, the Mexican government privatized most Franciscan lands, including holdings of their California missions. Although secularization schemes had called for redistribution of lands to Native American neophytes who were responsible for construction of the mission empire, the vast mission lands and livestock holdings were instead redistributed by the Mexican government through several hundred land grants to private, non-indigenous ranchers (Castillo 1978: pp. 104-105; Hoover et al. 2002: p. xiii). Most Native American converts returned to traditional lands that had not yet been colonized or found work with the large cattle ranchos being carved out of the mission lands.

With the end of the mission system, the entire Mexican economy shifted to the owners of the large ranchos. Landowners mainly focused on the cattle industry and devoted large tracts to grazing and dry farming of wheat (Staniford 1975: pp. 100-101, 103). Cattle hides and tallow became a primary southern California export, providing a commodity to trade for goods from the east and other areas in the United States and Mexico. Cuyamaca Rancho SP in San Diego County preserves about two-thirds of the 35,501-acre land grant awarded to Augustin Olvera by Governor Pío Pico in 1845, while 5-acre Pío Pico SHP contains the restored adobe home of the last governor of Mexican California within his former 9,000-acre Rancho Paso de Bartolo.

American Period (1848–present)

In 1848, shortly after California became a territory of the United States with the signing of the Treaty of Guadalupe Hidalgo ending Mexican rule, gold was discovered on the American River at Sutter's Mill in Coloma—now a National Historic Landmark within Marshall Gold Discovery SHP. The resulting Gold Rush era influenced the history of the State, the nation, and the world. Thousands of people flocked to the gold fields in the Mother Lode region that stretches along the western foothills of the Sierra Nevada Mountains, and to the areas where gold was also discovered in other parts of the State, such as the Klamath and Trinity River basins (Caltrans 2008: pp. 9-12). In 1850, California became the 31st state, largely as a result of the Gold Rush. Known today as the "Golden State," California continues to pay tribute to its Gold Rush heritage and to its fields of golden poppies, the state flower (California State Library 2007).

During the Gold Rush, thousands of people traveled west on the overland trails, starting mainly at the river towns on the Mississippi and Missouri rivers. The most direct route was the Oregon-California Trail that passed the Great Salt Lake and then went over the Sierra Nevada Mountains into California near Truckee. Hopeful miners and entrepreneurs also traveled the Gila Trail or Southern Overland Trail from Texas, which crossed the Colorado River and the Colorado Desert, then split northward to Los Angeles or south to San Diego (Rolle 1969: pp. 218-220; Beck and Haase 1974: p. 49; Staniford 1975: p. 127). At San Diego, many journeyed by ship to San Francisco or by wagon along coastal routes. Others traveled via the Old Spanish Trail—named by John C. Frémont in 1844—from Santa Fe across the Mojave Desert to Los Angeles, and then northward.

Many of the historic-era trails used by the Spanish, Mexicans, military, explorers and trappers, gold miners, settlers, and others who entered California were trails that had been established by Native Americans (Schneider 2011). The Southern Overland Trail, which connected water sources and traditional Native American use areas in the Colorado Desert, remains largely intact in Anza-Borrego Desert SP (Wade 2011). Between 1857 and 1861, the same route was used by the San Antonio to San Diego Mail and the Butterfield Stage, and continued to be used by cattle and wagons, and later by automobiles. In the early 1870s, the 20-mule teams followed a Native American trade route past the colorful formations of Red Rock Canyon SP. Anza-Borrego Desert SP also preserves segments of the 1,200-mile Juan Bautista de Anza National Historic and Millennium Trail, which was the first National Historic Trail designated in the country.

Prior to construction of the railroads, ocean and river routes were also commercial lifelines during the Gold Rush era. San Francisco was a major port of entry for thousands of immigrants that sailed from foreign lands. A central location to the foothill mining districts, Sacramento was a burgeoning river transportation hub that became the State capital four years after statehood. The town was also the westernmost point of the Pony Express (1860–1861), had 12 stage lines by 1853, and by 1856 was the terminal of the first California railroad that ran 22 miles east to Folsom (Beck and Haase 1974: pp. 51, 53, 68). On the North Coast, the towns of Arcata and

Eureka on Humboldt Bay provided a supply line to the region's gold mines and the growing lumber industry (Hoover et al. 2002:105-106). Places like nearby Trinadad State Beach also served as chief supply points for the Klamath and Trinity region mines.

With the completion of the transcontinental railroad in 1869, settlers and immigrants continued to pour into the State. Thousands of miles of railway lines were constructed throughout the State in the 1870s—along the coast, southern California, and the Central Valley (Beck and Haase 1974: p. 68; Caltrans 2007: p. 98). In 1885, San Diego was connected to the Atchison, Topeka, and Santa Fe Railway transcontinental line to Chicago. The remains of the Del Norte & Southern Railroad along the Trestle Loop Trail in Del Norte Coast Redwoods SP are but one example of the lines built to transport lumber or other commodities to the main railways or shipping points.

The increasing demand of miners during the Gold Rush era for commodities and foodstuffs was met by enterprising individuals and businesses (Staniford 1975: pp. 176-177). The demand boosted the expansion and success of the agriculture industry, as well as an increase in ranching and raising beef and dairy cattle, pigs, sheep, turkeys, and chickens to feed the thousands of hungry miners. The manufacture of all types of goods and clothing, the ore processing industry, lumber production, and the beginning of a fishing industry were also prompted during this period in California's history.

Farmers and ranchers produced a variety of basic agricultural foodstuffs to feed the growing Gold Rush population, and continued to diversify as they experimented with plant stocks and the various climate and soil conditions in the Central Valley, Coast Ranges, and southern California. Food crops included fruits, vegetables, and nuts, as well as the olives and wine grapes introduced early in the Spanish and Mexican Periods. Field crops initially focused on wheat for bread, cereal, beverages and animal feed, with barley, hay, rye, oats, and buckwheat gaining in importance in the decades after 1850 (Caltrans 2007: pp. 46-48). Farmers developed improvements in seeds and farm machinery for large-scale production. By 1854, with improved milling techniques, the State was exporting wheat flour and grains (Staniford 1975: pp. 186-187). A mid-1800s water-powered grist mill still operates at Bale Grist Mill SHP, and Anderson Marsh SHP preserves a working ranch from 1885 that grew hay, wheat, barley, and later evolved into a dairy ranch in 1949.

The completion of the transcontinental railroad created new markets for the State's agricultural products, including citrus. Oranges had been introduced during the Spanish Mission era, and the first trainload was shipped to Saint Louis in 1877 (Rolle 1969: pp. 358-359). By 1890, oranges, lemons, and limes were a significant part of the economy of California's southwestern counties. California Citrus SHP provides a glimpse of the flourishing citrus industry circa 1880-1935.

Through the first decade of the Gold Rush, horticulture and livestock, based primarily on cattle as the staple of the rancho system, continued to dominate the southern California economy (Staniford 1975:184-185). During the 1850s cattle boom, rancho vaqueros drove large herds from southern to northern California to feed that region's mining and commercial boom. Cattle were driven along major trails or roads such as the Southern Overland Trail, and were later transported by trains where available. The cattle boom ended for southern California as neighboring states and territories drove herds to northern California at reduced prices, as operation of the huge ranchos became increasingly difficult, and as droughts in the early 1860s severely reduced livestock numbers. Grazing activities in southern California were refocused upon sheep, with sales of mutton to the miners and wool to San Francisco.

To the north, California's dairy industry developed in the greater San Francisco Bay region, Humboldt County, and the central coast in response to Gold Rush-era population demands (Rolle 1969: pp. 353- 354; Caltrans 2007: pp. 87-88). The Jersey was the dominant breed of dairy cattle in the State until replaced by the Holstein-Friesians (California's black and white "happy cows") during the 1880s. By the 1900s, the dairy industry was also an important economic component in parts of southern California, particularly Los Angeles County, and had spread into the San Joaquin Valley alongside the development of agricultural irrigation, which was essential for year-round growing of cattle feed in drier regions. A mid-to-late 1800s dairy ranch complex, including water-powered workshops, is preserved at Wilder Ranch SP, and Anderson Marsh SHP contains a 1949 dairy barn and associated interpretive displays.

The lumber industry kept pace with the State's rapid growth during the Gold Rush era. The northwest coast became the State's leading producer of redwood timber for mushrooming settlements and industry (Staniford 1975: pp. 191-193). Redwood lumber was shipped by boat or wagon, and later by rail, from sawmills on the coast to San Francisco and Sacramento. The lumber industry also flourished in the Santa Cruz Mountains, the Lake Tahoe region of the Sierra Nevada Mountains, and the San Gabriel and San Bernardino Mountains in southern California. The cove at Greenwood Creek State Beach in Mendocino County is but one of the small, dog-ports used along the coast to ship timber in the late 1800s to early 1900s.

In 1864, the transfer by Congress of Yosemite Valley to California for a public park preserved the area from lumbering or settlers, while commercial logging of the old-growth Northwest Coast redwood forests eventually led to conservation efforts and establishment of State parks. California's oldest State park that is still operated by the State, Big Basin Redwoods, was established in 1902 to preserve the coast redwoods (*Sequoia sempervirens*). Achieved with the support of local individuals and the Sempervirens Club, the park's creation launched the State park movement. Big Basin Redwoods and additional parks, like Del Norte Coast Redwoods, Jedediah Smith Redwoods, and Prairie Creek Redwoods, preserve the forests as well as the cultural and historic landscapes and early logging roads associated with this period.

As the placer gold disappeared along the rivers and other waterways, mining shifted toward more industrialized methods of extraction (Caltrans 2008: pp. 50-59). Developed in the mid-1850s, hydraulic mining used water directed from low pressure nozzles or high pressure "monitors" that also destroyed the contours of the land. The method was outlawed in 1884, although it continued at a smaller scale in parts of the State. Malakoff Diggings SHP in Nevada County preserves the steep cliffs that formed from washing away entire mountains at the world's largest former hydraulic gold mine. To the south in Tuolumne County, the limestone formations that were exposed by processing placer gold deposits using hydraulic methods are preserved at Columbia SHP along with the largest collection of Gold Rush-era buildings in California. The development of dredge mining in 1898 renewed gold mining as a major industry in the State. Dredgers were massive machines capable of processing tons of riverbed gravels that left behind tailing piles still visible today along the American, Feather, and Yuba rivers where dredge mining continued into the mid-1960s but at a smaller scale than during the Gold Rush. Underground mines were also established during the Gold Rush era, and are represented by the historic structures and buildings preserved at Empire Mine SHP in the Sierra Nevada foothills and at Bodie SHP, also a National Historic Landmark, and Plumas-Eureka SP in the Sierra Nevada Mountains. In the southeastern part of the State, the mines and abandoned equipment within the Last Chance Canyon Archaeological District at Red Rock Canyon SP are also valuable examples of early industrial mining techniques and technology. Continuation of expensive hard-rock operations into the 20th century, even with improvements in technology, fluctuated substantially with the price of gold.

The development of water conveyance systems accompanied the growth and variety of techniques employed for gold mining (JRP and Caltrans 2000: pp. 33-39). Ditches were dug in the early 1850s to get water to the "dry diggings" and companies were soon organized and building ditches, canals, and flumes to supply water to miners using sluices to extract gold from the river gravels. With the advent of hydraulic mining, the demand for water increased and its supply by ditch companies became even more lucrative. Networks of ditches or canals, many longer than 20 miles, blossomed across the Mother Lode and Klamath and Trinity basins. Major companies also dug tunnels and dammed streams or lakes to create storage reservoirs. By 1865, over 5,300 miles of mining ditches and canals had been officially recorded in the Mother Lode region. Of these, many are still used for agricultural irrigation, municipal water services and hydroelectric power systems, and remain an important feature of the State's cultural landscape (JRP and Caltrans 2000:53). Some, such as the gold mining-era water ditch at South Yuba River SP in Nevada County, have been converted to hiking trails.

The first extensive agricultural irrigation canal in the State, the 67-mile San Joaquin and Kings River Canal in the San Joaquin Valley, was completed in 1878 by Miller and Lux Company, a cattle company with vast land holdings in the West (Clough and Secrest 1984: p. 187). A pioneer of larger-scale irrigation projects, Miller and Lux also organized mutual canal companies to control water in drier regions. This prompted the formation of irrigation districts and the passage of the Wright Act in 1887. Turlock Irrigation District was the first such district formed under the Wright Act. The district created Turlock Lake, now a State Recreation Area (SRA), to provide year-round crop irrigation.

The formation of irrigation districts and related canal development, as well as the extensive levee systems constructed after passage of the Swampland Act of 1850 to prevent flooding of prime agricultural lands and settlements in the greater Sacramento–San Joaquin Delta region, foreshadowed the extensive, 20th century federally funded water projects, like the All-American Canal that brings Colorado River water to the Imperial Valley and the Central Valley Project that delivers Sacramento River water to the arid San Joaquin Valley (JRP and Caltrans 2000: pp. 30, 74). Irrigation and related flood control management had become an integral component of the history of the productive agricultural and livestock economy of the State. The waters at San Luis Reservoir SRA were impounded when the storage reservoir was built in the 1960s as part of the federal Central Valley Project and the California State Water Project.

As early as 1901, the governor of California authorized the purchase of land for a State park to preserve a part of the State's natural treasures for future generations. The first 2,500 acres were purchased the following year in Santa Cruz County, and Big Basin Redwoods became the first State park under the present system. Although Yosemite Valley was granted to California in 1864 as the nation's first State park, Yosemite was returned to federal control in 1906. Unlike newly established national parks on federally owned land in the West, most California park lands had to be purchased from private landowners and prior to 1927 there was no comprehensive plan for preserving the State's recreational, natural, and cultural treasures. The campaign for a State park bill by a broad coalition of groups and individuals, with leadership from the Save-the-Redwoods League, gained unanimous approval of the State Legislature and a State park bill became law in 1927. Next, the newly established State Park Commission began gathering support for a State park bond issue, and in 1928 Californians voted in favor of the first State park bond.

In the early to mid-1900s, population growth in California accelerated due to industry associated with both world wars, as well as emigration from the Midwest "dust bowl" states during the Great Depression. Immigrants were particularly drawn to the Central Valley and the Los Angeles basin, and many new towns were established. To speed recovery from the Great Depression, President Franklin Delano Roosevelt created a series of New Deal programs, one of which was the Civilian Conservation Corps (CCC). During the nine years the program operated from 1933 to 1942, CCC teams constructed roads, bridges, trails, rock walls, campsites, visitor centers, social halls and amphitheaters, planted trees, and created landscaping within California's State parks. The CCC built some 1,500 structures and landscape features, many of which continue to function today in such diverse State parks as Big Basin Redwoods SP, Cuyamaca Rancho SP, which has over 100 miles of trails, Mount Diablo SP, and Pfeiffer Big Sur SP, among others. Harmony with the natural setting and the use of local native materials in the signature Park Rustic architectural style of the CSP system was developed by National Park Service architects during this period, and followed by the CCC teams. In 2008, the 75th anniversary of the establishment of the CCC was celebrated at Mount Tamalpais SP with its miles of trails and monumental stone amphitheater constructed by CCC workers in the 1930s.

By 1959, the park system had expanded to include 615,000 acres encompassing 150 beaches, parks, and historic monuments. In the 1960s, voters approved a second State park bond, and the Division of Beaches and Parks was transformed into the Department of Parks and Recreation, along with a management shift to more active recreational facilities. In 1974, voters approved Proposition 1, another State park bond issue, and by the 1990s the park system included nearly 1.3 million acres with over 260 park units, 280 miles of coastline, 625 miles of lake and river frontage, nearly 18,000 campsites, 3,000 miles of hiking, biking and equestrian trails, and 450 miles of off-highway vehicle trails.

Today, CSP manages more than 5,000 miles of recreational roads and trails throughout the State, some of which are linked to trails on federal lands and regional, county, and city parks and properties. Trails are developed to provide access to natural, cultural, and scenic resources of a park and to enhance enjoyment of those resources by visitors. CSP also manages nearly 25 percent of the state's coastline, plus lands within the State's numerous ecoregions with an incredible diversity of the State's natural and cultural heritage, including ancient Native American sites and historic-era facilities. The park system accommodates over 70 million visits annually, mainly between mid-May and mid-September.

PALEONTOLOGICAL SETTING

STATEWIDE OVERVIEW

Significant nonrenewable vertebrate and invertebrate fossils and unique geologic units have been documented throughout California. The State's fossil record is exceptionally prolific with abundant specimens representing a diverse range of marine, lacustrine, and terrestrial organisms recovered from Precambrian rocks as old as 1 billion years to as recent as 6,000 year-old Holocene deposits (refer to geologic timescale in Table 4.6-1). These fossils provide key data for charting the course of the evolution or extinction of a variety of life on the planet, both locally and internationally. Paleontological specimens also provide key evidence for interpreting paleoenvironmental conditions, sequences and timing of sedimentary deposition, and other critical components of the earth's geologic history. Fossils are considered our most significant link to the biological prehistory of the earth (Jefferson 2004: p. 1).

Table 4.6-1 Divisions of Geologic Time

Era	Period	Time in Millions of Years Ago (approximately)	Epoch
Cenozoic	Quaternary	< 0.01	Holocene
		2.6	Pleistocene
	Tertiary	5.3	Pliocene
		23	Miocene
		34	Oligocene
		56	Eocene
		65	Paleocene
Mesozoic	Cretaceous	145	
	Jurassic	200	
	Triassic	251	

Table 4.6-1 Divisions of Geologic Time

Era	Period	Time in Millions of Years Ago (approximately)	Epoch
Paleozoic	Permian	299	
	Carboniferous	359	
	Devonian	416	
	Silurian	444	
	Ordovician	488	
	Cambrian	542	
Precambrian		2,500	

Source: USGS Geologic Names Committee 2010

Because the majority of the State was underwater until the Tertiary period, marine fossils older than 65 million years are not common and are exposed mainly in the mountains along the border with Nevada and the Klamath Mountains, and Jurassic shales, sandstones, and limestones are exposed along the edges of the Central Valley, portions of the Coast, Transverse, and Peninsular Ranges, and the Mojave and Colorado Deserts. Some of the oldest fossils in the State, extinct marine vertebrates called conodonts, have been identified at Anza-Borrego Desert SP in Ordovician sediments dating to circa 450 million years ago. Limestone outcrops of Pennsylvanian and Permian in the Providence Mountains SRA contain a variety of marine life, including brachiopods, fusulinids, crinoids, that lived some 300 to 250 million years ago.

Fossils from the Jurassic sedimentary layers in San Joaquin, San Luis Obispo, and Stanislaus counties include ammonites, bivalves, echinoderms and marine reptiles, all of which were common in the coastal waters. Gymnosperms (seed-bearing plants) such as cycads, conifers, and ginkgoes are preserved in terrestrial sediments from this period, evidence that the Jurassic climate was warm and moderately wet. In the great Central Valley, marine rocks record the position of the Cretaceous shoreline as the eroded ancestral Sierra Nevada sediments were deposited east of the rising Coast Ranges and became the rock layers of the Sacramento and San Joaquin valleys. These Cretaceous sedimentary deposits have yielded abundant fossilized remains of plants, bivalves, ammonites, and marine reptiles (Paleontology Portal 2003).

Along coastal southern California where steep coastal mountains plunged into the warm Pacific Ocean an abundance of fossil marine invertebrates, such as ammonites, nautilus, tropical snails and sea stars, have been found in today's coastal and near-coastal deposits from the Cretaceous Period. A rare armored dinosaur fossil dated to about 75 million years ago during the Cretaceous was discovered in San Diego County during a highway project. It is the most complete dinosaur skeleton ever found in California (San Diego Natural History Museum 2010). The lack of fossil remains of the majority of earth's large vertebrates, particularly terrestrial, marine, and flying reptiles (dinosaurs, ichthyosaurs, mosasaurs, pleisosaurs, and pterosaurs), as well as many species of terrestrial plants, after the end of the Cretaceous and the start of the Tertiary periods 65 million years ago (the K-T boundary) attests to their abrupt extinction.

As a result of changes in sea level and increases in tectonic activity during the Tertiary period, marine as well as terrestrial fossils could be found scattered about the State, particularly along the coast, edges of the Central Valley, northeastern plateau, and southeastern deserts. Tertiary marine fossils have been found, for example, under the streets of Los Angeles during storm drain and subway construction and in Anza-Borrego Desert SP in today's Colorado Desert. These include late Miocene marine invertebrates and vertebrates in deposits dating between 6.5 and 4.5 million years ago. The geologic sequence within the park has also produced terrestrial vertebrates from mid-Miocene deposits, as well as terrestrial woods and aquatic and terrestrial vertebrates from late-Miocene deltaic deposits ranging in age from 4.5 to 3 million years ago. The mid-Miocene deposits have yielded the oldest terrestrial vertebrates in the park—a gomphothere, pseudalurine cat, and small camelid that were recovered from near-shore lacustrine deposits dating between 11 and 7 million years ago.

At Red Rock Canyon SP in today's Mojave Desert, the more than 100 different extinct plants and animals recovered from the Dove Spring Formation are used by paleontologists to trace evolutionary changes and the intercontinental migrations of terrestrial groups of fossil animals between 12.5 and 7.5 million years ago during the mid to late Miocene. The rich fossiliferous deposits in the park have yielded extinct bone-crushing dogs, elephants, giraffe-like camels, rhinos, saber-toothed cats, and three-toed horses, and ancestral alligator lizards, shrews, and skunks, as well as plant pollen, leaves, and wood.

Additional Tertiary fossils identified within the internationally significant fossil remains at Anza-Borrego Desert SP are late Miocene and Pliocene in age (3–1.8 million years old) and include pollen and lacustrine invertebrates from lacustrine deposits, and terrestrial and aquatic vertebrates from terrestrial geologic deposits. Pliocene-age flora (between 5.3 and 1.8 million years old) recovered from the Palm Spring Formation in the park include a palm, a cupressid, and deciduous hardwoods. There are also extensive Pliocene-age oyster shell reefs in the park. Along the edge of the Central Valley in western San Joaquin County, Pliocene-age freshwater deposits have preserved sand dollars, a variety of mollusks, diatoms, ostracodes, and fish remains. In the Coso Range along the eastern slopes of the southern Sierra Nevada abundant Pliocene-age fossil vertebrate remains include horse, rabbit, packrats, vole, llama, peccary, mastodon, and extinct horse and bear.

Dating between 2.6 million and 11,700 years ago, Pleistocene continental sedimentary rock units are found throughout the State and have yielded a variety of plant and vertebrate fossils. The base of the Pleistocene boundary at the start of the Quaternary was recently changed from 1.6 to 2.6 million years ago, with the Pleistocene/Holocene boundary dated at 11,700 years ago (USGS Geologic Names Committee 2010).

Pleistocene fossil localities include large lake deposits, such as Lake Manix in the Mojave Desert, marine terrace deposits along the coast, particularly the southern coast, and the Rancho La Brea Tar Pits, a well-known locality in Los Angeles. The sedimentary deposits at Lake Manix have yielded a diversity of significant Pleistocene-age fossilized remains, including ostracodes, freshwater gastropods, and pelecypods, fish bones, and pond turtles, as well as nearly 50 species of mammals and birds that have also been recovered at the Rancho La Brea Tar Pits. The world-famous asphaltic deposits have produced over three million fossils representing a variety of extinct terrestrial fauna dating to the last Ice Age, such as mammoth, mastodon, giant ground sloth, horse, camel, saber-toothed cat, dire wolf, bear, and American lion. In addition, with an age range of 40,000 to 8,000 years ago, the La Brea deposits have yielded reptiles, amphibians, birds, plants (wood, leaves, cones, seeds), insects, freshwater shells and other microfossils, as well as ancestral bison, tapir, llama, and peccary (Natural History Museum of Los Angeles County 2002). Extinct Pleistocene fossils, including mammoths, have also been found during development projects near Sacramento, in Livermore, in southern California, and on the Channel Islands. In northern California, geologic deposits with extinct Pleistocene-age mastodons, saber-toothed cats, and three-toed horses include those at Mount Diablo SP east of San Francisco Bay.

Holocene-age deposits (less than 11,700 years old), such as those that blanket the majority of the Central Valley floor, are geologically immature and generally unlikely to contain fossils. One exception is the Lake Cahuilla deposits in today's Colorado Desert that date between at least 6,000 and 240 years ago (Deméré 2010). The ancient freshwater lake occupied a major portion of the Salton Trough and its sedimentary deposits have yielded a variety of freshwater mollusks (gastropods and pelecypods), fish, and small terrestrial vertebrates.

PALEONTOLOGICAL POTENTIAL AND ASSESSMENT STANDARDS

The fossil yielding potential of a particular area is highly dependent on the geologic age and origin of the underlying rocks, which vary in distribution and surface exposure throughout the State. In the planning stage for a specific project, the fossil yielding potential is best determined by initially identifying the aerial and stratigraphic extents of the local geology, and performing a site-specific search of fossil locality records and peer-reviewed literature, followed by a field survey if appropriate.

Paleontological potential refers to the likelihood that a rock unit will yield a unique or significant paleontological resource. All sedimentary rocks, some volcanic rocks, and some low-grade metamorphic rocks have potential to yield significant paleontological resources. Depending on location, the paleontological potential of subsurface materials generally increases with depth beneath the surface, as well as with proximity to known fossiliferous deposits.

Criteria for screening the paleontological potential of rock units has been established and recently updated by the Society of Vertebrate Paleontology (SVP) (SVP 2010). Table 4.6-2 lists the criteria for high-potential, undetermined, low-potential, and no-potential rock units.

Table 4.6-2 Paleontological Potential Criteria

Paleontological Potential	Description
High	Geologic units that have produced vertebrate or significant invertebrate, plant, or trace fossils. Also rock units that contain potentially datable organic remains older than late Holocene, including deposits associated with animal nests or middens, and rock units that could contain new vertebrate deposits, traces, or trackways.
Undetermined	Geologic units where little to no information is available.
Low	Geologic units that are not known to have produced a substantial body of significant paleontological material.
None	Geologic units with no potential for containing significant paleontological resources.

Source: SVP 2010

Pleistocene or older (older than 11,000 years) continental sedimentary deposits are considered as having a high paleontological potential. Throughout California, such sedimentary formations have a history of yielding numerous vertebrate fossils of extinct mammals or other fauna.

Holocene-age deposits (less than 10,000 years old) are generally considered to have a low paleontological potential because they are geologically immature and are unlikely to have fossilized the remains of organisms (fossilization processes take place over millions of years). One exception is the sedimentary deposits from ancient Lake Cahuilla that have yielded significant paleontological specimens. The thickness of Holocene sediments is important because in almost all areas of the Central Valley, for example, such sediments are underlain by Pleistocene or older sedimentary rocks with a high paleontological potential.

Metamorphic and igneous rocks have a low paleontological potential, either because they formed beneath the surface of the earth (such as granite), or because they have been altered under high heat and pressures, chaotically mixed or severely fractured. Generally, the processes that form igneous and metamorphic rocks are too destructive to preserve identifiable fossil remains. The bulk of the Sierra Nevada range is formed by granitic intrusions and metamorphic rock complexes. The mountains in northern California and the Modoc Plateau area are composed primarily of volcanic rocks, and portions of the Coast Ranges are composed of metamorphic rock.

If paleontological resources are discovered on lands within the State Park System, State and CSP directives and regulations do not distinguish between plant, invertebrate, or vertebrate fossil resources. Until an evaluation of any fossil deposit has been performed and its significance determined, all fossils must be considered scientifically important resources and managed appropriately. There is no single criterion for determining scientific significance, and some fossils would not be significant. The factors that contribute to the scientific importance of a specimen include, but are not limited to, that it represents poorly known taxa, preserves soft tissues or delicate structures, exhibits pathologies or injuries, has unusual size or shape for its taxon, reveals paleoecological relationships (such as symbiosis, parasitism, commensalism, predation), or is associated with datable stratigraphic horizons. Other more subtle factors could also make a specimen scientifically significant. Common taxa, for example, could record important geological and geographical range extensions, could be useful for regional geologic correlations, or provide information about depositional environments (Jefferson 2004: p. 10).

EXISTING CULTURAL AND PALEONTOLOGICAL RESOURCES IN STATE PARK SYSTEM

ARCHAEOLOGICAL, ETHNOGRAPHIC, AND BUILT ENVIRONMENT RESOURCES

As of August 2007, over 13,400 cultural resources have been inventoried within the State Park System. These recorded resources include archaeological sites, built environment resources, historic landscapes, and cultural preserves. The grand total includes 10,271 prehistoric and historic-era archaeological sites, 3,375 historic-era buildings or structures, 123 California Historical Landmarks, 25 National Historic Landmarks, 99 National Register properties, and 14 Cultural Preserves (Table 4.6-3). Within these categories there are additional designations, including 13 California Points of Historical Interest and two structures that have been documented to Historic American Engineering Record (HAER) standards.

Table 4.6-3 Summary of Cultural Resources in the State Park System (August 2007)

District	Units in District	Archaeological Sites	Historic Buildings & Structures	California Historical Landmark	National Historic Landmark	National Register Properties	Cultural Preserves
Angeles	22	299	164	8	1	8	0
Capitol	8	1	56	12	4	9	0
Central Valley	14	203	186	5	1	3	1
Channel Coast	12	98	117	4	1	4	0
Colorado Desert	6	5,138	231	12	0	1	5
Diablo Vista	19	269	221	11	3	8	1
Gold Fields	8	267	198	10	2	3	0
Inland Empire	6	129	77	0	0	0	0
Marin	7	68	182	4	0	4	0
Mendocino	17	99	125	0	1	2	0
Monterey	21	301	197	13	6	13	1
North Coast Redwoods	22	169	258	3	0	3	0
Northern Buttes	15	1,185	172	7	0	5	0
OHMR	7	223	68	2	0	0	4
Orange Coast	7	93	34	0	0	1	0
Russian River	6	358	103	1	2	5	0
San Diego	12	283	62	12	1	6	0

Table 4.6-3 Summary of Cultural Resources in the State Park System (August 2007)							
District	Units in District	Archaeological Sites	Historic Buildings & Structures	California Historical Landmark	National Historic Landmark	National Register Properties	Cultural Preserves
San Luis Obispo Coast	11	183	85	2	1	2	1
Santa Cruz	30	132	318	8	0	5	1
Sierra	17	534	440	8	2	10	0
Tehachapi	11	239	83	1	0	5	0
Grand Total	**278**	**10,271**	**3,375**	**123**	**25**	**99**	**14**
Source: CSP 2007.							

Cultural Preserve is a category unique to the State Park System, and it is the highest level of resource protection afforded for management and interpretation by CSP because complete integrity of the resource is sought. As defined in PRC Section 5019.74, Cultural Preserves consist of distinct non-marine areas of outstanding cultural interest established within the boundaries of CSP units. These subunits contain prehistoric or historic-era structures, villages or settlements, archaeological features, ruins, artifacts, inscriptions made by humans, burial grounds, landscapes, hunting or gathering sites, or similar evidence of past human lives or cultures. Cultural Preserves could also be places of spiritual significance to California's Native Americans, and could require access for ceremonial or spiritual purposes (CSP 2007: pp. 3-4). According to the latest count available to the public, there are 20 Cultural Preserves in CSP units as of 2011 (CSP 2011).

This inventory by CSP is a continual process and the August 2007 count does not reflect many cultural resources that have not yet been added to available records in the 278 units then managed by CSP. As shown in the table, the distribution of these resource categories varies substantially by district. Of the 21 districts, the greatest number of archaeological sites has been recorded in the Colorado Desert followed by the Northern Buttes, with the least number of sites recorded in the Capitol and Marin Districts. For historic buildings and structures, the Santa Cruz and Sierra Districts have the greatest number recorded, while Capitol and Orange Coast Districts have the least. Of course, the number of CSP units and their geographic extent within a district, how desirable a unit was for human habitation over time based on natural resource availability during the prehistoric period to economic potential during the historic period, the degree of preservation of cultural resources within each unit, and the extent of the cultural resources inventory within each unit each contribute to the disparity in numbers between districts. Within Anza Borrego Desert SP alone there have been over 4,300 cultural resources recorded; located within the Colorado Desert District, it is also the largest park in the State.

Overall, the cultural resources recorded within CSP units range from a variety of prehistoric archaeological sites, Mission-era archaeological sites and buildings, early *Californio* and American-era resources, ethnic built environment properties (Chinese, Russian, African-American, etc.), Native American sacred sites or traditional cultural places, underwater shipwrecks, and industrial properties (mining, ranching, agriculture, lumber, power generation, etc.). A more detailed description of the thousands of resources is beyond the scope of this Program EIR, but examples in specific CSP units are provided in the Environmental Setting section. Together, these heritage resources represent the lengthy and varied history of the State, contribute to our knowledge and understanding of California's past, and provide physical connections to that past for the millions of people who visit CSP units every year.

PALEONTOLOGICAL RESOURCES

Numerous CSP units contain paleontologically sensitive geologic formations or deposits, although a comprehensive inventory of paleontological resources for the State Park System is not available to the public.

CSP units along the southern California coast, such as Torrey Pines National Reserve, Torrey Pines State Beach, and Border Field SP, contain fossils along the steep coastal bluffs. This coastal area was underwater 3 million years ago during the late Pliocene, and the bluffs contain a variety of fossil marine invertebrates from this geologic epoch. To the north, the fossilized remains of marine creatures from the Miocene (23 to 5.3 million years), and mastodons, saber-toothed cats, and three-toed horses from the Pleistocene (2.6 to 0.01 million years) have been identified at Mount Diablo SP east of San Francisco Bay. These fossils, some of which could be viewed in the fossiliferous sandstone blocks quarried in the park and used to construct the Summit Museum, have been found in the geologic deposits that were uplifted and distorted when 160-million-year-old Franciscan rock was pushed up in the last million years or so some six to eight miles through overlying rock and soil.

The fossil remains at Anza-Borrego Desert SP have international significance. As of 2005, over 13,000 paleontological specimens ranging in age from 12 to less than 0.4 million years old have been collected in the park. These include over 500 types of fossil plants and animals, ranging from preserved microscopic plant pollen and algal spores to baleen whale bones and mammoth elephantid skeletons. The remains of late Miocene-Pliocene terrestrial vertebrates and marine organisms (9-4 million years old) and Pliocene-Pleistocene terrestrial vertebrates (4-0.4 million years old) are the most significant and abundant.

In addition to Anza-Borrego Desert SP, other CSP units in California's arid southeastern region contain a diversity of paleontological resources. The spectacular geologic formations in the Mojave Desert in Red Rock Canyon SP protect significant paleontological sites. The park also has two natural preserves with unique geology and fossil deposits, Red Cliffs and Hagen Canyon Natural Preserves. Fossils dating from the mid to late Miocene (12-7 million years old) deposits at Red Rock Canyon SP include extinct elephants, rhinos, three-toed horses, giraffe-like camels, saber-toothed cats and bone-crushing dogs, as well as ancestral shrews, alligator lizards and skunks and plant pollen, leaves and wood. More than 100 different extinct plants and animals have been recovered from the Dove Spring Formation.

Like Anza-Borrego Desert SP, the lands within Freeman Acquisition in the Colorado Desert west of today's Salton Sea were covered with water from the Gulf of California's Sea of Cortez from 6 to 4 million years ago, and then by a series of freshwater lakes beginning about 3 million years ago. Paleontological specimens identified within the geologic deposits in this unit include shells from freshwater lakes, turtles, petrified wood, and extinct camels and horses.

4.6.2 REGULATORY SETTING

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Federal plans, policies, regulations, and laws would only apply to a CSP project or projects that include involvement by a federal government agency or agencies and constitute a federal undertaking(s), defined below.

NATIONAL HISTORIC PRESERVATION ACT OF 1966 (NHPA)

The National Historic Preservation Act (NHPA) of 1966 (16 USC Section 470), as amended, is the primary federal law governing the preservation of cultural and historic resources in the United States. The NHPA establishes the federal government policy on historic preservation and the programs through which this policy is implemented. Section 106 of NHPA (16 USC Section 470f) requires federal agencies to take into account the effects of their undertakings on any district, site, building, structure, or object that is included in or determined eligible for inclusion in the NRHP and to afford the ACHP a reasonable opportunity to comment on such undertakings (36 CFR Section 800.1).

As defined in 36 CFR Section 800.16(y), a federal undertaking means a "project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license or approval."

Under Section 106, the significance of any adversely affected cultural resource is assessed and mitigation measures are proposed to reduce any impacts to an acceptable level. Significant cultural resources ("historic properties") are those resources that are listed in, or are eligible for listing on the NRHP per the criteria listed at 36 CFR Section 60.4. Section 101(d)(6)(A) of the NHPA allows properties of traditional religious and cultural importance to a Native American tribe to be determined eligible for inclusion on the NRHP. Section 106 also directs federal agencies to involve consulting parties, including the State Historic Preservation Officer (SHPO), Native American tribes, and local governments, and to provide an opportunity for public involvement during the compliance process (800 CFR Section 800.2(4)(c)).

To be eligible for the NRHP, cultural resources must possess integrity and meet at least one of the following four criteria delineated at 36 CFR Section60.4:

- Are associated with events that have made a significant contribution to the broad patterns of our history (Criterion A);
- Are associated with the lives of persons significant in our past (Criterion B);
- Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components lack individual distinction (Criterion C), or
- Have yielded, or could likely yield, information important in prehistory or history (Criterion D).

Under Section 106, impacts of a project to historic properties that affect the characteristics that qualify a property for NRHP inclusion are considered a significant effect on the environment. Examples of adverse effects on historic properties are listed under 36 CFR Section 800.5(a)(2) and include, but are not limited to, physical destruction or damage to all or part of a property, change of the character of the use of the property or physical feature within the setting of the property that contribute to its significance, or introduction of visual, atmospheric, or audible elements that diminish the integrity of significant features of the property. If an adverse effect is found, the agency shall act pursuant to 36 CFR Section 800.6 (36 CFR Section 800.5[d][2]) to resolve the adverse effect by developing and evaluating alternatives or modifications to the undertaking that "could avoid, minimize or mitigate adverse effects on historic properties" (36 CFR Section 800.6[a]). Cultural resources that have been determined not eligible for the NRHP, in consultation with the SHPO and interested parties, require no further consideration unless new discoveries trigger re-evaluation.

Section 106 of the NHPA does not apply to paleontological resources unless they are found in a culturally-related context. In addition to the Antiquities Act (16 USC Sections 431-433) of 1906, the preservation and salvage of fossils and other paleontological resources would be protected under the National Registry of Natural Landmarks (16 USC Sections 461-467) and NEPA, which directs federal agencies to "preserve important historic, cultural, and natural aspects of our national heritage."

ARCHEOLOGICAL RESOURCES PROTECTION ACT OF 1979 (ARPA)

The Archeological Resources Protection Act (ARPA) of 1979 (43 CFR Section 7) could impose additional requirements on an agency if federal or Indian lands are involved. ARPA: (1) prohibits unauthorized excavation on federal and Indian lands; (2) establishes standards for permissible excavation; (3) prescribes civil and criminal penalties; (4) requires agencies to identify archeological sites; and (5) encourages cooperation between federal agencies and private individuals.

American Indian Religious Freedom Act of 1978 (AIRFA)

The American Indian Religious Freedom Act (AIRFA) of 1978 (42 USC Sections 1996 ad 1996a) affirms the right of Native Americans to have access to their sacred places. If a place of religious importance to American Indians could be affected by a federal undertaking, AIRFA promotes consultation with Indian religious practitioners, which could be coordinated with Section 106 consultation. Amendments to Section 101 of NHPA in 1992 strengthened the interface between AIRFA and NHPA by clarifying the following: (1) properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization could be determined to be eligible for inclusion in the NRHP; and (2) in carrying out its responsibilities under Section 106, a federal agency shall consult with any Indian tribe or Native Hawaiian organization that attaches religious and cultural significance to properties described under (1).

Native American Graves Protection and Repatriation Act of 1990 (NAGPRA)

For activities on federal lands, the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 (43 CFR Section 10) requires consultation with “appropriate” Indian tribes (including Alaska Native villages) or Native Hawaiian organizations prior to the intentional excavation, or removal after inadvertent discovery, of several kinds of cultural items, including human remains and objects of cultural patrimony. For activities on Native American or Native Hawaiian lands, which are defined in the statute, NAGPRA requires the consent of the Indian tribe or Native Hawaiian organization prior to the removal of cultural items. The law also provides for the repatriation of such items from federal agencies and federally assisted museums and other repositories.

The 1992 amendments to the NHPA strengthened NAGPRA by encouraging “protection of Native American cultural items...and of properties of religious or cultural importance to Indian tribes, Native Hawaiians, or other Native American groups” (Section 112[b][3]) and by stipulating that a federal “...agency’s procedures for compliance with Section 106...provide for the disposition of Native American cultural items from federal or tribal land in a manner consistent with Section 3(c) of the Native American Graves Protection and Repatriation Act....”

The provisions of NAGPRA would only apply to the portion(s) of an individual CSP project located on federal lands. CSP has joint federal/ state management agreements with several federal agencies, including the NPS, Bureau of Land Management, and Bureau of Reclamation, to operate recreational facilities on federal lands.

Paleontological Resources Preservation Act of 2009 (PRPA)

The Paleontological Resources Preservation Act (PRPA) as provided in Title VI, Subtitle D, Paleontological Resources Preservation of the Omnibus Public Land Management Act of 2009 (Public Law 111-011), requires the Secretaries of the Interior and Agriculture to manage and protect paleontological resources on federal land using scientific principles and expertise. The law affirms the authority for many of the policies the federal land managing agencies already have in place for managing paleontological resources, such as issuing permits for collecting paleontological resources, curation of paleontological resources, and confidentiality of locality data. The law applies only to federal lands. It provides authority for the protection of significant paleontological resources on federal lands, including criminal and civil penalties for fossil theft and vandalism.

Executive Order 11593 (1971): Protection and Enhancement of the Cultural Environment

Under Executive Order (EO) 11593 (36 Federal Register 8921), the federal government shall provide leadership in preserving, restoring, and maintaining the historic and cultural environment of the Nation. This EO addresses the NRHP and provides guidance to those involved with federally controlled or owned properties that should be inventoried and nominated for listing on the NRHP. EO 11593 would only apply to projects of which all or a portion are located within the boundaries of federal lands. CSP has joint federal/ state management agreements with several federal agencies, including the National Park Service (NPS), Bureau of Land Management, and Bureau of Reclamation, to operate recreational facilities on federal lands.

Executive Order 13007 (1996): Protection and Preservation of Native American Sacred Sites

Executive Order 13007 (61 Federal Register 26771–26772) is meant to improve the management of Native American sacred sites on federal lands. The EO strives to protect and preserve Indian religious practices by accommodating access to and ceremonial use of Indian sacred sites by Indian religious practitioners, and by avoiding adversely affecting the physical integrity of such sacred sites. EO 13007 would only apply to projects of which all or a portion are located within the boundaries of federal lands. CSP has joint federal/ state management agreements with several federal agencies, including the NPS, Bureau of Land Management, and Bureau of Reclamation, to operate recreational facilities on federal lands.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

California Environmental Quality Act (CEQA)

Direction on cultural resources can be found in the State CEQA Guidelines (14 CCR Section 15064.5), "Determining the Significance of Impacts to Archaeological and Historical Resources." Subsection (a) defines the term "historical resources." Subsection (b) explains when a project may be deemed to have a significant effect on historical resources and defines terms used in describing those situations. Subsection (c) describes CEQA's applicability to archaeological sites and provides a bridge between the application of the terms "historical resource" and a "unique" archaeological resource.

The term "historical resource" is similar to but more inclusive than the NRHP criteria. Under CEQA, a historical resource includes, but is not limited to:

- A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in the CRHR (PRC Section 5024.1; 14 CCR Section 4852) .
- A resource included in a local register of historical resources (as defined by PRC Section 5020.1[k]), or identified in a historical resource survey meeting the requirements of PRC Section 5024.1(g) (presumption of historical significance), and:
  - Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage (Criterion 1);
  - Is associated with the lives of persons important in our past (Criterion 2);
  - Embodies the distinctive characteristics of a type, period, region, or method of installation, represents the work of an important creative individual, or possesses high artistic values (Criterion 3); or
  - Has yielded, or could likely yield, information important in prehistory or history (Criterion 4).

- A resource that the lead agency otherwise determines is a historical resource as defined by PRC Section 5020(j) or Section 5024.1.

As defined in PRC Sections 5097.9 and 5097.993, Native American historic, cultural, or sacred sites could be listed or eligible for listing in the CRHR pursuant to PRC Section 5024.1.

State CEQA Guidelines (14 CCR Section 15064.7), "Thresholds of Significance," encourages agencies to develop thresholds of significance to be used in determining potential impacts and defines the term "cumulatively significant."

State CEQA Guidelines (14 CCR Section 15065), "Mandatory Findings of Significance," state that a lead agency shall find that a project could have a significant effect on the environment and thereby require an EIR (or, if applicable, an EIR/EIS) to be prepared in certain circumstances. Subsection (a) of Section 15065 is applicable to cultural resources, and states that such a project has the potential to "eliminate important examples of major periods of California history or prehistory."

State CEQA Guidelines (14 CCR Section 15126.4), "Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects," subsection (b) discusses impacts of maintenance, repair, stabilization, restoration, conservation, or reconstruction of a historical resource. Subsection (b) also discusses mitigation through avoidance of damaging effects on any historical resource of an archaeological nature, preferably by preservation in place, or by data recovery through excavation if avoidance or preservation is not feasible. Data recovery must be conducted in accordance with an adopted data recovery plan.

In the case of projects that must consider both federal and State laws, regulations and standards, joint environmental documents, time limits for preparation, and cooperation with federal agencies on common documents is encouraged (14 CCR Sections 15222, 15225).

California Public Resources Code

PRC Section 5024 requires that each State agency formulates policies to preserve and maintain, when prudent and feasible, all state-owned historical resources under its jurisdiction listed in or potentially eligible for inclusion in the NRHP or registered or eligible for registration as a State historical landmark pursuant to Section 5021; requires each state agency to inventory all such buildings or structures over 50 years of age and provide such inventory on an annual basis to the SHPO; and to inform the SHPO of any project having the potential to affect historical resources. Under subsection (d), the SHPO is required to maintain a master list of the inventoried buildings and structures determined significant pursuant to the section, including all state-owned historical resources currently listed in the NRHP or registered as a State historical landmark under state agency jurisdiction.

PRC Section 5024.1 establishes the California Register of Historical Resources (CRHR); sets forth the criteria to determine significance (detailed above); defines eligible properties; and lists nomination procedures. As described in subsection (d), resources that are automatically listed in the CRHR include those listed in or formally determined eligible for listing in the NRHP ("historic properties") and California Historical Landmarks from No. 770 onward.

PRC Section 5024.5 requires that (a) no state agency alter the original or significant historic features or fabric, or transfer, relocate, or demolish historical resources on the master list maintained pursuant to subsection (d) of PRC Section 5024 without giving notice to the SHPO early in the planning process, to which the SHPO has 30 days to review and comment on the proposed action; (b) provides procedures to eliminate or mitigate if the SHPO determines the proposed action would have an adverse effect; (c) requires state agencies to maintain written documentation from the SHPO; (f) requires that state agencies not inadvertently transfer or unnecessarily alter a building or structure prior to evaluation for NRHP or State landmark eligibility pursuant to subsections (b) and (c) of PRC Section 5024. A Memorandum of Understanding (MOU) executed between CSP and SHPO establishes procedures for the adequate fulfillment of CSP's stewardship responsibilities under PRC Section 5024 et seq. and EO W-26-92 (discussed below) to ensure that historical resources in the State Park System are identified, evaluated, inventoried, preserved, restored, and maintained for the inspiration and benefit of the people. Under the MOU, CSP is required to review proposed projects and actions that may affect historical resources, and retains the exclusive authority to make official determinations of effect for any action covered by the MOU except as provided in PRC Section 5024.5(b). The review process, together with stipulated reporting requirements, is deemed compliance with the requirements for notice of projects to the SHPO pursuant to PRC Section 5024.5(a), and for consultation under EO W-26-92, unless CSP determines that a project or action subject to the MOU will result in an adverse effect to a historical resource. In that event, CSP will consult with the SHPO pursuant to PRC Section 5024.5.

PRC Section 5097.5 states that any unauthorized removal or destruction of archaeological, historical, or paleontological resources on sites located on public land is a misdemeanor, except with the express permission of the public agency having jurisdiction over the lands. As used in this section, "public lands" is defined as "lands owned by, or under the jurisdiction of, the State, or any city, county, district, authority, or public corporation, or agency thereof."

PRC Section 5097.9 prohibits the interference with the free expression of Native American religion as provided in the United States Constitution and the California Constitution; nor cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine on public property, except on a clear and convincing showing that the public interest and necessity so require.

PRC Section 5097.97 promotes preservation of certain Native American cultural places located on public property, including a sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine, by ensuring access to these places by Native Americans.

PRC Section 5097.98 requires the NAHC, upon notification by a county coroner, to notify the most likely descendants regarding the discovery of Native American human remains; enables the descendants, within 48 hours of the notification by the commission, to inspect the site of the discovery of Native American human remains and to recommend to the landowner or the person responsible for the excavation work means for treating or disposition, with appropriate dignity, the human remains and any associated grave goods; requires the owner of the land upon which Native American human remains were discovered, in the event that no descendant is identified, or the descendant fails to make a recommendation for disposition, or the landowner rejects the recommendation of the descendant, to reinter the remains and burial items with appropriate dignity of the property in a location not subject to further disturbance.

PRC Section 5097.99 prohibits obtaining or possessing Native American artifacts or human remains taken from a grave or cairn and sets penalties for those actions.

PRC Section 5097.991 states that it is the policy of the State that Native American remains and associated grave artifacts shall be repatriated.

PRC Sections 5097.993-5097.994 (Native American Historic Resource Protection Act) states that it is unlawful to maliciously excavate, remove, destroy, injure, or deface a Native American historic, cultural, or sacred site, that is listed or could be eligible for listing in the CRHR pursuant to PRC Section 5024.1, including any historic or prehistoric ruins, any burial ground, any archaeological or historic site, any inscriptions made by Native

Americans at such a site, any archaeological or historic Native American rock art, or any archaeological or historic feature of a Native American historic, cultural, or sacred site, on public land.

PRC Section 5070.5 of the California Recreational Trails Act (PRC Sections 5070-5077.8) declares it is the policy of the State to (a) increase accessibility of California's scenic, natural, historic, and cultural resources, and (f) provide for the development and maintenance of a statewide system of recreational and interpretive trails, including heritage corridors.

PRC Section 21083.2 states that if a project could affect a resource that has not met with the definition of a historical resource set forth in Section 21084, then the lead agency could determine whether a project would have a significant effect on "unique" archaeological resources; if so an EIR (or, if applicable, an EIR/EIS) shall address these resources. If a potential for damage to unique archaeological resources can be demonstrated, such resources must be avoided; if they cannot be avoided, mitigation measures shall be required. The law also discusses excavation as mitigation; discusses the costs of mitigation for several types of projects; sets time frames for excavation; defines unique and non-unique archaeological resources; provides for mitigation of unexpected resources; and sets financial limitations for this section.

PRC Section 21084.1 indicates that a project could have a significant effect on the environment if it causes a substantial adverse change in the significance of a historical resource; the section further defines a "historical resource" and describes what constitutes a "significant" historical resource.

PRC Section 30244 requires reasonable mitigation of adverse impacts on paleontological resources resulting from development on public land in the coastal zone, as defined in PRC Section 30103.

California Administrative Code

California Administrative Code (14 Administrative Code Section 4307) states that no person shall remove, injure, deface, or destroy any object of paleontological, archaeological, or historical interest or value.

California Penal Code

California Penal Code Section 622.5 establishes as a misdemeanor with willful injury, disfiguration, defacement, or destruction of any object or thing of archaeological or historical interest or value, whether situated on private or public lands.

California Health and Safety Code

California Health and Safety Code Section 7050.5 requires that if human remains are discovered during construction outside of a dedicated cemetery, the project owner is required to contact the county coroner and further excavation or disturbance of land cease until the coroner has made a determination. If the coroner determines the remains are Native American, the coroner must contact the NAHC within 24 hours and the procedures outlined in PRC Section 5097.98 must be followed.

California Coastal Act of 1976, as amended

Section 30244 of the California Coastal Act of 1976, as amended (PRC Division 20), requires that where development within the coastal zone would adversely impact archaeological or paleontological resources as identified by the SHPO, reasonable mitigation measures would be required.

Executive Order W-26-92 (1992): Stewardship of State-owned Heritage Resources

Executive Order W-26-92 requires all state agencies, in furtherance of the purposes and policies of the State's environmental protection laws and historic resource preservation laws, to the extent prudent and feasible within existing budget and personnel resources, to preserve and maintain the significant "heritage resources" (cultural and historic resources, including artifacts, sites, buildings, structures, districts, and objects with historical, architectural, archaeological, and cultural significance) of the State. Under Section 1, each state agency, including CSP, is directed to:

- Administer the cultural and historic properties under its control in a spirit of stewardship and trusteeship for future generations;
- Initiate measures necessary to direct its policies, plans, and programs in such a way that state-owned sites, structures, and objects of historical, architectural, or archaeological significance are preserved, restored, and maintained for the inspiration and benefit of the people;
- Ensure the protection of significant heritage resources is given full consideration in all of its land use and capital outlay decisions; and
- Institute procedures to ensure that State plans and programs contribute to the preservation and enhancement of significant non-state owned heritage resources in consultation with the California Office of Historic Preservation (COHP).

Under Section 2, the EO requires each state agency to appoint a key staff official (Agency Preservation Officer) who will be responsible for ensuring the state agency adheres to the State's policies protecting cultural and historic resources. Section 3 describes the development of heritage resource management plans and policies by each state agency, and the identification of significant heritage resources, including those:

- Listed in or potentially eligible for inclusion in the NRHP;
- Registered or eligible for registration as a state historical landmark or point of historical interest; or
- Registered or eligible for listing in the CRHR.

CSP Unit General Plans

A general plan prepared for an individual CSP unit directs the long-range development and management of the unit by providing broad policy and program guidance. As the primary management document for a CSP unit, a general plan defines a framework for resource stewardship, interpretation, facilities, visitor use, and operations. A general plan would address any archaeological, cultural or historical resources, including Native American resources, known to be present within the unit. The purpose and requirements for these general plan documents and the process for their preparation are outlined in CSP's Planning Handbook (CSP 2010).

Local Ordinances and General Plans

While State agencies are not required to comply with local government general plans, CSP seeks to understand and consider local planning policies in its actions. Each local government has the authority to adopt a historic preservation ordinance which provides regulations for historical resources. Local historic preservation ordinances, which may address archaeological, cultural or historical resources, have been adopted by numerous cities, towns, and counties throughout the State (COHP 2009). In addition, some city and county General Plans also contain goals, policies and programs that promote the protection of cultural heritage within a Conservation and Open Space, Resources, or similarly titled Element. Although local laws, ordinances, or regulations do not necessarily address paleontological resources, paleontological resources are included as significant resources under CEQA.

4.6.3 SIGNIFICANCE CRITERIA

Criteria for determining the significance of impacts related to cultural resources were based on the environmental checklist form in Appendix G of the State CEQA Guidelines and mandatory findings of significance. Adverse impacts to cultural resources would be considered significant if a project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the CEQA Guidelines;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- Disturb any human remains, including those interred outside of formal cemeteries.

Section 15064.5 provides that, in general, a resource not listed in state or local registers of historical resources shall be considered by the Lead agency to be historically significant if the resource meets the criteria for listing on the CRHR. This section also provides standards for determining what constitutes a "substantial adverse change" that must be considered a significant impact on archaeological or historical resources. For example, a "substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (CEQA Guidelines, 14 CCR Section 15064.5 [b][1]). Material impairment includes changes to the physical characteristics that make a historical resource eligible for listing in the CRHR such that the resource would no longer be eligible for the NRHP, CRHR, or local historical registers (CEQA Guidelines, 14 CCR Section 15064.5 [b][2]).

Section 15064.5 of the CEQA Guidelines, pertains to the determination of the significance of impacts to archaeological and historical resources. Direct and indirect impacts could occur by:

- Physically damaging, destroying, or altering all or part of the resource;
- Altering characteristics of the surrounding environment that contribute to the resource's significance;
- Neglecting the resource to the extent that it deteriorates or is destroyed.
- The accidental discovery of cultural resources during construction.

4.6.4 IMPACT ANALYSIS METHODS AND APPLICABLE PROJECT REQUIREMENTS

IMPACT ANALYSIS METHODS

This program-level impact analysis considers the known cultural and paleontological resource environmental setting in CSP units statewide, the potential for previously undocumented paleontological or cultural resources, including human remains, and physical effects (i.e., disturbance, material alteration, demolishment) to known and previously undocumented cultural and paleontological resources that could result from implementation of projects under the proposed Process.

The analysis also considers the resource protection and preservation policies established by CSP in Chapters 0300 (Natural Resources), 0600 (Environmental Review), 0400 (Cultural Resources and Native American Consultation Policy), and 1300 (Resource Preservation and Interpretation) of CSP's Department Operations

Manual (DOM), in CSP's Planning Handbook (CSP 2010), and in CSP's Trails Handbook (CSP 1994). The State Parks System manages an impressive number and diversity of heritage resources, with over 13,400 inventoried as of August 2007 (CSP 2007). Although some roads and trails existed at the time of acquisition of various CSP units and are either still in use or have been decommissioned, roads and trails developed by CSP have been designed to not only protect cultural and paleontological resources but also create opportunities for outdoor recreation as well as public education through trail signage and unit brochures. CSP planning and operations policies and guidelines direct the preservation and protection of the integrity of areas of outstanding cultural interest, such as those contained within designated Cultural Preserves, State Historical Landmarks, and State Historic Parks, and of places of spiritual significance and traditional natural resource gathering areas of California's Native Americans. Similarly, designated Natural Preserves contain unique geology and fossil deposits. Cultural features have been incorporated or avoided during road or trail design as appropriate for the CSP unit and the nature of the resource (CSP 1994). Where cultural or paleontological areas are considered sensitive or fragile, existing trail networks disperse rather than concentrate visitors near sensitive resources. Vegetative screening or other natural barriers are also used to limit disturbance of protected cultural resources; alternately, visitors view specific fragile resources while restricted behind protective barriers such as fencing.

The analysis further considers the possibility of whether or not the setting of historical resources would be disturbed sufficiently to compromise eligibility status. Setting is the physical environment of a historical resource and refers to the character of the cultural landscape. The physical features that constitute such a setting could be either natural or manmade, including but not limited to such elements as topographic features (crest of a hill), vegetation, simple manmade features (paths or fences), relationships between buildings and other features, or open space. This analysis conservatively assumes that because this proposed Process is limited to existing roads or trails and appurtenant facilities, and the physical modifications described under Chapter 3, Project Description, would not introduce new or dissimilar visual elements or substantial, noticeable changes that would contrast with the existing setting of significant architectural resources or historic or traditional cultural landscapes, the integrity of the significant historic features of the resources would not be diminished.

Additionally, this analysis considers the possibility for indirect impacts related to future inadvertent damage or outright vandalism to exposed resource materials due to improved accessibility to architectural, archaeological, traditional or ethnographic, or paleontological resources. This analysis conservatively assumes that because the Process is limited to existing roads or trails and appurtenant facilities that are already in use and accommodation for multi-use roads or trails for specific projects would not substantially reroute existing roads or trails that are in close proximity to known cultural or paleontological resources (e.g., interpretive trails) or alter existing access, if any, to areas with sensitive or fragile cultural or paleontological resources. In creating road or trail multi-use opportunities for outdoor recreation, this analysis also conservatively assumes change-in-use projects would not appreciably increase vandalism. CSP will continue to protect cultural and paleontological resources by existing methods—such as facility design, onsite park personnel, interpretive programs, development of detailed maps and brochures for visitor use, and continued website development—that consistently educate the public to remember that cultural features, including fossils, are protected by law and will not be disturbed or removed unless resource-specific research permits are approved by CSP staff.

For this analysis, projects qualifying for approval under the Process would avoid impacts to known, important cultural and paleontological resources as part of the planning and design process. For instance, with the exception of existing roads and trails and road/trail bridges that would qualify as historical properties or historical resources, projects approved under the proposed Process would avoid impacts to other structures or buildings that qualify as historic properties or historical resources. Projects qualifying for approval under the Process would also avoid identified significant archaeological resources that have been preserved by CSP in designated open space areas (including historic landscapes and cultural preserves) either on the surface or buried by a sterile layer of fill, if any. Qualified change-in-use projects would not temporarily or permanently restrict access to a sacred site or inhibit the traditional religious practice of the Native American community, and would not have a direct or indirect impact to traditional Native American cultural resources, including but not limited to landscapes, ceremonial use areas, and plant collecting areas.

APPLICABLE STANDARD PROJECT REQUIREMENTS

In each of the following issues, potential significant impacts to cultural resources resulting from implementation of project actions under the Process are identified and discussed in terms of avoiding or minimizing potential impacts by project construction or ground-disturbing activities by adherence to established regulations, standards, and policies, including the Standard Project Requirements (SPRs) listed below. The following SPRs are related to cultural and paleontological resources and could apply to qualifying projects under the proposed Process. Because SPRs would be applicable at all park units for an array of change-in-use project scenarios, placeholders are provided in several of the SPRs (such as for responsible parties), so that, depending on the location and type of project and associated resource issues, the requirement can be applied to specific projects and associated responsible parties**.**

CUL-1: If forest thinning activities are required within a culturally sensitive area, downed timber and other forest debris will be removed by aerial suspension; no portion of logs, slash or debris will be dragged across the surface.

CUL-2: Prior to the start of on-site construction work, the **[insert who]** will notify the Cultural Resources Supervisor, unless other arrangements are made in advance, a minimum of three weeks to schedule a Cultural Resources Specialist to monitor work, as necessary, to ensure that pre-approved removal and reconstruction of historic fabric will occur in a manner consistent with the Secretary of the Interior's Standards for Treatment of Historic Properties.

CUL-3: Before, during, and after construction, a **[insert who]** will photo-document all aspects of the project and will add the photos to the historical records (archives) for the park.

CUL-4: Prior to the start of on-site construction work, and to the extent not already completed, a **[insert who]** will map and record all cultural features (archaeological and built environment) within the proposed Area of Potential Effects (APE) to a level appropriate to the Secretary of the Interior's Standards.

CUL-5: Prior to the start of on-site construction work, and to the extent not already completed, a **[insert who]** will review geologic maps and literature and recommend whether a survey for and related professional-level report on paleontological resources within the project area is warranted.

CUL-6: In project area that contains particular sediments suitable for fossil preservation of significant paleontological resources, **[insert who]** will review and approve monitoring by a qualified paleontologist or geologist of earthmoving activities, including but not limited to grading, excavation or trenching, but generally excluding monitoring of drilling activities.

CUL-7: If anyone discovers potential paleontological resources during project construction or ground-disturbing activities, work within 100 feet of the find will be temporarily halted, the CSP State Representative will be notified immediately, and work will remain halted until a qualified paleontologist or geologist evaluates the significance of the find and recommends appropriate salvage or further mitigation procedures.

Historian's Standard Requirements

CUL-8: All historic work on built environment resources will comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings.

Historic character will be retained and preserved; where safe, original materials that still maintain structural integrity will be retained; and where replacement is required, materials and features will be replaced "in kind."

A qualified historian familiar with the project site's cultural/historic resources will monitor all construction activities at his/her discretion. All historic resources uncovered during the project will be recorded in place with a photograph and/or drawing showing any new or recovered material and archived, at the discretion of the monitor.

Upon completion of the project, **[insert who]** will record any modifications to historic buildings or structures, or alterations of historic fabric on as-built drawings.

Archaeologist's Standard Requirements

CUL-9: Prior to the start of any ground-disturbing activities, a qualified archaeologist will complete preconstruction testing to determine specific avoidance areas within the proposed APE that contains known significant or potentially significant archaeological resources.

If necessary, a qualified Cultural Resources Specialist will prepare a research design, including appropriate trenching and/or preconstruction excavations.

Based on preconstruction testing, project design and/or implementation will be altered, as necessary, to avoid impacts to significant archaeological resources or reduce the impacts to a less than significant level, as determined in consultation with a CSP-qualified archaeologist.

CUL-10: **[Insert who]** will manually remove or flush cut vegetation to avoid ground-disturbing activities; removal of roots will not be allowed.

CUL-11: In an APE considered highly sensitive for the discovery of buried archaeological features or deposits, including human remains, **[insert who]** will review and approve monitoring by a CSP-qualified Cultural Resources Specialist of any subsurface disturbance, including but not limited to grading, excavation or trenching.

CUL-12: **[insert who]** will review and approve monitoring of subsurface disturbance by a Native American monitor.

CUL-13: If anyone discovers previously undocumented cultural resources during project construction or ground-disturbing activities, work within 50 to 100 feet of the find will be temporarily halted, the CSP State Representative will be notified immediately, and work will remain halted until a qualified Cultural Resources Specialist or archaeologist evaluates the significance of the find and determines and implements the appropriate treatment and disposition in accordance with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation.

- If ground-disturbing activities uncover cultural artifacts or features (including but not limited to dark soil containing shellfish, bone, flaked stone, groundstone, or deposits of historic ash), when a qualified Cultural Resources Specialist is not onsite, **[insert who]** will contact the CSP State

Representative immediately and **[insert who]** will temporarily halt or divert work within the immediate vicinity of the find until a qualified Cultural Resources Specialist or archaeologist evaluates the find and determines and implements the appropriate treatment and disposition of the find.

- If feasible, **[Insert who]** will modify the project to ensure that construction or ground-disturbing activities will avoid the unanticipated discovery of a significant cultural resources (historical resources) upon review and approval of a **[insert who]**.

CUL-14: In the event anyone discovers human remains or suspected human remains, work will cease immediately within 100 feet of the find and the project manager/site supervisor will notify the appropriate CSP personnel. The human remains and/or funerary objects will not be disturbed and will be protected by covering with soil or other appropriate methods. The CSP Sector Superintendent (or authorized representative) will notify the County Coroner, in accordance with Section 7050.5 of the California Health and Safety Code, and the Native American Heritage Commission; the superintendent will also notify the local Tribal Representative). If a Native American monitor is onsite at the time of the discovery, the monitor will notify his/her affiliated tribe or group. The local County Coroner will make the determination of whether the human bone is of Native American origin.

If the Coroner determines the remains represent Native American interment, the Native American Heritage Commission will be consulted to identify the most likely descendant and appropriate disposition of the remains. Work will not resume in the area of the find until proper disposition is complete (PRC Section 5097.98). No human remains or funerary objects will be cleaned, photographed, analyzed, or removed from the place of discovery prior to determination.

If it is determined the find indicates a sacred or religious site, the site will be avoided to the maximum extent practicable. Formal consultation with the State Historic Preservation Officer and review by the Native American Heritage Commission, as well as appropriate Tribal Representatives, will occur as necessary to define additional site mitigation or future restrictions.

CUL-15: Prior to the start of on-site construction work, the District will determine if the project is consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties and the Guidelines for the Treatment of Cultural Landscapes (36 CFR Part 68). Any construction that could affect a cultural landscape will comply with the Secretary of the Interior's Standards.

GENERAL STANDARD PROJECT REQUIREMENTS

GEN-3: Prior to the start of on-site construction work, a CSP-qualified **[insert discipline]** Resources Specialist will train construction personnel in **[insert discipline]** Resource identification and protection procedures.

GEN-4: Prior to the start of on-site construction work, and at the discretion of a **[insert who]**, a **[insert who]** will flag and/or fence all **[insert discipline or resource]** with a buffer of **[insert distance]** for avoidance during on-site construction activities. The **[insert who]** will remove the fencing from around the Environmentally Sensitive Area after project completion.

GEN-5: Prior to any earthmoving activities, a CSP-qualified **[insert who]** will approve all subsurface work, including the operation of heavy equipment within **[insert distance]** of the identified Environmentally Sensitive Area.

GEN-6: Prior to the start of **[insert type]** work, **[insert who]** will notify the **[insert Office name and who]** or **[insert alternative Office name and who]** a minimum of three weeks in advance, unless other arrangements are made, to schedule **[insert discipline or resource]** monitoring.

4.6.5 ENVIRONMENTAL IMPACTS AND MITIGATION

IMPACT 4.6-1	Roads and Trails as Historical Resources. Some individual roads, trails and related facilities are known to be significant historical resources. However, because change-in-use projects that qualify for approval under the Process would comply with the Secretary of the Interior's Standards during design and construction pursuant to SPRs (CUL-8, CUL-13, CUL-14, GEN-3, and GEN-6), there would be no material impairment to the integrity of the resource or substantial adverse change in the significance of the existing roads or trails that qualify as historical resources. Potential impacts to road or trail historical resources by projects proposed under the change-in-use Process would be less than significant.

Project construction or ground-disturbing activities associated with change-in-use projects that qualify for approval under the Process, depending on their location could cause a substantial adverse change in the significance of built environment (architectural) resources that qualify as historical resources. Direct impacts from qualified projects could include, but would not be limited to, physical rerouting, reconstruction or maintenance within the existing trail prism, bridge replacement, installation of hardened surfaces, or changes to existing appurtenant facilities (e.g., trailhead, point of access, parking improvements, signage). If these projects occurred on a trail that qualifies as a historical resource, adverse impacts could result. For example, abandoned logging, mining, and ranch roads that would be considered for road to trail conversion and that are 50 years of age could be individually eligible for listing in the NRHP, CRHR, or local register and qualify as historical resources. Networks of abandoned logging, mining, and ranch roads could also qualify as historic districts. Converting significant logging, mining, and ranch roads to trails could entail physical modifications to prevent deterioration and failure. Such improvements would include but not be limited to preserving the road bench, narrowing the tread width, and providing improved drainage.

To determine if a proposed change-in-use project would cause a significant impact on road or trail historical resources, a CSP-qualified historian would provide input for the project-specific survey and evaluation process by completing the relevant questions in the Trail Use Change Survey (Trail Log) on the effects or impacts of a proposed change in use to cultural resources. For those projects recommended for approval, a CSP-qualified historian would complete the Project Evaluation Form (PEF) and related PRC Section 5024 form, and also complete Department of Parks and Recreation (DPR) 523 series forms and a significance evaluation of the road or trail, as appropriate. Chapter 0600 on Environmental Review of CSP's DOM instructs that built environment resources constructed more than 45 years before the proposed start date of a project would be considered during the evaluation process. Early consideration before a resource reaches 50 years allows a sufficient period of time for project planning and design.

Pursuant to SPR CUL-8, in order to avoid or minimize adverse direct and/or indirect effects to roads or trails proposed for a change in use that are determined significant and qualify as historic properties or historical resources, physical modifications would be designed to the extent feasible in adherence to Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (Grimmer and Weeks 1995). Designs will ensure the preservation of character defining features and avoid damaging or destroying materials, features, or finishes that are important to the resource, while also considering economic and technical feasibility. For projects that constitute federal undertakings (defined in the Regulatory Setting section for cultural resources), consultation with the lead federal agency, SHPO, and appropriate consulting parties could be required in accordance with Section 106 of the NHPA.

By project design, potential physical modifications to roads or trails that qualify as historical resources by change-in-use projects, including road-to-trail conversion improvements or bridge replacement, would preserve the alignment and historic character of the road or trail (character defining features), including the historic fabric and setting. Additionally, by project design, potential physical modifications by proposed road or trail change-in-use projects would not introduce new or dissimilar visual elements or substantial, noticeable changes that would contrast with the existing setting of significant individual built resources or of historic districts comprised of significant road or trail networks. The integrity of the significant historic features of the resources would not be diminished.

Pursuant to SPR CUL-8, CSP-qualified staff could schedule a Cultural Resources Specialist to monitor the construction work, as necessary, in order to ensure that approved physical modifications would occur in a manner consistent with the Secretary of the Interior's Standards for Treatment of Historic Properties (Grimmer and Weeks 1995). Pursuant to SPR GEN-6, the Cultural Resources Specialist would be notified at least three weeks in advance of the start of onsite construction work to ensure that pre-approved removal and reconstruction of historic fabric would occur in a manner consistent with the Secretary of the Interior's Standards. In addition, integration of SPRs CUL-13 (Discovery of Previously Undocumented Resources) and CUL-14 (Discovery of Human Remains) (discussed below), as well as training construction personnel in cultural resource identification and protection procedures under SPR GEN-3 (Worker Education), would ensure impacts remain at a less-than-significant level.

Pursuant to SPR CUL-3, all aspects of a project would be photo-documented by CSP-qualified staff before, during, and after construction, and the photographs would be filed as part of the historical records (archives) for the CSP unit. Upon completion of a project, any modifications to the historical resource structures would be recorded, and any alterations noted on as-built drawings, pursuant to SPR CUL-8.

By adhering to the Secretary of the Interior's Standards during design and construction pursuant to SPR CUL-8, there would be no material impairment or substantial adverse change in the significance of the existing roads or trails that qualify as historical resources. Potential impacts to road or trail historical resources by projects proposed under the change-in-use Process would be **less than significant.**

IMPACT 4.6-2	**Significant Archaeological Resources.** Many CSP units and individual road or trail facilities are located in areas that could support significant prehistoric and/or historic archaeological resources. However, because change-in-use projects that qualify for approval under the Process would adhere to the established SPRs (CUL-1, 3, 4 and 10 through 14) to avoid or minimize adverse direct and/or indirect effects to known significant or potentially significant archaeological sites during design, construction and ground-disturbing activities, including inadvertent discovery measures, there would be no material impairment or substantial adverse change in the significance of archaeological resources that qualify as historical resources. Potential impacts to archaeological historical resources by projects proposed under the change-in-use Process would be **less than significant.**

Project construction or ground-disturbing activities associated with change-in-use projects that qualify for approval under the Process could cause a substantial adverse change in the significance of archaeological resources that are eligible for listing in the NRHP, CRHR, or local register and qualify as historical resources. Although various physical change-in-use modifications would be relatively shallow and would mainly occur in previously disturbed soil within the existing road or trail prism or the existing appurtenant facilities, specific construction activities, in certain cases, could occur in undisturbed sediments/soils. Project-related activities that could occur in undisturbed sediments/soils could include, but not be limited to, excavation of bridge supports or undercrossings for road or trail reconstruction or reroutes, to preserve the road bench and provide improved drainage for conversion of abandoned logging, mining, and ranch roads to trails, for road or trail rerouting, for widening to improve trail bed, for construction of speed-control features on an existing trail where construction disturbance extends outside the current trail prism, or for modifications to appurtenant facilities (e.g., trailhead, point of access, parking improvements). Direct impacts on significant archaeological resources that qualify as historical resources could result from, but not be limited to, the immediate disturbance of a resource's contributing materials, features, or deposits from construction or ground-disturbing activities.

To determine if projects that qualify for approval under the Process would cause a significant impact on archaeological historical resources, a CSP Cultural Resources Specialist or CSP-qualified archaeologist would provide input for the project-specific survey and evaluation process by completing the relevant questions in the Trail Log on the effects or impacts of a proposed change in use to cultural resources. For those projects recommended for approval, a CSP Cultural Resources Specialist or CSP-qualified archaeologist would complete the PEF and related PRC Section 5024 form, and also complete DPR 523 series forms and a significance evaluation of the archaeological resource, as appropriate. Archaeological site information is sensitive, and at this stage and throughout the Process and subsequent projects, the location and/or content of specific sites will be treated as confidential and not available to the public.

Pursuant to SPR CUL-4, all cultural resources (artifacts, features, or sites) within the proposed APE for a project would be mapped and recorded on DPR 523 series forms to a level appropriate to the Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation (NPS 1983). If existing information on file with the State Park System includes documentation on the resources within a project-specific APE and the result of the inventory is negative for documented archaeological resources or if archaeological resources identified within the APE are neither a historical resource nor unique archaeological resource, there would be no significant effect to the environment and no further treatment of those known resources would be required.

If the existing cultural resources inventory does not cover the proposed APE for a project, then an inventory of the APE would be required to adequately document any observable cultural resources pursuant to SPR CUL-4 and the potential of a change-in-use project to significantly impact historical resources for the PEF and PRC 5024 review. The inventory would entail a series of tasks, as appropriate to the level of any existing information on file with the State Park System, and could include a records review, Sacred Lands File request and search by the

NAHC, consultation with the individuals, groups or tribes provided by the NAHC on the contact list, consultation with historical societies or organizations, pedestrian survey, and/or a technical report documenting all findings. The inventory and any subsequent field or laboratory work or reporting would be consistent with the Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation (NPS 1983). The level of documentation required on a specific archaeological resource would at a minimum be sufficient to preliminarily evaluate the resource's significance, integrity, and eligibility for listing in the NRHP, CRHR, or local register. For projects that constitute federal undertakings (defined in the Regulatory Setting section for cultural resources, consultation with the lead federal agency, SHPO, and appropriate consulting parties could be required in accordance with Section 106 of the NHPA.

Project measures to protect and avoid a significant cultural resource (historical resource) could include project redesign and preservation in place. To avoid or minimize adverse direct and/or indirect effects to significant or potentially significant archaeological sites, pursuant to SPR CUL-9, a CSP-approved archaeologist would complete preconstruction testing prior to the start of any ground-disturbing activities within a proposed project-specific APE. The subsurface testing would be accomplished to determine the significance and integrity of the archaeological resource(s) within the APE and to determine specific avoidance areas for significant sites or portions of such sites within the APE. As necessary for the testing phase, a CSP-qualified Cultural Resources Specialist or archaeologist would prepare a research design, including appropriate trenching and/or pre-construction excavations. Pursuant to SPR CUL-10, prior to the start of ground disturbance for the subsurface testing, surface vegetation would be removed manually or flush cut. To ensure avoidance of ground disturbance, the roots would not be removed prior to the testing. Identification, cataloguing, and curation of recovered cultural artifacts from the testing program would follow standard policies and practices outlined in Chapters 0400 and 1300 of CSP's DOM.

If the site to be tested is prehistoric, the CSP-qualified Cultural Resources Specialist or archaeologist could recommend to the CSP Sector Superintendent that consultation proceed with appropriate Native California Indian tribes or groups prior to the start of any ground-disturbing activities. Consultation would serve to re-enforce the importance of a tribe's participation in working to identify, protect and preserve their heritage and traditions, an objective of CSP's Native American consultation policy presented in Chapter 0400 of the DOM. Additionally, pursuant to SPR CUL-12, arrangements could be appropriate on a project-by-project basis for monitoring of the ground-disturbing activities by a Native American monitor. Preference would be for California Native Americans culturally affiliated with the project area and a monitor who is familiar with local ancestral California Native American village sites and cultural practices, as recommended by the NAHC (NAHC 2005).

Based on the results of preconstruction testing that would determine significance and related retention of integrity, the project design and/or implementation of the project would be altered as necessary to avoid direct impacts to documented archaeological resources determined to be significant that qualify as historic properties or historical resources. In addition to avoidance through project redesign, historical resources could be avoided by preservation in place. Preservation in place maintains the relationship between artifacts and the archaeological context, and could also avoid conflict with religious or cultural values of groups associated with the discovery. Preservation in place within CSP units could be accomplished, but not limited to, incorporation of the site within open space or covering with a layer of sterile soil, with adequate documentation prepared and filed as part of the State Park System archaeological database.

For the protection of known cultural resources in close proximity to a proposed project-specific APE, pursuant to SPR GEN-4, a CSP-qualified Cultural Resources Specialist or archaeologist could establish an Environmentally Sensitive Area, using flagging or fencing, with a buffer of at least 10 feet around a documented archaeological site or feature. Installation and removal of the fencing would be monitored by the Cultural Resources Specialist or archaeologist. Fencing would be installed prior to the start of construction or ground-disturbing activities and not be removed until after the project is completed. As appropriate, the CSP-qualified Cultural Resources Specialist or archaeologist could also approve subsurface work, including the operation of heavy equipment within a minimum distance around the environmentally sensitive area, pursuant to SPR GEN-5.

In areas that are considered to be moderately to highly sensitive for the discovery of buried cultural materials, features or deposits, pursuant to SPR CUL-11, it could be prudent for a CSP-qualified Cultural Resources Specialist or archaeologist to monitor during ground-disturbing phases within a proposed project-specific APE. Monitoring in sensitive areas is another tool used to avoid or minimize adverse direct and/or indirect effects to significant or potentially significant archaeological resources. Monitoring would occur daily or on a periodic basis; the frequency would be determined on a project-by-project basis at the discretion of the qualified specialist. In addition, as noted above, arrangements could be appropriate on a project-by-project basis for monitoring of ground-disturbing activities by a Native American monitor pursuant to SPR CUL-12. Monitors would be empowered to halt work in the immediate vicinity of a discovery, and ground disturbance would remain halted until a decision has been made and implemented regarding appropriate treatment and disposition of the find. Monitoring would ensure impacts remain at a less-than-significant level.

Pursuant to SPR CUL-1, in project areas that are considered culturally sensitive and forest thinning activities are required, all downed timber and other forest debris would be removed by aerial suspension. No portion of logs, slash, or debris would be dragged across the surface in the culturally sensitive area.

All aspects of a project would be photo-documented by CSP-qualified staff before, during, and after construction in compliance with SPR CUL-3. The photographs would be filed as part of the historical records (archives) for the CSP unit.

Additionally, integration of SPRs CUL-13 (Discovery of Previously Undocumented Resources) and CUL-14 (Discovery of Human Remains; discussed below), as well as training construction personnel in cultural resource identification and protection procedures under SPR GEN-3 (Worker Education), would ensure impacts remain at a less-than-significant level. Inadvertent discovery measures for the protection of cultural resources, including human remains, would be implemented during all ground-disturbing activities in native soils/sediments. If cultural resources, including human remains, are discovered during construction or ground-disturbing activities, all activities within 50 to 100 feet of the find would be halted until a CSP-qualified Cultural Resources Specialist or archaeologist can evaluate the find. The Cultural Resources Specialist or archaeologist would examine the resources, assess their significance, and recommend appropriate procedures to either further investigate or mitigate adverse impacts (e.g., adverse effect on a significant historical resource) on the resources encountered. Appropriate procedures could include subsurface testing to determine the significance and integrity of the discovered archaeological resource. Any human remains encountered during construction will be treated in accordance with the California Health and Safety Code Section 7050.5 or the provisions of NAGPRA (25 USC 3001-3013) on federal lands, and pursuant to CUL-14 (Discovery of Human Remains; discussed below).

If it is determined the find is a significant archaeological historical resource, and it cannot be avoided or preserved in place, the change-in-use proposal would be disqualified from approval under the proposed Process. If a District pursued the project, it would require a separate environmental review process that would include consultation with the SHPO pursuant to the MOU and PRC Section 5024.5 to determine appropriate treatment measures to mitigate adverse impacts (e.g., adverse effect on a significant historical resource). Consultation with the lead federal agency, SHPO, and appropriate consulting parties could also be required in accordance with Section 106 of the NHPA if the find is on federal lands. By adhering to the established SPRs to avoid or minimize adverse direct and/or indirect effects to significant or potentially significant archaeological sites during design, construction and ground-disturbing activities, including inadvertent discovery measures, there would be no material impairment or substantial adverse change in the significance of archaeological resources that qualify as historical resources. Potential impacts to archaeological historical resources by projects proposed under the change-in-use Process would be **less than significant**.

IMPACT 4.6-3	**Paleontological Resources.** Some CSP units and individual road or trail facilities are located in areas that could support significant paleontological resources. However, because change-in-use projects that qualify for approval under the Process would adhere to the established SPRs (CUL-1, CUL-5 through 7, and GEN-3) to avoid or minimize adverse direct and/or indirect effects to unique paleontological resources or geologic features during design, construction and ground-disturbing activities, including inadvertent discovery measures, a change-in-use project would avoid directly or indirectly destroying a unique paleontological resource or site or unique geologic feature. Any undocumented paleontological resources or inadvertent discoveries of paleontological resources would be properly recorded and salvaged, or would be protected by project redesign and/or potential restriction of visitor access. Potential impacts to unique paleontological resources or geologic features by projects that qualify under the Process would be **less than significant.**

Project construction or ground-disturbing activities associated with change-in-use projects that qualify for approval under the Process, depending on their location could directly or indirectly disturb or destroy unique paleontological resources or sites or unique geologic features. In terms of potential effects on paleontological resources, the important aspects of the physical modifications that would occur for projects that qualify under the Process include (1) the depth of excavation required for individual road or trail components and appurtenant facilities, (2) the degree to which various construction scenarios would affect previously undisturbed sediments/soils, and (3) the proximity to rock units with a high paleontological potential.

Impacts on paleontological resources in previously disturbed areas and in shallow soils are unlikely. Site preparation (rough grading) and construction of shallow foundations for road or trail reconstruction or reroutes, for widening to improve trail bed, for construction of speed-control features on an existing trail where construction disturbance extends outside the current trail prism, for modifications to appurtenant facilities (e.g., trailhead, point of access, parking improvements), or for installation of signage support posts are unlikely to disturb or unearth paleontological resources.

Construction activities that disturb *in-situ* geologic units of high paleontological potential, however, could potentially affect unique and significant paleontological resources. As discussed in the setting, these include all geologic formations that could be classified as Pleistocene or older sedimentary rocks and deposits. These occur around the edges of the Central Valley, portions of the Coast Ranges, the Peninsular Ranges, Transverse Ranges, and in California's southeastern deserts. These units also could exist within very short depths beneath areas mapped as Holocene alluvium, particularly in the Central Valley. As noted, the Holocene-age sedimentary deposits of Lake Cahuilla also have a high paleontological potential.

Although various physical change-in-use modifications would be relatively shallow and would mainly occur in previously disturbed soil within the existing road or trail prism or the existing appurtenant facilities, specific construction activities, in certain cases, could occur deeply enough to disturb potentially sensitive geologic units, and could also occur where existing roads or trails that were not designed by CSP but inherited when units became part of the State Park System that are in close proximity to or within significant fossiliferous deposits. If the geologic unit has a high paleontological potential, construction-related excavations could encounter *in situ* formations and could potentially disturb significant fossil resources. Project-related activities that could occur deeply enough in undisturbed sediments/soils could include, but not be limited to, excavation of bridge supports or undercrossings for road or trail reconstruction or reroutes, and excavation needed for improved drainage for conversion of roads to trails.

While the probability of disturbing or destroying significant paleontological resources by construction or ground-disturbing activities related to physical modifications under the road or trail change-in-use Process is low, any level of fossil disturbance is considered significant under CEQA.

To determine if a proposed change-in-use project would cause a significant impact on unique paleontological resources or sites or unique geologic features, a CSP-qualified paleontologist or geologist would provide input for the project-specific survey and evaluation process by completing the relevant questions in the Trail Log on the effects or impacts of a proposed change in use to paleontological resources. For those projects recommended for approval, a CSP-qualified paleontologist or geologist would complete the PEF. Paleontological resources are addressed under Chapter 0300 on natural resources of CSP's DOM, and on the current versions of these forms, paleontological resources are considered under the natural resources category on the Trail Log and are listed under "Earth" on the PEF (see Appendix E of this Program EIR).

If existing information on file with the CSP system includes documentation on the fossil resources within a proposed project area and the result of the inventory is negative for unique paleontological resources or geologic features, and the mapped geologic formations within the CSP unit have a low to no paleontological potential, there would be no significant effect to the environment and no further work would be required.

If the proposed project area is not covered by any existing CSP unit paleontological inventory, then pursuant to SPR CUL-5, an inventory of the project area would be required for completion of the PEF. The inventory by a CSP-qualified paleontologist or geologist would adequately document the high to no paleontological potential of the project area, including the potential of the proposed change-in-use project to disturb or destroy significant resources. The inventory would entail a series of tasks, as appropriate to the level of any existing information on file with the CSP system, and could include a review of geologic maps and published or "gray" literature, a paleontological records search at appropriate regional repositories, such as the Natural History Museum of Los Angeles County Vertebrate Paleontology Section and the San Bernardino County Museum, a search of online databases, such as those maintained by University of California Museum of Paleontology and the Los Angeles County Museum of Natural History, Section of Invertebrate Paleontology, and/or a survey of the proposed project area.

The CSP-qualified paleontologist or geologist would determine if a field survey is warranted after review of the maps and records and, if so, would determine the appropriate level for a systematic survey. A systematic paleontological survey is conducted in order to discover, accurately delineate and map the extent, relative position, and location of a fossil site, horizon or fossiliferous area. In general, a paleontological survey does not involve transects or comprehensive coverage. Survey of geologic formations or deposits ranked high or undetermined is typically a high priority; deposits with a low probability need only a cursory inspection for caves or special circumstances such as sedimentary deposits that have infilled a depression in the metamorphic rocks. All fossil locations and other important information would be recorded on appropriate forms and mapped, and a report of positive or negative findings finalized upon completion of the survey.

If paleontological resources are identified during the survey, a CSP-qualified paleontologist or geologist would evaluate the significance of the fossils or geologic features in order to make the proper management decisions and take the appropriate actions. Fossils could have interpretive, historical, and/or scientific significance. Scientific significance would be evaluated in accordance with professionally accepted methods and standards.

In accordance with the Paleontological Resources Protection Policy established by CSP under Section 0309.2 of Chapter 0300 of the DOM, scientifically significant fossils would be protected according to procedures established for the park unit that they were identified in. These procedures could include site stabilization, physical protection, collection, or documentation according to the site-specific conditions.

In order that their inherent scientific and interpretive values are not degraded, scientifically significant specimens encountered during the field survey could be conserved through recovery by relatively routine documentation, reporting, and collection procedures. Intensive management (NPS 2004) focuses on the immediate recovery, through collection or excavation, of fossil remains as soon as they are exposed at ground surface. For many paleontological specimens, particularly fossil vertebrates, intensive management is the standard practice, and the only method that could protect significant specimens. Their continued exposure to natural processes (e.g., erosion, weathering) threatens integrity and culminates in destroying the paleontological specimens. Any collection of paleontological resources by a CSP-qualified paleontologist or geologist would be followed by routine conservation, laboratory preparation, and curation.

If collection of the exposed significant paleontological resources identified during the field survey is not a conservation option and/or if the proposed project area proves to be significantly fossiliferous, the specific change-in-use project would be redesigned, as feasible, to avoid or minimize adverse direct and/or indirect effects. To protect the fossil resources, CSP could close the area and withdraw it from public use or restrict to educational or interpretive activities led by approved CSP staff. To further protect paleontological resources from harm, theft, or destruction, CSP could keep the locality of significant fossils confidential.

If a specific change-in-use project is located in an area where particular sediments are suitable for fossil preservation, but no specimens were identified during the field survey, pursuant to SPR CUL-6, monitoring by a CSP-qualified paleontologist or geologist of earthmoving activities would be approved to avoid or minimize adverse direct and/or indirect effects to significant paleontological resources. Monitoring of ground-disturbing activities could include but not be limited to grading, excavation or trenching. Generally monitoring of drilling activities that could destroy subsurface materials and be used for bridge supports or other road or trail infrastructure is not appropriate. Monitoring would occur daily or on a periodic basis; the frequency would be determined on a project-by-project basis at the discretion of the qualified specialist. Monitors would be empowered to halt work in the immediate vicinity of a discovery, and ground disturbance would remain halted until a decision has been made and implemented regarding any recovery of significant paleontological specimens. Monitoring would ensure impacts remain at a less-than-significant level.

All aspects of a project, particularly any collection of paleontological specimens, would be photo-documented by CSP-qualified staff before, during, and after construction in compliance with SPR CUL-3. The photographs would be filed as part of the historical records (archives) for the CSP unit.

Additionally, integration of SPR CUL-7 (Discovery Procedures), as well as training construction personnel in paleontological resource identification and protection procedures under SPR GEN-3 (Worker Education) for proposed project areas with high paleontological potential, would ensure impacts remain at a less-than-significant level. Inadvertent discovery measures for the protection of paleontological resources would be implemented during all construction or ground-disturbing activities in project areas where the geologic unit has a high paleontological potential. If potential paleontological resources are discovered during construction or ground-disturbing activities, all activities within 100 feet of the find would be halted until a CSP-qualified paleontologist or geologist examines the findings and recommends appropriate procedures. If significant fossils are unearthed, appropriate procedures would include salvaging the fossils and assessing the necessity for further mitigation measures, if applicable.

By adhering to the established SPRs to avoid or minimize adverse direct and/or indirect effects to unique paleontological resources or geologic features during design, construction and ground-disturbing activities, including inadvertent discovery measures, a change-in-use project would avoid directly or indirectly destroying a unique paleontological resource or site or unique geologic feature, and any undocumented paleontological resources or inadvertent discoveries of paleontological resources would be properly recorded and salvaged, or would be protected by project redesign and/or potential restriction of visitor access. Potential impacts to unique paleontological resources or geologic features by projects that qualify under the Process would be **less than significant**.

IMPACT 4.6-4	**Human Burials.** Many CSP units and individual park facilities are located in areas that could support human burials. However, because change-in-use projects that qualify for approval under the Process would adhere to the requirements of SPR CUL-14 (Discovery of Human Remains) during all ground-disturbing activities, appropriate monitoring, notification, and preservation measures consistent with Section 7050.5 of the California Health and Safety Code, PRC Section 5097.98, and NAGPRA (25 USC 3001–3013) would be implemented to ensure the integrity and significance of the find is maintained. This impact would be **less than significant.**

Project construction or ground-disturbing activities associated with change-in-use projects that qualify for approval under the Process, depending on their location could disturb human remains not interred in cemeteries or marked, formal burials. Archaeological evidence indicates California was inhabited by humans as early as 12,000 to 13,000 years ago, and the remains of indigenous Californians and non-Native Americans have been discovered throughout the State outside of formal cemeteries. It is not always possible to predict where human remains could occur outside of formal cemeteries, and there is always a potential for unanticipated discovery of human bone and associated grave goods not interred in cemeteries or marked, formal burials during construction or ground-disturbing activities.

Pursuant to SPR CUL-14, in the event human remains or suspected human remains are discovered during construction, work would cease immediately within 100 feet of the find and the project manager/site supervisor would notify the appropriate CSP personnel. The human remains and/or funerary objects would not be disturbed and would be protected by covering with soil or other appropriate methods. The remains would be treated in accordance with Section 7050.5 of the California Health and Safety Code, and the CSP Sector Superintendent (or authorized representative) would immediately notify the County Coroner. If a Native American monitor is onsite at the time of the discovery, the monitor would notify his/her affiliated tribe or group. The local County Coroner would make the determination of whether the human bone is of Native American origin. If the human remains and/or funerary objects were discovered on federal lands, the provisions of NAGPRA (25 USC 3001–3013) would be applied.

If the Coroner determines the remains represent Native American interment, then pursuant to PRC Section 5097.98, the NAHC would be consulted to identify the most likely descendant and appropriate disposition of the remains. The superintendent would also notify the local tribal representative. Work would not resume in the area of the find until proper disposition is complete. No human remains or funerary objects would be cleaned, photographed, analyzed, or removed from the place of discovery prior to determination.

If it is determined the find indicates a sacred or religious site, the change-in-use proposal would be disqualified from approval under the proposed Process. If a District pursued the project further, it would require a separate environmental review process that would include consultation with the SHPO and review by the NAHC, as well as appropriate tribal representatives, to determine if impacts could be avoided and the project could proceed.

The integration of and adherence to SPR CUL-14 (Discovery of Human Remains) during all ground-disturbing activities would ensure potential human burial impacts from projects that qualify under the Process remain at a less-than-significant level because appropriate monitoring, notification, and preservation measures consistent with Section 7050.5 of the California Health and Safety Code, PRC Section 5097.98, and NAGPRA (25 USC 3001–

3013) would be implemented to ensure the integrity and significance of the find is maintained. This impact would be **less than significant.**

4.6.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With integration of SPRs, the impacts to cultural and paleontological resources from change-in-use projects completed under this Process would be less than significant. All impacts related to cultural and paleontological resources would be less than significant. Mitigation measures are not required. If a change-in-use proposal could not maintain cultural and paleontological resources impacts at less-than-significant levels with SPRs, it would be disqualified from approval using this Process. If CSP pursued such a project further, the District would conduct a separate CEQA review process.

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4.7 GEOLOGY, SOILS, AND MINERAL RESOURCES

This section discusses the statewide baseline conditions for geologic, soil, and mineral resources relevant to the proposed Road and Trail Change-In-Use Evaluation Process (Process). Hazards, such as earthquakes and mass wasting (e.g., landslides), and impacts that are known or have the potential to occur in the study area are also addressed. Federal, state, and local regulations related to geology and soils are summarized. This section also describes the most common mineral resources that occur throughout the State and evaluates whether the proposed Process would substantially reduce availability of such resources. Potential impacts of change-in-use projects that qualify for implementation under the proposed Process are analyzed, and mitigation measures are provided if those impacts are determined to be significant or potentially significant. Cumulative geology, soils, and mineral resources impacts are addressed in Section 6.1.2, Cumulative Impacts By Resource Topic, in Chapter 6, Cumulative and Growth Inducing Impacts, of this Program EIR.

4.7.1 ENVIRONMENTAL SETTING

POTENTIALLY AFFECTED STUDY AREA – GEOLOGY, SOILS, AND MINERALS

The potentially affected area with respect to geology, soils, and minerals is defined as (1) existing recreational road and trail corridors proposed for changes in use within California State Park (CSP) system, (2) road and trail connections and linkages from trails with change-in-use proposals to trails on surrounding federal, regional, county, and city lands, and (3) modification of lands adjacent to roads and trails in order to accommodate changes in use. The Process does not include the construction of new trails, but does allow rerouting of trail alignments to correct otherwise unsustainable road and trail conditions where realignment causes no significant environmental effects (based on completion of CSP Project Evaluation Form).

TOPOGRAPHY AND CLIMATE

The general study area encompasses all CSP lands, state recreation areas, and state beaches throughout California. The State's topography is highly varied and includes 1,340 miles of seacoast, as well as high mountains, inland flat valleys, and deserts. Elevations in California range from 282 feet below sea level in Death Valley to 14,494 feet at the peak of Mount Whitney. The mean elevation of California is approximately 2,900 feet. The climate of California is as highly varied as its topography. Depending on elevation, proximity to the coast, and altitude, climate types include temperate oceanic, highland, sub-artic, Mediterranean, steppe, and desert (USGS 1995). The average annual precipitation across all California climate types is approximately 23 inches and approximately 75 percent of the State's annual precipitation falls between November and March, primarily in the form of rain, with the exception of high mountain elevations (DWR 2003). Average annual precipitation ranges from more than 100 inches in the mountainous areas within the Smith River in Del Norte County to less than 2 inches in Death Valley, illustrating the extreme differences in precipitation levels within the State (Mount 1995). Overall, northern California is wetter than southern California with the majority of the State's annual precipitation occurring in the northern coastal region.

GEOLOGY

Plate tectonics and climate have played major roles in forming California's dramatic landscape. California is located on the active western boundary of the North American continental plate in contact with the oceanic Pacific Plate and the Gorda Plate north of the Mendocino Triple Junction. The dynamic interactions between these three plates and California's climate are responsible for the unique topographic characteristics of California, including rugged mountain ranges, long and wide flat valleys, and dramatic coastlines (Harden 1997).

Tectonics and climate also have a large effect on the occurrence natural environmental hazards, such as earthquakes, landslides, and volcanic formations. This section discusses the general characteristics of natural hazards associated with the varied geology of California, including landslides, earthquakes, tsunamis, and volcanic formations.

LANDSLIDES

Landsliding or mass wasting is a common erosional process in California and has played an integral part in shaping the State's landscape. Typically, landslides occur in mountainous regions of the State, but they can also occur in areas of low relief, including coastal bluffs, along river and stream banks, and inland desert areas. Landsliding is the gravity-driven downhill mass movement of soil, rock, or both and can vary considerably in size, style and rate of movement, and type depending on the climate of a region, the steepness of slopes, rock type and soil depth, and moisture regime (Harden 1997). Geologists and engineers have classified different types of landslide features based on the depth and type of material that fails, the amount of water involved, rate of movement, and the type of movement involved (e.g., rock slides, rock falls, block topples, debris slides, debris flows, and soil creep). Landslide classification is important because the risks posed by various types of landslides are different (Harden 1997).

The triggering mechanisms for mass wasting are varied and can be grouped into three general types: geological, morphological (e.g., tectonic uplift, fluvial erosion, vegetation removal, and freeze-thaw), and anthropogenic (e.g., slope excavation, slope loading, deforestation, irrigation, and reservoir drawdown) (USGS 2004). By far, the most common causes of the most damaging landslides include slope saturation from excessive rainfall or snowmelt, seismic activity, and volcanic activity. During the winter months severe winter storms contribute excessive precipitation to coastal and mountainous areas of California. Excessive rainfall or snowmelt can result in major changes in surface runoff and groundwater levels, resulting in saturated slopes that are prone to failure. Landslides can also result in flooding because both are triggered by similar mechanisms, such as intense rainfall or snowmelt events, high peak runoff, and groundwater saturation. Landslides can create sediment dams that block valleys and stream channels.

Many mountainous areas in California are susceptible to seismic activity. The seismicity associated with the numerous active faults and volcanoes, coupled with weakened rock materials and steep slopes, are contributing mechanisms for earthquake-induced landslides. Uplifted naturally weakened rocks, such as poorly consolidated sediments or marine deposits of mudstone or siltstone, are highly susceptible to slope failure due to ground shaking. Furthermore, folding and faulting of geologic materials during geologic periods of subduction and accretion, along with shearing along active fault zones, can result in weakened earthen materials that are prone to landsliding. Finally, landslides associated with volcanic activity can be regionally devastating. Volcanic lava and steam eruptions can melt snowpack at very high rates resulting in volumetrically large rock, soil, and ash flows that travel at high velocities down hillslopes and stream channels eroding the underlying topography. Mount Shasta, located in northern California, experienced a very large debris avalanche associated with the collapse of the volcano approximately 350,000 years ago, as well as smaller events in historic times.

EARTHQUAKES

Earthquakes are a common and unpredictable occurrence in California. The tectonic development of California began millions of years ago by a shift in plate tectonics that converted the passive margin of the North American plate into an active margin of compressional and translational tectonic regimes. This shift in plate tectonics continues to make California one of the most geomorphically diverse, active, and picturesque locations in the U.S. However, the tectonic processes that have made California what it is today are the same processes that disrupt our lives when the ground shakes in an earthquake.

While some areas of California are more prone to earthquakes, such as northern, central, and southern coastal areas of California, all areas of California are prone to the effects of ground shaking due to earthquakes. While scientists have made substantial progress in mapping earthquake faults where earthquakes are likely to occur, and predicting the potential magnitude of an earthquake in any particular region, they have been unable to precisely predict where or when an earthquake will occur and what its magnitude will be.

The San Andreas Fault is one of the most significant and famous fault in California. With its southern terminus south of California, in the Gulf of California, the San Andreas Fault trends northwesterly through the Salton Trough and continues north until it reaches the Transverse Ranges, where the fault takes a bend and trends in a east-west direction. North of the Transverse Ranges, the San Andreas Fault again trends northwest, until it is truncated at the Mendocino Triple Junction off the coast of Humboldt County. Some of the most significant California earthquakes have occurred on the San Andreas Fault, including the January 9, 1857 Fort Tejon earthquake (magnitude 7.9) and the April 18, 1906 San Francisco earthquake (magnitude 7.7 to 8.3).

Although the San Andreas Fault system is a source of significant recent earthquakes, the Cascadia subduction zone (CSZ) to the north has a much greater potential for generating hard ground shaking, vertical land-level changes, and tsunamis. The CSZ is a 600 mile-long series of north to northwest trending faults that extend from southern British Columbia to the Mendocino Triple Junction located off shore of Cape Mendocino in Humboldt County, California. The CSZ has the potential to generate large earthquakes with magnitudes of 9.0 or greater recurring, on average, every 250-500 years. The last known large CSZ earthquake occurred on 26 January 1700 with an estimated magnitude of 9.0 (Atwater et al. 2005). This earthquake created a large tsunami that was observed locally (Carver 1998), as well as across the Pacific Ocean in Japan (Atwater et al. 2005). This large earthquake is considered to be the largest earthquake known to have occurred in the contiguous United States.

Large earthquakes have also occurred on other major faults in California and include the March 26, 1872 Lone Pine earthquake (magnitude 7.4) on the Owens Valley Fault, located on the east side of the Sierra Nevada.

TSUNAMIS

Coastal communities around the circum Pacific have long been prone to the destructive effects of tsunamis. Tsunamis are a series of long-period, high-magnitude ocean waves that are created when an outside force displaces large volumes of water. Throughout time, major subduction zone earthquakes in both the Northern and Southern Hemispheres have moved the Earth’s crust at the ocean bottom sending vast amounts of waters into motion and spreading tsunami waves throughout the Pacific Ocean.

California, with its vast coastline and active tectonic architecture is uniquely vulnerable to tsunamis and vertical land movement. This has been documented from both the geological record (Leroy 2006; Peters et al. 2001; Peterson et al. 2011; Patton and Witter 2006), as well as from anecdotal accounts (Atwater et al. 2005; Carver 1998). Although not documented in writing, Native American legends tell of a major earthquake and tsunami that occurred in northern California. A so-called “orphan” tsunami, generated by this earthquake, was well documented in Japan (Atwater et al. 2005). It is believed that this tsunami is the one described by northern Californian Native Americans and that it originated on January 26, 1700 from a great earthquake on the Cascadia subduction zone. Circum Pacific earthquakes that have caused tsunamis on the California coast include the 1960 Valdivia or Great Chilean earthquake, the 1964 Good Friday Alaskan Earthquake, the November 15, 2006 Kuril Islands earthquake, and most recently, the March 11, 2011 Tohoku earthquake in Japan.

Tsunamis can also occur from subareal and submarine landslides that displace large volumes of water. Subaeral landslide-generated tsunamis can be caused by seismically generated landslides, rock falls, rock avalanches, and eruption or collapse of island or coastal volcanoes. Submarine landslide-generated tsunamis are typically caused by major earthquakes or coastal volcanic activity. In contrast to a seismically generated tsunami, seismic seiches are standing waves that are caused by seismic waves traveling through a closed (lake) or semi-enclosed (bay) body of water. Due to the long-period seismic waves that originate after an earthquake, seiches can be observed several thousand miles away from the origin of the earthquakes. Small bodies of water, including lakes and ponds, are especially vulnerable to seismic seiches.

VOLCANOES

A volcano is an opening in the Earth's crust through which magma escapes to the surface where it is extruded as lava. Volcanism may be spectacular, involving great fountains of molten rock, or tremendous explosions that are caused by the build-up of gases within the volcano (Ritchie and Gates 2001). Some of the most active volcanic areas in California are located within the Cascade Range - a volcanic chain that is a result of compressional tectonics along the Cascadia subduction zone. In 1980, Mount Saint Helens in Washington exploded violently and is a prime example of the type of explosive volcanics that can be expected from Mount Lassen and Mount Shasta, both volcanoes within California's southern Cascade Range. Before the 1980 eruption of Mount Saint Helens, Lassen Peak was the most recently active volcano in the contiguous U.S. Lassen Peak is large plug dome that intermittently erupted between 1914 and 1921, with explosive eruptions that have resulted in lava flows, lahars or large lava-triggered mudflows, and explosive eruptions of ash. Lassen Peak was built upon the older, much larger Mount Tehama, that was destroyed by a violent eruption approximately 450,000 years ago (Sutch and Dirth 2003).

The Modoc Plateau is a southern extension of the Columbia River plateaus of eastern Oregon and Washington. It is located between the Warner Mountains and Surprise Valley on the Nevada border and extends west to the edge of the southern Cascades Range. Lava flows generated in the Modoc Plateau are generally more basaltic and, therefore, less explosive than the Cascade Range volcanoes. Historic eruptions along cracks of the Modoc Plateau have produced a more subtle terrain of shield volcanoes and broad lava plateaus. The last eruption from this area occurred between 200 and 300 years ago.

In contrast to the volcanic histories and styles of volcanism within the Cascade Range and the Modoc Plateau, a third area of recent volcanic activity in California is in the Long Valley Caldera located near Mammoth Mountain. A caldera is a large volcanic depression at the top of a volcanic cone and is caused by the collapse of the underlying magma chamber after a major eruption. The Long Valley Caldera is one of the largest calderas on earth, measuring approximately 20 miles long from east to west, and is part of a large volcanic system in eastern California that also includes Mono-Inyo Craters volcanic chain. Eruptions from this volcanic chain began about 400,000 years ago and continued until approximately 600 years ago. After a long period of low-level seismicity, a swarm of thousands of small to moderate sized earthquakes occurred at fairly regular intervals in 1980. The swelling of new magma below the surface of the caldera is causing dome-like uplift, and as a result the Long Valley area is being closely monitored for earthquake activity in an attempt to identify early signs of a new eruption.

Finally, there are several areas within California, including Geyserville, south of Clear Lake in the Coast Ranges, and east of Mammoth Lakes along the base of the Sierra Nevada Range front fault where geothermal heat has created hot springs and steam eruptions. Geothermal heat is created when large magma chambers, located near the Earth's surface, heats up groundwater and creates steam. The occurrence of hot springs and geothermally active areas is another indication of active volcanism in the State of California.

ACTIVE FAULTS

A fault is defined as a fracture or zone of closely associated fractures along rocks that on one side have been displaced with respect to those on the other side. Most faults are the result of repeated displacement that may have taken place suddenly or by slow creep. A fault is distinguished from fractures or shears caused by landsliding or other gravity-induced surficial failures. A fault zone is a zone of related faults that commonly are braided and subparallel, but may be branching and divergent. A fault zone has significant width (with respect to the scale of the fault being considered, portrayed, or investigated), ranging from a few feet to several miles (Bryant and Hart 2007).

In the State of California earthquake faults have been designated as being active through a process that has been described by the1972 Alquist-Priolo Earthquake Fault Zoning Act. An active fault is defined by the State as one that has "had surface displacement within Holocene time (about the last 11,000 years)." This definition does not, of course, mean that faults lacking evidence for surface displacement within Holocene time are necessarily inactive. A fault may be presumed to be inactive based on satisfactory geologic evidence; however, the evidence necessary to prove inactivity sometimes is difficult to obtain and locally may not exist. Active faults designated by the Alquist-Priolo Earthquake Fault Zoning Act are listed by geomorphic province in Table 4.7-1.

EVALUATION OF GEOLOGY BY GEOMORPHIC PROVINCE

California's diverse geology makes it necessary to organize the state-wide environmental setting and impact analysis by discrete regions sharing general geologic and topographic characteristics. A close association exists between physiographic areas and geology in many parts of California, and although details may vary, large contiguous areas of the state have distinctive features not shared by the adjacent terrain. These large physiographic-geologic areas have been designated "geomorphic provinces" by the California Geological Survey (CGS) and are based on geology, faults, topographic relief, and climate (CGS 2002). The State of California is divided into eleven separate provinces: Great Valley, Sierra Nevada, Cascade Range, Modoc Plateau, Klamath Mountains, Transverse Ranges, Coast Ranges, Peninsula Ranges, Basin and Range, Mojave Desert, and the Colorado Desert (Exhibit 4.7-1).

The approach to the evaluation of the baseline geologic conditions for the Program EIR is based on the 11 CGS geomorphic provinces. Organizing the State by geomorphic provinces allows for a systematic assessment of the State's existing geologic conditions. The following section and Table 4.7-1 outline each geomorphic province providing general information on the specific characteristics pertaining to each province, characteristic rock types, and active seismicity; and provides a list of state parks within each region.

BASIN AND RANGE

The Basin and Range province is a large region of alternating north-south trending faulted mountains and valley floors that encompasses the majority of the western U.S, including portions of southern Oregon, eastern California, southern portions of Arizona and New Mexico, and western Texas; and the majority of Nevada. The province is characterized by rugged desert country with high topographic relief. Within California, the lowest point is 282 feet below sea level in Death Valley and the highest elevation is 14,242 feet above sea level at White Mountain Peak (Sharp 1994). California's portion of the Basin and Range province includes three separate physiographic areas. The northernmost portion of the province is bounded by the Modoc Plateau province and the Nevada border (Exhibit 4.7-1). The middle portion of the province is bounded to the north by the Modoc Plateau province and to the south by the Sierra Nevada province. The largest and southernmost portion of the province is bounded on the west by the Sierra Nevada province, to the south by the Mojave Desert province, and to the east by the Nevada border. The Basin and Range province is cut off abruptly by the Garlock fault to the south. The mountain ranges and intervening valleys are 50 to 100 miles long and 15 to 20 miles wide (Sharp 1994). The Basin and Range province has 3 CSP units covering 103 square miles located in the Mono Lake area, Bodie Hills, and the El Paso Mountains.

CASCADE RANGE

The Cascade Range is a mountainous region stretching from British Columbia, Canada, down to northern California. The Cascade Range is part of the Pacific Ring of Fire, a nearly continuous arc of intense seismicity and volcanoes around the Pacific Ocean. All of the known historic eruptions in the contiguous United States have originated from Cascade Range volcanoes (Sutch and Dirth 2003). The last Cascade Range volcano to erupt in California was Lassen Peak, which erupted from 1914 to 1921. Lassen Peak is the most southerly active volcano in the Cascade Range volcanic chain.

The California portion of the Cascade Range province is located between the Klamath Mountains province to the west and the Modoc Plateau province to the east, and extends south from the Oregon border to the Great Valley and Sierra Nevada provinces (Sutch and Dirth 2003). The northern part of the Cascade Range in California is divided into the Western Cascade Range and the High Cascade Range. The Western Cascades are composed of eroded Oligocene to Pliocene volcanic and volcaniclastic rocks overlying older Upper Cretaceous and Eocene sedimentary rocks. Volcanic rocks of the Western Cascade series were faulted and tilted eastward and northeastward in the Late Miocene (MacDonald 1966).

Erosion destroyed the steep volcanic landforms of the Western Cascade Range and reduced the region to gentle rolling hills before renewed volcanism built the High Cascade Range. Southward the volcanic rocks of the Western Cascade Range are overlapped by those of the High Cascade Range. The High Cascade Range within California consists largely of pyroxene andesite and is characterized by a long ridge of eroded topography with few, if any large volcanic cones (MacDonald 1966). The Cascade Range province has 1 CSP unit covering approximately 1 square mile located within the Shasta-Trinity National Forest.

COAST RANGES

The Coast Ranges province extends 400 miles along the Pacific Coast from the Oregon Border south to the Santa Ynez Mountains at the Transverse Ranges boundary. The evolution of the Coast Ranges is a result of typical tectonic, sedimentary, and igneous processes of the circum-Pacific orogenic belt (Page 1966). The province can be further divided into northern and southern ranges separated by the San Francisco Bay. The San Francisco Bay is located in a structural depression created by the east-west expansion of the San Andreas and Hayward fault systems.

The California Coast Ranges are primarily composed of Jurassic- to Cretaceous-age (about 65-150 million years old) marine sedimentary and volcanic rocks of the Franciscan assemblage. The Franciscan assemblage consists of partially metamorphosed greenstone, basalt, and chert; and graywacke that originated as sea floor sediments. The coastline along this province is uplifted, wave-cut, and terraced. The eastern border of the Coast Ranges province is characterized by strike-ridges and valleys in Mesozoic strata (CGS 2002). The Coast Range province has 133 CSP units that cover 726 square miles with the majority of parks located along the coast or in coastal-mountain forests.

Table 4.7-1 General Geologic Characteristics and California State Parks within California Geological Survey Geomorphic Provinces[1]

Brief Description	Active Faults		Topography[2]	Principle Rock Type	State Park Unit Name within Geologic Province[2]		
Geomorphic Province: Basin and Range							
The Basin and Range is the westernmost part of the Great Basin. The province is characterized by interior drainage with lakes and playas, and fault-bounded ranges separated by down dropped basins. Death Valley, the lowest area in the United States (280 feet below sea level) and Owens Valley are both downdropped basins. The northern portion of the Basin and Range Province includes the Honey Lake Basin.	Death Valley Deep Springs Fort Sage Garlock Hilton Creek and related Honey Lake Little Lake	Northern Death Valley Owens Valley Panamint Valley Sierra Nevada fault zone Surprise Valley White Mountains	Rugged desert country with high topographic relief. Extension and crustal spreading produce characteristic north-south trending down dropped basins and uplifted ranges.	Sedimentary Igneous	Bodie SHP Mono Lake Tufa SNR Red Rock Canyon SP		
Geomorphic Province: Cascade Range							
The Cascade Range extends through Washington and Oregon into California. It is dominated by Mt. Shasta, a glacier-mantled volcanic cone, rising 14,162 feet above sea level. The southern termination is Lassen Peak. The Cascade Range is transected by deep canyons of the Pit River. The river flows through the range between these two major volcanic cones, after winding across interior Modoc Plateau on its way to the Sacramento River.	Cedar Mountain Hat Creek McArthur		Volcanic peaks with deeply incised rivers.	Volcanic	McArthur-Burney Falls Memorial SP		
Geomorphic Province: Coast Range							
The Coast Ranges are northwest-trending mountain ranges (average 2,000 to 6,000, feet elevation above sea level), and valleys. The northern and southern ranges are separated by the San Francisco Bay. The northern Coast Ranges are dominated by irregular, knobby, landslide-topography of the Franciscan Complex. The eastern border is characterized by strike-ridges and valleys in Upper Mesozoic strata. In several areas, Franciscan rocks are overlain by volcanic cones and flows of the Quien Sabe, Sonoma, and Clear Lake volcanic fields. The ranges and valleys trend northwest, sub-parallel to the San Andreas Fault. Strata dip beneath alluvium of the Great Valley. The San Andreas is more than 600 miles long, extending from Pt. Arena to the Gulf of California. West of the San Andreas is the Salinian Block, a granitic core extending from the southern extremity of the Coast Ranges to the north of the Farallon Islands.	Bartlett Springs Buena Vista Calaveras Concord Green Valley Greenville Hayward Hunting Creek Little Salmon Hayward Hunting Creek	Little Salmon Los Alamos Los Osos Nunez Ortigalita Plieto Rodgers Ck-Healdsburg San Andreas San Gregorio San Simeon Wheeler Ridge	Northwest trending rugged mountainous ranges and valleys; coastal.	Partially metamorphosed and fractured volcanic and sedimentary rocks	Admiral William Standley SRA Anderson Marsh SHP Andrew Molera SP Angel Island SP Annadel SP Año Nuevo SP Armstrong Redwoods SNR Asilomar State Beach Austin Creek SRA Azalea SNR Bale Grist Mill SHP Bean Hollow State Beach Benbow Lake SRA Benicia Capitol SHP Benicia SRA Big Basin Redwoods SP Bothe-Napa Valley SP Burleigh H. Murray Ranch Butano SP Candlestick Point SRA Carmel River State Beach Carnegie SVRA Caspar Headlands State Beach Caspar Headlands SNR Castle Rock SP Castro Adobe China Camp SP Clear Lake SP Del Norte Coast Redwoods SP	Hendy Woods SP Henry Cowell Redwoods SP Henry W. Coe SP Hollister Hills SVRA Humboldt Lagoons SP Humboldt Redwoods SP Hungry Valley SVRA Jack London SHP Jedediah Smith Redwoods SP John B. Dewitt Redwoods SNR John Little SNR John Marsh Home SHP Jug Handle SNR Julia Pfeiffer Burns SP Kruse Rhododendron SNR La Purisima Mission SHP Lake Del Valle SRA Limekiln SP Little River State Beach Los Osos Oaks SNR MacKerricher SP Mailliard Redwoods SNR Manchester SP Manresa State Beach Marconi Conference Center SHP Marina State Beach Martial Cottle Park SRA Mendocino Headlands SP Montaña de Oro SP	Patricks Point SP Pelican State Beach Pescadero State Beach Petaluma Adobe SHP Pfeiffer Big Sur SP Pismo State Beach Point Cabrillo Light Station SHP Point Lobos Ranch Point Lobos SNR Point Sal State Beach Point Sur SHP Pomponio State Beach Portola Redwoods SP Prairie Creek Redwoods SP Reynolds WC Richardson Grove SP Robert Louis Stevenson SP Russian Gulch SP Salinas River State Beach Salt Point SP Samuel P. Taylor SP San Gregorio State Beach San Juan Bautista SHP San Luis Reservoir SRA Santa Cruz Mission SHP Schooner Gulch State Beach Seacliff State Beach Sinkyone Wilderness SP Smithe Redwoods SNR

Table 4.7-1 General Geologic Characteristics and California State Parks within California Geological Survey Geomorphic Provinces[1]

Brief Description	Active Faults	Topography[2]	Principle Rock Type	State Park Unit Name within Geologic Province[2]		
Geomorphic Province: Coast Range – *continued*						
				Estero Bluffs SP Fort Humbolt SHP Fort Ord Dunes SP Fort Ross SHP Fort Tejon SHP Fremont Peak SP Garrapata SP Gray Whale Cove State Beach Greenwood State Beach Grizzly Creek Redwoods SP Half Moon Bay State Beach Harry A. Merlo SRA Hatton Canyon Hearst San Simeon SHM Harmony Headlands SP Hearst San Simeon SP	Montara State Beach Monterey State Beach Monterey SHP Montgomery Woods SNR Morro Bay SP Morro Strand State Beach Moss Landing State Beach Mount Diablo SP Mount Tamalpais SP Natural Bridges State Beach Navarro River Redwoods SP New Brighton State Beach Oceano Dunes SVRA Olompali SHP Pacheco SP	Sonoma Coast SP Sonoma SHP Standish-Hickey SRA Sugarloaf Ridge SP Sunset State Beach The Forest of Nisene Marks SP Thornton State Beach Tolowa Dunes SP Tomales Bay SP Trinidad State Beach Twin Lakes State Beach Van Damme SP Westport-Union Landing State Beach Wilder Ranch SP Zmudowski State Beach
Geomorphic Province: Colorado Desert						
The Colorado Desert is a low-lying desert basin, about 245 feet below sea level, dominated by the Salton Sea. The province is a depressed block between active branches of alluvium-covered San Andreas fault with the southern extension of the Mojave Desert on the east.	Brawley Imperial San Andreas Superstition Hills	Depressed low-lying basin	Sedimentary	Anza-Borrego Desert SP Desert Cahuilla/Freeman Project Heber Dunes SVRA Indio Hills Palms Ocotillo Wells SVRA Salton Sea SRA		
Geomorphic Province: Great Valley						
The Great Valley is an alluvial plain about 50 miles wide and 400 miles long in the central part of California. The northern portion of the province contains the Sacramento Valley, drained by the Sacramento River. The southern part is the San Joaquin Valley drained by the San Joaquin River. The Great Valley is a trough in which sediments have been deposited almost continuously since the Jurassic (about 160 million years ago). Great oil fields have been found in southernmost San Joaquin Valley and along anticlinal uplifts on its southwestern margin.	Buena Vista Kern Front Plieto Wheeler Ridge White Wolf	Nearly flat alluvial plain	Sedimentary	Bethany Reservoir SRA Bidwell Mansion SHP Bidwell-Sacramento River SP Brannan Island SRA Butte City Project California State Capitol Museum Caswell Memorial SP Clay Pit SVRA Colonel Allensworth SHP Colusa-Sacramento River SRA Delta Meadows	Folsom Lake SRA Folsom Powerhouse SHP Franks Tract SRA George J. Hatfield SRA Governors Mansion SHP Great Valley Grasslands SP John Marsh Home SHP Lake Oroville SRA Leland Stanford Mansion SHP McConnell SRA Millerton Lake SRA	Old Sacramento SHP Prairie City SVRA San Luis Reservoir SRA State Indian Museum (SHP) Sutter Buttes SP Sutters Fort SHP Tule Elk SNR Turlock Lake SRA William B. Ide Adobe SHP Woodson Bridge SRA
Geomorphic Province: Klamath Mountains						
The Klamath Mountains exhibit rugged topography with prominent peaks and ridges reaching 6,000-8,000 feet above sea level. In the western Klamath, an irregular drainage is incised into an uplifted plateau called the Klamath peneplain. The uplift has left successive benches with gold- bearing gravels on the sides of the canyons. The Klamath River drains from the Cascade Range through the Klamath Mountains. The province is considered to be a northern extension of the Sierra Nevada.	No active faults	Rugged steep slopes	Low to high grade metamorphosed sedimentary rocks with intrusive plutonic rocks.	Castle Crags SP Del Norte Coast Redwoods SP Jedediah Smith Redwoods SP Shasta SHP Weaverville Joss House SHP		

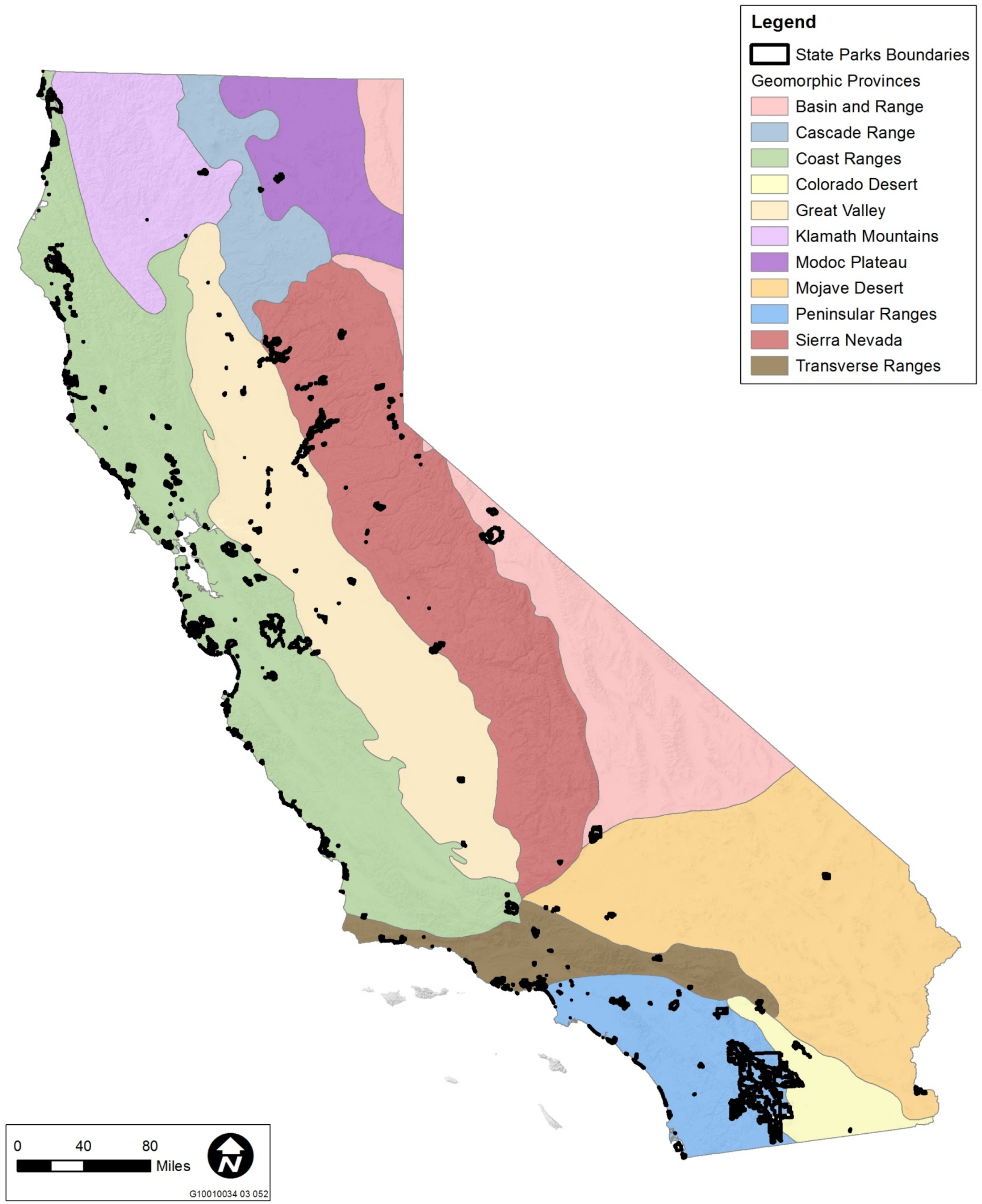
Table 4.7-1 General Geologic Characteristics and California State Parks within California Geological Survey Geomorphic Provinces[1]

Brief Description	Active Faults	Topography[2]	Principle Rock Type	State Park Unit Name within Geologic Province[2]
Geomorphic Province: Modoc Plateau				
The Modoc Plateau is a volcanic table consisting of a thick accumulation of lava flows and tuff beds along with many small volcanic cones. Occasional lakes, marshes, and sluggishly flowing streams meander across the plateau. The plateau is cut by many north-south faults. The province is bound by the Cascade Range on the west and the Basin and Range on the east and south.	Cedar Mountain Hat Creek McArthur	Low relief plateau	Basalt	Ahjumawi Lava Springs SP McArthur-Burney Falls Memorial SP
Geomorphic Province: Mojave Desert				
The province is located in a broad interior region of isolated mountain ranges separated by expanses of desert plains. It has an interior enclosed drainage and many playas. Topography is controlled by prominent northwest-southeast and east-west fault trends. The Mojave Desert is wedged in a sharp angle between the Garlock Fault and the San Andreas Fault, where it bends east from its northwest trend.	Burnt Mountain Calico Eureka Peak Garlock Helendale Kickapoo Lenwood Manix Mesquite Lake Newberry fracture zone North Frontal Pinto Mountain Pisgah-Bullion Johnson Valley	Isolated mountains with large expanses of desert plains	Sedimentary Volcanic	Antelope Valley CA Poppy Preserve (SNR) Antelope Valley Indian Museum SHP Arthur B. Ripley Desert Woodland SP Picacho SRA Providence Mountains SRA Red Rock Canyon SP
Geomorphic Province: Peninsular Ranges				
The province extends from the Santa Monica Mountains approximately 900 miles to the Mexico (Baja California) border. The trend of topography is similar to the Coast Ranges, but the geology is more like the Sierra Nevada, with granitic rock intruding the older metamorphic rocks. The province includes the Los Angeles Basin; the Santa Catalina, Santa Barbara, San Clemente, and San Nicolas islands; and the surrounding continental shelf.	Elsinore Newport-Inglewood Rose Canyon San Jacinto Whittier	Higher mountains and long valleys, often hilly in nature	Igneous (Granite)	Anza-Borrego Desert SP Bolsa Chica State Beach Border Field SP California Citrus SHP Cardiff State Beach Carlsbad State Beach Chino Hills SP Crystal Cove SP Cuyamaca Rancho SP Desert Cahuilla/Freeman Project Doheny State Beach Huntington State Beach Lake Perris SRA Los Angeles SHP Mount San Jacinto SP Ocotillo Wells SVRA Old Town San Diego SHP Palomar Mountain SP Pio Pico SHP Rio de Los Angeles State Park SRA San Clemente State Beach San Elijo State Beach San Onofre State Beach San Pasqual Battlefield SHP San Timoteo Canyon Silver Strand State Beach South Carlsbad State Beach Topanga SP Torrey Pines State Beach Torrey Pines SNR Will Rogers SHP
Geomorphic Province: Sierra Nevada				
The Sierra Nevada is a tilted fault block nearly 400 miles long. The east face of the range is a high, rugged multiple scarp, contrasting with the gentle western slope that disappears under sediments of the Great Valley. Deep river canyons are cut into the western slope. Massive granites in the higher elevations have been modified by glacial sculpturing, forming dramatic landscape features, including Yosemite Valley. The high ridgeline culminates at Mt. Whitney at an elevation of 14,495 feet above sea level near the eastern scarp. The metamorphic bedrock contains northwest trending gold bearing veins. The northern Sierra Nevada boundary is marked where bedrock disappears under the Cenozoic volcanic cover of the Cascade Range.	Cleveland Hill Fort Sage Garlock Hilton Creek Honey Lake Kern front Little Lake Owens Valley Sierra Nevada fault zone White Wolf	Tilted fault block with high rugged scarps. In many areas shaped by tectonic uplift (mountain building) and glacial processes (erosion).	Igneous (Granite)	Auburn SRA Burton Creek SP Calaveras Big Trees SP California Mining and Mineral Museum Columbia SHP D.L. Bliss SP Donner Memorial SP Ed Zberg Sugar Pine Point SP Emerald Bay SP Empire Mine SHP Folsom Lake SRA Grover Hot Springs SP Indian Grinding Rock SHP Kings Beach SRA Lake Oroville SRA Lake Valley SRA Malakoff Diggins SHP Marshall Gold Discovery SHP Millerton Lake SRA Mono Lake Tufa SNR Plumas-Eureka SP Railtown 1897 SHP South Yuba River SP Tahoe SRA Tomo-Kahni SHP Ward Creek Washoe Meadows SP

Table 4.7-1 General Geologic Characteristics and California State Parks within California Geological Survey Geomorphic Provinces[1]

Brief Description	Active Faults	Topography[2]	Principle Rock Type	State Park Unit Name within Geologic Province[2]		
Geomorphic Province: Transverse Ranges						
The San Andreas Fault trends more east-west within the Transverse Ranges compared to other locations in the state (Sharp 1994). This kink in the San Andreas Fault is colloquially known as the "Big Bend." Many of the high peaks of southern California, outside of the Sierra Nevada, are located in this province. In addition, the Channel Islands are included in this province because they are a partially submerged westward extension of the Santa Monica Mountains (Sharp 1994). Great thicknesses of Cenozoic petroleum-rich sedimentary rocks have been folded and faulted, making this an important oil-producing area in the U.S.	Cucamonga Los Alamos Malibu North Frontal Pinto Mountain Raymond Hill Red Mountain San Andreas San Cayentano San Fernando San Gabriel Ventura	High rugged mountains, with long narrow valleys.	Sedimentary Igneous	Carpinteria State Beach Chumash Painted Cave SHP El Capitan State Beach Emma Wood State Beach Gaviota SP Indio Hills Palms La Purisima Mission SHP	Leo Carrillo SP Los Encinos SHP Malibu Creek SP Malibu Lagoon State Beach McGrath State Beach Point Mugu SP Refugio State Beach	Robert H. Meyer Memorial State Beach Santa Susana Pass SHP Silverwood Lake SRA Topanga SP Verdugo Mountains Wildwood Canyon

[1]Sources: California Geological Survey 2002; Sutch and Dirth 2003
[2] State Beach – State Beach; SHM – State Historic Monument; SHP – State Historic Park; SNR – State Natural Reserve; SP – State Park; SRA – State Recreation Area; SVRA – State Vehicular Recreation Area; WC – Wayside Campground



Source: CDC 2002, CSP 2011

Exhibit 4.7-1

California Geomorphic Provinces

COLORADO DESERT

The Colorado Desert province is located to the east of the Peninsular Ranges province and west of the Mojave Desert province. Part of the boundary on the north is formed by the eastern Transverse Ranges. The eastern boundary runs along the Little San Bernardino, Orocopia, and Chocolate Mountains. The Colorado River runs through the extreme southeast corner of the province. Elevations throughout the province are low and extend below sea level in the valley bottoms. The Salton Trough, a northwest trending basin located completely within the province, is the largest area below sea level in the Western Hemisphere. The trough is a pull-apart structure where crustal spreading is taking place. The Salton Sea, the largest lake in California, is located within the Salton trough and receives drainage from the Coachella Valley to the north and the Imperial Valley to the south. The crust beneath the Salton Sea is 12 to 15 miles thick, about six miles thinner than continental crust in other areas, and is seismically active (Sutch and Dirth 2003). The Salton Trough was filled intermittently with the large ancient Cahuilla Lake during the Pleistocene. Fossil shorelines are well defined at the base of the Santa Rosa Mountains. The Colorado Desert has 6 CSP units that cover approximately 94 square miles located in the Salton Sea area and the Anza Borrego Desert.

GREAT VALLEY

The Great Valley of California, also called the Central Valley of California or the San Joaquin-Sacramento Valley, is a nearly flat alluvial plain extending from the Tehachapi Mountains on the south to the Klamath Mountains to the north, and from the Sierra Nevada to the east to the Coast Ranges to the west. Elevations of the alluvial plain are nearly 300 feet above sea level, with extremes ranging from a few feet below sea level to about 1,000 feet above sea level. The only prominent topographic feature within the central part of the valley is the Marysville (Sutter) buttes, a Pliocene volcanic plug that abruptly rises 2,000 feet above the surrounding valley floor.

Geologically, the Great Valley is a large elongate northwest-trending asymmetric structural trough that has been filled with tremendously thick sequences of sediments ranging in age from Jurassic to Recent and has a long stable eastern shelf supported by the subsurface continuation of the granitic Sierran slope and the short western flank expressed by the upturned edges of the basin sediments. The basin has a regional southward tilt and is cut by two significant cross-valley faults. The northernmost fault, the Stockton fault, is the boundary used by most geologists to separate the Great Valley Basin into the Sacramento and San Joaquin River basins. The other great cross-fault lies near the southern end of the basin and is named the White Wolf fault. The Great Valley province has a total of 32 CSP units covering 81 square miles with the majority located along the foothills of the eastern side of the Coast Range and Sierra Nevada, and in Central Valley areas.

KLAMATH MOUNTAINS

The Klamath Mountains cover an elongated north-trending area within northern California and southern Oregon. In California, it includes many different mountain ranges including the South Fork, Salmon, Scott, Scott Bar, and Marble Mountains, the Trinity Alps, and the southern portion of the Siskiyou Mountains (Irwin 1966). Accordant summit levels, highly dissected old land surfaces, and high elevation glacial topography are striking features of many of the ranges within the Klamath Mountains province. The slopes of most of the ranges are heavily forested with fir and pine, particularly in the western portion of the province. The thick forest cover is largely due to heavy rainfall during the winter months (Irwin 1966). Most of the rainfall drains westerly through deeply incised canyons of the Klamath and Trinity Rivers. The easternmost areas of the province drain towards the east and then south to the Sacramento River (Irwin 1966).

The principle rocks of the Klamath Mountains were deposited and concreted during the Nevadan Orogeny (Late Jurassic). The rocks range from Ordovician to Late Jurassic in age and consist largely of greywacke sandstones; mudstones; greenstones; radiolarian cherts; limestone; and igneous intrusive rocks (Irwin 1966). Their pattern of distribution is one of concentric arcuate belts that from east to west are referred to as the Eastern Klamath, Central Metamorphic, and Western Paleozoic and Triassic, and Western Jurassic belts. The Klamath Mountains province has 5 CSP units covering 22 square miles that are located near Castle Crags, City of Shasta, and in coastal mountain areas in Del Norte County.

MODOC PLATEAU

The Modoc Plateau consists of a series of northwest to north-trending block-faulted ranges, with intervening basins filled with broad-spreading “plateau” basalt flows, or with small shield volcanoes, steeper sided lava or composite cones, cinder cones, and lake deposits resulting from disruption of the drainage by faulting or volcanism (MacDonald 1966). The Modoc Plateau contains an expanse of lava flows at an altitude of 4,000 to 6,000 feet and is considered a part of the western extent of the Great Basin that was flooded by volcanics related to the Cascade Range volcanics (MacDonald 1966). The province is bounded on the west by the Cascade Ranges province, to the east and south by the Basin and Range province, and to the north by the Oregon border. The Modoc Plateau province has 2 CSPs within it that cover approximately 10 square miles and are located within the Shasta-Trinity National Forest and adjacent to Big Lake and the Tule River in Shasta County.

MOJAVE DESERT

The Mojave Desert Province is a broad interior region isolated by mountain ranges separated by expanses of desert plain (CGS 2002). Valley bottoms range in elevation from 2,000-4,000 above sea level and mountains range between 3,500 and 5,000 feet. The highest elevation in the province is 7,929 feet at Clark Mountain (Sutch and Dirth 2003). The province is situated in the southeastern corner of California and bordered by the Basin and Range province and the Sierra Nevada province to the north, and the Transverse Ranges province and the Colorado Desert provinces to the southwest (Sutch and Dirth 2003). In relation to tectonics, the Mojave Desert is bordered by the Garlock fault to the north, the San Andreas Fault to the southwest, and the southern extension of the Death Valley fault zone to the east (Walker et al. 2002). Rocks of Precambrian to late Cenozoic age are exposed across the greater Mojave Desert Province region. The area forms the southeastern extent of the Precambrian continental North America (Martin and Walker 1992). The Mojave Desert province has 7 CSP units covering 36 square miles that are located along the Colorado River, Providence Mountains, El Paso Mountains, and inland valley areas of Los Angeles County.

PENINSULAR RANGES

The Peninsular Ranges province consists of southeast-northwest trending ranges separated by long valleys that run subparallel to faults branching from the San Andreas Fault. The Peninsular Ranges merge northward into the Los Angeles Basin, where their northwest trend eventually terminates against the east-west trending Transverse Ranges Province. The Peninsular Ranges province is bounded by the Transverse Ranges province to the north, the Colorado Desert province to the east, and the Mexico border to the south. Westward, the province does not end at the Pacific shore, but continues far out under the ocean as a broad submerged continental borderland. The Peninsular Ranges province has 31 CSPs that cover 1,110 square miles. The majority of the CSP lands within this region are located within the Anza-Borrego Desert. Smaller CSP units are located along the southern California coast and inland valley and mountain areas.

SIERRA NEVADA

The Sierra Nevada is a strongly asymmetric mountain range with a long gentle western slope, and a high and steep eastern escarpment. It is 50 to 80 miles wide and runs northward through eastern California for more than 400 miles, from the Mojave Desert on the south to the Cascade Range in the north. The topography of the Sierra Nevada is shaped by uplift and glacial action. The Sierra Nevada is a huge block of the earth's crust that has broken free on the east along the Sierra Nevada fault system and been tilted westward. It is overlapped on the west by sedimentary rocks of the Great Valley and on the north by volcanic sheets extending south from the Cascade Range. A blanket of volcanic material caps large areas in the northern part of the range.

Most of the south half of the Sierra Nevada and the eastern part of the northern half are composed of plutonic (chiefly granitic) rocks of the Mesozoic age. These rocks compose the Sierra Nevada batholith, a part of an early continuous belt of plutonic rocks that extend from Baja California northward through the Peninsular Ranges and the Mojave Desert. It extends east through the Sierra Nevada at an arcuate angle to the long axis of the range and to the west into Nevada. The Sierra Nevada province has a total of 27 CSP units covering 167 square miles with the majority located along the western and eastern foothills of the Sierra Nevada Mountains.

TRANSVERSE RANGES

The Transverse Ranges province averages 30 miles long and is nearly 300 miles wide, extending from Point Arguello eastward to the Eagle Mountains in the Colorado Desert (Sharp 1994). Mountains in the Transverse Ranges province are composed of progressively older rocks from the west to the east (Sutch and Dirth 2003). The east-west trending landscape defines the Transverse Ranges province, so named because structurally, the geologic features of this province are crosswise to the usual north-westerly trend of California topography. This characteristic is established by faults and folds that control the trend and shape of the mountains, valleys and coastline. Sedimentary rocks predominate in the west and older igneous and metamorphic rocks predominate in the east (Sharp 1994). One of the largest pre-historic landslides in the nation, the Blackhawk landslide, is found within this province. This landslide is located on the north side of the San Bernardino Mountains and is five miles long and two miles wide and up to 100 feet thick. The volume of the landslide is estimated to be 370 million cubic yards in size (Sutch and Dirth 2003). The Transverse Ranges province has 21 CSP units covering 79 square miles with the majority located along southern California coast and coastal mountains between the cities of Ventura and Los Angeles.

SOILS

Soil conditions in California are extremely variable and reflect a diversity of geologic, topographic, climatic, temporal, and vegetative conditions that influence soil formation and composition. Soils are not unique to specific regions or have specific characteristics or properties that distinguish them from other soils. Instead of specific defining properties that define a regional soil, there is a general gradational transition between the properties of one soil compared to another. As a result, a regional evaluation of soils is not informative or useful in the context of the Program EIR. Rather, a general discussion of soil properties and potential soil hazards that could be anticipated from the Process is provided.

Soils can be classified using a variety of methods depending on the application of the information. Engineers use classification methods that evaluate the engineering properties of a soil (e.g., Unified Soil Classification System). Soil scientists typically use classification methods that group soils by their intrinsic properties, geologic origin, and soil behavior in different conditions. The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) utilizes the USDA soil taxonomy system for the classification of soils. This classification is based on chemical, biological, and physical characteristics of soils, including soil color, texture, structure, mineralogy, salt content, and depth. These characteristics are defined in Chapters 2 and 3 of the 1993 USDA Soil Survey Manual and *Soils and Geomorphology* authored by Peter Birkeland (1984).

The NRCS has completed comprehensive soil surveys through the NRCS National Cooperative Soil Survey, a nationwide partnership of federal, state, and local agencies that among other things, investigate, classify, interpret, disseminate, and maintain information about soils in the U.S. Soil surveys have been conducted throughout California by the NRCS and information is provided in the U.S. General Soil Map (STATSGO2) and the Soil Survey Geographic (SSURGO2) digital databases. STATSGO2 provides state general soils maps based on generalized soil survey data and is designed as a tool for county, state, regional, and national resource planning and management. SSURGO2 provides detailed soil maps based on field and air photo surveys conducted by the NRCS at scales of 1:15,840 to 1:31,680. The databases not only provide spatial data, but also provide specific soil property data and analyses of potential soil hazards (e.g., soil erodibility). This information, in conjunction with local soil surveys conducted by CSP, should be used when evaluating soils affected by change-in-use projects pursuant to the Process.

GENERAL SOIL HAZARDS

Soil Erosion

Soil erosion is caused by the detachment and entrainment of soil particles through the action of water and wind. Soils most susceptible to erosion are those high in coarse silt- and fine sand-sized particles (Donahue et. al. 1983), particularly when organic matter content is low and soil structure is weak or nonexistent. The likelihood of erosion is greater when the vegetative cover is removed or reduced, the soil is otherwise disturbed, or when both of these conditions exist. Soil erosion by water is more aggressive on steep slopes than on shallow slopes (e.g., 10 percent gradient or less), because at lower slope gradients surface runoff cannot reach peak velocities necessary to erode the soil. In general, areas with less vegetative cover are more prone to soil erosion than heavily vegetated areas, because surface cover and additional soil structure from plant roots can reduce soil erosion potential. Soil erosion can also be caused by wind in areas with a combination of high winds, removed or disturbed vegetation, fine sandy or silty textures, and low organic matter content (SWRCB 1999). The erosion rate of a particular soil in the absence of human activities is referred to as the natural (background) or geologic erosion rate. Soil erosion in excess of the natural erosion rate is called accelerated soil erosion and is usually caused by human activities such as cultivation, grazing, timber harvesting, poor road construction practices, grading, and other land-disturbing activities (SWRCB 1999).

Shrink and Swell

The shrink and swell potential of a soil refers to the relative change in soil volume in relation to changes in the moisture content, such that the soil expands when wetted and contracts when dried. The magnitude of the effects of shrink and swell are based on the clay mineral content of the soil. Clay minerals, such as montmorillonite, smectite, bentonite, and illite, absorb water and as a result soils containing these clay minerals tend to increase in volume, sometimes by more than 10 percent of the original volume. The volume increase is from the rearrangement of the soil particles and loss of cementation when saturated. The cycle of shrink and swell can be quite damaging to building foundations and infrastructure by removing structural support, and roads by surface cracking and runoff infiltration. Shrink and swell of expansive soils can also cause soil fissures that allow deeper penetration of water during wet conditions. Expansive soils are common throughout California, especially along the coast and coastal mountains extending the entire length of the State.

MINERAL RESOURCES

STATE-WIDE NON-FUEL MINERAL PRODUCTION

The CGS provides an annual summary of the State's mineral production (excluding oil, gas, geothermal and coal). The following information regarding non-fuel mineral resources is based largely on CGS's 2009 annual summary (CGS 2010).

Based on the U.S. Geological Survey's (USGS) preliminary data for 2009, California ranked fourth after Utah, Arizona and Nevada in the value of non-fuel mineral production, accounting for approximately 6.3 percent of the nation's total. The market value of non-fuel mineral production for California was $3.4 billion. California produced more than two dozen different industrial minerals during the year. California led the nation in the production of sand and gravel, diatomite, and natural sodium sulfate, and was the only producer of boron compounds and rare earth minerals. The State ranked second behind Texas for portland cement production. The only metals produced were gold and silver with California ranking 6th in gold production out of eleven states that reported for the year. Other minerals produced commercially include common clay, bentonite clay (including hectorite), crushed stone, dimension stone, feldspar, fuller's earth, gemstones, gypsum, iron ore (used in cement manufacture), kaolin clay, lime, magnesium compounds, perlite, pumice, pumicite, salt, soda ash, and zeolites. There were about 700 active mines in California producing non-fuel minerals during 2009 (CGS 2010).

Industrial Minerals

In 2009, construction grade sand and gravel continued to be California's leading industrial mineral, with an estimated total value of $905 million for 85 million tons produced. California's second largest mineral commodity was portland cement valued at $855 million for 9.3 million tons produced. The third largest dollar value mineral produced in 2009 was boron. Crushed stone ranked fourth in the State with a value of $513 million for 48 million tons produced (CGS 2010).

Aggregate

Both production and value of construction aggregate (sand and gravel and crushed stone) decreased again in 2009. Total production of these two commodities in 2009 was 133.5 million tons valued at slightly over $1.4 billion. The total production of 133.5 million tons in 2009 compares to 156.7 million tons in 2008, 208 million tons in 2007, and 246 million tons in 2006 – amounting to an almost 15 percent decrease from 2008, a 36 percent decrease since 2007, and an almost 46 percent decrease since 2006 (CGS 2010).

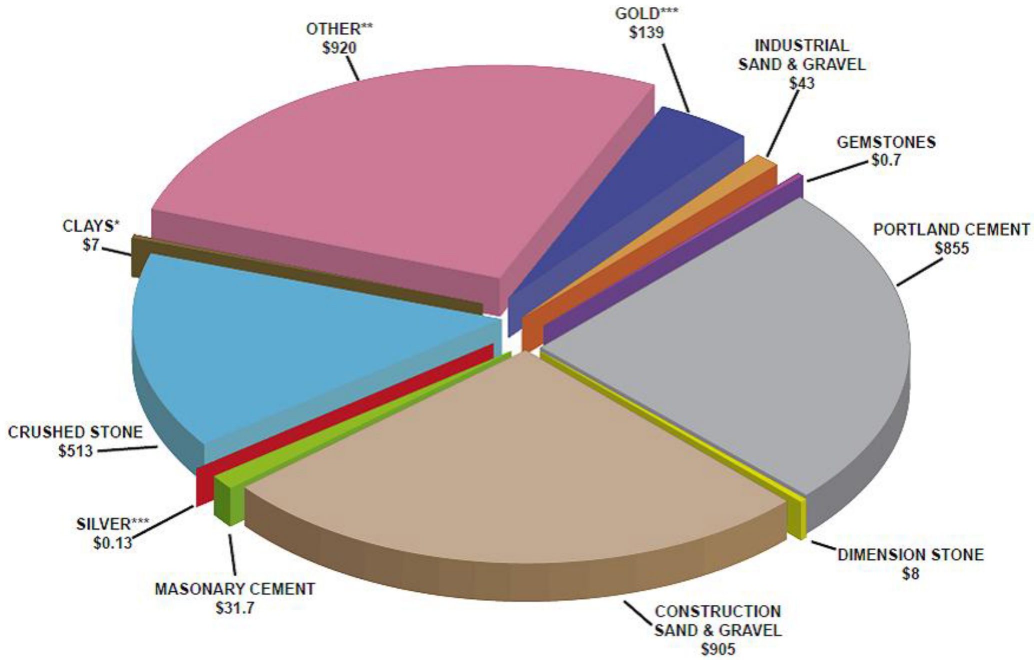
Cement

California's continuing low levels of residential and commercial construction during 2009 contributed to a further drop in both cement production and cement imports for the year. Many plants continued to operate on a reduced schedule to accommodate the lower demand. California's production of portland cement for 2009 was estimated at about 9.3 million tons valued at $855 million (CGS 2010).

Metals

The only metals produced in California in 2009 were gold and silver. Gold dominated California's metal production in 2009 – comprising over 99.9 percent of the value of the State's metals production. Gold production increased to 159,900 ounces in 2009, a 39 percent increase from 2008 production of 115,300 ounces. The value of gold production in the State increased to $138.5 million from $100.6 million in 2008.

Silver is produced as a by-product of gold production and makes up less than one tenth of one percent of California's total metal production. Iron ore, mined in one location in San Bernardino County, is considered an industrial mineral because it is used for the productions of portland cement (CGS 2010).



Source: 2010 California Geological Survey

Notes:
* CLAYS include bentonite and common
** OTHER includes: boron minerals, clays (fire, kaolin, and fuller's earth) diatomite, feldspar, gypsum, iron ore, lime, magnesium, compounds, perlite, salt, soda ash, talc, and zeolites.
*** Data from California Geological Survey. Information modified from preliminary unpublished U.S. Geological (USGS) data.

Exhibit 4.7-2 California Non-Fuel Mineral Production 2009

STATE-WIDE OIL, GAS, AND GEOTHERMAL PRODUCTION

Crude Oil

California is currently ranked fourth in the nation among oil producing states, behind Louisiana, Texas, and Alaska, respectively. Crude oil production in California averaged 731,150 barrels per day in 2004, a decline of 4.7 percent from 2003. Statewide oil production has declined to levels not seen since 1943 (CEC 2006). California Department of Conservation (Division of Oil, Gas, and Geothermal Resources [DOGGR]) reports that the State's total oil production for 2010 was 200,821,137 barrels (bbls) (DOC 2011). The three major regions of California crude oil production are Kern County, the Los Angeles Basin, and the Outer Continental Shelf (OCS) (CEC 2006).

Natural Gas

According to the California Public Utilities Commission (CPUC), the State produces about 15 percent (historically about 1,000 million cubic feet per day (mmcfd) of the total natural gas consumed in the State. With the recent drop in production levels in California, the domestic production has dropped to about 850 to 900 mmcfd. Nearly half of the natural gas produced in the State is distributed by the utility companies to end users. The other half is directly provided to industry and electricity generation customers for their use. The other 85 percent of the natural gas consumed in California comes from the San Juan basin, the Rocky Mountain basin, and the Western Sedimentary basin in Canada (CPUC 2011).

Geothermal

Geothermal energy is produced by the heat of the Earth and is often associated with volcanic and seismically active regions. California, with its location on the Pacific "Ring of Fire," has 25 known geothermal resource areas, 14 of which have temperatures of 300 degrees Fahrenheit or greater (CEC 2011).

Forty-six of California's 58 counties have lower temperature resources for direct-use geothermal. When added together, California's geothermal power plants produce about 4.5 percent of the State's total electricity. Major geothermal locations in California include the Geysers north of San Francisco, Imperial Valley area east of San Diego, and the Coso Hot Springs area near Bakersfield. It is estimated that the State has a potential of more than 4,000 megawatts of additional power from geothermal energy, using current technologies (CEC 2011).

Additionally, two forms of geothermal energy, Hot Dry Rock and Magma, have the potential to provide thousands of megawatts in California. Investigations in Hot Dry Rock were done in the Clear Lake area of Lake County; Magma research occurred in the Long Valley Caldera of Mono County (CEC 2011).

4.7.2 REGULATORY SETTING

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

CLEAN WATER ACT (33 U.S.C. SECTION 1251 ET SEQ.)

The Clean Water Act (CWA) is a 1977 amendment to the Federal Water Pollution Control Act of 1972. The CWA provides standard regulations for the discharge of pollutants to the waters of the United States (U.S.) in order to maintain their chemical, physical, and biological integrity and protect their beneficial uses. In addition, the CWA provides the statutory basis for the National Pollutant Discharge Elimination System (NPDES). Waters of the U.S. are defined as coastal waters, territorial seas, bays, rivers, streams, lakes, ponds, and wetlands (Code of Federal Regulations 40 CFR 122.2).

The CWA requires states to adopt water quality standards that must be approved by the U.S. Environmental Protection Agency (EPA) and requires NPDES permits for the discharge of pollutants in U.S. waters. In addition, the CWA gives authority to the EPA to (1) implement pollution control programs, including setting waste water standards and effluent limits on an industry-wide basis; and (2) authorize the NPDES Permit Program permitting, administration, and enforcement to state governments with oversight by the EPA.

Under Section 303(d) of the CWA, states (states, territories, and tribes) are required to develop lists of impaired and threatened waters. Impaired waters (e.g. rivers, streams, and lakes) are defined as those that do not meet water quality objectives because required pollution control mitigations are not sufficient to attain or maintain these standards. A 303(d) listing acts a “trigger” for states to monitor these water bodies and develop Total Maximum Daily Loads (TMDL) for each pollutant. The TMDL is a calculation of the maximum allowable amount of a pollutant impaired waters can receive without significant negative environmental effects, violation of water quality standards, and/or harm to beneficial uses. The TMDL process also provides an analysis of the linkages between pollutant reductions and the attainment of water quality objectives. The TMDL may also function as an action plan that provides management priorities and mitigation strategies for addressing water quality impairments. The EPA must approve a state’s TMDL or, if denied, the EPA will prepare and implement its own.

Sections under “Title IV-Permits and Licenses” of the Clean water Act regulate the permits and licenses required for any activity that could impair surface waters.

- Section 401, enforced by SWRCB and RWQCB, requires the discharger to obtain certification from the state that potential discharges will comply with approved effluent limits and water quality standards.
- Section 402 regulates the point- and non point-source discharges to surface waters through the NPDES permit program. The NPDES permit program is overseen by the SWRCB and administered by each RWQCB. A general (covers multiple facilities within a specific category) or individual NPDES permit is required for any municipal or industrial point-source discharge and nonpoint-source stormwater discharge. NPDES permits set limits on allowable pollutant emissions or effluent discharges, prohibit the discharges not specifically allowed by the NPDES permit; and provide the discharger with required mitigations to monitor and reduce potential point- and non point-source pollutant discharges. NPDES permits issued for listed pollutants must be consistent with TMDL load allocations.
- Section 404, regulated by the U.S. Army Corps of Engineers (USACE), requires a permit prior to any activity that involves the discharge of dredged or fill material into waters of the U.S. at designated approved locations. Projects with impacts less than or equal to 0.5 acres may be approved through the Nationwide Permit program (NWP).

Phase I and Phase II of the EPA stormwater program were promulgated under the CWA in order to further protect water quality, aquatic habitat, and beneficial uses from stormwater runoff. The EPA stormwater program requires that projects involving more than 1 acre of ground disturbance develop and obtain approval of a Stormwater Pollution Prevention Plan (SWPPP) prior to construction activities, and the implementation of best management practices (BMPs) to control runoff from construction sites during and after construction operations. A Notice of Intent (NOI) must be submitted to the SWRCB when a project is subject to a NPDES permit. Construction projects involving less than 1 acre of ground disturbance are exempt from these regulations.

NATIONAL EARTHQUAKE HAZARDS REDUCTION ACT (U.S. CODE TITLE 42 SECTION 7704)

In 1977, the U.S. Congress passed the Earthquake Hazards Reduction Act (EHRA) of 1977 (Public Law 95-124) to "reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program." The National Earthquake Hazards Reduction Program (NEHRP) was also passed in 1977, in order to accomplish the goals of the Earthquake Hazards Reduction Act. The EHRA and NEHRP were amended in 1990 in order to refine the description of agency's responsibilities, program goals, and objectives. The EHRA was amended as the National Earthquake Hazards Reduction Program Act (NEHRPA). The four general goals of NEHRP include:

- Development of effective practices and policies intended to reduce losses of life and property from earthquakes and accelerate their implementation.
- Improve techniques for reducing seismic vulnerabilities of facilities and systems.
- Improve earthquake hazards identification and risk assessment methods, and their use.
- Improve the understanding of earthquakes and their effects.

The NEHRPA designates the Federal Emergency Management Agency (FEMA) as the program's lead agency, with other supporting agencies including the National Institutes of Standards and Technology, the National Science Foundation, and the U.S. Geological Survey.

There are no Federal regulations applicable to mineral resources.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

CALIFORNIA STATE PARKS MISSION OF RESOURCE PROTECTION

The CSP mission includes a focus on natural resources protection. The mission of CSP is: "To provide for the health, inspiration and education of the people of California by helping to preserve the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high-quality outdoor recreation." Based on this mission and the policies, laws, and regulations implementing it, CSP serves as a steward for the natural resources within its properties, protected in trust for the people of the State. While many public land managing agencies allow consumptive or commercial use, CSP's stewardship is unique in its protection and preservation of the natural resources native to the State. The goal is to create a balance between protection of resources and public outdoor recreation use. Consequently, mineral extraction or consumptive use is not a part of the mission and is not allowed within the State Park System.

ALQUIST PRIOLO EARTHQUAKE FAULT ZONING ACT (PUBLIC RESOURCES CODE SECTIONS 2621-2630)

The Alquist-Priolo Special Studies Zone Act was passed in 1972 to mitigate surface faulting hazards associated with structures intended for human occupancy. Passage of this law was a direct result of the 1971 San Fernando Earthquake that caused extensive damage due to surface fault ruptures. In 1994 it was renamed the Alquist-Priolo Earthquake Fault Zoning Act. The primary purpose of the Alquist-Priolo Earthquake Fault Zoning Act (AP Act) is to mitigate the hazard of fault rupture by prohibiting the location of structures for human occupancy across the trace of an active fault. The AP Act defines an active fault as one that has ruptured within the last 11,000 years.

According to the AP Act, the State Geologist is required to delineate "Earthquake Fault Zones" that are defined as "sufficiently active" and "well defined." The regulatory boundary of an earthquake fault zone is approximately 500 feet from major active faults and between 200-300 feet from well-defined minor faults. The AP Act also requires state and county governments to withhold permits for development within AP Earthquake Fault Zones until a formal geologic investigation is completed that illustrates the location of active fault traces within the potential project area and recommends appropriate setbacks from major and minor active faults.

SEISMIC HAZARDS MAPPING ACT (PUBLIC RESOURCES CODE, CHAPTER 7.8, SECTIONS 2690-2699.6)

Prompted by damaging earthquakes in northern and southern California, the California State Legislature passed the Seismic Hazards Mapping Act (SHMA) in 1990. The Act was codified in the Public Resources Code and signed by the Governor on April 1, 1991. The purpose of SHMA is to protect public safety from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and other hazards caused by earthquakes. The program and actions mandated by SHMA closely resemble those of the Alquist-Priolo Earthquake Fault Zoning Act that addresses only surface fault-rupture hazards.

The California Geological Survey (CGS) is the principal State agency charged with implementing SHMA. Pursuant to the SHMA, CGS is directed to provide local governments with seismic hazard zone maps that identify areas susceptible to amplified shaking, liquefaction, earthquake-induced landslides, and other ground failures. In addition, SHMA specifies that the lead agency for a project may withhold development permits unless geologic or soils investigations are conducted and specific mitigation measures are provide in development plans to reduce hazards associated with seismicity and unstable soils.

Surface Mining and Reclamation Act of 1975

The State Mining and Reclamation Act of 1975 (California Public Resources Code Section 2710 et seq.) (SMARA) required that the California State Geologist implement a mineral land classification system to identify and protect mineral resources of regional or statewide significance in areas where urban expansion or other irreversible land uses may occur, thereby potentially restricting or preventing future mineral extraction on such lands. It is also the intent of this process, through the adoption of general plan mineral resource management policies, that this information be considered in local land use planning activities (California Public Resources Code Section 2762). The California State Mining and Geology Board (SMGB) classifies such urban and non-urban lands according to a priority list, or when the Board is otherwise petitioned to classify a particular land area.

As mandated by SMARA, aggregate mineral resources within the State are classified by the SMGB through application of the Mineral Resource Zone (MRZ) System. The MRZ is used to map all mineral commodities within identified jurisdictional boundaries, with priority given to areas where future mineral resource extraction may be prevented or restricted by land use compatibility issues, or where mineral resources may be mined during the 50-year period following their classification. The MRZ classifies lands that contain mineral deposits and identifies the presence or absence of substantial sand and gravel deposits and crushed rock source areas (i.e., commodities used as, or in the production of, construction materials). The State Geologist classifies MRZs within a region based on the following factors:

- MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- MRZ-2: Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
- MRZ-3: Areas containing mineral deposits for which the significance cannot be determined from available data.
- MRZ-4: Areas where available information is inadequate for assignment of any other MRZ category.

Mining operations and mine reclamation activities are required to be performed in accordance with laws and regulations adopted by the SMGB, as contained in Section 3500 et seq. of Title 14 of the California Code of Regulations (CCR). The State Department of Conservation's Office of Mine Reclamation (OMR) oversees reclamation requirements.

Division of Oil, Gas, and Geothermal Resources

The Division of Oil and Gas, and Geothermal Resources (DOGGR) is within the California State Department of Conservation. The DOGGR is responsible for monitoring the drilling, operation, maintenance, and abandonment of oil, gas, and geothermal wells with the intention of environmental protection, public health and safety, and general environmental conservation methods. DOGGR is also responsible for collecting groundwater, oil, gas, and geothermal resource data for maintaining a record of all drilled and abandoned well locations.

Division of Mines and Geology

The California Division of Mines and Geology (DMG) operates within the Department of Conservation. DMG is responsible for assisting in the utilization of mineral deposits and the identification of geological hazards.

STATE GEOLOGICAL SURVEY

Similar to DMG, the California Geological Survey is responsible for assisting in the identification and proper utilization of mineral deposits, as well as the identification of fault locations and other geological hazards.

4.7.3 SIGNIFICANCE CRITERIA

The following significance criteria have been developed based on the “Geology and Soils” and “Mineral Resources” sections of CEQA Appendix G: Environmental Checklist Form of the State CEQA Guidelines. The impact of the Process on geology, soils, and mineral resources would be considered significant if projects that qualify for implementation under the proposed Process would:

- Expose persons or property to potential substantial adverse effects from an earthquake, including the risk of loss, injury, or death due to:
  - Rupture of a Alquist-Priolo Fault Zoning Act designated earthquake fault
  - Seismic ground shaking
  - Seismic-related ground failure (e.g.) liquefaction
  - Landslides
- Result in substantial soil erosion or loss of topsoil.
- Be located on unstable geologic units or soils, including expansive soils; or located on geologic units or soils that could become unstable as a result of the project; resulting in ground failures.
- Permit the use of septic or alternative wastewater systems in areas where soils are incapable of supporting such systems
- Directly or indirectly destroy a unique paleontological resource or site, or a unique geologic feature.
- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

4.7.4 IMPACT ANALYSIS METHODS AND APPLICABLE PROJECT REQUIREMENTS

IMPACT ANALYSIS METHODS

With regard to geology and soils, the impact analysis focuses on the changes to the existing or baseline geologic and soil conditions in the context of the significance criteria listed in Section 4.1.3. Impacts are assessed by evaluating potential impacts from unstable geology and soils, earthquakes, and landslides associated with the implementation of proposed changes in use in the context of the CSP SPRs. Not all of the significance criteria listed are directly applicable to the Process. Significance criterion that addresses permitting use of septic or alternative wastewater systems in areas where soils are incapable of supporting such systems is not applicable to the Process, because no such facilities would be allowable under the Process. This criterion will be discussed under the Section 5.1.6, Effects Considered No Impact or Less Than Significant Without Project Requirements, of Chapter 5, Effects Found not to be Significant. Further, the potential paleontological resource impacts of the Process will be analyzed in Section 4.6, “Cultural Resources,” and will not be discussed further in this section. Impacts to mineral resources were evaluated by describing the extent to which mineral resources are likely to exist within CSP facilities and evaluating any potential reduction in availability associated with allowing additional user types on CSP trail facilities.

This Program EIR contains a technical study pertaining to the analysis of road and trail change-in-use project impacts on soil erosion. The technical study was developed to address key issues related to erosion that are critical to the definition of the CSP Road and Trail Change-In-Use Evaluation Process. The main goal of the erosion study was to develop a framework for a practical analytical methodology that can be employed to evaluate existing and potential impacts on soil erosion in the Program EIR and to assist CSP staff with making informed decisions regarding the change-in-use proposals for roads or trails. This methodology approach employs existing models, hybrid model(s), method(s), and other practical decision-making approaches that can be used by CSP staff when reviewing change-in-use proposals. This technical study involves: 1) a rigorous review of available relevant literature pertaining to the evaluation of soil erosion on trails, including the review of trail condition assessment techniques, and environmental and user defined processes that effect soil erosion; (2) evaluation of the suitability and appropriateness of erosion hazard models and decision framework tools that would help State Parks staff make informed decisions about whether proposed trail uses will have impacts on soil erosion; (3) development of a systematic and rational framework for a CSP road and trail change-in-use decision-assistance tool based on site characteristics (topographic characteristics, soil types, trail features and trail use variables), sound science, and supported by sound technical literature; (4) evaluation of the CSP trail evaluation procedures, including the Change-In-Use Survey Form, Trail Log, and California Geological Survey (CGS) Watershed Assessment Tool for consistency and transparency with the proposed decision-assistance tool and amending the State Parks procedures to include criteria data necessary for the decision-assistance tool; and 5) preparing recommendations for revisions to the change-in-use evaluation process and SPRs, as presented in a report of technical findings. Please refer to Appendix K Road and Trail Change-In-Use Erosion Vulnerability Study for the technical report. The recommendations for SPRs are contained in the description of requirements presented below.

APPLICABLE STANDARD PROJECT REQUIREMENTS

The following Standard Project Requirements (SPRs) would generally affect the trail design or construction related to the implementation of projects under the proposed Process. No SPRs directly address mineral resources. Because SPRs would be applicable at all park units for an array of change-in-use project scenarios, placeholders are provided in several of the SPRs (such as for responsible parties), so that, depending on the location and type of project and associated resource issues, the requirement can be applied to specific projects and associated responsible parties**.**

CONSTRUCTION GENERAL PERMIT AND SWPPP MEASURES

GEO-1: Prior to the start of construction involving ground-disturbing activities totaling 1 acre or more, CSP will direct the preparation of a Stormwater Pollution Prevention Plan (SWPPP) by a Qualified Stormwater Pollution Plan Developer (QSD) for CSP approval that identifies temporary Best Management Practices (BMPs) (e.g., tarping of any stockpiled materials or soil; use of silt fences, straw bale barriers, fiber rolls) and permanent (e.g., structural containment, preserving or planting of vegetation) for use in all construction areas to reduce or eliminate the discharge of soil, surface water runoff, and pollutants during all excavation, grading, trenching, repaving, or other ground-disturbing activities.

CONSTRUCTION-RELATED MEASURES

GEO-2: All construction, improvement, modification, or decommissioning of trails, and conversion of roads-to-trails, will be consistent with CSP BMPs, Departmental Operations Manuals (DOMs), and Trail Handbook guidelines.

GEO-3: A qualified geologist will review road decommissioning and road-to-trail conversion sites during change-in-use project planning to determine if any geologic or soil conditions exist that require additional assessment or alteration of prescriptions. If unique features do exist, a licensed geologist will conduct a geologic assessment/investigation.

GEO-4: Heavy equipment operators will be cautioned to minimize their exposure to unstable slopes that may occur naturally or result from the earthmoving process. Inspectors will continually evaluate slope geometry and caution operators if unstable conditions are indicated.

GEO-5: Prior to the start of on-site construction activities, CSP staff will determine the minimum area required to complete the work and define the boundaries of the work area on project drawings.

GEO-6: All construction activities will be suspended during heavy precipitation events (i.e., at least 1/2-inch of precipitation in a 24-hour period) or when heavy precipitation events are forecast.

GEO-7: No high ground pressure vehicles will be driven through project areas during the rainy season when soils are wet and saturated to avoid compaction and/or damage to soil structure. Existing compacted road surfaces are exempted as they are already well compacted from use.

GEO-8: Excavated spoil from project work will be placed in a stable location where it will not cause or contribute to slope failure, or erode and enter a stream channel or wetland. Spoil areas will be compacted in lifts and blended into the surrounding landscape to promote uniform sheet drainage. Stream flow will not be allowed to discharge onto spoil areas, regardless of discharge rate.

GEO-9: Bare ground will be mulched with vegetation removed during the work, or with other mulch materials, to the maximum extent practicable to minimize surface erosion.

GEO-10: Immediately following reconstruction, trails will be closed for a period following construction that allows for one wet-dry cycle (e.g., one winter's duration) to allow the soil and materials to settle and compact before the trail opens to the public. Routine maintenance will also be performed on the trail as necessary to reduce erosion to the extent possible and to repair weather-related damage that could contribute to erosion.

PROJECT DESIGN-RELATED MEASURES

GEO-11: Trail stream crossings will have a drainage structures designed for the 100-year storm flow event or be capable of passing the 100-year peak flow without significant damage.

GEO-12: Trail stream crossings will be designed and constructed without the potential for stream diversion.

GEO-13: CSP staff will install appropriate energy dissipaters and employ other erosion control measures at water discharge points, as appropriate.

GEO-14: Install armored rock crossings at ephemeral drainages, micro drainages and swales to harden the trail tread in areas of potential interface between trail users and natural topographic drainage features.

GEO-15: All drainages (including micro drainages) will not be captured, diverted or coupled with other drainages by the trail.

GEO-16: Water will not be accumulated on the trail and drained off onto landforms where natural drainages do not exist.

GEO-17: Trail fillslopes will be designed with stable slope gradients as defined in CSP trail construction manuals, guidelines, and handbooks. Unstable fillslopes will be stabilized or removed.

GEO-18: Trail surfaces and ditches will be hydrologically disconnected from wetlands, streams and stream crossings to the extent feasible.

GEO-19: Provide outslope to the trail tread and remove any outer edge berm to facilitate sheet flow off the trail where the dispersed flow can be filtered by vegetation and organic litter.

GEO-20: When outsloping trail surfaces are not feasible, such as steep linear trail grades, construct rolling dips to direct runoff safely off the trail to prevent buildup of surface runoff and subsequent erosion. Water bars will be used as a last resort if outsloping, rolling dips, or minor rerouting are not feasible, or on trails receiving minimal use. Water bars will be constructed to divert water to controlled points along the trail and with rock armor at the downslope end for energy dissipation.

GEO-21: If soils and parent material geologic capability are not sustainable, overly steep grades will be mitigated with surface hardening techniques. Hardening techniques (such as high-quality compacted aggregate or road/trail structures such as steps or retaining walls) will keep the surface sustainable, firm and stable.

GEO-22: CSP staff will develop a rehabilitation plan for the decommissioned road or trail that includes using brush and trees removed from the new trail alignment for bio-mechanical erosion control (bundling slash and keying it in to fall of trail, filling damaged trails sections with soil and duff removed from the new trail alignment, constructing water bars, and replanting native trees and shrubs)..

GEO-23: Both ends of the decommissioned road or trail or road-to-trail conversion will be clearly blocked, and scatter its length with vegetative debris from new trail construction to discourage continued use and degradation of the decommissioned portion of the road or trail.

GEO-24: Seasonally close trails to all users when soils are saturated and softened.

GEO-25: Install “pinch points” to reduce downhill bicycle speed and increase the line of sight at curves.

GEO-26: Construction or repair of barriers at switchbacks to discourage shortcuts and the creation of volunteer trails.

GEO-27: Educational signage and user safety plans will be provided in coastal areas subject to tsunamis, areas adjacent to enclosed waterbodies that are susceptible to seiches, and areas at risk for mudflows.

Event-Related Measures

GEO-28: After a large earthquake event (i.e., magnitude 5.0 or greater within 50 miles of the project site), CSP staff will inspect all project structures and features for damage, as soon as is possible after the event. Any damaged structures or features, including landslides, will be closed to park visitors, volunteers, residents, contractors, and staff until such features or structures have been evaluated and/or repaired.

GEO-29: After a large storm or rainfall event (i.e., ≥ 1" in 24 hours), **[insert who]** will inspect all project structures and features for damage, as soon as is possible after the event. Any damaged structures or features will be closed to park visitors, volunteers, residents, contractors, and staff until such features or structures have been evaluated and/or repaired.

An example of a typical pinch point installed for speed control is shown in Exhibit 4.7-3.

Source: CSP 2012

Exhibit 4.7-3 **Example of a Trail Pinch Point for Speed Control**

4.7.5 ENVIRONMENTAL IMPACTS AND MITIGATION

Environmental impacts are assessed by the significance criteria listed in Section 4.6.3, Significance Criteria. In some cases, multiple significance criteria are listed under each potential environmental impact. Each impact is assessed and evaluated to determine whether significant environmental effects could be avoided based on the application of SPRs listed above. In addition to the implementation of SPRs, the Adaptive Use Management (AUM) process as described in Section 4.1, Programmatic Environmental Impact Analysis Approach, will provide additional assurance that impacts to geology and soils are maintained at less-than-significant levels. At the start of the Process, CSP staff will develop baseline and existing erosion geology and soil conditions of the existing road or trail proposed for changes in use and adjacent areas during the Change-In-Use Survey. Once baseline conditions are established, Project-Specific Requirements (PSRs) with performance standards will be developed for the proposed change-in-use project. These PSRs will be developed from CSP BMP documents, DOMs, and

Trail Handbook guidelines with the goal to reduce impacts to geology and soils. CSP staff will monitor the trail and affected areas over a period of five years for effects associated with elevated use, change-in-user types, trail design performance, and any lasting effects from trail design and construction activities. If the trail affected by the change-in-use proposal exhibits geologic instabilities or soil erosion at significant levels, CSP staff will develop a mitigation plan to reduce the effects to less than significant. If mitigation efforts could not reduce the environmental effects, then a Superintendent's Order may be necessary to rescind or change the conditions of the change in use.

IMPACT 4.7-1	**Seismic Hazards.** Trail construction and trail user activities related to a proposed change in use may have the potential to expose persons or property to potential substantial adverse effects from an earthquake, including the risk of loss, injury, or death due to rupture of a Alquist-Priolo Fault Zoning Act designated earthquake fault, seismic ground shaking, seismic-related ground failure (e.g., liquefaction), and landslides. Many CSP units are located in seismically active areas that could experience significant ground shaking or result in fault rupture, seismic ground failures, and/or landsliding. However, under the proposed Process, seismic hazards would be avoided through the implementation of SPRs GEO-2 through GEO-6, GEO-8, GEO-10, GEO-14, GEO-15, GEO-17, GEO-21, GEO-24, GEO-27, and GEO-28. This impact would be **less than significant.**

Many areas in California are seismically active and strong shaking can be expected in the event of an earthquake event. Active faults have been identified in all geomorphic provinces, with the exception of the Klamath Mountains province. Numerous active faults, including AP Act designated faults, are known to exist within certain park units within the CSP system. It is important to note that the AP Act applies only to structures for human occupancy but the AP Act zones accurately delineate areas at greatest risk for surface fault rupture. Earthquakes along AP earthquake zones could potentially generate seismic events capable of significantly affecting the road and trail system. Strong ground shaking generated by an earthquake could cause ground failures, including landslide movement and liquefaction, especially during periods of soil saturation. Project actions defined under the Process would not have any impacts on earthquake occurrence, but earthquakes could present a potential hazard of loss, death, or injury for trail users, and impacts to trail infrastructure in areas prone to these natural events.

Projects that would qualify for implementation under the Process do not include the construction of buildings. The focus would be primarily on minor construction activities on existing road and trails, road-to-trail conversions, minor trail rerouting, the installation of road/ trail structures, and road/trail decommissioning. Integration of SPRs into design and construction plans for potential road and trail change-in-use projects would maintain seismic hazards impacts to the road and trail system from earthquake events at existing levels. GEO-2 through GEO-6, GEO-8, and GEO-10 will provide assurance that impacts are maintained at less-than-significant level through the implementation of appropriate preconstruction and construction measures to maintain the stability of the facilities. GEO-14, GEO-15, GEO-17, GEO-21, and GEO-24 provide design standards that would enhance the integrity and stability of the trail and adjacent areas. GEO-27 would provide protection to trail users from the exposure to seismic-related dangers, and educational signage alerting users if they are located with an area prone to earthquakes or tsunamis. As a component to GEO-27, trail kiosks with evacuation maps for alternate escape routes, and safety plan information would assist in educating the public on how to respond and act during these natural disasters. GEO-28 would require implementation of additional safety measures for the public and CSP staff by evaluating the conditions of the trail and adjacent areas, and structures for damage after a large earthquake event and providing closure and mitigation plans for damaged areas.

Although implementation of the proposed Process could result in construction-related seismic hazards, implementation of SPRs GEO-2 through 6, GEO-8, GEO-10, GEO-14, GEO-15, GEO-17, GEO-21, GEO-27, and GEO-

28 would maintain impacts at a less-than-significant level through implementation of appropriate avoidance, design, stabilization and safety measures.

IMPACT 4.7-2	**Erosion and Loss of Topsoil.** Under the proposed Process, qualifying projects on existing trails could involve the disturbance of surface soils during minor construction activities, including trail rerouting, restoration, decommissioning, rehabilitation, and installation of road/trail structures (i.e. road/trail structures, such as steps or retaining walls), as well as soil disturbance caused by use-related activities (type and intensity of use). However, significant erosion impacts would be avoided through implementation of the SPRs GEO-1 through GEO-27 and GEO-29. This impact would be **less than significant.**

Potential impacts to geology and soils from erosion could occur during short-term construction-related activities and long-term user-type or use-related activities.

SHORT-TERM CONSTRUCTION RELATED IMPACTS

Soil erosion risk increases with increasing slope, precipitation, ground disturbance, and decreasing vegetative cover. Ground-disturbing activities, including excavation, grading, and other construction activities, conducted under qualifying projects under the Process (e.g., road/ trail rerouting, reconstruction, rehabilitation, decommissioning, road-to-trail conversions, and the installation of road/trail structures) coupled with loss of vegetation from trail use and climatic factors could result in soil erosion or the loss of topsoil. Removal of soil and vegetation exposes bare earth and could cause unstable conditions, resulting in soils that are easily disturbed by equipment and eroded by rain and wind. Additionally, project construction activities on road/trail alignments situated on steep slopes in areas underlain by unstable geology or sensitive soils are prone to higher erosion hazards that could result in erosion of surface soils during construction activities.

For qualifying projects, short-term, construction-related impacts from erosion and sedimentation would be avoided or maintained at less-than-significant levels through the implementation SPRs GEO-1 through GEO-10. GEO-1 would reduce or eliminate surface soil erosion through the development and implementation of a SWPPP. SPRs GEO-2 through GEO-10 would ensure that construction activities would not have significant impacts on soil erosion or operate in geologically sensitive areas.

LONG-TERM USER AND DESIGN RELATED IMPACTS

Each user group creates activity on trails that could lead to the potential for varying levels of soil erosion impacts, an inevitable outcome of repetitive use. Soil compaction and erosion, loss of organic litter, and loss of ground cover are all impacts that could result from all trail usage. Certain user groups, however, create impacts that are unique to those groups.

HIKERS

Although each user group has the potential to cause impacts from soil erosion, those caused by hikers are typically minor when exercising proper trail etiquette on adequately-maintained trails and in good weather conditions. Nevertheless, impacts do occur as use (or misuse) often occurs under suboptimum conditions. Hikers could shortcut trails on switchbacks and cause erosion over volunteer routes. Shortcuts result in trampled native vegetation and disturbed soil. Severe rutting or rockiness caused by soil erosion or muddiness often brings about trail widening from users as does hiking side-by-side.

HORSES

Aust, Marion, and Kyle (2005, pg.9) noted that whereas hikers generate an average of only 2.9 pounds per square inch (lbs/in^2)of pressure on the ground under each foot, horses generate approximately 62 lbs/in^2 of pressure on the ground under each shod hoof. The greater weight of horse and rider impacts trails by loosening surface soils that are otherwise compacted, detaching soil particles and increasing sediment yield and erosion. Horses also create potholes that fill with water and soften the surrounding surface, again increasing the potential for off-site sedimentation. Grazing by horses could result in compaction and the loss of vegetation that holds soils in place and filters runoff.

MOUNTAIN BIKING

Impacts unique to mountain bikes that contribute to erosion and off-site sedimentation are those caused by sudden braking or skidding, linear rut development, user conflict, the addition of unauthorized constructed features to the trail, and informal trail development. These impacts primarily result from excessive speed or using the trails under suboptimum conditions.

OTHER POWER-DRIVEN MOBILITY DEVICES (OPDMDS)

According to the American Disabilities Act, Title II, Section 35.104, other power-driven mobility devices (OPDMDs) are defined as "any mobility device powered by batteries, fuel, or other engines — whether or not designed primarily for use by individuals with mobility disabilities — that is used by individuals with mobility disabilities for the purpose of locomotion, including golf cars, electronic personal assistance mobility devices (EPAMDs), such as the Segway® PT, or any mobility device designed to operate in areas without defined pedestrian routes, but that is not a wheelchair within the meaning of this section. This definition does not apply to Federal wilderness areas; wheelchairs in such areas are defined in Section 508(c)(2) of the ADA, 42 U.S.C. 12207(c)(2)."

OPDMDs are wheeled devices that have water quality impacts similar to those associated with mountain biking, with the exception that OPDMDs are not intended to be used as high performance recreational vehicles and are typically operated at speeds less than 5 miles per hour. As a result, these devices are not prone to skidding or fast speeds that could result in elevated levels of erosion and sediment delivery. General use of OPDMDs could result in damage to vegetation and development of bare soil conditions from stripping or uprooting, development of alternate shortcut routes in wide trail corridors, and linear rutting from use in wet saturated areas or from increased speeds up steeper trail segments.

Long-term design-related impacts from soil erosion could result from poor trail design and maintenance. Common erosion features from poorly designed roads and trails include stream gully erosion from undersized stream drainage structures (e.g., culverts undersized for the 100-year storm event), hillslope gully erosion from diverted streams crossings, mass wasting (i.e., landslides) from over steepened fillslopes or the construction of roads/trails on steep hillslopes, and long un-drained sections of road and ditch that create surface erosion and gullies. In addition, poorly maintained roads and trails could result in soil erosion and hillslope instability. Examples of erosion from the lack of proper maintenance include large fillslope and hillslope gullies from the failure of unmaintained plugged culverts, and over steepened side cast fill failures from improper grading techniques.

For qualifying projects, long-term impacts from trail user-types would be maintained at less-than-significant levels through the implementation of SPR GEO-23 through GEO-26. These standards would provide trail design elements that would reduce soil erosion impacts from modified trail user-types. Long-term road/trail design impacts could be maintained at less-than-significant levels through the implementation of SPRs GEO-2 and GEO-11 through GEO-22. These requirements would provide road/trail design standards that are intended to provide long-term trail integrity and sustainability. Finally, SPR GEO-29 would provide additional safeguard against long-term soil erosion, gullying, and fill/hillslope instability by inspecting the qualifying project area after large rainfall events for existing and potential erosion problems and geologic instabilities.

Construction and operational erosion impacts from change-in-use projects qualifying for implementation under the Process would be **less than significant.**

IMPACT 4.7-3	**Unstable Geologic Units.** In some areas, qualifying change-in-use projects under the proposed Process could be located on unstable geologic units or soils, including expansive soils; or located on geologic units or soils that could become unstable as a result of the project; resulting in ground failures. Unstable geologic units and soils, including expansive soils, are present in some park units within the CSP system. However, under the proposed Process, unstable geologic unit impacts would be avoided through the implementation of SPRs GEO-2 through GEO-8, and GEO-16 through GEO-21. This impact would be **less than significant.**

Many park units with the CSP system are underlain by unstable geologies (e.g., Franciscan mélange Coast Ranges geomorphic province; unconsolidated young coastal marine sediments in the Transverse Ranges, Peninsular Ranges, and Coast Ranges geomorphic provinces), and in some areas by expansive soils. Expansive soils with a moderate-to-high shrink and swell potential contain large percentages of clay minerals such as smectite, montmorillonite and illite, which expand during wet seasons and shrink during dry seasons. Under these conditions, damage to buildings, roads, and other structures can occur. Erosion or ground failures could occur as a result from the implementation of project actions on park units within the CSP system in areas underlain by unstable geologies or expansive soils with moderate-to-high shrink/swell potential.

Some qualifying road and trail change-in-use projects would require minor construction activities, including road-to-trail conversions, trail reconstruction or rehabilitation, decommissioning, or areas that will require shallow disturbance and minor excavation of areas underlain by expansive soils or unstable geologies. Implementation of SPRs GEO-2, GEO-4 through GEO-8 and GEO-16 through GEO-21 would provide standards for proper trail design and specific construction activity requirements for project actions in potentially unstable areas In addition, SPR GEO-3 would provide oversight and inspection by CSP staff to determine geologic and soil conditions and suitability for proposed road and trail change in uses. Implementation of these SPRs would maintain potential impacts at a **less-than-significant** level.

IMPACT 4.7-4	**Reduce availability of a known mineral resource.** Change-in-use projects approved under the proposed process would involve only existing roads and/or trails at existing CSP units. Mineral extraction is already prohibited within the State Park System. No additional land would be acquired as a result of implementing the proposed Process. Therefore, no change in the availability of a known mineral resource would occur. The proposed Process would result in **no impact** to mineral resources.

As described above under Section 4.6.1, “Environmental Setting”, valuable mineral resources exist throughout the State. While it is likely that mineral resources exist within CSP units, extraction and consumptive use of minerals is not consistent with the CSP mission or policies. Commercial mining is, therefore, prohibited on CSP units. Change-in-use proposals would involve existing trails within existing CSP units. Acquisition of new land would not occur under the proposed Process. Therefore, the proposed Process would not change the availability of any existing mineral resource. No impact to mineral resources or mineral resources recovery sites would occur.

4.7.6 EFFECTS FOUND NOT TO BE SIGNIFICANT

Road and trail change-in-use projects would not involve installation of septic or alternative wastewater systems. These activities are not included approved project actions under the Process. Therefore, no impact would result. No impact topics related to mineral resources are listed as effects found not to be significant for purposes of compliance with the CEQA Guidelines Section 15128.

4.7.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the integration of SPRs, the impacts to geology and soils from a change-in-use project completed under this Process would be less than significant. All impacts related to mineral resources would be less than significant. Mitigation measures are not required. If a change-in-use proposal could not maintain impacts to geology, soils, and mineral resources at less-than-significant levels, it would be disqualified from approval using this Process. If CSP pursued such a project further, CSP would conduct a separate CEQA review process with appropriate documentation, wherein the potential significant environmental impact(s) would be addressed and mitigated, if feasible.

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4.8 GREENHOUSE GAS/CLIMATE CHANGE/SEA-LEVEL RISE

This section presents the current state of climate change science and an overview of greenhouse gas (GHG) emissions sources in California; a summary of applicable regulations; and a description of potential GHG emissions resulting from the implementation of qualifying change-in-use projects under the Road and Trail Change-In-Use Evaluation Process (Process) Program EIR and their contribution to global climate change. The analysis describes the amount of GHG associated with construction and operational activities that implementation of the Process would produce and identifies the potential effects of global climate change on California State Park (CSP) units based on available scientific data. Because GHG emissions are cumulative in nature, as discussed further below, no additional cumulative climate change-related analysis is provided in Section 6.1.2, Cumulative Impacts by Resource Topic, of this Program EIR.

4.8.1 ENVIRONMENTAL SETTING

Emissions of GHGs have the potential to adversely affect the environment because such emissions contribute, on a cumulative basis, to global climate change. The proper context for addressing this issue in a CEQA analysis is as a discussion of cumulative impacts, because although the emissions of one single project would not result in global climate change, GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change. In turn, global climate change has the potential to result in rising sea levels, which can inundate low-lying areas; to affect rainfall and snowfall, leading to changes in water supply; to affect habitat, leading to adverse effects on biological resources; and to result in other effects.

Although the impact of GHGs is inherently cumulative, it is different from typical cumulative impact analyses. GHG emissions are generated by anthropogenic (i.e., human-made) and biogenic (i.e., natural-process) sources throughout the world, and to that end are an ultimate cumulative impact. The cumulative impact analyses for other resource areas focus on a more local scale, such as the project combined with other projects within a viewshed, forest resource area, or regional air basin, depending on resource topic. Therefore, this issue is presented at some depth, and focuses on the potential contribution to this global impact from the types of qualifying change-in-use projects that could be implemented under the proposed Process.

ATTRIBUTING CLIMATE CHANGE-THE PHYSICAL SCIENTIFIC BASIS

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface, and a smaller portion of this radiation is reflected back toward space. Radiation absorbed by the earth's surface is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. The earth has a much lower temperature than the sun; therefore, the earth emits lower frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on Earth. Without the greenhouse effect, Earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Human-caused emissions of these GHGs in excess of natural ambient concentrations are responsible for intensifying the greenhouse effect and have led to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is *extremely unlikely,* according to the Intergovernmental Panel on Climate Change

(IPCC), that global climate change of the past 50 years can be explained without the contribution from human activities (IPCC 2007: p. 86).

Climate change is a global problem. Unlike criteria air pollutants and toxic air contaminants, GHGs are global pollutants that are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. Of the total annual human-caused CO_2 emissions, approximately 54 percent is sequestered through ocean uptake, uptake by northern hemisphere forest regrowth, and other terrestrial sinks within a year, whereas the remaining 46 percent of human-caused CO_2 emissions remains stored in the atmosphere (Seinfeld and Pandis 1998: p.1088).

Similarly, impacts of GHGs are borne globally, as opposed to localized air quality effects of criteria air pollutants and toxic air contaminants. The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; suffice it to say, the quantity is enormous and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature, or to global, local, or micro climate. From the standpoint of CEQA, GHG impacts related to global climate change are inherently cumulative.

ATTRIBUTING CLIMATE CHANGE—GREENHOUSE GAS EMISSION SOURCES

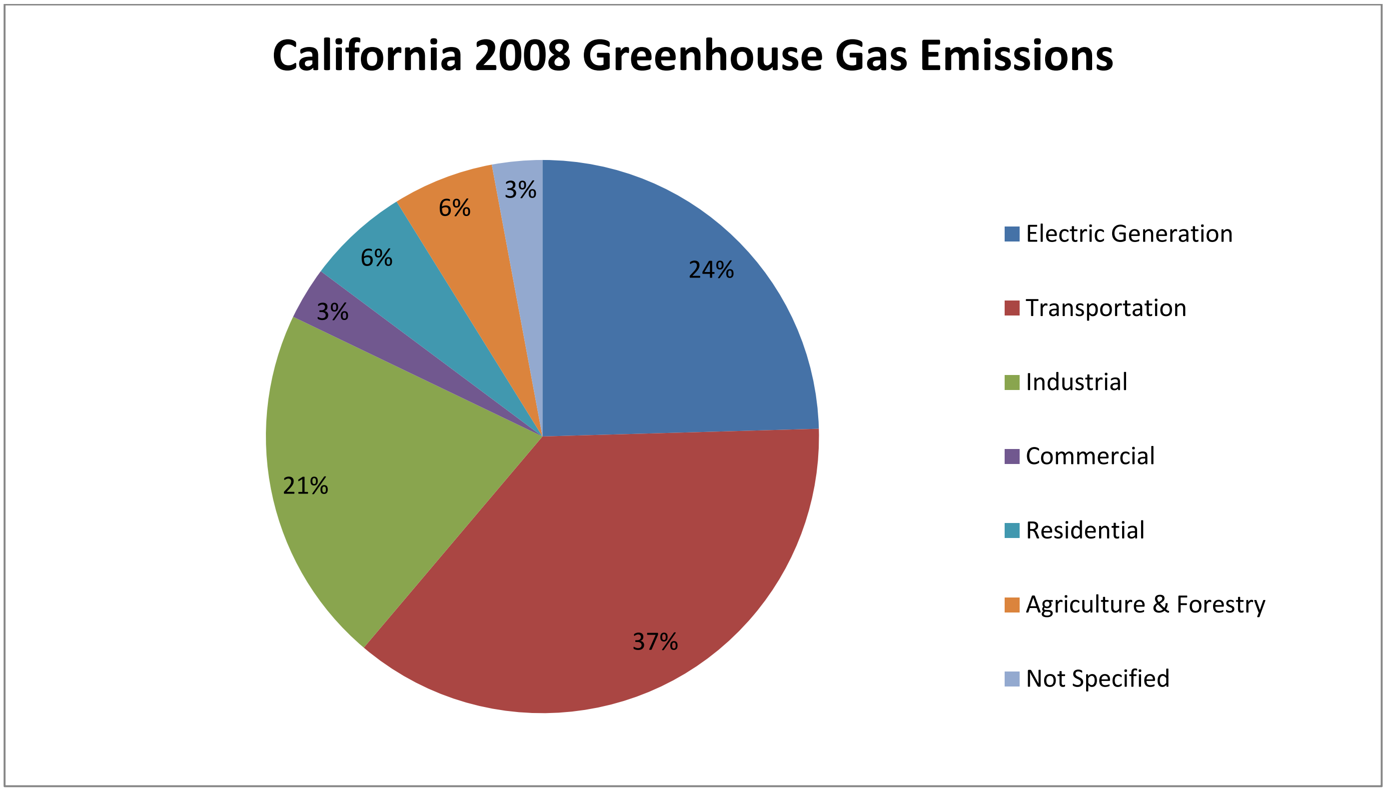
Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with transportation, industrial/manufacturing, utility, residential, commercial and agricultural emissions sectors (ARB 2010).

Emissions of CO_2 are byproducts of fossil fuel combustion. CH_4, a highly potent GHG, results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) is largely associated with agricultural practices and landfills. N_2O is also largely attributable to agricultural practices and soil management. CO_2 sinks, or reservoirs, include vegetation and the ocean, and absorb CO_2 through sequestration and dissolution, respectively, two of the most common processes of CO_2 sequestration.

GHG emissions are commonly measured in carbon dioxide equivalent (CO_2e), a metric that accounts for the fact that different GHGs have different potentials to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential (GWP) of a GHG, is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, as described in Appendix C, Calculation References, of the General Reporting Protocol of the California Climate Action Registry (CCAR), now called The Climate Registry (CCAR 2009: p.94), 1 ton of CH_4 has the same contribution to the greenhouse effect as approximately 21 tons of CO_2. Therefore, CH_4 is a much more potent GHG than CO_2. Expressing emissions in CO_2e takes the contributions of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

STATE GREENHOUSE GAS EMISSIONS INVENTORY

In California, the Air Resource Board (ARB) is responsible for maintaining and updating California's GHG Inventory. The latest edition was completed in 2010 and includes emissions estimates for years 2000 to 2008. Based on the California GHG Inventory, California produced 478 million gross metric tons of CO_2 equivalent (CO_2e) in 2008 (ARB 2010). In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation (ARB 2010). GHG emission estimates in California are summarized by economic sector in Exhibit 4.8-1.



Source: ARB 2010

Exhibit 4.8-1 **California 2008 Greenhouse Gas Emissions**

4.8.2 REGULATORY SETTING

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

The U.S. Environmental Protection Agency (EPA) is the federal agency responsible for implementing the Clean Air Act (CAA). The U.S. Supreme Court ruled on April 2, 2007, that CO_2 is an air pollutant as defined under the CAA, and that EPA has the authority to regulate emissions of GHGs. In response to the mounting issue of climate change, EPA has taken actions to regulate, monitor, and potentially reduce GHG emissions.

MANDATORY GREENHOUSE GAS REPORTING RULE

On September 22, 2009, EPA issued a final rule for mandatory reporting of GHGs from large GHG emissions sources in the United States. In general, this national reporting requirement will provide EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons (MT) or more of CO_2 per year. This publicly available data will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost-effective opportunities to reduce emissions in the future. Reporting is at the facility level, except that certain suppliers of fossil fuels and industrial greenhouse gases along with vehicle and engine manufacturers will report at the corporate level. An estimated 85 percent of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this final rule.

National Program to Cut Greenhouse Gas Emissions and Improve Fuel Economy for Cars and Trucks

On September 15, 2009, EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) proposed a new national program that would reduce GHG emissions and improve fuel economy for all new cars and trucks sold in the United States. EPA proposed the first-ever national GHG emissions standards under the CAA, and NHTSA proposed Corporate Average Fuel Economy standards under the Energy Policy and Conservation Act. This proposed national program would allow automobile manufacturers to build a single light-duty national fleet that satisfies all requirements under both federal programs and the standards of California and other states.

Endangerment and Cause or Contribute Findings

On December 7, 2009, EPA adopted its Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases under the CAA (Endangerment Finding). The Endangerment Finding is based on Section 202(a) of the CAA, which states that the Administrator (of EPA) should regulate and develop standards for "emission[s] of air pollution from any class of classes of new motor vehicles or new motor vehicle engines, which in [its] judgment cause, or contribute to, air pollution that may reasonably be anticipated to endanger public health or welfare." The rule addresses Section 202(a) in two distinct findings. The first addresses whether or not the concentrations of the six key GHGs (i.e., CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) in the atmosphere threaten the public health and welfare of current and future generations. The second addresses whether or not the combined emissions of GHGs from new motor vehicles and motor vehicle engines contribute to atmospheric concentrations of GHGs and therefore the threat of climate change.

The Administrator found that atmospheric concentrations of GHGs endanger the public health and welfare within the meaning of Section 202(a) of the CAA. The evidence supporting this finding consists of human activity resulting in "high atmospheric levels" of GHG emissions, that are very likely responsible for increases in average temperatures and other climatic changes. Furthermore, the observed and projected results of climate change (e.g., higher likelihood of heat waves, wild fires, droughts, sea-level rise, and higher intensity storms) are a threat to the public health and welfare. Therefore, GHGs were found to endanger the public health and welfare of current and future generations.

The Administrator also found that GHG emissions from new motor vehicles and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. EPA's final findings respond to the 2007 U.S. Supreme Court decision that GHGs fit within the CAA definition of air pollutants. The findings do not in and of themselves impose any emission reduction requirements but rather allow EPA to finalize the GHG standards proposed earlier in 2009 for new light-duty vehicles as part of the joint rulemaking with the U.S. Department of Transportation.

Climate Change Adaptation

Activities are already underway across the Federal Government to build adaptive capacity and increase resilience to climate change. These activities include efforts to improve understanding of climate science and impacts, to incorporate climate change considerations into policies and practices, and to strengthen technical support and capacity for adaptive decision making. Some efforts are large collaborative undertakings involving Federal and non-Federal partners while others are smaller and at the program-level. The Climate Change Adaptation Task Force, co-chaired by the White House Council on Environmental Quality (CEQ), the Office of Science and Technology Policy (OSTP), and the National Oceanic and Atmospheric Administration (NOAA), makes recommendations to the President for how Federal Agency policies and programs can better prepare the United States to respond to the impacts of climate change (CEQ 2011).

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

ARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA), which was adopted in 1988.

Various statewide and local initiatives to reduce the State's contribution to GHG emissions have raised awareness that, even though the various contributors to and consequences of global climate change are not yet fully understood, global climate change is under way, and there is a real potential for severe adverse environmental, social, and economic effects in the long term. Because every nation emits GHGs and therefore makes an incremental cumulative contribution to global climate change, cooperation on a global scale will be required to reduce the rate of GHG emissions to a level that can help to slow or stop the human-caused increase in average global temperatures and associated changes in climatic conditions.

EXECUTIVE ORDER S-3-05

Executive Order S-3-05 was signed by Governor Schwarzenegger in 2005 and proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, exacerbate California's air quality problems, and potentially cause a rise in sea level. To combat those concerns, the executive order established total GHG emission targets. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

ASSEMBLY BILL 32, THE CALIFORNIA GLOBAL WARMING SOLUTIONS ACT OF 2006

In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Global Warming Solutions Act of 2006. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs ARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources.

AB 32 requires that ARB adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrives at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the State achieves the reductions in GHG emissions necessary to meet the cap. AB 32 also includes guidance to institute emissions reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the reductions.

AB 32 CLIMATE CHANGE SCOPING PLAN

In December 2008, ARB adopted its Climate Change Scoping Plan, which contains the main strategies California will implement to achieve reduction of approximately 118 million metric tons (MMT) of CO2e, or approximately 22 percent from the State's projected 2020 emission level of 545 MMT of CO2e under a business-as-usual scenario (this is a reduction of 47 MMT CO2e, or almost 10 percent, from 2008 emissions). ARB's original 2020 projection was 596 MMT CO2e, but this revised 2020 projection takes into account the economic downturn that occurred in 2008 (ARB 2011: p.1). In August 2011, the Scoping Plan was re-approved by ARB, and includes the Final Supplement to the Scoping Plan Functional Equivalent Document (FED), which further-examined various alternatives to Scoping Plan measures. The Scoping Plan also includes ARB-recommended GHG reductions for each emissions sector of the State's GHG inventory. ARB estimates the largest reductions in GHG emissions to be achieved by implementing the following measures and standards (ARB 2011: p.2-3):

- improved emissions standards for light-duty vehicles (estimated reductions of 26.1 MMT CO_2e),
- the Low-Carbon Fuel Standard (15.0 MMT CO_2e),
- energy efficiency measures in buildings and appliances (11.9 MMT CO_2e), and
- a renewable portfolio and electricity standards for electricity production (23.4 MMT CO_2e).

Executive Order S-1-07

Executive Order S-1-07 was signed by Governor Schwarzenegger in 2007, and proclaims that the transportation sector is the main source of GHG emissions in California, at over 40 percent of statewide emissions. It establishes a goal that the carbon intensity of transportation fuels sold in California should be reduced by a minimum of 10 percent by 2020. This order also directed ARB to determine whether this Low Carbon Fuel Standard could be adopted as a discrete early action measure after meeting the mandates in AB 32. ARB adopted the Low Carbon Fuel Standard on April 23, 2009.

Senate Bill 1368

SB 1368 is the companion bill of AB 32 and was signed by Governor Schwarzenegger in September 2006. SB 1368 required the California Public Utilities Commission (CPUC) to establish a GHG performance standard for baseload generation from investor-owned utilities by February 1, 2007. The California Energy Commission (CEC) was required by SB 1368 to establish a similar standard for local publicly owned utilities by June 30, 2007. These standards could not exceed the GHG emission rate from a baseload combined-cycle natural gas–fired plant. The legislation further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the CPUC and CEC.

Senate Bills 1078 and 107 and Executive Order S-14-08

SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. In November 2008, Governor Schwarzenegger signed Executive Order S-14-08, which expands the State's Renewable Energy Standard to 33 percent renewable power by 2020.

Senate Bill 97

As directed by SB 97, the Natural Resources Agency adopted amendments to the State CEQA Guidelines for GHG emissions on December 30, 2009. On February 16, 2010, the Office of Administrative Law approved the amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The amendments became effective on March 18, 2010.

Senate Bill 375

SB 375, signed in September 2008, aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations

(MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS), which will prescribe land use allocation in that MPO's Regional Transportation Plan (RTP). ARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every 8 years, but can be updated every 4 years if advancements in emissions technologies affect the reduction strategies to achieve the targets. ARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG emission reduction targets, transportation projects would not be eligible for funding programmed after January 1, 2012.

EXECUTIVE ORDER S-13-08

Sea-level rise is a foreseeable indirect environmental impact associated with climate change, largely attributable to thermal expansion of the oceans and melting polar ice. As discussed above in the environmental setting (subheading "Adaptation to Climate Change"), sea-level rise presents impacts to California associated with coastal erosion, water supply, water quality, saline-sensitive species and habitat, land use compatibility, and flooding. Arnold Schwarzenegger signed Executive Order S-13-08 on November 14, 2008. This executive order directed the California Natural Resources Agency (CNRA) to develop the *2009 California Climate Adaptation Strategy* (CNRA 2009)), which summarizes the best known science on climate change impacts in seven distinct sectors—public health, biodiversity and habitat, ocean and coastal resources, water management, agriculture, forestry, and transportation and energy infrastructure—and provides recommendations on how to manage against those threats. This executive order also directed OPR, in cooperation with the CNRA, to provide land use planning guidance related to sea-level rise and other climate change impacts by May 30, 2009, which is also provided in the *2009 California Climate Adaptation Strategy* (CNRA 2009) and OPR continues to further refine land use planning guidance related to climate change impacts.

Executive Order S-13-08 also directed CNRA to convene an independent panel to complete the first California Sea-Level Rise Assessment Report. This report is to be completed no later than December 1, 2010. The report is intended to provide information on the following:

1. Relative sea-level rise projections specific to California, taking into account issues such as coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge, and land subsidence rates;

2. The range of uncertainty in selected sea-level rise projections;

3. A synthesis of existing information on projected sea-level rise impacts to State infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems; and

4. A discussion of future research needs regarding sea-level rise for California.

All State-funded construction projects in areas vulnerable to sea-level rise will consider a range of sea-level rise scenarios for the years 2050 and 2100. The scenarios should assess projected sea-level rise vulnerability and develop methods to reduce foreseeable incompatibilities (i.e., risks). However, this planning process is voluntary for projects that have filed a Notice of Preparation on or before November 14, 2008, are programmed for construction funding during the next five years, or are considered routine maintenance projects.

CALIFORNIA STATE PARKS COOL PARKS INITIATIVE

As part of its Cool Parks initiative CSP is working to identify and address emerging environmental threats to the resources of the CSP System (CSP 2011). Particular focus is on rising sea levels, changes in precipitation patterns, increased wildfire risk, availability of clean water, biological diversity, and carbon storage. CSP will assess potential climate-related threats to park facilities and will make plans to adapt park infrastructure accordingly. CSP is cooperating with other agencies and organizations to create large "landscape reserves" where biodiversity would be sustained. Carbon sequestration will become a factor in determining CSP's stewardship practices and acquisition plans. In addition, CSP will try to make its operations more GHG-efficient by relying more on solar power and switching to lower-emission vehicles.

4.8.3 SIGNIFICANCE CRITERIA

Criteria for determining the significance of impacts related to GHG and climate change are based on the environmental checklist form in Appendix G of the State CEQA Guidelines and mandatory findings of significance. Per Appendix G of the CEQA Guidelines, GHG or climate change impacts are considered significant if implementation of the proposed Process would do any of the following:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

An individual project cannot generate enough GHG emissions to significantly influence global climate change. A project participates in this potential impact to the extent that its incremental contribution, combined with the cumulative contributions of all other sources of GHGs, when taken together, cause global climate change impacts.

Only a few of the 35 air districts in California (i.e., including air quality management districts and air pollution control districts) have established thresholds of significance for GHG emissions generated by projects. The South Coast Air Quality Management District (SCAQMD) adopted an interim GHG threshold of significance in 2008 that consists of multiple tiers (SCAQMD 2011). The different tiers include qualitative determinations concerning whether a project's emissions are exempt by SB 97 and whether a project is consistent with a qualified GHG reduction plan, as well as a quantitative screening level of 10,000 MT CO_2e/year. However, SCAQMD's interim threshold is only for projects where SCAQMD is the lead agency (SCAQMD 2011) and, therefore, was not intended to be used by other lead agencies such as CSP.

The Bay Area Air Quality Management District (BAAQMD) has established quantitative thresholds for operational GHG emissions from projects in its jurisdiction regardless of the lead agency. These include a threshold of 1,100 MT CO_2e/year or 4.6 MT CO_2e per Service Population per year (MT CO_2e/SP/year), where Service Population is the number of jobs plus the population of residents supported by a project (BAAQMD 2010). These thresholds are meant for evaluating GHGs associated with land use development projects, including residential, commercial, industrial, and public land uses and facilities. Thus, they aren't well-suited for evaluation of the proposed Process and the types of qualifying change-in-use projects that could occur under the Process. None of the change-in-use projects would result in the establishment of a new CSP unit or other public land uses, or of any land uses that would be directly associated with the size of the residential population or the level of economic activity in California.

None of the 35 air districts in California have established thresholds of significance specifically for the evaluation of GHG emissions associated with construction activity. Therefore, no thresholds of significance have been established by any air district, CSP, or any other government agencies that are suitable for the types of change-in-use projects that would be considered under the proposed Process.

4.8.4 IMPACT ANALYSIS METHODS AND APPLICABLE PROJECT REQUIREMENTS

IMPACT ANALYSIS METHODS

The State CEQA Guidelines state that a lead agency should consider the extent that a project would increase or decrease GHG emissions. Air districts in California recommend that lead agencies estimate GHG emissions associated with temporary and short-term, project-related construction activities, as well as the long-term, operational emissions associated with a project, including mobile- and area-source GHG emissions and direct, off-site emissions associated with increased consumption of electricity and water.

The analysis will qualitatively discuss the potential for change-in-use projects qualified for approval under the proposed Process to result in a net increase in GHG emissions. The analysis takes into account GHG emissions generated by short-term construction-related activities as well as the net change in GHG emissions associated with long-term operation of CSP units due to the implementation of qualifying change-in-use projects under the proposed Process. Specific attention is placed on whether change-in-use projects at CSP units throughout the State could conflict with the statewide GHG reduction goals established by AB 32. The analysis also considers the degree to which qualifying change-in-use projects could reduce the amount of carbon sequestered by natural resources in CSP units, including wetlands, trees, and other vegetation.

The analysis also discusses the potential impacts of global climate change on change-in-use projects that could be approved under the proposed Process. Because the potential impacts of global warming have only recently been realized, firm data, commonly accepted thresholds for significance, and firm conclusions are not available. This discussion therefore draws from a range of studies that analyze global and regional patterns and trends that could have effects in California.

APPLICABLE STANDARD PROJECT REQUIREMENTS

The following SPRs would influence construction-related GHG-emitting activities that could be associated with implementation of change-in-use projects approved under the proposed Process, as well as actions that could affect carbon-sequestering trees or vegetation. Because SPRs would be applicable at all park units for an array of change-in-use project scenarios, placeholders are provided in several of the SPRs (such as for responsible parties), so that, depending on the location and type of project and associated resource issues, the requirement can be applied to specific projects and associated responsible parties.

CONSTRUCTION-RELATED EMISSION CONTROL MEASURES

AQ-1: No more than 1.0 acre of ground disturbance (e.g., earth moving, grading, excavating, land clearing) will occur in any single day.

AQ-14: Operation of large diesel- or gasoline-powered construction equipment (i.e., greater than 50 horsepower [hp]) will not exceed 16 equipment-hours per day, where an equipment-hour is defined as one piece of equipment operating for one hour.

AQ-15: All diesel- and gasoline-powered equipment will be properly maintained according to manufacturer's specifications, and in compliance with all State and federal emissions requirements. Maintenance records will be available at the construction site for verification.

AQ-16: Haul truck trips to and from the site will be limited to 20 one-way trips per day. This includes trips for hauling gravel, materials, and equipment to and from the site.

AQ-17: The maximum number of construction worker-related commute trips for any change-in-use project at a park will not exceed 60 one-way worker commute trips per day.

AQ-18: No open burning of removed vegetation will be performed. All removed vegetative material will be either chipped on site or taken to an appropriate recycling site, biomass power plant, or if a site is not available, a licensed disposal site.

Measures Pertinent to Carbon Sequestration

BIO-10: Natural wetland habitat such as marsh, riparian, and vernal pools will not be filled by stream-crossing construction projects. Equipment will remain on existing road or trail alignments to the maximum extent practicable. Equipment could travel off road or trail only when no other alternative is available and after the project inspector and District's Senior Environmental Scientist have reviewed the route.

BIO-18: All projects will be designed to minimize the removal of all native trees. Specifically, projects will be designed to retain and protect trees 24 inches diameter-at-breast-height (DBH) or greater to the maximum extent practicable. Limbs of these trees will be removed if required for access or safety considerations. Trees smaller than 24 inches DBH will be retained whenever practicable. Equipment operators will be required to avoid striking retained trees to minimize damage to the tree structure or bark.

BIO-19: The roots of retained trees will be avoided during excavation or other construction activities to the maximum extent practicable. Any trenching in a "structural root zone" will be completed by hand; no roots larger than **[insert diameter size]** in diameter will be cut or damaged.

BIO-20: No ground disturbance or staging will be allowed within **[insert number]** times the DBH of retention trees, unless approved in advance by a qualified biologist, forester, or certified arborist.

BIO-21: A **[insert who]** will be present during all ground-disturbing activities within the **[insert quantitative area]** of retained trees.

BIO-22: Project areas will be monitored and maintained by **[insert who]** for up to **[insert time period]**, including regular watering and replacement planting, as necessary to assure an approximately **[insert percentage]** survival rate.

BIO-25: The percolation testing will be conducted at a minimum distance of **[insert quantitative distance]** of any significant tree over **[insert number]** DBH.

CUL-10: **[Insert who]** will manually remove or flush cut vegetation to avoid ground-disturbing activities; removal of roots will not be allowed.

Measures Pertinent to Resiliency to Climate Change

HAZ-8: Prior to the start of construction, **[insert who]** will develop a Fire Safety Plan for **[insert name]** approval. The plan will include the emergency calling procedures for both the California Department of Forestry and Fire Protection (CDF) and local fire department(s).

HAZ-9: All heavy equipment will be required to include spark arrestors or turbo chargers that eliminate sparks in exhaust and have fire extinguishers on-site.

HAZ-10: Construction crews will park vehicles **[insert distance]** from flammable material, such as dry grass or brush. At the end of each workday, construction crews will park heavy equipment over a non-combustible surface to reduce the chance of fire.

HAZ-11: CSP personnel will have a CSP radio at the park unit, that allows direct contact with Cal Fire and a centralized dispatch center, to facilitate the rapid dispatch of control crews and equipment in case of a fire.

HAZ-13: Under dry conditions, a filled water truck and/or fire engine crew will be onsite during activities with the potential to start a fire.

GEO-29: After a large storm or rainfall event (i.e., ≥ 1” in 24 hours), **[insert who]** will inspect all project structures and features for damage, as soon as is possible after the event. Any damaged structures or features will be closed to park visitors, volunteers, residents, contractors, and staff until such features or structures have been evaluated and/or repaired.

HYDRO-5: All construction activities will be suspended during heavy precipitation events (i.e., at least 1/2-inch of precipitation in a 24-hour period) or when heavy precipitation events are forecast. If the construction manager must suspend work the construction manager will install drainage and erosion controls appropriate to site conditions, such as covering (tarping) stockpiled soils, mulching bare soil areas, and by constructing silt fences, straw bale barriers, fiber rolls, or other control structures around stockpiles and graded areas, to minimize runoff effects.

4.8.5 ENVIRONMENTAL IMPACTS AND MITIGATION

IMPACT 4.8-1 **GHG Emissions.** Change-in-use projects qualifying for approval under the proposed Process could result in GHG emissions from construction-related equipment and an increase in operation-related vehicle trips and associated mobile-source GHG emissions. However, these potential increases would not be substantial and would not conflict with the GHG reduction goals of AB 32. Therefore, increases in GHG Emissions associated with change-in-use projects would not be cumulatively considerable and, therefore, this impact would be **less than significant.**

GHGs related to change-in-use projects qualified for approval under the proposed Process could be generated by associated construction activities or by the resultant changes in operational activities at CSP units.

Construction activities associated with change-in-use projects could include the generation of GHGs from off-road heavy equipment used during site preparation (e.g., excavation, grading, and vegetation clearing), trail reconstruction, recontouring of slopes, expansion and/or paving of parking and staging areas, and construction of bridges and boardwalks. GHG emissions would also be generated by haul trucks delivering supplies to construction sites and exporting soil and earthen material, and by worker commute trips. However, multiple SPRs would have the effect of limiting construction-related GHGs, both directly and indirectly. More specifically, GHG emissions from off-road heavy duty equipment (i.e., greater than 50 hp) would be limited by SPR AQ-14 through 16 cumulative equipment-hours per day. In addition, SPR AQ-1 would indirectly limit the operation of heavy-duty equipment because it limits the area of ground disturbance to 1 acre per day. On-road vehicle emissions would be limited by AQ-16 because it restricts haul truck travel to and from construction sites to 20 one-way trips per day, and by AQ-17, because it does not allow more than 60 one-way worker commute trips per day at any CSP unit. It is anticipated that much of the trail realignment-related activity would be performed using hand tools.

Moreover, multiple SPRs would minimize the removal of carbon-sequestering trees and vegetation. SPR BIO-10 prohibits the filling of wetland areas. SPRs BIO-18 minimizes the removal of trees and requires that qualifying change-in-use projects be designed to retain and protect trees 24 inches diameter-at-breast-height (DBH) or greater to the maximum extent practicable. SPRs BIO-19 and CUL-10 require that damage to, or removal of, the roots of retained trees to be avoided. SPRs BIO-20, BIO-21 and BIO-25 limit the proximity of ground disturbance, staging, and percolation testing that could occur with respect to retained trees. In addition, SPR BIO-22 includes requirements to ensure a successful survival rate of any replacement plantings. Furthermore, SPR AQ-1 prohibits open burning of removed vegetation, a practice that emits relatively high GHG levels. For these reasons, it is not anticipated that construction of change-in-use projects would result in substantial levels of GHG emissions or removal of substantial portions of natural carbon-sequestering systems. Although, the number of potential future qualifying change-in-use projects that would occur statewide under this Process per year is unknown, the scale of construction activities anticipated to occur for each individual project is minor; therefore, it is anticipated that construction-related GHG emissions for all change-in-use projects qualifying for approval under this Process would not contribute GHG emissions that would constitute a considerable contribution to cumulative global warming impacts.

As discussed in the analysis of criteria air pollutants and precursors under Section 4.3, Air Quality, Impact 4.3-2, change-in-use projects qualifying for approval under the proposed Process would not result in the operation of new stationary emissions sources, such as back-up generators, or increased consumption of electricity or water. Because no buildings or other indoor activity areas would be developed, change-in-use projects would not introduce new area sources of emissions, such as hot water heaters. Modifications to trails, parking areas, and staging areas would also not result in a substantial increase in routine landscape maintenance activities. Also, because actions pursued by the Off-Highway Motorized Vehicle Recreation Division of CSP are not included in the proposed Process, no increase in emissions from off-highway vehicles would occur (e.g., dirt bikes, quads, snowmobiles).

Some change-in-use projects, nonetheless, could result in additional vehicle trips or changes in the trip lengths associated with visitation to particular CSP units. This outcome, for instance, could occur if mountain bikers and/or equestrian are permitted to access trails where they were previously prohibited or conversely, if these uses are removed from roads/trails where currently permitted, trip lengths could be longer or shorter depending on the trail location and the origins of trail users; however, for purposes of environmental analysis, the potential for a marginal increase in trip lengths cannot be dismissed. Associated increases in operational vehicle trips or trip lengths, or, more specifically, increases in the vehicle miles traveled (VMT) related to those trips, would generate increased mobile-source GHG emissions.

It is not anticipated, however, that the net increase in VMT and associated mobile-source emissions from a qualified change-in-use project would be substantial. Foremost, it would be contrary to CSP's mission to make any design or operational use changes to any unit that would overwhelm the capacity of any single unit, parking lot, or any single road or trail. This is reinforced by multiple SPRs included in the proposed Process that aim to avoid facility capacity exceedances or substantial increases in use in order to preserve biological diversity, protect natural and cultural resources, and maintain high-quality outdoor recreational opportunities. The SPRs include conducting adaptive use management strategies. The use-managing SPRs would have the accessory benefit of maintaining travel volumes, and therefore VMT, at less-than-significant levels. Also, the decision to visit any particular recreational area by users seeking a high-quality recreational experience is typically influenced by the number of other users drawn to the area (i.e., the crowdedness).

Any noticeable incremental increase in visitation to a CSP unit would likely be by visitors who are located in close proximity to the unit and, therefore, the average length of their travel trips could be shorter. Long-distance travelers to CSP units would typically be visitors who currently travel long distances to parks; therefore, their average trip length, although longer than nearby visitors, would not necessarily be longer or shorter than their existing average trip length. To date, CSP's experience is that change-in-use projects do not result in a substantial incremental increase in daily visitation by users..

Moreover, change-in-use projects that would open existing routes to bike uses within CSP units near urban areas may result in increased visitation, at least temporarily, but some of the visitors would travel to the unit by bike and thus not generate additional VMT. The addition of bike use at some existing road and trail routes could also potentially offset VMT associated with visitors who otherwise would have driven to a more distant recreation area to have the same recreational experience. In addition, the number of trips generated by individual change-in-use projects would also be limited by SPRs TRAN-1 and TRAN-4. TRAN-1, which require monitoring as a part of adaptive use management strategies and management response measures, if needed, to reduce the contribution of project-related trips to adverse traffic conditions (e.g., unacceptable levels of service at area intersections). TRAN-4 also requires trip reduction measures, if CSP staff observes an exceedance in parking capacity at the affected CSP unit.

Although data is not currently available to accurately project the potential difference in trip length between existing and proposed project conditions, it is reasonable to expect that the "new" trips associated with a change-in-use project may not be new trips to trail destinations. They could simply replace existing trips to other similar recreation destinations, which may be longer or shorter in distance. Overall, the longer and shorter trips associated with individual change-in-use projects would likely cancel each other out and would therefore not result in a considerable net change in statewide VMT and associated GHG emissions. For instance, a family that completes a trip to a CSP unit to use a trail could do so instead of making a trip to another more distant recreational area. CSP believes this outcome would be more common because most change-in-use projects would be in response to user groups (e.g., equestrians, mountain bikers) seeking increased access for their respective activities at CSP units that are generally the closest available location offering their desired type of recreational opportunities. While the number of vehicle trips to specific CSP units could increase, the net change in statewide VMT would not be expected to be substantial. As a result, any increase in GHG emissions associated with qualifying change-in-use projects would **not be cumulatively considerable** and this impact would be **less than significant**.

IMPACT 4.8-2 **Impacts of Climate Change on the CSP Trail Facilities.** Climate change is expected to result in a variety of effects to the facilities and habitats in the State Park System, including changes to water supply, increased risk of flooding, increased frequency and intensity of wildfire, increased temperatures, and sea-level rise. However, implementation of change-in-use projects that are qualified for approval under the proposed Process involve modifications to existing trails and would not make trails and related facilities in park units and the people using those facilities more vulnerable to the effects of climate change. Implementation of qualifying change-in-use projects would also not impede CSP's ability to avoid, adapt to, or be resilient in the face of climate change-related impacts. Therefore, this impact would be **less than significant.**

As discussed previously in this section, human-induced increases in GHG concentrations in the atmosphere have led to increased global average temperatures (global warming) through the intensification of the greenhouse effect, and associated changes in local, regional, and global average climatic conditions. Although there is a strong scientific consensus that global climate change is occurring and is influenced by human activity, there is less certainty as to the timing, severity, and potential consequences of the climate phenomena. Scientists have identified several ways that global climate change could alter the physical environment in California (IPCC 2007; CEC 2006; DWR 2006; CNRA 2009). These include:

- increased average temperatures;
- modifications to the timing, amount, and form (rain vs. snow) of precipitation;
- changes in the timing and amount of runoff;
- reduced water supply;
- deterioration of water quality; and,
- elevated sea level.

These changes could translate into a variety of issues and concerns that could affect units in the State Park System, including but not limited to:

- increased temperatures causing many plant and animal species to adjust their ranges in order to stay in their favored climate zones, though some species could potentially not be able to move and vital species interactions could break down;
- increased frequency and intensity of wildfire as a result of changing precipitation patterns and temperatures, could increase risk damage to historic and cultural resources and archaeological sites;
- rising sea levels, causing popular beaches to be more fragile and coastal wetlands to diminish in size and quality, as well as increased wave erosion and storm damage to CSP's coastal facilities;
- diminished mountain snowpack reducing opportunities for winter recreation;
- With more precipitation falling as rain instead of snow, river parks downstream will be more vulnerable to seasonal flooding;
- drought and draw-down of water levels at reservoir parks making them less attractive to visitors and reducing habitat for cold-water fish;
- decreased water supply, reliability, and quality;
- increased risk of flooding and landslide associated with changes to precipitation patterns; and
- Increased air pollution and related effects on human health.

Climate change is an issue of global scale and the impacts described above have the same likelihood of occurring whether or not any change-in-use projects are implemented under the proposed Process. The trails, roads, and parking areas affected by qualifying change-in-use projects would not be altogether new. This is because the Process would involve modifications of existing trail facilities and would not result in the establishment of new CSP units, roads, trails, or other facilities in existing CSP units. Rather, segments of existing trails would be improved or realigned, consistent with the limitations of the proposed Process, or new user groups would be allowed to access trails where they were previously prohibited. Moreover, if facilities in the State Park System would experience any of the adverse effects listed above, whether or not they are shown to be related to climate change, these adverse effects would not directly influence activity or safety in areas where people live or work. This is because CSP units are recreational in purpose and not critical to the long-term function of employment centers, residential areas, or related commerce and transportation.

In addition, CSP already has protocol in place for managing trails and other facilities during extreme events, such as flooding, wildfire, drought, and insufficient or poor quality water supply (which have been in effect prior to concerns about climate change, but address the types of climate change risks expected to affect California). Managers of individual CSP units regularly monitor weather conditions and close trails and other facilities when conditions are not safe for users (CSP 2007; CSP 2008). CSP also posts notification when tap water is not potable and/or shut down water supply systems during drought periods. Additional safeguards would be provided by implementation of multiple SPRs. SPRs HAZ-8 through HAZ-11 and HAZ-13 would minimize the risk of accidental wildfire during construction activities. SPR GEO-29 would ensure the safety of trail facilities after large storm or rainfall events. The measures required by HYDRO-5 would minimize stormwater runoff and associated erosion. Furthermore, some qualifying change-in-use projects would be implemented to improve use-appropriate design for their intended use(s) and to minimize effects to natural ecosystems and cultural resources (e.g., reduce runoff or erosion on steep slopes).

In summary, implementation of change-in-use projects that are qualified for approval under the proposed Process would not result in trails and related facilities in the State Park System, and the people using those facilities, being more vulnerable to the effects of climate change. Implementation of projects approved under the Process would also not impede CSP's ability to avoid, adapt to, or be resilient in the face of climate change-related impacts. As a result, this impact would **be less than significant**.

4.8.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With integration of SPRs, the GHG and climate change-related impacts of a change-in-use project completed under this Process would be less than significant. Mitigation measures are not required. If a change-in-use proposal could not maintain GHG or climate change-related impacts at less-than-significant levels with SPRs, it would be disqualified from approval using this Process. If CSP pursued such a project further, the District would conduct a separate CEQA review process.

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4.9 HAZARDS AND HAZARDOUS MATERIALS

This section evaluates the potential for change-in-use projects that would qualify for approval under the proposed Road and Trails Change-in-Use Evaluation Process (Process) at California State Park (CSP) units across the State to expose construction workers and future road and trail users to existing hazards and hazardous materials, as well as the potential for change-in-use projects to expose nearby residences and other land uses to project-related hazards and hazardous materials. Also evaluated in this section are the potential to increase risk of wildland fire. Issues related to use-appropriate design of trails, trail safety, and risks of accidents are evaluated in this section, as well. For the topic of trail use conflicts, please refer to Chapter 8.

4.9.1 ENVIRONMENTAL SETTING

HAZARDOUS MATERIALS

California Health and Safety Code (Section 25501) defines “hazardous materials” as any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

Soil contamination generally occurs in areas that are or have been previously developed, especially with industrial-type uses. Soil contamination can also occur in areas where pesticides have been historically applied, as well as in areas that have historically been mined. Contamination is also sometimes associated with leaking utilities (i.e. leaking petroleum or gas pipelines, or leaking transformers on utility poles), or accidental spills. For the most part, CSP trails facilities are not located on previously developed land or agricultural land. CSP trails are not typically located directly below power lines for considerable distances.

Hazardous materials are often found in building materials, especially those used prior to the early 1970’s when lead and asbestos were common components of building materials. CSP trails do not include existing structures; therefore, no hazardous building materials are associated with the trail facilities. However, naturally occurring asbestos (NOA) may exist in serpentine rock units within CSP trail corridors. Impacts associated with NOA are addressed in Section 4.3, Air Quality.

Generally speaking, because the State Parks trails are used only for non-motorized recreation, hazardous materials of any considerable quantity are not involved in day-to-day operation. No storage of hazardous materials occurs on the trails. If hazardous materials storage is required in a CSP unit, it is generally restricted to maintenance facilities, corporation yards, or fueling stations, /structures, which are not located on recreational trails.

WILDLAND FIRE

Wildland fires are seasonally common in certain forests, woodlands, grasslands, chaparral, and other high-fuel areas. CSP trails are located in many areas considered to have high wildland fire risk. Fires are an integral part of the natural world, but historic human alteration of natural fire cycles has allowed unnatural plant succession and fire fuel build-up. CSP employs fire fuel management practices in the State Park System, where wildfire hazards are present, to minimize and manage the potential risk. The California Department of Forestry and Fire Protection (CALFIRE) has the primary responsibility for wildland fire response in many CSP units. In areas closer to communities, mutual aid agreements also exist with local fire protection agencies.

CSP has adopted the Department Operations Manual (DOM) that provides protocols for the various aspects of CSP unit operation, including a Visitor Safety section. The Wildland Fire Management component (Section 1105) of the DOM's Visitor Safety Section identifies the Wildland Fire Management Responsibilities for each division of CSP. The DOM also requires preparation of a Wildfire Management Plan for each Unit of the California State Park System, which includes fire reporting and closure protocol, as well as the CSP policy regarding fuel modification. The Wildfire Management Plan for each unit includes evaluation of fire risk for the specific unit, identification of defensible space clearance around specific structures and other facilities, protocol for fire training and fire drills, identification of fire equipment and supplies and their locations and inspection protocol (CSP 2001). The Wildfire Management Plan also includes instructions and actions to be taken during a wildfire suppression, including identifying fire protection gear (e.g., helmets, goggles, gloves, boots), and evacuation protocol.

TRAIL SAFETY

Public safety is a part of CSP's guiding policies and a critically important priority for visitors to CSP units and users of CSP trails. CSP trails are designed to accommodate a passive type of shared trail use for purposes of gaining access to and appreciating the resources of a CSP unit. Use-appropriate design is employed to included design requirements for each individual type of use designated for a trail and multiple uses where they can comfortably mix. A use-appropriate trail design provides for trail user safety as a key consideration. CSP's Trail Policy includes public safety as a key issue for development of trails (CSP 2005).

To discuss accident frequency associated with CSP trails facilities, it is important to distinguish between "incidents" and "accidents." "Incidents" are events that were brought to the attention of trail management staff, typically involving a specific concern or complaint. Incidents could include wildlife encounters and a range of other issues, but when related to trail use conflict, they tend to involve one user feeling that his/her experience was diminished and/or his/her safety was threatened by another user, and/or a violation of the rules occurred. Trail use conflicts, discussed in Chapter 8, Trail Use Conflict, are considered social issues under CEQA and are not treated as significant effects on the environment. Incidents include both non-accident and accident events (Alta 2011). An "accident" event is a type of incident where someone is injured, or falls, but avoided injury. An incident report could include details of an accident. This could be a single user event, or multiple users of the same type, or multiple users of different types (Alta 2011). Although availability of empirical data is limited, available data from several park systems, including park systems within California, indicate that the frequency of actual user "accidents" is low relative to the frequency of user "incidents." Literature that does not provide data on accidents, but relies on opinion surveys of trail managers, supports the conclusion that accidents are rare, compared to conflict incidents (Alta 2011).

4.9.2 REGULATORY SETTING

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

HAZARDOUS MATERIALS

The U.S. Environmental Protection Agency (EPA) is the agency primarily responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials. Relevant federal regulations pertaining to hazardous materials are contained mainly in CFR Titles 29, 40, and 49. Hazardous materials, as defined in the CFR, are listed in 49 CFR Section 172.101. Management of hazardous materials is governed by the following laws:

- Resource Conservation and Recovery Act of 1976 (RCRA) (42 U.S. Code [USC] §6901 et seq.);
- Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, also called the Superfund Act) (42 USC §9601 et seq.); and
- Superfund Amendments and Reauthorization Act (SARA) of 1986 (Public Law 99–499).

These laws and associated regulations include specific requirements for facilities that generate, use, store, treat, and/or dispose of hazardous materials. EPA provides oversight and supervision for federal Superfund investigation/remediation projects, evaluates remediation technologies, and develops hazardous materials disposal restrictions and treatment standards.

Resource Conservation and Recovery Act (RCRA)

RCRA establishes a framework for national programs to achieve environmentally sound management of both hazardous and non-hazardous wastes. RCRA was designed to protect human health and the environment, reduce/eliminate the generation of hazardous waste, and conserve energy and natural resources. RCRA also promotes resource recovery techniques. A waste would legally be considered hazardous if it is classified as ignitable, corrosive, reactive, or toxic. Under RCRA, EPA regulates hazardous waste from the time that the waste is generated until its final disposal ("cradle to grave"). The Hazardous and Solid Waste Amendments of 1984 (HSWA) both expanded the scope of RCRA and increased the level of detail in many of its provisions. The Hazardous Waste Management subchapter of the RCRA deals with a variety of issues regarding the management of hazardous materials including the export of hazardous waste, state programs, inspections of hazardous waste disposal facilities, enforcement, and the identification and listing of hazardous waste.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Superfund Amendments and Reauthorization Act (SARA)

Hazardous substances are a subclass of hazardous materials. They are regulated under the CERCLA and SARA. Under CERCLA, EPA has authority to seek out the parties responsible for releases of hazardous substances and ensure their cooperation in site remediation. CERCLA also provides federal funding (the "Superfund") for remediation. SARA Title III, the Emergency Planning and Community Right-to-Know Act, requires companies to declare potential toxic hazards to ensure that local communities plan ahead for chemical emergencies. EPA maintains a National Priority List of uncontrolled or abandoned hazardous waste sites identified for priority remediation under the Superfund program. EPA also maintains the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database that contains information on hazardous waste sites, potential hazardous waste sites, and remedial activities across the nation.

Toxic Substances Control Act

The Toxic Substances Control Act of 1976 (15 USC 2605) banned the manufacture, processing, distribution, and use of polychlorinated biphenyls (PCBs) in totally enclosed systems. PCBs are considered hazardous materials because of their toxicity; they have been shown to cause cancer in animals, along with effects on the immune, reproductive, nervous, and endocrine systems, and studies have shown evidence of similar effects in humans. The EPA Region 9 PCB Program regulates remediation of PCBs in several states, including California. 40 CFR Section 761.30(a) (1) (VI) (A) states that all owners of electrical transformers containing PCBs must register their transformers with EPA. Specified electrical equipment manufactured between July 1, 1978, and July 1, 1998, that does not contain PCBs must be marked by the manufacturer with the statement "No PCBs" (Section 761.40(g)). Transformers and other items manufactured before July 1, 1978, containing PCBs must be marked as such.

Chemical Accident Prevention

The provisions of Part 68 of the Code of Federal Regulations set forth the list of regulated substances and thresholds, the petition process for adding or deleting substances from the list of regulated substances, the requirements for owners or operators of stationary sources concerning the prevention of accidental releases, and the State accidental release prevention programs approved under Section 112(r) of the Clean Air Act. The California Accidental Release Prevention (CalARP) Program is the State adaptation of this federal regulation. The list of federally regulated substances and federally regulated flammable substances and their threshold quantities is accessible online from the State's Office of Emergency Services' web site, http://www.oes.ca.gov.

Emergency Planning Community Right-to-Know Act (EPCRA)

EPCRA was included under the SARA law and is commonly referred to as SARA Title III. EPCRA was passed in response to concerns regarding the environmental and safety hazards posed by the storage and handling of toxic chemicals. EPCRA establishes requirements for federal, state and local governments, Indian tribes, and industry regarding emergency planning and "Community Right-to-Know" reporting on hazardous and toxic chemicals. SARA Title III requires states and local emergency planning groups to develop community emergency response plans for protection from a list of extremely hazardous substances (40 CFR §355 Appendix A). The Community Right-to-Know provisions help increase the public's knowledge and access to information on chemicals at individual facilities, their uses, and releases into the environment. In California, SARA Title III is implemented through the CalARP.

Worker Safety

The U.S. Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR §1910.1200) requires that workers be informed of the hazards associated with the materials they handle. For instance, manufacturers must appropriately label containers, Material Safety Data Sheets must be available in the workplace, and employers must properly train workers. Workers at hazardous waste sites must receive specialized training and medical supervision according to the Hazardous Waste Operations and Emergency Response (HAZWOPER) regulations (29 CFR §1910.120).

The OSHA Bloodborne Pathogens Standard requires the use of Universal Precautions (handling all human blood and certain body fluids as if they contain infectious agents) in the workplace. Operation of the proposed projects would require compliance with these federal and State safety standards and practices regarding workplace safety and providing a safe and healthy environment for patient care.

Safe Drinking Water Act (SDWA)

Under the SDWA (Public Law 93-523), passed in 1974, EPA regulates contaminants of concern to domestic water supply. Contaminants of concern relevant to domestic water supply are defined as those that pose a public health threat or that alter the aesthetic acceptability of the water. These types of contaminants are regulated by EPA's primary and secondary maximum contaminant levels (MCLs), and are applicable to treated water supplies delivered to a distribution system. MCLs and the process for setting these standards are reviewed triennially. Amendments to the Safe Drinking Water Act enacted in 1986 established an accelerated schedule for setting MCLs for drinking water.

EPA has delegated to the California Department of Public Health (CDPH) the responsibility for administering California's drinking-water program. CDPH is accountable to EPA for program implementation and for adopting standards and regulations that are at least as stringent as those developed by EPA. The applicable State primary and secondary MCLs are set forth in Title 22, Division 4, Chapter 15, Article 4 of the California Code of Regulations.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

California Department of Toxic Substances Control (DTSC)

DTSC, a division of the California Environmental Protection Agency (Cal/EPA), has primary regulatory responsibility over hazardous materials in California, working in conjunction with the U.S. EPA to enforce and implement hazardous materials laws and regulations. DTSC delegates enforcement responsibilities to local jurisdictions. The hazardous waste management program enforced by DTSC was created by the Hazardous Waste Control Act (California Health and Safety Code Section 25100 et seq.), and is implemented by regulations described in CCR Title 26. The State program thus created is similar to, but more stringent than, the federal program under RCRA. The regulations list materials that could be hazardous and establish criteria for their identification, packaging, and disposal. Environmental health standards for management of hazardous waste are contained in CCR Title 22, Division 4.5. In addition, as required by California Government Code Section 65962.5, DTSC maintains a Hazardous Waste and Substances Site List for the State, called the Cortese List. The Cortese List is a planning document used by the State and local agencies to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires Cal/EPA to develop and updated the Cortese List annually, at a minimum. DTSC is responsible for a portion of the information contained in the Cortese List. Other California state and local government agencies are required to provide additional hazardous material release information for the Cortese List. The project sites are not listed on the Cortese List (DTSC 2007).

Hazardous Materials Handling and Transport

The California Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act) requires preparation of Hazardous Materials Business Plans and disclosure of hazardous materials inventories. A business plan includes an inventory of hazardous materials handled, facility floor plans showing where hazardous materials are stored, an emergency response plan, and provisions for employee training in safety and emergency response procedures (California Health and Safety Code, Division 20, Chapter 6.95, Article 1). Statewide, DTSC has primary regulatory responsibility for management of hazardous materials, with delegation of authority to local jurisdictions that enter into agreements with the State. Local agencies are responsible for administering these Business Plan Act regulations.

Several State agencies regulate the transportation and use of hazardous materials to minimize potential risks to public health and safety, including the Cal/EPA and the Governor's Office of Emergency Services. The California Highway Patrol (CHP) and California Department of Transportation (Caltrans) enforce regulations specifically related to the transport of hazardous materials. Together, these agencies determine container types, used and license hazardous waste haulers for hazardous waste transportation on public roadways.

Hazardous Waste Control

The California Hazardous Waste Control Act (HWCA) regulates the generation, treatment, storage, and disposal of hazardous waste (California Health and Safety Code Section 2510 et seq.). Hazardous waste is any material or substance that is discarded, relinquished, disposed of, or burned, or for which there is no intended use or reuse, and the material or substance causes or significantly contributes to an increase in mortality or illness; or the material or substance poses a substantial present or potential hazard to human health or the environment. These materials or substances include spent solvents and paints (oil and latex), used oil, used oil filters, used acids and corrosives, and unwanted or expired products (e.g., pesticides, aerosol cans, cleaners). If the original material or substance is labeled Danger, Warning, Toxic, Caution, Poison, Flammable, Corrosive or Reactive, the waste is very likely to be hazardous.

Regulatory Definitions for Hazardous Waste

"Hazardous waste" is a subset of hazardous materials and is defined as "wastes that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may either cause, or significantly contribute to, an increase in mortality or an increase in serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed." (California Health and Safety Code Section 25517.) Hazardous materials are categorized as non-radioactive chemical materials, radioactive materials and biohazardous materials.

Multi-Hazard Mitigation Plan

The Governor's Office of Emergency Services (OES) adopted the 2007 State Hazard Mitigation Plan (SHMP) on October 8, 2007. The SHMP is the official statement of California's statewide hazard mitigation goals, strategies, and priorities. Hazard mitigation is defined as any action taken to reduce or eliminate long-term risk to life and property by natural and human-caused disasters. The plan, required under federal law, includes chapters on hazard assessment, local hazard mitigation planning, and mitigation strategy and must be updated every three years.

Public Health and Worker Safety Requirements

The California Human Health Screening Levels (CHHSLs) are concentrations of 54 hazardous chemicals in soil or soil gas that the Cal/EPA considers to be below thresholds of concern for risks to human health. The CHHSLs were developed by the Office of Environmental Health Hazard Assessment (OEHHA) on behalf of Cal/EPA. The thresholds of concern used to develop the CHHSLs are an excess lifetime cancer risk of one-in-one-million (10^{-6}) and a hazard quotient of 1.0 for non-cancer health effects. The CHHSLs were developed using standard exposure assumptions and chemical toxicity values published by the EPA and Cal/EPA.

The California Division of Occupational Safety and Health (Cal/OSHA) is responsible for developing and enforcing workplace safety standards and assuring worker safety in the handling and use of hazardous materials. Among other requirements, Cal/OSHA requires many entities to prepare Injury and Illness Prevention Plans and Chemical Hygiene Plans, and provides specific regulation to limit exposure of construction workers to lead.

State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCB)

The SWRCB and nine RWQCBs are responsible for ensuring implementation and compliance with the provisions of the federal Clean Water Act and the State Porter-Cologne Act. The Porter-Cologne Act of 1969 is California's statutory authority for the protection of water quality. Along with the SWRCB and RWQCBs, water quality protection is the responsibility of numerous water supply and wastewater management agencies, as well as city and county governments, and requires the coordinated efforts of these various entities.

Fire Hazard Severity Zones

Public Resources Code Sections 4201-4204, and Government Code Sections 51175–51189, require identification of fire hazard severity zones within the state of California. Fire prevention areas considered to be under State jurisdiction are referred to as "State responsibility areas." In State responsibility areas, CALFIRE is required to delineate 3 hazard ranges: moderate, high, and very high; whereas "local responsibility areas," that are under the jurisdiction of local entities (*e.g.,* cities, counties), are required to only identify very high fire hazard severity zones. The hazard ranges are measured quantitatively based on: vegetation, topography, weather, crown fire potential (a fire's tendency to burn upwards into trees and tall brush), and ember production and movement within the area of question.

California Code of Regulations—Fire Safety at CSP Facilities

The following sections are from California Code of Regulations (CCR) Title 14. Natural Resources, Division 3. Department of Parks and Recreation.

4311. Fire in Stoves, Smoking.

No person shall light, build, use, or maintain a fire within a unit except in a camp stove or fireplace provided, maintained, or designated for such purpose, unless by authority of the Department. Portable camp stoves could be used in portions of units approved by the Department. Upon a finding of extreme fire hazard by the Department no person shall smoke or build fires in portions of units other than those designated by the Department for such purposes.

4314. Fireworks.

No person shall possess, discharge, set off, or cause to be discharged, in or into any portion of a unit any firecrackers, torpedoes, rockets, fireworks, explosives, or substances harmful to the life or safety of persons. The Department could grant exceptions to this section for specified locations and periods of time upon finding that such activity will not endanger persons, property or resources. This section does not apply to explosives lawfully possessed or used under the direction of the Department.

California Code of Regulations—Recreation at CSP Facilities

The following section is from CCR Title 14. Natural Resources, Division 3. Department of Parks and Recreation.

4319. Games and Recreational Activities.

No Person shall engage in games or recreational activities that endanger the safety of person, property, resources or interfere with visitor activities except as permitted by the Department.

4.9.3 SIGNIFICANCE CRITERIA

THRESHOLDS OF SIGNIFICANCE

Criteria for determining the significance of impacts related to hazards and hazardous materials were based on the environmental checklist form in Appendix G of the State CEQA Guidelines and mandatory findings of significance.

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?
- Substantially increase risk of trail-related accident due to design features.

4.9.4 IMPACT ANALYSIS METHODS AND APPLICABLE PROJECT REQUIREMENTS

IMPACT ANALYSIS METHODS

Analysis of impacts related to hazards and hazardous materials involves describing existing conditions and current practices for handling, storage, and disposal of hazardous materials at CSP facilities, and, considering any impact reductions from implementation of applicable Standard Project Requirements (SPRs), evaluating any changes in those practices. This analysis takes a similar approach for evaluating potential increases to wildland fire potential. Impacts associated with potential increases in visitor accidents associated with trail design are evaluated by considering the CSP trail design standards and implementation of applicable SPRs. If a change-in-use proposal could not maintain water quality, runoff, and sedimentation impacts at less-than-significant levels with SPRs and BMPs, it would be disqualified from approval using this Process. If CSP pursued such a project further, the CSP would conduct a separate CEQA review process with appropriate documentation, wherein the potential significant environmental impact(s) would be addressed and mitigated, if feasible.

APPLICABLE STANDARD PROJECT REQUIREMENTS

The following SPRs are related to hazards and hazardous materials and apply to qualifying projects under the proposed Process. Because SPRs would be applicable at all park units for an array of change-in-use project scenarios, placeholders are provided in several of the SPRs (such as for responsible parties), so that, depending on the location and type of project and associated resource issues, the requirement can be applied to specific projects and associated responsible parties.

HAZ-1 Avoid locating trail modifications in areas that could have been used previously for industrial/manufacturing uses, or other uses that could have involved use, handling, transport, or storage of hazardous materials (including but not limited to auto maintenance, gas station, equipment yard, dry cleaner, railroad, agriculture, mining, etc.). If such areas cannot be avoided, prior to any construction within such areas, **[insert implementing party]** shall hire a qualified professional to conduct a Phase 1 Environmental Site Assessment (ESA), limited to the area of proposed ground disturbance, that will identify the presence of any soil contamination at concentrations that could pose health risk to construction workers. If such levels of soil contamination are identified, the **[insert implementing party]** shall follow the recommendations in the Phase 1 ESA, which may include removal of contaminated soil in compliance with all EPA, OSHA, and DTSC requirements.

HAZ-2 If any construction will occur directly below overhead power poles with transformers, prior to construction, the soil directly beneath the transformers will be inspected for staining. If staining is present, the **[insert implementing party]** will avoid the stained soil, coordinate with the utility company for clean-up, or hire a qualified professional to provide recommendations that will be implemented.

HAZ-3 Prior to any excavation in the vicinity of underground utility easements, **[insert implementing party]** shall coordinate with the utility company to ensure avoidance of the utility line.

HAZ-4 Prior to the start of on-site construction activities, **[insert who]** will inspect all equipment for leaks and regularly inspect thereafter until equipment is removed from the project site. All contaminated water, sludge, spill residue, or other hazardous compounds will be contained and disposed of outside the boundaries of the site, at a lawfully permitted or authorized destination.

HAZ-5 Prior to the start of on-site construction activities, **[insert who]** will prepare a Spill Prevention and Response Plan (SPRP) as part of the Storm Water Pollution Prevention Plan (SWPPP) for **[insert who]** approval to provide protection to on-site workers, the public, and the environment from accidental leaks or spills of vehicle fluids or other potential contaminants. This plan will include (but not be limited to):

- a map that delineates construction staging areas, where refueling, lubrication, and maintenance of equipment will occur;
- a list of items required in a spill kit on-site that will be maintained throughout the life of the project;
- procedures for the proper storage, use, and disposal of any solvents or other chemicals used in the restoration process;
- and identification of lawfully permitted or authorized disposal destinations outside of the project site.

HAZ-6 **[Insert who]** will develop a Materials Management Plan to include protocols and procedures that will protect human health and the environment during remediation and/or maintenance activities that cause disturbances to the native soil and/or mine and mill materials causing the potential exposure to metals and dust resulting from materials disturbances. All work will be performed in accordance with a Site Health and Safety Plan. The Materials Management Plan will include the following (where applicable) :

- Requirement that staff will have appropriate training in compliance with 29 CFR, Section 1910.120;
- Methods to assess risks prior to starting onsite work;
- Procedures for the management and disposal of waste soils generated during construction activities or other activities that might disturb contaminated soil;
- Monitoring requirements;
- Storm water controls;
- Record-keeping; and,
- Emergency response plan.

HAZ-7 **[Insert who]** will set up decontamination areas for vehicles and equipment at CSP unit entry/exit points. The decontamination areas will be designed to completely contain all wash water generated from washing vehicles and equipment. Best Management Practices (BMPs) will be installed, as necessary, to prevent the dispersal of wash water beyond the boundaries of the decontamination area, including over-spray.

HAZ-8 Prior to the start of construction, **[insert who]** will develop a Fire Safety Plan for **[insert name]** approval. The plan will include the emergency calling procedures for both the California Department of Forestry and Fire Protection (CDF) and local fire department(s).

HAZ-9 All heavy equipment will be required to include spark arrestors or turbo chargers that eliminate sparks in exhaust, and have fire extinguishers on-site.

HAZ-10 Construction crews will park vehicles **[insert distance]** from flammable material, such as dry grass or brush. At the end of each workday, construction crews will park heavy equipment over a non-combustible surface to reduce the chance of fire.

HAZ-11 CSP personnel will have a CSP radio at the park unit, that allows direct contact with CalFire and a centralized dispatch center, to facilitate the rapid dispatch of control crews and equipment in case of a fire.

HAZ-12 Prior to the start of on-site construction activities, **[insert who]** will clean and repair (other than emergency repairs) all equipment outside the project site boundaries.

HAZ-13 Under dry conditions, a filled water truck and/or fire engine crew will be onsite during activities with the potential to start a fire.

HAZ-14 **[Insert who]** will designate and/or locate staging and stockpile areas within the existing maintenance yard area or existing roads and campsites to prevent leakage of oil, hydraulic fluids, etc. into **[insert where i.e., native vegetation, sensitive wildlife areas, creek, river, stream , etc.]**.

4.9.5 ENVIRONMENTAL IMPACTS

IMPACT 4.9-1 **Hazards to the Public Related to Use, Handling, Transport, or Storage of Hazardous Materials.** Implementation of the proposed Process involves adding or removing user types from existing CSP roads and trails. No user types considered in the Process would use internal combustion engines. Typical recreational users (ex. hikers, bicyclists, and equestrians) carry minimal, if any, hazardous materials. Furthermore, no major changes to the operations and maintenance of the facilities would occur under the proposed Process, and CSP staff would continue to use, transport, store, and dispose of any hazardous materials (i.e., fuels, lubricants, detergents, pesticides, etc.) consistent with OSHA and EPA regulations. No increased risk of accidental upset or emission of hazardous materials would occur. The impact is **less than significant.**

The user types considered in the proposed Process include OPDMDs and non-motorized recreational uses. These users do not typically handle or transport hazardous materials within CSP units. Therefore, adding or removing user types on an existing road or trail under the proposed Process would not increase the use or transport of hazardous materials at CSP units. Typically, the only use and transport of hazardous materials is associated with CSP maintenance, and requires common hazardous materials such as fuel and lubricants for equipment and vehicles, detergents and solvents for cleaning, and pesticides/herbicides for insect, rodent, and weed control. These hazardous materials are used consistent with EPA and OSHA standards and are stored in CSP maintenance yards and storage facilities consistent with EPA and OSHA standards. Implementation of the proposed Process would not substantially change the operations and maintenance of the CSP facilities and CSP staff would continue to use, transport, store, and dispose of these hazardous materials consistent with standard operations requirements, and OSHA and EPA regulations. In addition, SPR HAZ-3 requires coordination with utility companies when ground disturbance is necessary within existing utility alignments. This reduces potential accident conditions related to damage of gas or electrical lines. During construction, SPRs HAZ-4 through HAZ-7 require several measures to prevent accidental leaks, spills, or other emission of hazardous materials into the environment including frequent leak inspections and maintenance of construction vehicles, a Spill Prevention Plan, and a Materials Management Plan, and vehicle wash stations. No substantial increased risk of accidental upset or emission of hazardous materials would occur. This impact is therefore **less than significant**.

IMPACT 4.9-2

Exposure of People to Existing Hazardous Materials or Soil Contamination. SPR HAZ-1 and HAZ-2 require that if a proposed change in use requires trail modification in areas where previous hazardous materials have been handled or stored, and those areas cannot be avoided, a Phase 1 Environmental Site Assessment (ESA) will be prepared and recommendations therein implemented, including possible soil removal and/or other remediation. Through application of SPR HAZ-1 and HAZ-2, the potential for exposure of people to existing hazardous materials or soil contamination would be maintained at **less-than-significant** levels.

Existing trails may cross property where hazardous materials have been previously used or stored, including former industrial sites, agricultural property, and mining sites. Implementation of the proposed Process does not include development of new trails, but rather involves adding or removing user types on existing CSP trails and minor trail relocation. If a qualifying change-in-use project under the Process requires trail modification that must occur in areas where hazardous materials are known to have been previously handled or stored, SPR HAZ-1 and HAZ-2 require avoidance of these areas when feasible. If avoidance is not feasible, preparation of a Phase 1 ESA by a qualified hazardous materials professional and recommendations therein will be implemented (see SPR HAZ-1). The recommendations in the Phase 1 ESA could include soil removal and other minor remediation. Construction activities associated with any necessary remediation would be conducted according to EPA and OSHA standards, and would reduce potential impacts related to exposure of construction workers and user types to hazardous materials in soils. This impact is considered **less than significant.**

IMPACT 4.9-3

Increased Risk of Wildland Fire. All existing CSP road and trail facilities that qualify for change in use under the Process are currently accessible to the public and accommodate hikers and OPDMDs at a minimum. Users (i.e. bicyclists, and/or equestrians) that could be added or removed from roads and trails under the proposed Process would be prohibited from utilizing internal combustion engines, including OPDMDs. As such, these new users would not typically generate sparks, would not increase use of campfires or other open flames, would not carry fuels apart from those typically carried by hikers (e.g., small, portable propane or other camp fuel canister), and would be required to follow State laws, including no fireworks and no smoking or campfires (in undesignated places) on CSP roads and trails. Fire ignition potential and risk of visitor exposure to wildland fires would not change substantially by adding or removing user types from an existing CSP road or trail and operations would remain consistent with CSP DOM requirements, including unit-specific Wildfire Management Plans. In addition, although many CSP units are located in high and very high fire risk areas, implementation of SPR HAZ-8 through HAZ-14 would reduce risk of ignition associated with construction activities. The proposed Process would not result in substantial increased risk of wildland fire, and the impact is **less than significant.**

CSP roads and trails are often located in relatively remote areas and often pass through areas with brush and trees. Some of these areas are subject to high risk of wildland fire. Except for instances where minor trail realignment is necessary (e.g., to avoid a sensitive resource), the proposed Process would not result in new areas of public access. Further, trail realignment typically occurs on small segments of trail adjacent to existing trail alignments. Adding new user types to existing trails under the proposed Process would therefore not expose visitors to higher risk of wildland fire.

Regarding potential ignition sources, existing State law (CCR Title 14, Division 3, Sections 4311 and 4314) prohibits use of fireworks within CSP units and restricts smoking and campfires within CSP facilities to designated areas. CSP units prohibit internal combustion engines on roads and trails designated for non-motorized uses. It is unlikely that new user types would generate sparks, increase use of campfires or other open flames, or carry fuels apart from those typically carried by some hikers (e.g., small, portable propane or other camp fuel canister). Increasing or decreasing the diversity of user types on qualifying CSP road and trail facilities would not substantially change the potential for ignition of a wildland fire. Furthermore, trail operation would remain consistent with the CSP DOM requirements for visitor safety, including the unit-specific Wildfire Management Plan.

Construction activities could be required if a qualifying change-in-use project approved under the proposed Process requires minor modifications or realignment to accommodate the new user type(s) or to avoid existing environmental problem areas. The proposed Process includes several SPRs designed to minimize the risk of fire ignition and maximize the effectiveness of fire suppression. Implementation of SPRs HAZ-8 through HAZ-14 would reduce the risk of ignition associated with construction activities by requiring a Fire Safety Plan, reducing spark potential, reducing fuels, providing radio communication with CALFIRE, and providing water trucks. Implementation of these SPRs would minimize construction-related potential to for risk of wildland fire. The impact associated with the proposed Process is considered **less than significant.**

IMPACT 4.9-4 **Change in Trail Safety.** Any qualifying change-in-use project would require use-appropriate trail design that is consistent with CSP standards and BMPs. The Project Evaluation Form (Appendix E) includes specific use-appropriate design criteria for bicycle and equestrian uses. Design features include tread width, passing space dimensions, sight distance, speed control, turning radius, surface texture, signage, and enforcement. These features are tailored to the specific new user(s) and maintain a safe trail design by addressing travel speed, response time and maneuverability, traction, adequate passing opportunities, and awareness of other user types and trail rules. Trails proposed for a change in use that do not provide use-appropriate design would be required to upgrade to the standards expressed in the Project Evaluation Form. Meeting these criteria would ensure that trails incorporate use-appropriate design and trail safety impacts associated with the change-in-use proposal would be **less than significant.**

The following discussion focuses on the potential for a change in use of a CSP road or trail to affect trail safety. It is noted that several public comments received during the scoping process indicated a safety concern associated with adding specific user types. As noted previously, trail safety is a design consideration. The proposed Process includes requirements for use-appropriate design that promotes trail safety. Although nothing can entirely prevent an accident by a trail user, just like proper road design cannot prevent automobile accidents, a fundamental strategy of the proposed Process is to lead to approval of use-appropriate trail designs that would provide and maintain safe trail conditions.

Trail use conflict is a separate consideration from safe trail design. Trail use conflict is related to user behavior and includes consideration of user attitudes, perceptions, social factors, and user expectations. Trail use conflicts are social issues, which under CEQA, are not treated as significant environmental effects (although they are important to CSP in terms of trail and park management). Chapter 8 of this Program EIR discusses trail use conflict issues.

When considering trail use conflict's influence on user accidents, available information gathered during the research effort preceding this EIR reveals that trail accidents related to use conflicts appears to be low in number. According to the Trail Use Conflict Study in Appendix C, available data from several park systems indicate that the frequency of actual user accidents is low relative to the frequency of trail conflict incidents, and much smaller still when compared to total trail use (Alta 2011). Literature, including opinion surveys of trail managers, supports the conclusion that while concern about trail use conflict is common, accidents are rare, compared to conflict incidents (Alta 2011).

Furthermore, as part of its Project Evaluation Form (See Appendix E), CSP would include several use-appropriate design features, including tread width, passing space dimensions, sight distance, speed control, turning radius, surface texture, signage, enforcement, etc. These features are tailored either to bicycle use and/or equestrian use to provide use-appropriate design that promotes trail safety. These features help reduce travel speed, increase response time and maneuverability, increase traction, increase passing opportunities, and awareness of other user types and trail rules. If a qualifying change-in-use project cannot achieve a use-appropriate design, as described in the Project Evaluation Form, improvements must be made to the trail to meet the design standard, or the project cannot be approved under the proposed Process. This ensures that trail safety impacts associated with change-in-use proposals are **less than significant.**

4.9.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With integration of SPRs, the hazard and hazardous materials impacts of change-in-use projects completed under this Process would be less than significant. Mitigation measures are not required. If a change-in-use proposal could not maintain hazard and hazardous materials impacts at less-than-significant levels with SPRs, it would be disqualified from approval using this Process. If CSP pursued such a project further, the District would conduct a separate CEQA review process.

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4.10 HYDROLOGY, WATER QUALITY, AND SEDIMENTATION

This section describes the impacts to hydrologic resources through the degradation of water quality and increased sedimentation that are known or have the potential to occur in the study area. Hydrologic resources include surface waters and groundwater. Federal, state, and local regulations related to hydrology, water quality, and soil erosion and subsequent sedimentation are summarized. Potential impacts of the proposed Road and Trail Change-in-Use Evaluation Process (Process) are analyzed, and mitigation measures are provided for those impacts determined to be significant. Cumulative impacts from hydrology, water quality, and sedimentation are addressed in Section 6.1.2, Cumulative Impacts by Resource Topic, of this Program EIR.

4.10.1 ENVIRONMENTAL SETTING

STUDY AREA

POTENTIALLY AFFECTED AREA

The potentially affected area with respect to hydrology, water quality, and sedimentation is defined as (1) existing recreational road and trail corridors proposed for changes in use within California State Park (CSP) system, (2) road and trail connections and linkages from trails with change-in-use proposals to trails on surrounding federal, regional, county, and city lands, and (3) modification of lands adjacent to roads and trails in order to accommodate change in uses. The Process does not include the construction of new trails, but does allow rerouting of trail alignments to correct otherwise unsustainable road and trail conditions where realignment causes no significant environmental effects (based on completion of CSP Project Evaluation Form).

TOPOGRAPHY AND CLIMATE

The general study area encompasses all CSP lands in state parks, state recreation areas, and state beaches throughout California. The State's topography is highly varied and includes 1,340 miles of seacoast, as well as high mountains, inland flat valleys, and deserts. Elevations in California range from 282 feet below sea level in Death Valley to 14,494 feet at the peak of Mount Whitney. The mean elevation of California is approximately 2,900 feet. The climate of California is as highly varied as its topography. Depending on elevation, proximity to the coast, and altitude, climate types include temperate oceanic, highland, sub-arctic, Mediterranean, steppe, and desert (USGS 1995). The average annual precipitation across all California climate types is approximately 23 inches and approximately 75 percent of the State's annual precipitation falls between November and March, primarily in the form of rain, with the exception of high mountain elevations (DWR 2003, pg. 20). Average annual precipitation ranges from more than 100 inches in the mountainous areas within the Smith River in Del Norte County to less than 2 inches in Death Valley, illustrating the extreme differences in precipitation levels within the State (Mount 1995). Overall, northern California is wetter than southern California and the majority of the State's annual precipitation occurs in the northern coastal region.

GENERAL DISCUSSION OF HYDROLOGIC RESOURCES, WATER QUALITY, AND SEDIMENTATION

HYDROLOGIC RESOURCES

Surface Waters

For the purposes of the Program EIR, surface waters would occur as streams, lakes, ponds, coastal waters, lagoons, and estuaries, or would be found in floodplains, dry lakes, desert washes, wetlands and other collection sites. Water bodies modified or developed by man, including reservoirs and aqueducts, are also considered surface waters. Surface water resources are very diverse due to the high variance in tectonics, topography, geology/soils, climate, precipitation, and hydrologic conditions. Overall, California has the most diverse range of watershed conditions in the U.S., with varied climatic regimes ranging from Mediterranean climates with temperate rainforests in the north coast region to desert climates containing dry desert washes and dry lakes in the southern central region.

The average annual runoff for the State is 71 million acre-feet (DWR 1998). The State has more than sixty major stream drainages and more than 1,000 smaller, but significant drainages that drain coastal mountains and inland mountainous areas. High snowpack levels and resultant spring snowmelt yield high surface runoff and peak discharge in the Sierra Nevada and Cascade Mountains that feed surface flows, fill reservoirs and recharge groundwater. Federal, state and local engineered water projects, aqueducts, canals, and reservoirs serve as the primary conduits of surface water sources to areas that have limited surface water resources. Most of the surface water storage is transported for agricultural, urban, and rural residential needs to the San Francisco Bay Area and to cities and areas extending to southern coastal California. Surface water is also transported to southern inland areas, including Owens Valley, Imperial Valley, and Central Valley areas.

Groundwater

The majority of runoff from snowmelt and rainfall flows down mountain streams into low gradient valleys and either percolates into the ground or is discharged to the sea. This percolating flow is stored in alluvial groundwater basins that cover approximately 40 percent of the geographic extent of the State (DWR 2003, pg. 20). Groundwater recharge occurs more readily in areas underlain by coarse sediments, primarily in mountain base alluvial fan settings. As a result, the majority of California's groundwater basins are located in broad alluvial valleys flanking mountain ranges, such as the Cascade Range, Coast Ranges, Transverse Ranges, and the Sierra Nevada.

There are 250 major groundwater basins that serve approximately 30 percent of California's urban, agricultural and industrial water needs, especially in southern portion of San Francisco Bay, the Central Valley, greater Los Angeles area, and inland desert areas where surface water is limited. On average, more than 15 million acre-feet of groundwater are extracted each year in the State, of which more than 50 percent is extracted from 36 groundwater basins in the Central Valley.

WATER QUALITY

Land uses have a great effect on surface water and groundwater water quality in the State of California. Water quality degradation of surface waters occurs through nonpoint- and point- source discharges of pollutants. Nonpoint source pollution is defined as not having a discrete or discernible source and is generated from land runoff, precipitation, atmospheric deposition, seepage, and hydrologic modification (EPA 1993). Nonpoint-source pollution includes runoff containing pesticides, insecticides, and herbicides from agricultural areas and residential areas; acid drainage from inactive mines; bacteria and nutrients from septic systems and livestock; volatile organic compounds (VOCs) and toxic chemicals from urban runoff and industrial discharges; sediment from timber harvesting, poor road construction, improperly managed construction sites, and agricultural areas; and atmospheric deposition and hydromodification. In comparison, point-source pollution is generated from identifiable, confined, and discrete sources, such as a smokestack, sewer, pipe or culvert, or ditch. These pollutant sources are regulated by the U.S. Environmental Protection Agency (EPA) and State Water Resources Control Board (SWRCB) through the California Regional Water Quality Control Boards (RWQCB). Many of the pollutants discharged from point-sources are the same as for nonpoint-sources, including municipal (bacteria and nutrients), agricultural (pesticides, herbicides, and insecticides), and industrial pollutants (VOCs and other toxic effluent).

Groundwater pollution or contamination is caused by (1) naturally occurring or man-made chemicals are discharged onto the land surface and percolate through to groundwater resources below, (2) flow into groundwater reservoirs through improperly sealed well casings, (3) leaking underground storage tanks, and (4) failed underground pipelines. Unintended backflow into wells can also occur when plumbing and pumping systems are not properly protected against backflow. Many of the sources of pollution and their toxic constituents are similar to those associated with surface water pollution. The most common groundwater pollutants are generated from nonpoint sources of salt, nitrite, pesticides, industrial effluent, and pathogens. Salt and nitrite contamination is the most common groundwater pollution and affects 10 to 15 percent of California's wells, mostly through various agricultural activities (Harter 2003). Recent long drought periods in the State have resulted in overdraft of groundwater aquifers as needs for water increase in areas with limited surface water flow. Over pumping results in the concentration of mineral salts in the depleted aquifer and could make the groundwater source unusable for drinking water and other beneficial uses.

SEDIMENTATION

Sediment is considered a major pollutant according to the EPA and the SWRCB and is a key Total Maximum Daily Load (TMDL) constituent that determines impairment and 303(d) listing of impaired water bodies in a number of watersheds and river basins. High sediment loads are deleterious for beneficial uses, water quality, and aquatic habitat used by plant, amphibian and fish communities. Erosion is influenced by a variety of factors including geology and soil characteristics, topography, climate, and land use practices, among others. Sedimentation is a result of erosion and the transport of eroded fine materials to a watercourse or waterbody and could result in increased turbidity, elevated levels of Total Dissolved Solids and Total Suspended Solids. Erosion and sedimentation are caused naturally and could be significantly influenced by land management and land disturbance activities.

In general, naturally occurring or background erosion and sedimentation occurs from weathering of bedrock or saturation of soils in erosion prone areas causing landslides, earthflows, debris flows, and other mass wasting-related processes; lateral channel migration resulting in bank erosion; channel downcutting and incision; and surface erosion cause by precipitation, runoff and wind on bare soil surfaces. Anthropogenic causes of erosion and sedimentation are land management- and land use-based, and include timber harvesting, road building, construction activities, agriculture and grazing, recreation, among others. Timber harvesting, agriculture, mining, and other land disturbing activities often result in scarification of the ground surface. Resultant bare soil areas are prone to higher levels of surface runoff that could result in raindrop, sheet and rill erosion; fluvial erosion, (including rills and gullies); and landslides. Poor road construction techniques; including undersized stream crossing culverts, long sections of undrained road surfaces and ditches leading directly to streams, and cut and fill road construction on steep slopes could generate large amounts of erosion in the form of surface erosion, gully erosion, and landsliding.

Erosion generated from construction sites during construction and post-construction periods could result in sediment delivery to streams and water bodies. Most of the erosion from construction sites is caused by rainfall, surface runoff, and wind on exposed bare soil areas resulting in surface erosion and fluvial erosion (gullying). In the State of California, the SWRCB (through the RWQCBs) requires Storm Water Pollution Protection Plans (SWPPPs) for construction sites with more than 1 acre of disturbed soil area. The SWPPP provides best management practices (BMPs) intended to effectively control erosion and sedimentation by intercepting and dispersing concentrated flows, and reducing soil detachment and transport. Agricultural and ranching activities would also result in high levels of erosion and sedimentation. Agricultural sediment pollution is generated from surface runoff over tilled, and fallow or retired croplands; and irrigated croplands. Erosion and sedimentation from rangelands and dairy farming is generated from surface runoff on overgrazed and exposed pasturelands or rangelands and trampling of streambanks and sensitive areas.

Elevated turbidity could negatively affect fish populations by reducing feeding success (finding prey) and causing respiratory distress (clogged gills). Fine sediment also fills the interstices of gravel and cobble stream bottoms that are important feeding and spawning habitats for California's threatened and listed fish species such as coho salmon, Chinook salmon, steelhead trout, Lahontan and Paiute cutthroat trout, and Little Kern golden trout. Sedimentation could also result in the impairment of important food sources, reduction of habitat complexity, and the infilling of pools and thereby reducing cover from prey and increasing stream temperatures. Pollutants, such as bacteria and toxic chemicals, could attach to suspended sediment and settle onto the bottom of the streams or water bodies and at high contaminant levels render surface water sources unusable and seriously degrade fish habitat.

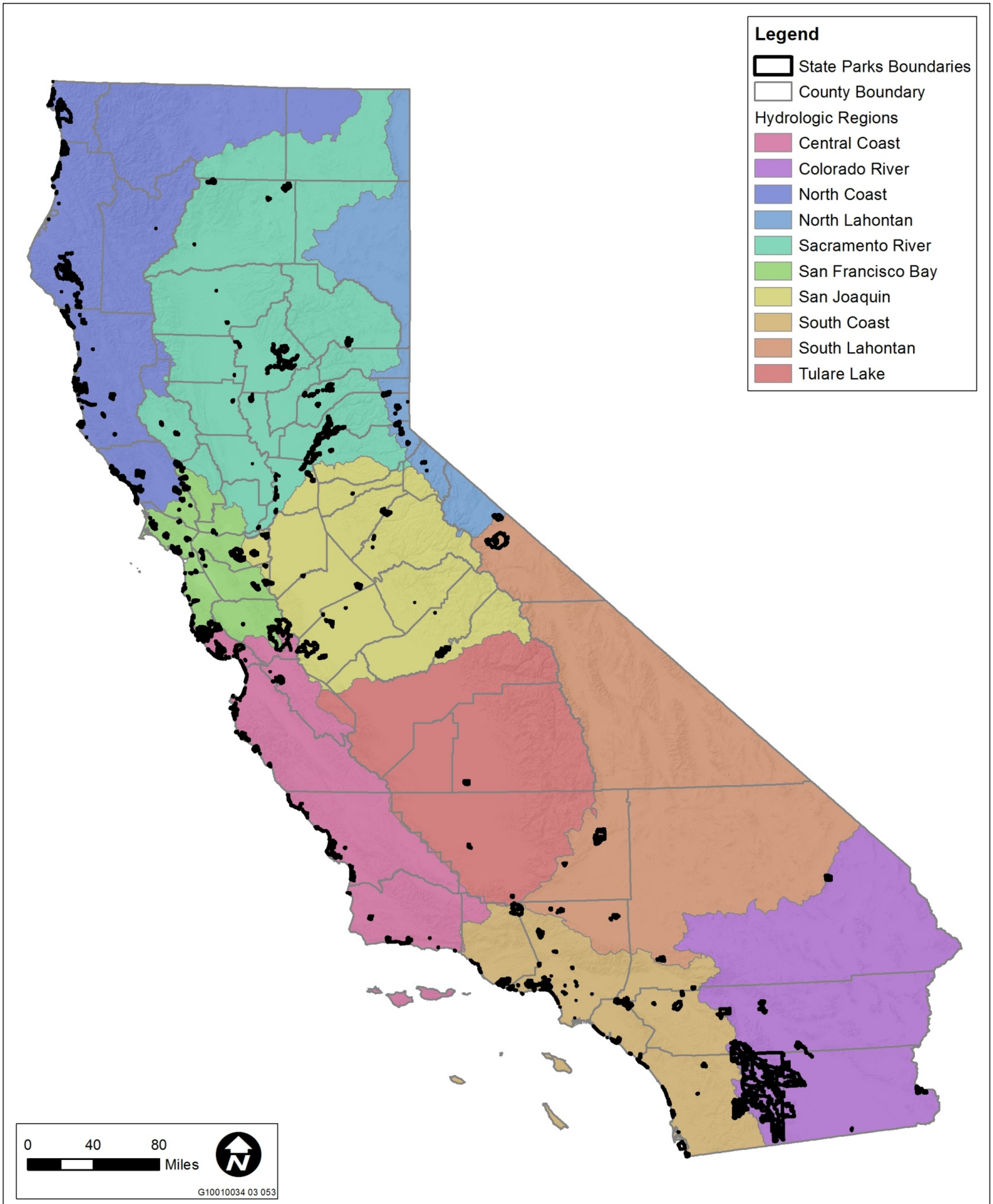
Sedimentation also has severe effects on drinking water quality, irrigability, and recreational uses. High sediment levels in drinking water could result in bad smell and taste, turbidity, suspended sediment, and toxic pollutants attached to suspended sediment particles. Waters used for irrigation purposes could have serious impacts from sedimentation as pumps become clogged or impaired and dispersal systems become impaired. Sedimentation of streams and waterbodies could reduce recreational quality and usability for boating, sport fishing, and swimming; cause increased boating and swimming accidents due to poor water clarity; and threaten public health through exposure to elevated levels of toxic chemicals, nutrients, and bacteria attached to suspended sediment in the water.

DWR HYDROLOGIC REGION APPROACH TO EVALUATING HYDROLOGY, WATER QUALITY, AND SEDIMENTATION

As stated previously, California's diverse hydrologic conditions and resources make it necessary to organize the statewide environmental setting and impact analysis by discrete regions sharing general hydrologic-, basin-, and climate-related characteristics. The California Department of Water Resources (DWR) divided the State into 10 hydrologic regions: Central Coast, Colorado River, North Coast, North Lahontan, Sacramento River, San Francisco Bay, San Joaquin River, South Coast, South Lahontan, and Tulare Lake (Exhibit 4.10-1) (DWR 2009). The hydrologic region designations are based on major drainage basins, and similar topographic and hydrologic characteristics, and provide a systematic framework for evaluating hydrologic resources and water quality at the statewide scale. For this reason the DWR hydrologic region designations were used for the analysis of hydrology, water quality and sedimentation for the CSP Road and Trail Change-In-Use Program EIR. The general regional, topographic, and climate characteristics are discussed below. Table 4.10-1 outlines each DWR hydrologic region providing specific characteristics pertaining to hydrologic, water quality, and sedimentation; and provide a list of CSP units within each region.

CENTRAL COAST

The Central Coast Hydrologic Region is located in central California, extending from Monterey Bay to Santa Barbara. The region covers more than 11,300 square miles, primarily within the southern Coast Range. This region includes Monterey, Santa Barbara, Santa Cruz, and San Luis Obispo counties and portions of Kern, San Benito, Santa Clara, San Mateo, and Ventura counties. The temperate Mediterranean climate of the Central Coast is characterized by mild, wet winters and warm, dry summers. Due to marine influences, the coastal climate in this region is typically cooler with smaller daily and seasonal temperature changes. Further inland, the climate is more continental resulting in warmer summers, colder winters, and greater daily and seasonal temperature variation. Elevations within the region range from sea level to mountain peak elevations up to 7,000 feet. Major mountain ranges include: Santa Cruz, Sierra Madre, San Rafael, and Santa Ynez mountains; Caliente, Diablo, Gabilan, La Panza, and Temblor ranges, and the coastal Santa Lucia Range. This region contains 57 CSP units covering approximately 195 square miles, with the majority located along the coast.



Source: CaSIL 2009, CSP 2011, DWR 2011

Exhibit 4.10-1

California Hydrologic Regions

ASCENT ENVIRONMENTAL

Table 4.10-1 General characteristics and California State Parks within Department of Water Resources Hydrologic Regions

California DWR Hydrologic Region[1]	Hydrology			Water Quality	Sedimentation	State Park Unit Name within DWR Hydrologic Region[2]
	Precipitation	Runoff and Flood Hazard	Major Rivers and Waterbodies			
Central Coast	Primarily rainfall, insignificant snowfall. Average precipitation ranges between 12 and 42 inches per year. Interior southern valleys: 5-10 inches. Mountain areas: >50 inches.	All rivers in the region are prone to winter storm produced flooding. Small, steep watersheds that are subject to short, intense floods. Limited seasonal base flow and no significant snowmelt runoff.	Big Sur River Carmel River Naciemento River Salinas River San Antonio River San Benito River Santa Maria River Santa Ynez River	Surface water issues: Erosion and sedimentation, wildlife and fisheries degradation, bacteria, eutrophication, and metals from nonpoint surface runoff, and agricultural runoff. Groundwater issues: Drinking water impairment, nitrates, toxic pollutants, and saltwater intrusion caused by nonpoint surface runoff and groundwater overdraft.	Steep upland areas with unstable geologies are prone to erosion during large storm events and could deposit sediment in rivers and on floodplains. Wildfires could result in sedimentation of rivers from increased surface erosion, rilling, gullying and subsequent debris flows.	Andrew Molera SP Año Nuevo SP Asilomar State Beach Bean Hollow State Beach Big Basin Redwoods SP Butano SP Carmel River State Beach Carpinteria State Beach Castle Rock SP Castro Adobe Chumash Painted Cave SHP El Capitan State Beach Estero Bluffs SP Fort Ord Dunes SP Fremont Peak SP Garrapata SP Gaviota SP Harmony Headlands SP Hatton Canyon Hearst San Simeon SHM Hearst San Simeon SP Henry W. Coe SP Hollister Hills SVRA John Little SNR Julia Pfeiffer Burns SP La Purisima Mission SHP Limekiln SP Los Osos Oaks SNR Manresa State Beach Marina State Beach Montaña de Oro SP Monterey State Beach Monterey SHP Morro Bay SP Morro Strand State Beach

Table 4.10-1 General characteristics and California State Parks within Department of Water Resources Hydrologic Regions

California DWR Hydrologic Region[1]	Hydrology			Water Quality	Sedimentation	State Park Unit Name within DWR Hydrologic Region[2]
	Precipitation	Runoff and Flood Hazard	Major Rivers and Waterbodies			
Central Coast						Moss Landing State Beach Natural Bridges State Beach New Brighton State Beach Oceano Dunes SVRA Pacheco SP Pfeiffer Big Sur SP Pismo State Beach Point Lobos Ranch Point Lobos SNR Point Sal State Beach Point Sur SHP Refugio State Beach Salinas River State Beach San Juan Bautista SHP Santa Cruz Mission SHP Seacliff State Beach Sunset State Beach The Forest of Nisene Marks SP Twin Lakes State Beach Wilder Ranch SP Zmudowski State Beach
Colorado River	Lowest annual precipitation of the 10 DWR hydrologic regions. Average annual rainfall ranges from 3 to 6 inches.	Characterized by low annual rainfall and runoff, and sparse vegetation. Streams are typically low gradient and braided in valley areas and steep gradient in mountainous areas. Storms are generally of short duration and high intensity, and could result in flash floods in lowland alluvial fan areas. Ephemeral streams are prone to flooding during heavy rainfall events.	Alamo River Colorado River New River Salton Sea Whitewater River	Surface water issues: Sedimentation, salinity, drinking water impairment, bacteria, pesticides, herbicides from agricultural runoff, wastewater, erosion, and diversions. Groundwater issues Drinking water impairment and VOCs caused by groundwater overdraft and fuel tank leaks.	Erosion and sedimentation primarily from ravel, surface erosion, wind erosion, and as freeze-thaw. Short duration and high intensity storms could result in debris flows generated in steep mountainous areas. In comparison, lowland and valley areas tend to have lower erosion and sediment yields.	Anza-Borrego Desert SP Desert Cahuilla/Freeman Project Heber Dunes SVRA Indio Hills Palms Mount San Jacinto SP Ocotillo Wells SVRA Picacho SRA Providence Mountains SRA Salton Sea SRA

Table 4.10-1 General characteristics and California State Parks within Department of Water Resources Hydrologic Regions

California DWR Hydrologic Region[1]	Hydrology			Water Quality	Sedimentation	State Park Unit Name within DWR Hydrologic Region[2]
	Precipitation	Runoff and Flood Hazard	Major Rivers and Waterbodies			
North Coast	Highest precipitation in the State with average annual precipitation of 50 inches. High intensity and long duration rainfall events are common during the winter period. Annual precipitation ranges from 15 inches in Modoc County to nearly 200 inches in northern Del Norte County. Heavy snowfall is limited to the higher elevations of the Klamath Mountains and Trinity Alps.	Highest peak discharge values in the State Smaller, coastal watersheds tend to exhibit rapid hydrograph response, with lower base flows and little snowmelt. In comparison, larger inland rivers experience slower hydrograph response, with higher base flows and significant snowmelt runoff.	Albion River Bear River Big River Bodega Harbor Eel River Garcia River Gualala River Humboldt Bay Klamath River Mad River Mattole River Navarro River Noyo River Redwood Creek Russian River Salmon Creek Scott River Shasta River Smith River Tenmile River Trinity River Van Duzen River	Surface water issues: Erosion and sedimentation from timber harvesting, roads, and grazing; nonpoint source pollution from storm water runoff; channel modification, gravel mining and dairies; and MTBE, PCE, and dioxin contamination. Groundwater issues: Leaking underground tanks.	High rainfall, in combination with steep mountainous areas underlain in places by unstable geologies/soils, high uplift rates, and poor land use practices (e.g. timber harvesting, grazing, and poor road/trail construction) could result in high peak discharge, erosion and sediment yields during large storm events.	Admiral William Standley SRA Annadel SP Armstrong Redwoods SNR Austin Creek SRA Azalea SNR Benbow Lake SRA Bothe-Napa Valley SP Caspar Headlands State Beach Caspar Headlands SNR Del Norte Coast Redwoods SP Fort Humboldt SHP Fort Ross SHP Greenwood State Beach Grizzly Creek Redwoods SP Harry A. Merlo SRA Hendy Woods SP Humboldt Lagoons SP Humboldt Redwoods SP Jedediah Smith Redwoods SP John B. Dewitt Redwoods SNR Jug Handle SNR Kruse Rhododendron SNR Little River State Beach MacKerricher SP Mailliard Redwoods SNR Manchester SP Mendocino Headlands SP Montgomery Woods SNR Navarro River Redwoods SP Patricks Point SP Pelican State Beach

Table 4.10-1 General characteristics and California State Parks within Department of Water Resources Hydrologic Regions

California DWR Hydrologic Region[1]	Hydrology			Water Quality	Sedimentation	State Park Unit Name within DWR Hydrologic Region[2]
	Precipitation	Runoff and Flood Hazard	Major Rivers and Waterbodies			
North Coast						Point Cabrillo Light Station SHP Prairie Creek Redwoods SP Reynolds WC Richardson Grove SP Robert Louis Stevenson SP Russian Gulch SP Salt Point SP Schooner Gulch State Beach Sinkyone Wilderness SP Smithe Redwoods SNR Sonoma Coast SP Standish-Hickey SRA Sugarloaf Ridge SP Tolowa Dunes SP Trinidad State Beach Van Damme SP Weaverville Joss House SHP Westport-Union Landing State Beach
North Lahontan	Average precipitation for the region is approximately 23 inches, primarily snowfall. Annual precipitation ranges from less than 5 inches in the valley areas of Lassen and Mono counties to more than 60 inches in the Sierra Nevada.	Lowland valley areas could experience high peak runoff in short and steep ephemeral drainages. Most watersheds are small and steep. Prolonged spring runoff and high base flow is typical of drainages in the Sierra Nevada. Many drainages are ephemeral and could experience rapid hydrograph response and resultant flooding.	Carson River Surprise Valley Susan River Truckee River Walker River	Surface water issues: Erosion and sedimentation from logging, roads, and grazing; nonpoint source pollution from storm water runoff; acid drainage from inactive mines, and individual waste water systems. Groundwater issues: Drinking water, salinity, and VOCs from mining drainage, overdraft, and fuel tank leaks.	Flashy storm flows with high peak discharge, lack of vegetation, poorly consolidated geology, and steep channel morphology could result in debris flows, erosion and sediment yield. Wildfires could result in sedimentation of rivers from increased surface erosion, rilling, and gullying.	Bodie SHP Burton Creek SP D.L. Bliss SP Donner Memorial SP Ed Zberg Sugar Pine Point SP Emerald Bay SP Grover Hot Springs SP Kings Beach SRA Lake Valley SRA Tahoe SRA Ward Creek Washoe Meadows SP

Table 4.10-1 General characteristics and California State Parks within Department of Water Resources Hydrologic Regions

California DWR Hydrologic Region[1]	Hydrology			Water Quality	Sedimentation	State Park Unit Name within DWR Hydrologic Region[2]
	Precipitation	Runoff and Flood Hazard	Major Rivers and Waterbodies			
Sacramento River	Average precipitation for the region is approximately 37 inches with annual precipitation increasing from south to north and from west to east.	Major rivers receive high spring runoff from snowmelt from adjacent mountain streams and rivers. Flooding in the lowland areas is a result of elevated and prolonged spring runoff coupled with year round elevated base flows.	Sacramento River Major tributaries: American River Bear River Butte Creek Cache Creek Clear Lake Feather River McCloud River Pitt River Putah Creek Yuba River	Surface water issues: Erosion and sedimentation from timber harvesting, roads, dairies and agriculture; and nonpoint source pollution from storm water runoff. Groundwater issues: Drinking water impairment, salinity, VOCs from irrigated agriculture and dairy nonpoint sources, overdraft, and fuel tank leaks.	Erosion and sediment yields are generally low due to stable geologies and abundant vegetative cover. Although heavy storm rainfall and saturated soil conditions, coupled with land use practices (e.g. timber harvesting, grazing, agriculture, and poor road construction) could result in high erosion and sediment yields.	Ahjumawi Lava Springs SP Anderson Marsh SHP Auburn SRA Bidwell Mansion SHP Bidwell-Sacramento River SP Brannan Island SRA Butte City Project California State Capitol Museum Castle Crags SP Clay Pit SVRA Clear Lake SP Colusa-Sacramento River SRA Delta Meadows Empire Mine SHP Folsom Lake SRA Folsom Powerhouse SHP Governors Mansion SHP Lake Oroville SRA Leland Stanford Mansion SHP Malakoff Diggins SHP Marshall Gold Discovery SHP McArthur-Burney Falls Memorial SP Old Sacramento SHP Plumas-Eureka SP Prairie City SVRA Robert Louis Stevenson SP Shasta SHP South Yuba River SP State Indian Museum (SHP) Sutter Buttes SP Sutters Fort SHP William B. Ide Adobe SHP Woodson Bridge SRA

Table 4.10-1 General characteristics and California State Parks within Department of Water Resources Hydrologic Regions

California DWR Hydrologic Region[1]	Hydrology			Water Quality	Sedimentation	State Park Unit Name within DWR Hydrologic Region[2]
	Precipitation	Runoff and Flood Hazard	Major Rivers and Waterbodies			
San Francisco Bay	Average precipitation for the region is approximately 25 inches. Because of marine influences and rain shadows, the annual precipitation is 20-25 inches in the North Bay, 15-20 inches in the South Bay (east of the Santa Cruz mountains), and more than 40 inches in the higher elevation west facing mountainous areas.	Small, steep watersheds that are subject to high rainfall from short, intense storms. All rivers are prone to intense flooding during major storm events.	Alameda Creek Corte Madera Creek Coyote Creek Green Valley Creek Guadalupe River Napa River Novato Creek Petaluma River San Leandro Creek San Lorenzo Creek San Mateo Creek San Pablo Creek Sonoma Creek Suisun Creek Tomales Bay Walnut Creek Wildcat Creek	Surface water issues: Erosion and sedimentation from timber harvesting, roads; agricultural runoff; nonpoint source pollution from storm water runoff; trace metals; toxic pollutants; habitat and wildlife degradation. Sources from irrigated agricultural runoff, sewage discharge, and industrial manufacturing. Groundwater issues: Drinking water impairment, salt water intrusion, and synthetic organics from irrigated agriculture and other nonpoint sources, overdraft, and industrial discharge.	Steep upland areas with unstable geologies are prone to erosion during large storm events and could deposit sediment in rivers and floodplains. Wildfires could result in sedimentation of rivers from increased surface erosion, rilling and gullying.	Angel Island SP Annadel SP Bale Grist Mill SHP Benicia Capitol SHP Benicia SRA Big Basin Redwoods SP Bothe-Napa Valley SP Burleigh H. Murray Ranch Butano SP Candlestick Point SRA Carnegie SVRA Castle Rock SP China Camp SP Gray Whale Cove State Beach Half Moon Bay State Beach Henry W. Coe SP Jack London SHP Lake Del Valle SRA Marconi Conference Center SHP Martial Cottle Park SRA Montara State Beach Mount Diablo SP Mount Tamalpais SP Olompali SHP Pescadero State Beach Petaluma Adobe SHP Pomponio State Beach Portola Redwoods SP Robert Louis Stevenson SP Samuel P. Taylor SP San Gregorio State Beach Sonoma SHP Sugarloaf Ridge SP Thornton State Beach Tomales Bay SP

Table 4.10-1 General characteristics and California State Parks within Department of Water Resources Hydrologic Regions

California DWR Hydrologic Region[1]	Hydrology			Water Quality	Sedimentation	State Park Unit Name within DWR Hydrologic Region[2]
	Precipitation	Runoff and Flood Hazard	Major Rivers and Waterbodies			
San Joaquin River	Average precipitation is approximately 26 inches. Annual precipitation ranges from less than 11inches in the south and southwest area to approximately 35 inches of snowfall in the Sierra Nevada.	Prolonged high runoff, erosion, sedimentation and flooding are primarily a result of snowmelt from the Sierra Nevada.	San Joaquin River Major tributaries: Chowchilla River Consumnes River Del Puerto Creek Fresno River Merced River Mokelumne River Orestimba Creek Panoche Creek	Surface water issues: Erosion and sedimentation from timber harvesting, roads, dairies and agriculture; and nonpoint source pollution from storm water runoff. Groundwater issues: Drinking water impairment, salinity, VOCs from irrigated agriculture and dairy nonpoint sources, overdraft, and fuel tank leaks.	Erosion and sediment yields are generally low due to stable geology and abundant vegetative cover. Heavy storm rainfall and saturated soil conditions, coupled poor land use practices (e.g. timber harvesting, grazing, agriculture, and poor road construction) could result locally in high erosion and sediment yield. Wildfires could result in sedimentation of rivers from increased surface erosion.	Bethany Reservoir SRA Calaveras Big Trees SP California Mining and Mineral Museum Carnegie SVRA Caswell Memorial SP Columbia SHP Franks Tract SRA George J. Hatfield SRA Great Valley Grasslands SP Henry W. Coe SP Indian Grinding Rock SHP John Marsh Home SHP McConnell SRA Millerton Lake SRA Mount Diablo SP Pacheco SP Prairie City SVRA Railtown 1897 SHP San Luis Reservoir SRA Turlock Lake SRA
South Coast	Average annual precipitation is approximately 18 inches. Annual precipitation ranges from 10 inches in the valley areas to approximately 40 inches in the mountains.	Most rivers and creeks are intermittent or ephemeral with minor runoff from snowmelt. Short duration, intense winter storms in steep upland watersheds are the primary cause for, and flooding in this region. Urbanization has resulted in drainages with high peak discharges and short lag times.	Carlsbad Los Angeles River Otay River San Dieguito River San Diego River San Gabriel River San Juan Creek San Luis Rey River Santa Ana River Santa Clara River Santa Margarita River Santa Monica Bay Sweetwater River	Surface water issues: Erosion and sedimentation from logging, roads, ranching, and urban development; nonpoint source pollution from storm water runoff; erosion from inactive mines; agricultural runoff; mineral and gravel mining; nutrients; pathogens; heavy metals; hydromodification;	Typically low erosion and sediment yield due to urbanization. Steep channels and unstable geology, coupled with short duration, intense winter storms in steep upland watersheds can cause localized erosion and sediment yield from debris flows and mud flows.	Anza-Borrego Desert SP Bolsa Chica State Beach Border Field SP California Citrus SHP Cardiff State Beach Carlsbad State Beach Chino Hills SP Crystal Cove SP Cuyamaca Rancho SP Doheny State Beach Emma Wood State Beach Hungry Valley SVRA Huntington State Beach Lake Perris SRA

Table 4.10-1 General characteristics and California State Parks within Department of Water Resources Hydrologic Regions

California DWR Hydrologic Region[1]	Hydrology			Water Quality	Sedimentation	State Park Unit Name within DWR Hydrologic Region[2]
	Precipitation	Runoff and Flood Hazard	Major Rivers and Waterbodies			
South Coast			Tijuana River Ventura River	and individual waste water systems. Groundwater issues: Drinking water impairment, salt water intrusion, toxic pollutants, and VOCs from industrial and agricultural runoff, overdraft, and underground storage and fuel tank leaks.	Wildfires could result in sedimentation of rivers from increased surface erosion, rilling, and gullying.	Leo Carrillo SP Los Angeles SHP Los Encinos SHP Malibu Creek SP Malibu Lagoon State Beach McGrath State Beach Mount San Jacinto SP Old Town San Diego SHP Palomar Mountain SP Pio Pico SHP Point Mugu SP Rio de Los Angeles State Park SRA Robert H. Meyer Memorial State Beach San Buenaventura State Beach San Clemente State Beach San Elijo State Beach San Onofre State Beach San Pasqual Battlefield SHP San Timoteo Canyon Santa Susana Pass SHP Silver Strand State Beach South Carlsbad State Beach Topanga SP Torrey Pines State Beach Torrey Pines SNR Verdugo Mountains Wildwood Canyon Will Rogers SHP
South Lahontan	Average annual precipitation for the region is approximately 8 inches. Annual precipitation ranges from less	Lowland valley areas could experience high peak runoff in short and steep ephemeral drainages. Most watersheds are small and steep. Prolonged	Amargosa River Antelope Valley Mojave River Mono Basin Owens River	Surface water issues: Erosion and sedimentation from logging, roads, and grazing; nonpoint source pollution from storm water runoff;	Flashy storm flows with high peak discharge, lack of vegetation, poorly consolidated geology, and steep channel morphology	Antelope Valley CA Poppy Preserve (SNR) Antelope Valley Indian Museum SHP Arthur B. Ripley Desert Woodland SP Bodie SHP Mono Lake Tufa SNR Providence Mountains SRA

Table 4.10-1 General characteristics and California State Parks within Department of Water Resources Hydrologic Regions

California DWR Hydrologic Region[1]	Hydrology			Water Quality	Sedimentation	State Park Unit Name within DWR Hydrologic Region[2]
	Precipitation	Runoff and Flood Hazard	Major Rivers and Waterbodies			
South Lahontan	than 2 inches in Death Valley to approximately 25-50 inches in the mountains.	spring runoff and high base flow is typical of drainages in the Sierra Nevada. Most drainages are ephemeral and could experience rapid hydrograph response and resultant flooding.		acid drainage from inactive mines; and individual waste water systems. Groundwater issues: Drinking water, salinity, and VOCs from mining drainage, overdraft, and fuel tank leaks.	could result in debris flows, erosion and sediment yield. Wildfires could result in sedimentation of rivers from increased surface erosion, rilling, and gullying.	Red Rock Canyon SP Saddleback Butte SP Silverwood Lake SRA Tomo-Kahni SHP
Tulare Lake	Average annual precipitation is approximately 15 inches. Annual precipitation ranges from 13-14 inches for the Tulare Lake region to 25-50 inches in the mountains.	Prolonged spring runoff from rainfall and snowfall from mountainous areas and rising waters within typically dry lakes results in potential flooding.	Kaweah River Kern River Kings River San Joaquin River Tulare Lake Tule River	Surface water issues: Erosion and sedimentation from logging, roads, rural development, and grazing; nonpoint source pollution from storm water runoff; and individual waste water systems. Groundwater issues: Drinking water, salinity, toxic pollutants, and VOCs from waste water systems and septic tanks, overdraft, and agricultural and industrial runoff.	Overall erosion and sedimentation is low due to extensive vegetation and stable geology and soils, although poor land use has resulted in localized high erosion and sediment yields.	Colonel Allensworth SHP Fort Tejon SHP Hungry Valley SVRA Tule Elk SNR

[1]Sources: CDWR (2009); Central Valley RWQCB (2003); Lahontan RWQCB (2005); Mount (1995); North Coast RWQCB (2003); DWR (2003); South Coast RWQCB (2002)
[2] SHM – State Historic Monument; SHP – State Historic Park; SNR – State Natural Reserve; SP – State Park; SRA – State Recreation Area; SVRA – State Vehicular Recreation Area; WC – Wayside Campground

Colorado River

The Colorado River hydrologic region is located in southeastern California encompassing nearly 20,000 square miles. This region includes Imperial County and portions of Riverside, San Bernardino, and San Diego counties. The regional climate is primarily subtropical-desert with hot summers and short, mild winters. Milder temperatures are typical in mountainous areas in the north and west. Elevations within the region range from 230 feet below sea level (surface of the Salton Sea) to mountain peak elevations up to 10,000 feet. Major mountain ranges include the San Bernardino and San Jacinto mountains. This region contains 9 CSP units covering approximately 1,115 square miles. The majority of the CSP lands within this region are located within the Anza-Borrego Desert.

North Coast

The North Coast hydrologic region is located in northern California encompassing nearly 19,500 square miles. The boundary of the region extends north from Tomales Bay to the Oregon Border and to the east to the Goose Lake Basin. This region includes all or portions of Del Norte, Glenn, Humboldt, Marin, Siskiyou, Sonoma, and Trinity counties. This region encompasses coastal redwood forests, mountains, inland valley, and semi-desert conditions, and as a result the regional climate is highly variable. The western coastal areas are typically cooler with temperatures ranging from 80s in the summer to 30s in winter months. In comparison, inland areas experience greater extremes in temperature with summer highs in the 100s and winter lows below freezing. Elevations within the region range from sea level to mountain peak elevations over 8,000 feet. Major mountain ranges include the California Coast Range and the Klamath Mountains. This region contains 49 CSP units covering approximately 285 square miles, with the majority located along the coast or in coastal-mountain redwood forest.

North Lahontan

The North Lahontan hydrologic region is located in northern to eastern central California and encompasses more than 6,100 square miles. The boundary extends north from the southern boundary of the Walker River in Mono County to the Oregon border and east to the Nevada border. This region includes portions of Alpine, El Dorado, Lassen, Modoc, Mono, Nevada, Placer, and Sierra counties. The northern area of the hydrologic region is characterized by flat valleys and arid high desert conditions. The central and southern portions of the region are located along the eastern slopes of the Sierra Nevada. The regional climate is characterized by dry, warm summer months with occasional thunderstorms; and cold, wet (snow or rain) winters. Elevations within the region range from 4,000 feet in northern flat valley areas to mountain peak elevations over 12,800 feet. Major mountain ranges include the Cascade Range and the Sierra Nevada mountains. This region contains 12 CSP units covering approximately 28 square miles located in the northern Sierra Nevada and in the Bodie Hills to the east of the Sierra Nevada.

Sacramento River

The Sacramento River hydrologic region is located in northern to central California and encompasses nearly 27,250 square miles. The boundary extends north from the Sacramento-San Joaquin Delta to the Oregon border. This region includes portions of Alpine, Amador, Butte, Colusa, Contra Costa, El Dorado, Glenn, Lake, Lassen, Mendocino, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Siskiyou, Solano, Sonoma, Sutter, Tehama, Trinity, Yolo, and Yuba counties. The regional climate is primarily high desert plateau and is characterized by hot, dry summer months; and cold, wet winters (primarily snow in the mountain areas (>5,000 feet) and rain in low lying areas). Elevations within the region range from below sea level to mountain peak elevations over 7,000 feet. Major mountain ranges within the region include the California Coast Range and the Sierra Nevada mountains. This region contains 33 CSP units covering approximately 178 square miles scattered throughout along the foothills of the Coast Range and Sierra Nevada, and Central Valley areas.

SAN FRANCISCO BAY

The San Francisco Bay hydrologic region is located in northern California and encompasses nearly 4,500 square miles. The boundary extends north from Southern Santa Clara County to Tomales Bay. The eastern boundary of this region is along the crest of the California Coast Range. This region includes portions of Alameda, Contra Costa, Marin, Napa, Sacramento, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma, and Stanislaus counties. Due to marine influences, the coastal climate in this region is typically cool and foggy with smaller daily and seasonal temperature changes. Further inland, the climate is more continental resulting in warmer summers, colder winters, and greater daily and seasonal temperature variation. Elevations within the region range from sea level to mountain peak elevations over 4,000 feet. The major mountain range within the region is the California Coast Range. This region contains 35 CSP units covering approximately 142 square miles located along the coast and in the mountains of the Coast Range.

SAN JOAQUIN RIVER

The San Joaquin River hydrologic region encompasses nearly 15,200 square miles and is located in central California between the Sacramento River and Tulare Lake hydrologic regions. The region is bordered to the west by the Diablo Range and to the east by the Sierra Nevada. This region includes portions of Alameda, Alpine, Amador, Calaveras, Contra Costa, El Dorado, Fresno, Inyo, Madera, Mariposa, Merced, Mono, Sacramento, San Benito, San Joaquin, Santa Clara, Stanislaus, and Tuolumne counties. Valley areas experience hot and dry summers, and cool and wet winters. Mountain areas experience mild summer temperatures and cold winters with heavy snowfall in higher elevations. Elevations within the region range from near sea level to mountain peak elevations of nearly 14,000 feet. The major mountain ranges within the region are the Diablo Range and the Sierra Nevada. This region contains 20 CSP units covering approximately 161 square miles along the foothills of the Coast Range and Sierra Nevada, and San Joaquin River Valley areas.

SOUTH COAST

The South Coast hydrologic region is located in southern coastal California encompassing nearly 11,000 square miles. The boundary of the region extends north from the Mexico border to the Ventura-Santa Barbara county line and to the east to the Transverse and Peninsular ranges. This region includes all or portions of Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, and Ventura counties. The regional climate is highly variable with a Mediterranean climate with warm, dry summers and mild, wet winters in the coastal and inland valley areas. Mountainous areas in this region have a Mediterranean to subtropical steppe climate, with greater ranges of seasonal maximum and minimum temperatures. Elevations within the region range from sea level to mountain peak elevations of nearly 9,000 feet. Major mountain ranges include the Transverse and Peninsular ranges. This region contains 42 CSP units covering approximately 207 square miles primarily located along the coast and inland valley areas.

SOUTH LAHONTAN

The South Lahontan hydrologic region is located in southeastern California encompassing nearly 26,700 square miles. The boundary of the region extends north from the Sierra Nevada, San Gabriel, San Bernardino, and Tehachapi Mountains to the drainage divide between Mono Lake and East Walker River; and to the east to the Nevada border. This region includes portions of Fresno, Inyo, Kern, Los Angeles, Madera, Mono, San Bernardino, Tulare and Tuolumne counties. The regional climate for areas east of the Sierra Nevada is hot desert to steppe with hot, dry summers and mild dry winters with little precipitation. The foothills of the Sierra Nevada experience cold and wet (rain and snow) winters. Elevations within the region range from 282 feet below sea level in Death Valley to 14,495 feet at the peak of Mount Whitney. Major mountain ranges include the Sierra Nevada, White, and Avawatz mountains; and Argus and Coso ranges. This region contains 10 CSP units covering approximately 121 square miles, primarily in the San Bernardino Mountains, dry inland valley areas, and the Mono Lake area.

TULARE LAKE

The Tulare Lake hydrologic region is located in central California within the southern portion of the Central Valley and encompasses nearly 17,050 square miles. This region is within the southern portion of the San Joaquin River Valley and includes portions of Fresno, Inyo, Kern, Kings, Los Angeles, Madera, Mono, Monterey, San Benito, San Luis Obispo, Tulare and Ventura counties. The regional climate varies for valley and mountainous areas. Valley areas experience hot, dry summers and cool, wet winters. Mountainous areas experience mild summers, with intermittent thunderstorms and cold winters with heavy snowfall above 5,000 feet elevation. Elevations within the region range from 50 feet above sea level at the Fresno Slough to 14,495 feet at the peak of Mount Whitney. Major mountain ranges include the Coast Range, Sierra Nevada, and the Tehachapi Mountains. This region contains 4 CSP units covering approximately 9 square miles, primarily within inland valley areas.

4.10.2 REGULATORY SETTING

The proposed Process is subject to a number of hydrology and water quality requirements associated with federal and state regulations. The following section outlines the regulations that apply to impacts of the proposed Process on hydrologic resources, water quality, and sedimentation. CSP units are exempt from local regulations, such as general plans, specific plans, and zoning ordinances (California Constitution Article XI, Section 7), because state authority is sovereign over local requirements. Nonetheless, CSP seeks to be consistent with local plans and ordinances to the maximum degree feasible.

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

CLEAN WATER ACT (33 U.S.C. SECTION 1251 ET SEQ.)

The Clean Water Act (CWA) is a 1977 amendment to the Federal Water Pollution Control Act of 1972. The CWA provides standard regulations for the discharges of pollutants to the waters of the United States (U.S.) in order to maintain their chemical, physical, and biological integrity and protect their beneficial uses. In addition, CWA provides the statutory basis for the National Pollutant Discharge Elimination System (NPDES). Waters of the U.S. are defined as coastal waters, territorial seas, bays, rivers, streams, lakes, ponds, and wetlands (Code of Federal Regulations 40 CFR 122.2).

The CWA requires states to adopt water quality standards that must be approved by the EPA and requires NPDES permits for the discharge of pollutants in U.S. waters. In addition, the CWA gives authority to the EPA to (1) implement pollution control programs, including setting waste water standards and effluent limits on an industry-wide basis; and (2) authorize the NPDES Permit Program permitting, administration, and enforcement to state governments with oversight by the EPA.

Under Section 303(d) of the CWA; states, territories, and authorized tribes are required to develop lists of impaired and threatened waters. Impaired waters (e.g. rivers, streams, and lakes) are defined as those that do not meet water quality objectives because required pollution control mitigations are not sufficient to attain or maintain these standards. A 303(d) listing acts a "trigger" for states to monitor these water bodies and develop TMDLs for each pollutant. The TMDL is a calculation of the maximum allowable amount of a pollutant load impaired waters can receive without significant negative environmental effects, violation of water quality standards, and or harm to beneficial uses. The TMDL process also provides an analysis of the linkages between pollutant reductions and the attainment of water quality objectives. The TMDL could also function as an action plan that provides management priorities and mitigation strategies for addressing water quality impairments. The EPA must approve a state's TMDL or, if denied, the EPA will prepare and implement its own.

Sections under "Title IV-Permits and Licenses" of the Clean water Act regulate the permits and licenses required for any activity that could impair surface waters.

- Section 401, enforced by SWRCB through the RWQCBs, requires the discharger to obtain certification from the State that potential discharges will comply with approved effluent limits and water quality standards.
- Section 402 regulates the point- and nonpoint-source discharges to surface waters through the NPDES permit program. The NPDES permit program is overseen by the SWRCB and administered by each RWQCB. A general (covers multiple facilities within a specific category) or individual NPDES permit is required for any municipal or industrial point-source discharge and nonpoint-source stormwater discharge. NPDES permits set limits on allowable pollutant emissions or effluent discharges, prohibit the discharges not specifically allowed by the NPDES permit; and provide the discharger with required mitigations to monitor and reduce potential point- and nonpoint-source pollutant discharges. NPDES permits issued for listed pollutants must be consistent with TMDL load allocations.
- Section 404, regulated by the U.S. Army Corps of Engineers (USACE), requires a permit prior to any activity that involves the discharge of dredged or fill material into waters of the U.S. at designated approved locations. Projects with impacts less than or equal to 0.5 acres may be approved through the Nationwide Permit (NWP) Program.

Phase I and Phase II of the EPA stormwater program were promulgated under the CWA in order to further protect water quality, aquatic habitat, and beneficial uses from stormwater runoff. The EPA stormwater program requires that projects involving more than 1 acre of ground disturbance develop and obtain approval of a SWPPP prior to construction activities, and the implementation of BMPs to control runoff from construction sites during and after construction operations. A Notice of Intent (NOI) must be submitted to the SWRCB when a project is subject to a NPDES permit. Construction projects involving less than 1 acre of ground disturbance are exempt from these regulations.

SECTIONS 9 AND 10 OF THE RIVERS AND HARBORS ACT (33 U.S.C. 401 ET SEQ.)

Sections 9 and 10 of the Rivers and Harbors Act (33 U.S.C. 301 et seq.) are regulated by the USACE and require a permit for the construction of any structure within or over "navigable waters:" excavation, dredging, or deposition of material in or any obstruction or alteration of "navigable waters." Navigable waters include coastal and inland waters, lakes, rivers, and streams that are wide and deep enough to provide passage; territorial seas; and wetlands adjacent to aforementioned "navigable waters. A Section 10 Permit is also required in un-navigable waters, if the activity will have an influence on course, location, condition, or capacity of navigable water body.

FEDERAL ANTIDEGRADATION POLICY (CODE OF FEDERAL REGULATIONS - TITLE 40: PROTECTION OF ENVIRONMENT 40CFR 131.12)

The Federal Antidegradation Policy was issued in 1968 by the U.S. Department of the Interior to (1) ensure that activities will not lower the water quality of existing use, and (2) restore and maintain "high quality water." The federal policy maintains that states shall adopt a statewide antidegradation policy that includes the following conditions:

- Existing instream water uses and a level of water quality necessary to maintain those uses shall be maintained and protected.
- Water quality will be maintained and protected in waters that exceed water quality levels necessary for supporting fish, wildlife, and recreational activities, and water quality, unless the State deems that water quality levels can be lowered to accommodate important economic or social development. In these cases, water quality levels can only be lowered to levels that support all existing uses.
- Where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

CALIFORNIA DEPARTMENT OF FISH AND GAME CODE SECTIONS 1600–1603 (STREAMBED ALTERATION)

The California Department of Fish and Game (CDFG) is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. The CDFG Lake and Streambed Alteration Program (Fish and Games Codes 1600-1603) states that it is unlawful to substantially divert or obstruct the natural of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it could pass into any river, stream, or lake as designated by CDFG. Any proposed activity that violates the aforementioned rule must obtain a Lake or Streambed Alteration Agreement. The Lake or Streambed Alteration Agreement notifies CDFG of the proposed activity and provides proof that the activity will not substantially adversely affect existing fisheries and wildlife, and mitigation measures or BMPs will be employed to protect fish and wildlife resources. The Lake or Streambed Alteration Agreement is required for any work conducted within the 100-year floodplain of a stream or river and adjacent riparian areas.

PORTER-COLOGNE WATER QUALITY ACT (CAL. WATER CODE DIV. 7)

The Porter-Cologne Water Quality Act is a key element of California water quality control legislation. Under the act, the SWRCB is given authority over state water rights and water quality policy; and established the State's nine RWQCBs to regulate and oversee regional and local water quality issues. The RWQCB is also responsible for developing and updating Basin Plans targeted toward: (1) protecting waters designated with beneficial uses, (2) establishing water quality objectives for surface water and groundwater, and (3) determining actions necessary to maintain water quality standards and control point- and nonpoint-sources of pollution into the State's waters. Under the act, proposed waste dischargers are required to file Reports of Waste Discharge (RWDs) to the RWQCB; and the SWRCB and RWQCB is granted jurisdiction over the issuance and enforcement of Waste Discharge Requirements (WDRs), NPDES permits, and Section 401 water quality certifications.

CALIFORNIA STATE ANTIDEGRADATION POLICY (SWRCB RESOLUTION NO. 68-16, "POLICY WITH RESPECT TO MAINTAINING HIGHER QUALITY WATERS IN CALIFORNIA")

In 1968, the State of California adopted an antidegradation policy in response to directives under the Federal Antidegradation Policy. The antidegradation policy applies to high quality waters of the State, including surface waters and groundwater, and all existing and potential uses. The policy requires that high quality waters be maintained to the maximum extent possible and any proposed activities that can adversely affect high quality surface water and groundwater must (1) be consistent with the maximum benefit to the people of the State, (2) not unreasonably affect present and anticipated beneficial use of the water, and (3) not result in water quality less than that prescribed in water quality plans and policies.

CSP Departmental Operation Manual (DOM) 0306

One of the major attributes of the CSP system is its water resources, including streams and rivers, lakes, reservoirs, and coastal waters. Because the integrity of water resources is vulnerable to pressures from natural systems management and preservation, and public use; CSP has developed specific policies addressing water resources as part of the CSP Operations Manual (DOM, Natural Resources, Section 0306) (CSP 2004).

DOM Section 0306 defines policies for water resource issues related to (1) water resources planning and management, (2) watershed management, (3) stream management, (4) watershed and stream protection, (5) stream restoration, (6) floodplain management, (7) wetlands management, (8) coastal lagoon processes and management, (9) water quality and quantity, and (10) water rights (CSP 2004). These policies are intended to recognize and assess the CSP system water resources and provide guidelines to protect, maintain and restore water resources, and eliminate or reduce further impacts from CSP management activities and public use. Adherence to DOM 306 is mandatory, unless waived by the Director or designee.

CSP Trails Handbook

CSP adopted CSP Trails Handbook (Handbook) in 1994 as an internal management and field tool for operation of the statewide trail system; it provides guidelines for CSP staff for trail construction and maintenance activities, a detailed Unit Trails Plan template and guidelines that ensure adequate trail system planning and public input, and guidelines for both the supervisor and lead person responsible for trail construction and maintenance activities. Specifically, the Trails Handbook includes guidance on record keeping, budgeting, construction, trail maintenance, safety, the use of native and non-native material, clearing, brushing, tread and drainage maintenance, trail reroute and construction, park structures, accessibility considerations, types of trails, and site restoration (CSP 1994). In many instances, the Trails Handbook sets the construction and maintenance standards for trail management guidelines described in the CSP DOM.

4.10.3 SIGNIFICANCE CRITERIA

The impact of the Process on hydrology, water quality and sedimentation would be considered significant if the proposed Process would result in the exceedence of significant criteria or thresholds. The following significance criteria have been developed based on the “Hydrology and Water Quality” Section of CEQA Appendix G and CSP Project Evaluation Form (PEF):

- Violation of any water quality standards or waste discharge requirements.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.
- Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or sedimentation on- or off-site.
- Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site.

- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Substantially degrade water quality.
- Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map.
- Place structures within a 100-year flood hazard area that would impede or redirect flood flows.
- Expose people or structures to a significant risk of loss, injury, or death from flooding, including flooding resulting from the failure of a levee or dam.
- Inundation by seiche, tsunami, or mudflow.

4.10.4 IMPACT ANALYSIS METHODS AND APPLICABLE PROJECT REQUIREMENTS

IMPACT ANALYSIS METHODS

The impact analysis focuses on the changes to the existing or baseline hydrologic, water quality, and sedimentation conditions in the context of the significance criteria listed in Section 4.10.3, Significance Criteria. Impacts are assessed by evaluating all potential, indirect, temporary, and permanent sources of runoff, and resulting changes in water quality and sedimentation associated with the implementation of proposed changes in use in the context of the CSP SPRs and other Project-Specific Requirements (PSRs). Not all of the significance criteria listed are directly applicable to the Process. The following significance criteria address the depletion of groundwater resources and placement of housing within 100-year flood zones, respectively, and are not applicable to the Process.

Potentially significant environmental impacts would clearly not occur related to two significance criteria, listed below. They are discussed in Chapter 5, Effects Found Not to be Significant, of this Program EIR:

- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.
- Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map.

APPLICABLE STANDARD PROJECT REQUIREMENTS

The following Standard Project Requirements (SPRs) would generally affect the trail design or construction related to the implementation of projects under the proposed Process.

CONSTRUCTION GENERAL PERMIT AND SWPPP MEASURES

HYDRO-1: Prior to the start of construction involving ground-disturbing activities totaling 1 acre or more, CSP project staff will prepare and submit a Storm Water Pollution Prevention Plan (SWPPP) for CSP approval that identifies temporary Best Management Practices (BMPs) (e.g., tarping of any stockpiled materials or soil; use of silt fences, straw bale barriers, fiber rolls) and permanent (e.g., structural containment, preserving or planting of vegetation) for use in all construction areas to reduce or eliminate the discharge of soil, surface water runoff, and pollutants during all excavation, grading, trenching, repaving, or other ground-disturbing activities. The SWPPP will include BMPs for hazardous waste and contaminated soils management and a Spill Prevention and Control Plan (SPCP), as appropriate.

Basin Plan Requirement Measures

HYDRO-2: The project will comply with all applicable water quality standards as specified in the appropriate Regional Water Quality Control Board Basin Plan.

Construction-Related Measures

HYDRO-3: All trail design and construction will be consistent with the CSP BMPs and DOM 0306 policies and Trail Handbook guidelines.

HYDRO-4: No high ground pressure vehicles will be driven through project areas during the rainy season when soils are wet and saturated to avoid compaction and/or damage to soil structure. Existing compacted road surfaces are exempted as they are already well compacted from use.

HYDRO-5: All construction activities will be suspended during heavy precipitation events (i.e., at least 1/2-inch of precipitation in a 24-hour period) or when heavy precipitation events are forecast. If the construction manager must suspend work the construction manager will install drainage and erosion controls appropriate to site conditions, such as covering (tarping) stockpiled soils, mulching bare soil areas, and by constructing silt fences, straw bale barriers, fiber rolls, or other control structures around stockpiles and graded areas, to minimize runoff effects.

HYDRO-6: Construction activities extending into or occurring during the rainy season, or if an un-seasonal storm is anticipated, CSP staff will properly winterize the site by covering (tarping) any stockpiled materials or soils, mulching bare soil areas, and by constructing silt fences, straw bale barriers, fiber rolls, or other structures around stockpiles and graded areas.

HYDRO-7: Immediately following reconstruction, trails would be closed for a period following construction that allows for one wet- dry cycle (e.g. one winter's duration) to allow the soil and materials to settle and self-compact before the trail opens to the public. Routine maintenance will also be performed on the trail as necessary to reduce erosion to the extent possible and to repair weather-related damage that could contribute to erosion.

HYDRO-8: Treat rehabilitated trail segments that have less than a 50-foot natural buffer to stream channels with mulch applied to provide 50 percent to 70 percent surface coverage.

HYDRO-9: Salvage trees and brush removed prior to excavation for mulching bare soil areas after construction.

HYDRO-10: During dry, dusty conditions, all unpaved active construction areas will be wetted using water trucks, treated with a non-toxic chemical dust suppressant (e.g., emulsion polymers, organic material), or covered. Any dust suppressant product used must be environmentally benign (i.e., non-toxic to plants and shall not negatively impact water quality) and its use shall not be prohibited by the California Air Resources Board, U.S. EPA, or the SWRCB. Exposed areas will not be over-watered such that watering results in runoff. Unpaved areas subject to vehicle travel could also be stabilized through the effective application of wood chips, gravel, or mulch. The type of dust suppression method shall be selected by the contractor based on soil, traffic, and other site-specific conditions.

HYDRO-11: Excavation and grading activities will be suspended when sustained winds exceed 15 miles per hour (mph), instantaneous gusts exceed 25 mph, or when dust occurs from remediation related activities where visible emissions (dust) cannot be controlled by watering or conventional dust abatement controls.

HYDRO-12: Prior to the start of on-site construction activities, all equipment will be inspected for leaks and regularly inspected thereafter until equipment is removed from the project site. All contaminated water, sludge, spill residue, or other hazardous compounds will be contained and disposed of outside the boundaries of the site, at a lawfully permitted or authorized destination.

HYDRO-13: Staging and stockpile areas will be designated and/or located within the existing maintenance yard area or existing roads and campsites to prevent leakage of oil, hydraulic fluids, or other chemicals into lakes, streams, or other waterbodies.

HYDRO-14: Decontamination of equipment shall occur prior to delivery onto state park lands. Equipment shall be thoroughly inspected by the State's Representative upon delivery and may be rejected if in the opinion of the State's representative the equipment does not meet decontamination standards (defined elsewhere). Upon demobilization decontamination shall take place off-site.

HYDRO-15: All heavy equipment parking, refueling, and service will be conducted within designated areas outside of the 100-year floodplain to avoid watercourse contamination.

PROJECT DESIGN-RELATED MEASURES

HYDRO-16: Project planning will identify public water supply and Park water systems that could be affected. Persons responsible for the maintenance of these water systems will be consulted and if negative effects are anticipated, mutually agreeable mitigations will be developed.

HYDRO-17: CSP staff will install appropriate energy dissipaters and employ other erosion control measures at water discharge points, as appropriate.

HYDRO-18: Trails will be designed and constructed so that they do not significantly disrupt or alter the natural hydraulic flow patterns of the landform.

HYDRO-19: Trails located within 100-year flood hazard zones will be designed and constructed so that they do not significantly disrupt or alter natural flood flows.

HYDRO-20: Existing (altered) drainage patterns will be restored to pre-disturbance patterns. In some cases where pre-disturbance patterns cannot be restored, conversion work may require the realignment of a stream segment. To ensure that channel stability will be maintained, project planners will establish new drainage segments only after thorough review by a qualified geologist, geomorphologist, or hydrologist.

HYDRO-21: Install armored rock crossings at ephemeral drainages, micro drainages and swales to harden the trail tread in areas of potential interface between trail users and natural topographic drainage features.

HYDRO-22: Provide outslope to the trail tread and removing any outer edge berm to facilitate sheet flow off the trail where the dispersed flow can be filtered by vegetation and organic litter.

HYDRO-23: When outsloping trail surfaces is not feasible, such as steep linear trail grades, construct rolling dips to direct runoff safely off the trail to prevent buildup of surface runoff and subsequent erosion. Water bars will be used as a last resort, if outsloping and rolling dips or rerouting are not feasible or on trails receiving no use. Water bars will be constructed to divert water to controlled points along the trail and with rock armor at the downslope end for energy dissipation, where needed.

HYDRO-24: Install gravel surfacing on trail areas in areas with saturated or unstable soils, and on bridge approaches, to provide a stable tread surface.

HYDRO-25: Seasonally close trails to all users when soils are saturated and softened.

HYDRO-26: Install “pinch points” where necessary to reduce downhill bicycle speed and increase the line of sight at curves.

HYDRO-27: Construct or repair barriers at switchbacks to discourage shortcuts and the creation of volunteer trails.

HYDRO-28: CSP will provide educational signage and user safety plans in areas designated as flood-prone or within 100-year flood zones, coastal areas subject to tsunamis, areas adjacent to enclosed waterbodies that are susceptible to seiches, and areas at risk for mudflows.

4.10.5 ENVIRONMENTAL IMPACTS AND MITIGATION

Environmental impacts are assessed by the significance criteria listed in Section 4.10.3, Significance Criteria. In some cases, multiple significance criteria are listed under each potential environmental impact. Each impact is assessed and evaluated to determine whether significant environmental effects could be avoided or maintained at less-than-significant levels based on the application of SPRs listed above. In addition to the implementation of SPRs, the Adaptive Use Management process as described in Section 4.1, Programmatic Environmental Impact Analysis Approach, will provide additional assurance that impacts to hydrologic resources, water quality, and erosion and sedimentation are maintained at less-than-significant levels.

At the start of the proposed Process, CSP staff will develop baseline hydrologic, water quality, and potential and existing erosion conditions of the road or trail proposed for change in use and adjacent areas during the Survey. Once baseline conditions are established, specific project-related performance standards will be developed for the proposed change in use. These performance standards will be developed from CSP BMP documents, DOM’s, and Trail Handbook guidelines with the goal to reduce erosion and sedimentation, maintain and preserve natural hydraulic flow patterns, and maintain high water quality. CSP staff will monitor the trail and affected areas over a period of five years for effects associated with elevated use, change in user types, trail design performance, and any lasting effects from trail design and construction activities. If the trail affected by the change-in-use proposal exhibits erosion and sedimentation at significant levels, disrupted hydraulic flow patterns, or degraded water quality, CSP staff will develop a remediation plan to address the issue. If remediation efforts fail to resolve the issue, then a Superintendent’s Order may be necessary to rescind or change the conditions of the change in use.

IMPACT 4.10-1	**Water Quality, Runoff, and Sedimentation.** Trail construction and trail user activities related to a proposed change in use may have the potential to result in degradation of water quality, violation of water quality standards or waste discharge requirements, alteration of existing drainage patterns that would result in substantial erosion or sedimentation, alteration of the course of a stream or river, increase the rate or amount of surface runoff in a manner that could result in flooding, or contribution of runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. However, under the proposed Process, significant surface runoff, water quality, and sedimentation would be avoided through the implementation of SPR HYDRO-1 through HYDRO-27, as well as measures outlined in CSP BMP manuals, Department Operations Manuals (DOMs), and Trails Handbook. This impact would be **less than significant.**

The impacts associated with covered construction-related activities, are shown in Table 4.10-2. For qualifying projects under the Process requiring minor trail re-routing; reconstruction, restoration, or rehabilitation of an existing road or trail prism; installation of hardened surfaces; road/trail closure; road/trail decommissioning; and conversion of roads to trails in order to accommodate changes in use, soil and vegetation would be removed from existing or potentially rerouted sections of road/trail. Excavation, grading, and other construction activities could result in erosion and on- and off-site sedimentation.

Removal of soil and vegetation exposes bare earth and could cause unstable conditions, resulting in soils that are easily disturbed by equipment and eroded by rain and wind. Additionally, project construction activities on road/trail alignments situated on steep slopes in areas underlain by unstable geology or sensitive soils are prone to higher erosion hazard that could result in erosion of surface soils during construction activities. Finally, accidental spills of construction-related contaminants, such as fuels, oils, solvents, and cleaners, could occur during project construction, resulting in contamination of surface soils.

If the proposed project would disturb more than one acre, a Notice of Intent must be filed with the appropriate RWQCB and a General Construction Activity Storm Water Permit must be obtained, pursuant to the NPDES regulations established under the Clean Water Act. This permit requires preparation and implementation of a SWPPP that is intended to prevent degradation of surface and ground waters during and after the grading and construction process.

Without such protections, impacts to water quality during construction could be significant. The impacts associated with construction are all considered short-term. Best Management Practices would ensure that impacts to water quality would be reduced to less-than-significant levels through measures intended to control erosion and sedimentation within the perimeter of the site, and to effectively manage hazardous materials.

HYDROLOGY, WATER QUALITY, AND SEDIMENTATION IMPACTS BY USER GROUP

Each user group creates activity on trails that could lead to the potential for varying levels of water quality and sedimentation impacts, an inevitable outcome of repetitive use. Soil compaction and erosion, loss of organic litter, and loss of ground cover are all impacts that could result in potential water quality degradation common for all user groups. Certain user groups however, create impacts that are unique to those groups. Table 4.10-3 identifies the potential Impacts on runoff and water quality for each user group.

Table 4.10-2 Potential Construction-Related Impacts to Hydrology, Water Quality, and Sedimentation			
Construction Phase	**Impact**	**Potential threat to Water Quality**	**Example BMPs[1]**
Grading	Exposed Soils	Grading would increase the erosion potential of on-site soils that could lead to off-site sediment transport. This impact is potentially significant.	〉 Apply locally-gathered, native mulch to disturbed soils. 〉 Limit grading activities to the driest time of the year, typically between May 15 and October 15 of each year in most parts of the state.
	Soil transport from vehicles and heavy equipment	Soil from disturbed areas could be tracked onto paved roads during egress from the site by vehicles and equipment, particularly during inclement weather. Soil on paved roads could be washed into the drainages during storm events. Sediment transport from the site could have adverse impacts to water quality that would be a potentially significant impact.	〉 Wash equipment in designated, contained areas only. 〉 Eliminate discharges to the storm drain by infiltrating the wash water. 〉 Install anti-tracking vehicle grates, when necessary. 〉 Train employees and subcontractors.
	Fugitive dust	Fugitive dust during construction is considered a form of erosion and has the potential to be deposited in sensitive resources. Without adequate dust abatement, fugitive dust could potentially result in significant impacts.	〉 Apply water or other dust palliatives to prevent or alleviate dust nuisance.
	Increased runoff	Increased runoff due to compacted soils during grading would increase the potential for off-site sedimentation. In addition to sediment, runoff could potentially carry pollutants. Runoff carrying sediment and other pollutants could potentially be significant.	〉 Install fiber rolls at grade breaks of exposed and erodible slopes to shorten slope length and spread runoff as sheet flow. 〉 Install barriers, berms, basins and other retention structures where needed to retain runoff
	Inadvertent release of hazardous materials	Grading, grubbing, and trenching activities could result in the release of hydraulic oil, diesel fuel, motor oil, and/or radiator fluid used in operation of mechanical equipment. If released, these products could potentially result in significant impacts on water.	〉 Minimize the storage of hazardous materials on-site; store materials in a designated area. 〉 Train employees and contractors.

[1] These are example BMPs. Project-specific BMPs would be developed within the Stormwater Pollution Prevention Plan (SWPPP) for individual change-in-use proposals.

Table 4.10-3 Potential User-Type Impacts to Hydrology, Water Quality, and Sedimentation

Construction Phase	Impact	Potential threat to Water Quality	Example BMPs[1]
Hiking	Soil disturbances	〉 Trampling native vegetation holding soils in place and filtering sediment from runoff. 〉 Crushing or uprooting native plants when hiking occurs off designated trails, or avoiding puddles or other problem areas.	〉 Install barriers at switchbacks to discourage trail shortcuts. 〉 Educate hikers with signage.
Horseback Riding	Soil disturbances	〉 Loosening soil due to horse's hoof actions. This can make soils susceptible to erosion (Whittaker 1978). 〉 Riding on saturated trail surfaces.	〉 Avoid creating switchbacks, shortcuts, or new paths for others to follow. 〉 Close trail seasonally when conditions are adverse.
	Loss of plant cover	〉 Grazing and trampling can remove vegetation cover and can uproot plants leaving exposed areas.	〉 Use signage to educate riders to avoid grazing along trail route.
	Waterway disturbances	〉 Horses often require direct access to water or they could risk colic or other health threats on the trail. The degradation of banks of streams could result in a potentially significant impact.	〉 Use signage to educate riders to avoid grazing along trail route. 〉 Provide alternate watering sites that will not impact waterways.
	Horse wastes	〉 Horse manure near/within waterways can produce oxygen depleting algae blooms, add hazardous bacteria, and adversely impact beneficial uses.	〉 Use signage to educate riders to clean up after their horses. 〉 Provide bridges or other structures where horses do not walk through or stand in the water. 〉 Educate riders on proper riding etiquette to minimize potential for water quality impacts
Mountain Biking	Soil disturbances	〉 Damaging or uprooting plants or the soil crust, thereby allowing the exposed soils to easily become windblown or washed away by water; 〉 Crushing or uprooting native plants when riding occurs off designated trails, or avoiding puddles or other problem areas; 〉 Skidding and linear rut development, the addition of unauthorized constructed features to the trail, and informal trail development increases the potential for off-site sedimentation.	〉 Construction barriers such as fencing or boulders at switchbacks to prevent shortcuts. 〉 Install pinch points to reduce downhill speeds. 〉 Use signage to educate riders to avoid sensitive areas.

Table 4.10-3 Potential User-Type Impacts to Hydrology, Water Quality, and Sedimentation

Construction Phase	Impact	Potential threat to Water Quality	Example BMPs[1]
Other Power-Driven Mobility Devices (OPDMDs)	Soil disturbances	〉 Damaging or uprooting plants or the soil crust, thereby allowing the exposed soils to easily become windblown or washed away by water; 〉 Crushing or uprooting native plants when use occurs off designated trails, or avoiding puddles or other problem areas; 〉 Linear rut development and informal trail development increases the potential for off-site sedimentation.	〉 Construction barriers such as fencing or boulders at switchbacks to prevent shortcuts. 〉 Educate OPDMD users with signage 〉 Close trail seasonally when conditions are adverse.

[1] Actual BMPs will be developed within the Stormwater Pollution Prevention Plan (SWPPP)

HIKERS

Although each user group creates water quality impacts, those caused by hikers are typically minor when exercising proper trail etiquette on adequately-maintained trails and in good weather conditions. Nevertheless, impacts do occur as use (or misuse) often occurs under suboptimum conditions. Hikers could shortcut trails on switchbacks and cause erosion over volunteer routes. Shortcuts result in trampled native vegetation, loosened soil, and discharged sediment in runoff. Severe rutting or rockiness caused by soil erosion or muddiness often brings about trail widening from users as does hiking side-by-side.

HORSES

The greater weight of horse and rider impacts trails by loosening surface soils that are otherwise compacted, detaching soil particles and increasing sediment yield and erosion. Horses also create potholes that fill with water and soften the surrounding surface, again increasing the potential for off-site sedimentation. Westendorf (2009) found that horses could potentially create other water quality impacts that are unique to this user group. Organic matter present in manure could be a significant adverse impact if it runs off into surface waters. Eutrophication and additional oxygen depletion could occur as a result of decomposition of the organic matter. Grazing by horses could result in compaction and the loss of vegetation that holds soils in place and filters runoff.

MOUNTAIN BIKING

Impacts unique to mountain bikes that contribute to erosion and off-site sedimentation are those caused by sudden braking or skidding, linear rut development, the addition of unauthorized constructed features to the trail, and informal trail development. These impacts primarily result from excessive speed or using the trails under suboptimum conditions.

OTHER POWER-DRIVEN MOBILITY DEVICES (OPDMDS)

According to the American Disabilities Act, Title II, Section 35.104, other power-driven mobility devices (OPDMDs) are defined as "any mobility device powered by batteries, fuel, or other engines — whether or not designed primarily for use by individuals with mobility disabilities — that is used by individuals with mobility disabilities for the purpose of locomotion, including golf cars, electronic personal assistance mobility devices (EPAMDs), such as the Segway® PT, or any mobility device designed to operate in areas without defined pedestrian routes, but that is not a wheelchair within the meaning of this section. This definition does not apply to Federal wilderness areas; wheelchairs in such areas are defined in Section 508(c)(2) of the ADA, 42 U.S.C. 12207(c)(2)."

OPDMDs are currently allowed on suitable State Park System trails, in accordance with CSP policies. They are wheeled devices that have water quality impacts similar to those associated with mountain biking, with the exception that OPDMDs are not intended to be used as high performance recreational vehicles and are typically operated at speeds less than 5 miles per hour. As a result these devices are not prone to skidding or fast speeds that could result in elevated levels of erosion and sediment delivery. General use of OPDMDs could result in damage to vegetation and development of bare soil conditions from stripping or uprooting, development of alternate short cut routes in wide trail corridors, and linear rutting from use in wet saturated areas or from increased speeds up steeper trail segments.

Short-term construction-related water quality and sedimentation impacts would be avoided or limited to less-than-significant levels through implementation of SPRs HYDRO-1 through HYDRO-15, and BMPs set forth in the NPDES Construction General Permit. These requirements would minimize erosion and sediment transport, as well as degradation of water quality during the construction phase of a qualifying project. Table 4.10-2 provides examples of available BMPs that would be included, as applicable, to address the potential for specific project-related, short-term construction impacts.

In addition, the proposed Process requires qualifying projects to be designed with features to reduce impacts on water quality from long-term trail use. Implementation of SPRs HYDRO-16 through HYDRO-24, and CSP BMPs and Trail Handbook guidelines would ensure proper trail design measures that in effect reduce impacts from erosion and sediment delivery. Qualifying change-in-use projects under the Process would require SPRs HYDRO-25 through 27 to moderate rider behavior and minimize access (for bikes and horses) when conditions make the trails more susceptible to erosion and water quality impacts. Table 4.10-3 provides examples of SPRs that would be included, as applicable, to address potential user type impacts

Through the application of SPRs GEN-9 and HYDRO-1 through HYDRO-27, the potential for long-term operational impacts on runoff, sedimentation, and water quality would be maintained at **less-than-significant levels**. Soil erosion and surface water runoff would be controlled and no water quality standards would be violated. If a change-in-use proposal could not maintain water quality, runoff, and sedimentation impacts at less-than-significant levels with the implementation of listed SPRs, it would be disqualified from approval using this Process. If CSP pursued such a project further, CSP would conduct a separate CEQA review process with appropriate documentation, wherein which the potential significant environmental impact(s) would be addressed and mitigated, if feasible.

IMPACT 4.10-2	**100-Year Flood Hazard Areas.** Qualifying projects under the proposed Process that would result in placing structures (i.e. road/trail structures, such as steps or retaining walls) within a 100-year flood hazard area and have the potential to impede or redirect flood flows and expose people or structures to a significant risk of loss, injury, or death from flooding, including flooding resulting from the failure of a levee or dam. Under the proposed Process, qualifying projects located within 100-year flood hazard areas would be designed to accommodate flood flows, consistent with SPR HYDRO-19, and construction design standards in the CSP BMP manuals and Trails Handbook. Increased use levels in flood-hazard areas could also result in safety concerns. Implementation of design standards in the CSP Trail Handbook, would provide guidance and specifications to the appropriate location of any road/trail structures, so as not to interfere with flood flows or increase flood hazard. In addition, SPR HYDRO-27 would require safety plans and educational signage as part of the project design would maintain the potential for hazard risk to trail users within flood prone areas at less-than-significant levels. This impact would be **less than significant.**

Many CSP units are located adjacent to or within Federal Emergency Management Agency (FEMA) designated 100-year floodplain and floodway zone areas. Potential road and trail change-in-use projects involving road/trail reconstruction, road to trail conversions, rerouting, and addition of user types could require additional structures to be placed in the 100-year flood hazard area in order to fulfill project objectives. CSP Trail Handbook and BMPs include trail design and safety requirements to avoid potentially significant effects related to flooding. Structures potentially placed in a 100-year flood hazard area could include steps or retaining structures. Incorrect placement of road/trail structures within 100-year flood zone areas has the potential to interfere with flood flows and cause subsequent impedance and redirection.

In addition, qualifying projects under the proposed Process have the potential to add to the type or number of trail users at risk of loss, injury, or death where roads and trails are located within or traverse 100-year flood hazard areas. Because qualifying projects under the proposed Process involve existing roads and trails, any risks or concern would already exist prior to proposal to change the road or trail use.

SPR HYDRO-19, the provisions within the CSP Trail Handbook, and other existing CSP guidance documents provide construction standards and requirements for proper placement of potential road/trail structures, so that flood flows would not be impeded or redirected. The public would be protected from potential flooding hazards through SPR HYDRO-28. This SPR requires educational signage alerting users that the road or trail is located within a 100-year flood hazard area. In addition, trail kiosks with safety information and evacuation maps for alternate escape routes in the case of a major flooding event, and safety plan information would assist in educating the public on how to respond and act during these natural disasters. The implementation of these requirements would result in a **less-than-significant impact** related to 100-year flood hazard areas.

IMPACT 4.10-3	**Seiche, Tsunami, or Mudflows** In some areas, qualifying projects under the proposed Process involving minor road/trail re-routing; reconstruction of road/trail; conversion of roads to trails; trailheads, point of access, or parking improvements; or addition of a greater number of users, place people in areas that could be inundated by seiche, tsunami, or mudflows. Under the proposed Process, qualifying projects on existing trails could be located adjacent to or within areas that could be inundated by seiches, tsunamis, or mudflows, which are naturally occurring events. The location or type of change-in-use project activity does not increase the likelihood of occurrence of these natural phenomena. SPR HYDRO-28 provides measures for providing signage to alert trail users to the risk of seiches, tsunamis, and mudflows, and the development of safety and evacuation plans, would avoid or minimize potential risks, if these types of events occur. Recognizing that the Process only involves existing trails with their current risks of natural events and that standard warning signage would be required, this impact would be **less than significant.**

A seiche is a stationary wave within a closed (lake) or semi-enclosed (bay) body of water caused by changes in barometric pressure, strong winds, landslides, or seismic events. Seismic seiches have occurred in coastal bays, estuaries, lagoons, and lakes along the California coast (South Coast and North Coast hydrologic regions), Lake Tahoe (North Lahontan hydrologic region), and the Salton Sea (Colorado River hydrologic region). A tsunami is a very large ocean wave caused by earthquake activity, volcanic eruption, or a submarine landslide. Tsunamis could occur along coastal areas of the North Coast and South Coast Hydrologic Regions, although the northernmost coastal counties (e.g. Humboldt and Del Norte) are highly susceptible to damaging tsunami waves due to seismic activity along the Cascadia subduction zone and the shape and orientation of coastal bays. Mudflows are fluid mass failures of soil and/or debris that typically follow pre-existing channels in steep upland mountainous areas, or arid and semi-arid environments where unstable fine grained soils are saturated from short duration, high intensity precipitation events. Mudflows are common throughout northern and southern California. Devastating mudflows have occurred in South Coast hydrologic region due to wildfire denuded steep hillslopes in combination with heavy precipitation events.

All three of these phenomena are naturally occurring events. Some CSP units are located adjacent to mountain lakes, in coastal, steep mountainous regions, and arid and semi-arid areas that could be susceptible to seiches, tsunamis, and mudflows. Existing roads or trails proposed for a change in use may be located in areas at risk of these natural events. The change-in-use proposal for an existing road or trail would not result in any new trail or road alignment subject to seiche, tsunami, or mudflow risk. Project actions defined under the Process would not have any impacts on the occurrence of these natural phenomena, but they could present a potential risk to new and/or additional numbers of trail users.

For trails in areas subject to known risk of seiches, tsunamis, and mudflows, SPR HYDRO-28 requires standard signage and information requirements that would include appropriate advisories for trail user safety. Trail kiosks with evacuation maps for alternate escape routes, and safety plan information would assist in educating the public on how to respond and act during these natural events. The implementation of these measures would result in a **less-than-significant impact** related to the risks of seiche, tsunami, and mudflow hazards.

4.10.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With integration of SPRs and SWPPP BMPs, and the application of provisions of the CSP Trails Handbook and other CSP design guidance documents, the hydrologic and water quality impacts of a change-in-use project completed under this Process would be less than significant. Mitigation measures are not required. If a change-in-use proposal could not maintain hydrology or water quality impacts at less-than-significant levels with CSP

SPRs, it would be disqualified from approval using this Process. If CSP pursued such a project further, the District would conduct a separate CEQA review process with appropriate documentation, wherein the potential significant environmental impact(s) would be addressed and mitigated, if feasible.

4.11 NOISE

This section includes a description of acoustic fundamentals and an overview of the existing noise environment at California State Park (CSP) units across the State, a summary of applicable regulations, and analyses of potential short- and long-term noise impacts associated with implementation of change-in-use projects qualified for approval under the proposed Road and Trail Change-In-Use Evaluation Process (Process). Mitigation measures are presented to reduce significant noise impacts. Cumulative noise impacts are addressed in Section 6.1.2, Cumulative Impacts by Resource Topic.

4.11.1 ENVIRONMENTAL SETTING

ACOUSTIC FUNDAMENTALS

Acoustics is the scientific study that evaluates perception, propagation, absorption, and reflection of sound waves. Sound is a mechanical form of radiant energy, transmitted by a pressure wave through a solid, liquid, or gaseous medium. Sound that is loud, disagreeable, unexpected, or unwanted is generally defined as noise. Common sources of environmental noise and noise levels are presented in Table 4.11-1.

Table 4.11-1 Typical Noise Levels

Common Outdoor Activities	Noise Level (dB)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet	100	--
Gas lawnmower at 3 feet	90	--
Diesel truck moving at 50 mph at 50 feet	80	Food blender at 3 feet, Garbage disposal at 3 feet
Noisy urban area, Gas lawnmower at 100 feet	70	Vacuum cleaner at 10 feet, Normal speech at 3 feet
Commercial area, Heavy traffic at 300 feet	60	
Quiet urban daytime	50	Large business office, Dishwasher in next room
Quiet urban nighttime	40	Theater, Large conference room (background)
Quiet suburban nighttime	30	Library, Bedroom at night, Concert hall (background)
Quiet rural nighttime	20	Broadcast/Recording Studio
	10	--
Threshold of Human Hearing	0	Threshold of Human Hearing

Notes: dB=A-weighted decibels; mph=miles per hour
Source: Caltrans 2009: p.2-21

SOUND PROPERTIES

A sound wave is initiated in a medium by a vibrating object (e.g., vocal chords, the string of a guitar, the diaphragm of a radio speaker). The wave consists of minute variations in pressure, oscillating above and below the ambient atmospheric pressure. The number of pressure variation cycles occurring per second is referred to as the frequency of the sound wave and is expressed in hertz.

Directly measuring sound pressure fluctuations would require the use of a very large and cumbersome range of numbers. To avoid this and have a more useable numbering system, the decibel (dB) scale was introduced. A sound level expressed in decibels is the logarithmic ratio of two like pressure quantities, with one pressure quantity being a reference sound pressure. For sound pressure in air the standard reference quantity is generally considered to be 20 micropascals, which directly corresponds to the threshold of human hearing. The use of the decibel is a convenient way to handle the million-fold range of sound pressures to which the human ear is sensitive. A decibel is logarithmic; it does not follow normal algebraic methods and cannot be directly summed. For example, a 65 dB source of sound, such as a truck, when joined by another 65 dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by 3 dB). A sound level increase of 10 dB corresponds to 10 times the acoustical energy, and an increase of 20 dB equates to a 100 fold increase in acoustical energy.

The loudness of sound perceived by the human ear depends primarily on the overall sound pressure level and frequency content of the sound source. The human ear is not equally sensitive to loudness at all frequencies in the audible spectrum. To better relate overall sound levels and loudness to human perception, frequency-dependent weighting networks were developed. The standard weighting networks are identified as A through E. There is a strong correlation between the way humans perceive sound and A-weighted sound levels (dBA). For this reason the dBA can be used to predict community response to noise from the environment, including noise from transportation and stationary sources. Sound levels expressed as dB in this section are A-weighted sound levels, unless noted otherwise.

Noise can be generated by a number of sources, including mobile sources (i.e., transportation) such as automobiles, trucks, and airplanes and stationary sources (i.e., nontransportation) such as construction sites, machinery, and commercial and industrial operations. As acoustic energy spreads through the atmosphere from the source to the receiver, noise levels attenuate (i.e., decrease) depending on ground absorption characteristics, atmospheric conditions, and the presence of physical barriers. Noise generated from mobile sources generally attenuate at a rate of 4.5 dB per doubling of distance. Stationary noise sources spread with more spherical dispersion patterns that attenuate at a rate of 6 to 7.5 dB per doubling of distance.

Atmospheric conditions such as wind speed, turbulence, temperature gradients, and humidity may additionally alter the propagation of noise and affect levels at a receiver. Furthermore, the presence of a large object (e.g., barrier, topographic features, and intervening building façades) between the source and the receptor can provide significant attenuation of noise levels at the receiver. The amount of noise level reduction (i.e., shielding) provided by a barrier primarily depends on the size of the barrier, the location of the barrier in relation to the source and receivers, and the frequency spectra of the noise. Natural (e.g., berms, hills, and dense vegetation) and human-made features (e.g., buildings and walls) may be used as noise barriers.

All buildings provide some exterior-to-interior noise reduction. A building constructed with a wood frame and a stucco or wood sheathing exterior typically provides a minimum exterior-to-interior noise reduction of 25 dB with its windows closed, whereas a building constructed of a steel or concrete frame, a curtain wall or masonry exterior wall, and fixed plate glass windows of one-quarter-inch thickness typically provides an exterior-to-interior noise reduction of 30–40 dB with its windows closed (Paul S. Veneklasen & Associates 1973, cited in Caltrans 2002: p. 7-37).

COMMON NOISE DESCRIPTORS

The intensity of environmental noise fluctuates over time, and several different descriptors of time-averaged noise levels are used. The selection of a proper noise descriptor for a specific source depends on the spatial and temporal distribution, duration, and fluctuation of both the noise source and the environment. The noise descriptors most often in relation to the environment are defined below (Caltrans 2009: p. 2-52).

- Equivalent Noise Level (L_{eq}): The equivalent steady-state noise level in a stated period of time that would contain the same acoustic energy as the time-varying noise level during the same period (i.e., average noise level).
- Maximum Noise Level (L_{max}): The highest instantaneous noise level during a specified time period.
- Minimum Noise Level (L_{min}): The lowest instantaneous noise level during a specified time period.
- Day-Night Noise Level (L_{dn}): The 24-hour L_{eq} with a 10-dB penalty applied during the noise-sensitive hours from 10 p.m. to 7 a.m., which are typically reserved for sleeping.
- Community Noise Equivalent Level (CNEL): Similar to the L_{dn} described above with an additional 5-dB penalty applied during the noise-sensitive hours from 7 p.m. to 10 p.m., which are typically reserved for relaxation, conversation, reading, and watching television.

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 L_{eq} descriptor listed above, which corresponds to a steady-state A-weighted sound level containing the same total energy as a time-varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptors such as L_{dn} and CNEL, as defined above, and shows very good correlation with community response to noise.

Effects of Noise on Humans

Excessive and chronic exposure to elevated noise levels can result in auditory and non-auditory effects on humans. Auditory effects of noise on people are those related to temporary or permanent hearing loss caused by loud noises. Non-auditory effects of exposure to elevated noise levels are those related to behavioral and physiological effects. The non-auditory behavioral effects of noise on humans are associated primarily with the subjective effects of annoyance, nuisance, and dissatisfaction, which lead to interference with activities such as communications, sleep, and learning. The non-auditory physiological health effects of noise on humans have been the subject of considerable research attempting to discover correlations between exposure to elevated noise levels and health problems, such as hypertension and cardiovascular disease. The mass of research infers that noise-related health issues are predominantly the result of behavioral stressors and not a direct noise-induced response. The extent to which noise contributes to non-auditory health effects remains a subject of considerable research, with no definitive conclusions.

The degree to which noise results in annoyance and interference is highly subjective and may be influenced by several non-acoustic factors. The number and effect of these non-acoustic environmental and physical factors vary depending on individual characteristics of the noise environment such as sensitivity, level of activity, location, time of day, and length of exposure. One key aspect in the prediction of human response to new noise environments is the individual level of adaptation to an existing noise environment. The greater the change in the noise levels that are attributed to a new noise source, relative to the environment an individual has become accustom to, the less tolerable the new noise source will be perceived.

With respect to how humans perceive and react to changes in noise levels, a 1 dB increase is imperceptible, a 3 dB increase is barely perceptible, a 6 dB increase is clearly noticeable, and a 10 dB increase is subjectively perceived as approximately twice as loud (Egan 2007: p. 21). These subjective reactions to changes in noise levels was developed on the basis of test subjects' reactions to changes in the levels of steady-state pure tones or broad-band noise and to changes in levels of a given noise source. It is probably most applicable to noise levels in the range of 50 to 70 dB, as this is the usual range of voice and interior noise levels. For these reasons, a noise level increase of 3 dB or more is typically considered substantial in terms of the degradation of the existing noise environment.

Negative effects of noise exposure include physical damage to the human auditory system, interference, and disease. Exposure to noise may result in physical damage to the auditory system, which may lead to gradual or traumatic hearing loss. Gradual hearing loss is caused by sustained exposure to moderately high noise levels over a period of time; traumatic hearing loss is caused by sudden exposure to extremely high noise levels over a short period. Gradual and traumatic hearing loss both may result in permanent hearing damage. In addition, noise may interfere with or interrupt sleep, relaxation, recreation, and communication. Although most interference may be classified as annoying, the inability to hear a warning signal may be considered dangerous. Noise may also be a contributor to diseases associated with stress, such as hypertension, anxiety, and heart disease. The degree to which noise contributes to such diseases depends on the frequency, bandwidth, and level of the noise, and the exposure time (Caltrans 2009: p. 2-65, 2-66).

VIBRATION

Vibration is the periodic oscillation of a medium or object with respect to a given reference point. Sources of vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, (e.g., operating factory machinery or transient in nature, explosions). Vibration levels can be depicted in terms of amplitude and frequency, relative to displacement, velocity, or acceleration.

Vibration amplitudes are commonly expressed in peak particle velocity (PPV) or root-mean-square (RMS) vibration velocity. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well to the stresses experienced by buildings (Federal Trade Administration [FTA] 2006: p. 7-3, Caltrans 2004: p. 5). PPV and RMS vibration velocity are normally described in inches per second (in/sec).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. It takes some time for the human body to respond to vibration signals. In a sense, the human body responds to average vibration amplitude. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a 1-second period. As with airborne sound, the RMS velocity is often expressed in decibel notation as vibration decibels (VdB), which serves to compress the range of numbers required to describe vibration (FTA 2006: p. 7-3). This is based on a reference value of 1micro (μ) in/sec.

The typical background vibration-velocity level in residential areas is approximately 50 VdB. Groundborne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels (FTA 2006: p. 7-5).

Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Construction activities could generate groundborne vibrations that potentially pose a risk to nearby structures. Constant or transient vibrations can weaken structures, crack facades, and disturb occupants (FTA 2006: p. 7-5).

Construction vibrations can be transient, random, or continuous. Transient construction vibrations are generated by blasting, impact pile driving, and wrecking balls. Continuous vibrations result from vibratory pile drivers, large pumps, and compressors. Random vibration can result from jackhammers, pavement breakers, and heavy construction equipment. Table 4.11-2 describes the general human response to different levels of groundborne vibration-velocity levels.

Table 4.11-2	Human Response to Different Levels of Groundborne Noise and Vibration
Vibration-Velocity Level	**Human Reaction**
65 VdB	Approximate threshold of perception.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

Notes: VdB = vibration decibels referenced to 1 μ inch/second and based on the root mean square (RMS) velocity amplitude.
Source: FTA 2006: p. 7-8

EXISTING ENVIRONMENT

SENSITIVE LAND USES

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as parks, schools, historic sites, cemeteries, and recreation areas are also generally considered sensitive to increases in exterior noise levels. Places of worship and transit lodging, and other places where low interior noise levels are essential are also considered noise-sensitive. These types of receptors are also considered vibration-sensitive land uses in addition to commercial and industrial buildings where vibration would interfere with operations within the building, including levels that may be well below those associated with human annoyance.

NOISE SOURCES

Trails within the California State Park System are intended to provide opportunities for visitors to enjoy the natural, historic, and cultural resources offered by CSP units. Existing noise levels throughout the State Park System may vary greatly depending on the individual unit’s location with respect to surrounding noise source, recreational opportunities offered, and local topography and ground cover (e.g., sand, grassland, forested landscapes). In general, most CSP units are relatively quiet due to the natural setting and quiet nature of typical activities that take place there such as hiking, sightseeing, camping, and bicycle riding.

The ambient noise environment at a CSP unit would primarily be influenced by vehicle traffic from visitors entering and leaving. The level of vehicle-related traffic could vary depending on the popularity of the CSP unit, the season of the year, and the time day. Other factors that could influence vehicle traffic noise include parking lot capacity and distance of parking lot and access roads to the trails located within the CSP units. For instance, CSP units with larger parking capacities located near a trail may accommodate more traffic volumes and therefore result in more noise levels at nearby trails. Some CSP units would be exposed to noise from the occasional aircraft flyover and CSP units near bodies of water could be exposed to noise generated by watercraft. Other, minor sources of noise may originate from activities taking place on trails within a CSP unit, such as people talking.

4.11.2 REGULATORY SETTING

Various public agencies and private organizations have established noise guidelines and standards to protect citizens from potential hearing damage and other adverse physiological and social effects associated with exposure to noise. Although CSP units are exempt from local regulations, such as general plans, specific plans, and ordinances (California Constitution Article XI, Section 7), projects under the Process would abide by the time-of-day restrictions established by local jurisdictions (i.e., city and/or county) if such noise would be audible to receptors (e.g., residential land uses, schools, hospitals, places of worship) located in the applicable local jurisdictions (Refer to Standard Project Requirement N-1 below). Applicable federal and State standards and guidelines are described below.

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

The U.S. Environmental Protection Agency's (EPA's) Office of Noise Abatement and Control was originally established to coordinate federal noise control activities. After its inception EPA's Office of Noise Abatement and Control issued the Federal Noise Control Act of 1972, establishing programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at local levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to state and local governments. However, noise control guidelines and regulations contained in EPA rulings in prior years remain in place by designated federal agencies where relevant.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

The State of California has adopted noise standards in areas of regulation not preempted by the federal government. State standards regulate noise levels of motor vehicles, sound transmission through buildings, occupational noise control, and noise insulation.

Title 24 of the California Code of Regulations, also known as the California Building Standards Code, establishes building standards applicable to all occupancies throughout the State. The code provides acoustical regulations for both exterior-to-interior sound insulation as well as sound and impact isolation between adjacent spaces of various occupied units. Title 24 regulations state that interior noise levels generated by exterior noise sources shall not exceed 45 dB L_{dn}/CNEL, with windows closed, in any habitable room for general residential uses.

Though not adopted by law, the *State of California General Plan Guidelines 2003*, published by the California Governor's Office of Planning and Research (OPR), provides guidance for the compatibility of projects within areas of specific noise exposure. Table 4.11-3 presents acceptable and unacceptable community noise exposure limits for various land use categories. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

CSP published the Department Operations Manual (DOM) 0312.4, which contains noise-related policy for CSP units. It notes that the natural soundscape is the aggregate of all the natural sounds that occur in parks, together with the physical capacity for transmitting natural sounds. Section 0312.4.1 of the DOM, "Soundscape Protection Policy", calls for preservation of the natural soundscapes of parks from degradation due to noise. CSP works to prevent or minimize all noise that, through frequency, magnitude or duration adversely affects the natural resources.

Table 4.11-3 Noise Compatibility Guidelines

Land Use Category	Community Noise Exposure (L_{dn} or CNEL, dB)			
	Normally Acceptable[1]	Conditionally Acceptable[2]	Normally Unacceptable[3]	Clearly Unacceptable[4]
Residential - Single Family, Duplex, Mobile Home	<60	60-70	70-75	75+
Residential - Multiple Family	<65	65-70	70-75	75+
Transient Lodging, Motel, Hotel	<65	65-70	70-80	80+
School, Library, Church, Hospital, Nursing Home	<65	65-70	70-80	80+
Auditorium, Concert Hall, Amphitheater		<70		70+
Sports Arenas - Outdoor Spectator Sports		<75		75+
Playground, Neighborhood Park	<70		70-75	75+
Golf Courses, Stable, Water Recreation, Cemetery	<75		75-80	80+
Office Building, Business Commercial and Professional	<70	70-75	75+	
Industrial, Manufacturing, Utilities, Agriculture	<75	75-80	75+	

Notes: CNEL = Community Noise Equivalent Level; dB = A-weighted decibels; L_{dn} = day-night average noise level

1 Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

2 New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

3 New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

4 New construction or development should generally not be undertaken.

Source: State of California Governor's Office of Planning and Research 2003: p. 250

4.11.3 SIGNIFICANCE CRITERIA

In accordance with CEQA Guidelines Appendix G, noise impacts are considered significant if implementation of change-in-use projects approved under the proposed Process would result in any of the following:

- Exposure of persons to or generation of noise levels (e.g., long-term exposure of nearby off-site sensitive receptors to increased stationary-source noise levels) in excess of applicable standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels (e.g., project-generated construction-related levels exceed Caltrans's recommended level of 0.2 in/sec PPV with respect to the prevention of structural damage for normal buildings [0.1 in/sec PPV for old or historically significant buildings] or the FTA's maximum acceptable level of 80 VdB with respect to human response for residential uses [i.e., annoyance] at nearby existing vibration-sensitive land uses; or if the project site would be located within FTA's screening level distances in regards to the exposure of the proposed project to groundborne vibration);
- A noticeable permanent increase in ambient noise levels in the project vicinity above levels existing without the project (e.g., long-term exposure of nearby sensitive receptors to an increase of 3dB or greater from traffic source noise levels or stationary noise sources);
- A substantial temporary (or periodic) increase in ambient noise levels in the project vicinity above levels existing without the project;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels; or
- For a project within the vicinity of an active private airstrip, where the project would expose people residing or working in the project area to excessive noise levels.

4.11.4 IMPACT ANALYSIS METHODS AND APPLICABLE PROJECT REQUIREMENTS

IMPACT ANALYSIS METHODS

The environmental analysis in this Program EIR is general in nature and does not evaluate noise impacts of specific change-in-use projects. Instead, the analysis focuses on the worst-case noise-related impact that could occur from the types of change-in-use projects qualified for approval under this Process. Thus, attention is given to the Standard Project Requirements (SPRs) that would be used in the Process and the limitations and restrictions they impose regarding the types, location, and intensity of noise-generating activity.

Impacts were determined based on methodologies, reference emission levels, and usage factors from FTA's Guide on Transit Noise and Vibration Impact Assessment (FTA 2006) and the Federal Highway Administration's (FHWA's) Roadway Construction Noise Model User's Guide (FHWA 2006). Reference levels are noise and vibration emissions for specific equipment or activity types that are well documented and the usage thereof common practice in the field of acoustics. The types of equipment typically used for trail-related construction was obtained from the CSP Best Management Practices for trail construction.

Due to the programmatic nature of this EIR and statewide scope, no modeling was conducted to assess potential long-term (operation-related) noise impacts from project-generated increases in traffic. To determine impacts, likely scenarios that could potentially increase traffic as a result of individual change-in-use projects included under this Process were evaluated.

Potential noise-related impacts from change-in-use projects approved under the proposed Process will be evaluated according to the thresholds of significance identified above.

APPLICABLE STANDARD PROJECT REQUIREMENTS

The following SPRs would influence construction- related noise and vibration that could be associated with implementation of change-in-use projects under the proposed Process.

N-1: Operation of noise-generating construction activity (equipment and power tools and haul truck delivery of equipment and materials) will abide by the time-of-day restrictions established by local jurisdictions (i.e., city and/or county) if such noise would be audible to receptors (e.g., residential land uses, schools, hospitals, places of worship) located in the applicable local jurisdictions. Cities and counties in California typically restrict construction-noise to particular daytime hours. If the local, applicable jurisdiction does not have a noise ordinance or policy restricting the time-of-day when noise-generating construction activity can occur, then noise-generating construction activity will be limited to the hours of 8:00 AM to 5:00 PM Monday through Friday.

N-2: All powered construction equipment and power tools will be used and maintained according to manufacturer specifications. All diesel- and gasoline-powered construction equipment will be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations.

N-3: Equipment engine shrouds will be closed during equipment operation.

N-4: All construction equipment and equipment staging areas will be located as far as possible from nearby noise-sensitive land uses (e.g., residential land uses, schools, hospitals, places of worship) located outside the park.

N-5: All motorized construction equipment will be shut down when not in use. Idling of equipment and haul trucks will be limited to 5 minutes.

N-6: No pile driving, blasting, or drilling will occur in areas that may adversely affect sensitive receptors outside the park unit.

N-7: Written notification of construction activities will be provided to any and all off-site noise-sensitive receptors (e.g., residential land uses, schools, hospitals, places of worship) located within 1,500 feet of locations where powered construction equipment and/or power tools will be operated. Notification will include anticipated dates and hours during which construction activities are anticipated to occur and contact information, including a daytime telephone number, of the project representative. Recommendations to assist noise-sensitive land uses in reducing interior noise levels (e.g., closing windows and doors) will also be included in the notification.

N-8: Construction activities involving heavy equipment (i.e., 50 horsepower [hp] or greater) will not operate within 50 feet of land uses that are potentially sensitive to ground vibration, including residential buildings, schools, hospitals, and places of worship. Heavy construction equipment will also not be operated within 30 feet of historically significant structures that could be vulnerable to structural damage from ground vibration, and known archaeological sites, that could be vulnerable to vibration-induced changes to the stratigraphic relations of the soil layers that are important to archaeological study.

4.11.5 ENVIRONMENTAL IMPACTS AND MITIGATION

IMPACT 4.11-1 **Short-Term Exposure of Existing Sensitive Receptors to Increases in Construction Source Noise Levels.** Individual change-in-use projects under this Process could include the use of noise-producing construction equipment such as dozers, excavators, and pavers associated with trail reconstruction and parking improvements. However, all change-in-use projects qualified for approval under this Process would comply with SPRs N-1 through N-8, which would minimize the exposure of noise-sensitive land uses to construction-related noise. Therefore, this impact would be **less than significant.**

To assess noise levels associated with the various equipment types and operations, construction equipment can be considered to operate in two modes; mobile and stationary. Mobile equipment sources move around a construction site performing tasks in a recurring manner (e.g., excavators, dozers, pavers), while stationary equipment operates in a given location for an extended period of time. Additionally when construction-related noise levels are being evaluated, activities that occur during the more noise-sensitive evening and nighttime hours are of increased concern since this is when people generally sleep and may be more easily disturbed.

Construction activities associated with change-in-use projects under this Process could include site preparation (e.g., excavation, grading, and vegetation clearing), trail reconstruction, recontouring of slopes to reduce erosion and runoff, expansion and/or paving of parking and staging areas to accommodate new user groups, and construction of bridges and boardwalks. These activities may involve the use of heavy-duty construction equipment that would generate substantial noise levels.

The site preparation phase typically generates the most substantial noise levels because of on-site equipment associated with excavating, ground decompacting, and vegetation removal. Construction is required for trail change-in-use projects that include the realignment, recontouring, reconstruction to reduce erosion, conversion of a road to trail, adding or removing of aggregate material, and the removal of vegetation on or near a trail. To perform these activities, a combination of heavy equipment, small trail construction equipment (e.g., compactors, rock drills), and hand held tools are typically used. Excavators are used to prepare the site by removing trees and brush. Dozers are also used to decompact the ground surface and to accumulate and pile ground mulch for use on finished surfaces. Excavators and dozers may be used separately or simultaneously to complete the work. Hand held tools may include shovels, grub hoes, bow saws, loppers, and drawknifes.

The loudest noise-generating equipment that would be used for construction on any trail within the State Park System would include a dozer and excavator. The noise levels generated by these pieces of equipment reach up to 85 dBA L_{max} each at a distance of 50 feet (FHWA 2006: p. 3). Because most of the construction work related to trail change-in-use projects under the Process would be performed using hand-held tools, these equipment would not be anticipated to operate consistently throughout the worker shifts Nonetheless, it is conservatively assumed that these equipment may be operated simultaneously, in which case the combined noise level would be approximately 88.0 dBA L_{max} at a distance of 50 feet.

Construction activities associated with qualified change-in-use projects included under this Process would be subject to several SPRs that would reduce construction-related noise levels. For instance, SPR N-1 restricts construction to day time hours, SPR N-2 requires that all construction equipment would be maintained appropriately and equipped with the proper intake and exhaust shrouds, SPR N-3 ensures that all equipment engine shrouds will be closed during equipment operation, SPR N-4 requires that construction activities and staging areas are located as far away as possible from sensitive receptors, SPR N-5 restricts equipment idle time, SPR N-6 prohibits pile driving, blasting, or drilling, SPR N-7 ensures that proper notification of construction activities is provided if any sensitive receptors are nearby, and SPR N-8 restricts construction activity from occurring within 50 feet of land uses sensitive to ground vibration and 30 feet from historically significant structures that could be vulnerable to structural damage from ground vibration.

With these SPRs in place, construction activities would be limited to daytime hours and proper notification would be given to any potential nearby sensitive receptors. Additionally, equipment idle time would be limited and proper use of all equipment would be required. Compliance with these noise-related SPRs will reduce construction-related noise at any potential sensitive receptor and; therefore, would not result in the exposure of noise-sensitive receptors to a substantial temporary increase in ambient noise levels. Further, because each individual change-in-use project under this Process would be required to adhere to these SPRs, this impact would be **less than significant.**

IMPACT 4.11-2	**Exposure of Existing Sensitive Receptors to Excessive Ground Vibration.** Construction- and operational-related activities associated with all change-in-use projects qualified for approval under this Process would not include the operation of any major sources of ground vibration in close proximity to sensitive land uses and resources. Therefore, this impact would be **less than significant.**

Groundborne vibration results from the use of heavy construction equipment and may vary depending on the specific construction equipment used and activities involved. Ground vibration levels associated with the types of construction equipment that could be used to implement change-in-use projects, such as trail realignments and establishment of staging areas, are summarized in Table 4.11-4. As shown in Table 4.11-4, the highest levels of ground vibration that could be produced would be 0.089 in/sec PPV at a distance of 25 feet. High levels of ground vibration can be generated by pile driving, blasting, and drilling; however, these activities would be prohibited by SPR N-6.

Table 4.11-4 Representative Groundborne Vibration and Noise Levels for Construction Equipment		
Equipment	PPV at 25 feet (in/sec)[1]	Approximate L_v (VdB) at 25 feet[2]
Large Dozer	0.089	87
Caisson Drilling	0.089	87
Trucks	0.076	86
Rock Breaker	0.059	83
Jackhammer	0.035	79
Small Dozer	0.003	58

[1] Where PPV is the peak particle velocity
[2] Where Lv is the root mean square velocity expressed in vibration decibels (VdB), assuming a crest factor of 4.
Source: FTA 2006

Some construction activities would include the use of a small dozer, excavator, and hand tools. However, because SPR N-8 prohibits operation of heavy equipment within 50 feet of land uses that are potentially sensitive to ground vibration (e.g., residential buildings, schools, hospitals, and places of worship), receptors would not be exposed to levels of ground vibration greater than 80 VdB. Because SPR N-8 also prohibits operation of heavy equipment within 30 feet of historically significant structures and known archaeological sites, structurally sensitive historic structures and archaeology sites would not be exposed to ground vibration levels greater than Caltrans's recommended level of 0.1 in/sec PPV. Moreover, SPR N-1 would restrict the use of noise and vibration-generating construction equipment to the less noise- and vibration-sensitive hours of the day. In addition, operations of change-in-use projects are not anticipated to result in the use of equipment that generates noticeable levels of ground vibration. As a result, this impact would be **less than significant**.

IMPACT 4.11-3 **Long-Term Exposure of Existing Sensitive Receptors to Operational-Related (e.g., traffic, stationary noise sources) noise levels.** Change-in-use projects approved under this Process could result in increased traffic volumes on associated roadways, although it has been CSP's experience that change-in-use projects have not led to substantial change in the level of use. However, increased traffic volumes are unlikely to result in a noticeable increase in traffic noise. Additionally, traffic-related SPRs TRAN-1n SPR TRAN-4, and SPR TRAN-5 would maintain traffic-related impacts on roadways associated with CSP units at less-than-significant levels. Therefore, this impact would be **less than significant.**

Project-generated operational noise sources would be primarily due to increases in traffic on roadways as a result of additional uses allowed on a trail. No new stationary noise sources would be a part of any change-in-use project included in this Process. Also, no change-in-use project would result in new noise-generating activities. CSP trails are intended to provide access to the natural and cultural resources of the State and the types of recreational uses in CSP units that may result from change-in-use projects (e.g., horseback riding, mountain biking) are not associated with high noise levels. All activities that would take place at CSP units as a result of future qualified change-in-use projects approved under this Process would comply with CSP acceptable uses and would not result in substantial increases in noise.

Traffic on roadways is a major noise source in many parts of California. When considering actions included in this Process, addition of a use on a trail could result in additional visitors to that trail. For example, visitation to a CSP unit could increase if CSP were to allow equestrian and/or mountain bike use on an existing hiking trail where these uses were previously not allowed. Although it has been CSP's experience that change-in-use projects have not led to substantial change in the level of use, this type of change in use has the potential to result in an overall increase of vehicle trips to and from the applicable CSP unit. Associated increases in traffic-related noise may adversely affect sensitive receptors located along the affected roadways.

Generally, a doubling of a noise source is required to result in an increase of 3 decibels, which is perceived as barely noticeable by humans (Egan 2007: p. 21). Thus, in regard to traffic noise specifically, a noticeable increase in traffic noise could occur with a doubling in the volume of traffic on a roadway. With implementation of the proposed adaptive management strategy (described in Section 3.6.4 of this Program EIR, Project Requirements and Change-in-Use Evaluation Process) as part of the Process, it would not be anticipated that any projects under the proposed Process would result in a doubling of traffic volumes on local roadways. Those parks that could have the most potential to experience noticeably higher increases in visitation would be the ones located in relatively close proximity to urban centers. Because of their relatively close proximity to urban centers, roadways used to access these parks generally already carry relatively high traffic volumes and, thus, would unlikely experience a doubling in traffic volumes due to increased park visitation. Parks located in more remote locations and accessed by relatively low-volume rural roadways would be less likely to experience a substantial enough increase in demand from a change in use to result in any perceptible difference in traffic noise. Also, most vehicle trips to and from parks occur during less-sensitive, daytime hours because they would be generated by day users of the CSP units. Additionally, SPR TRAN-1, SPR TRAN-4, and SPR TRAN-5, include provisions that CSP will comply with to monitor and prevent significant impacts related to increases in traffic. SPR TRAN-1 would ensure that peak-hour trips would not result in increased levels of traffic congestion at area intersections and SPRs TRAN-4 and TRAN-5 would also limit the number of trips generated by a change-in-use project. For these reasons, it would not be anticipated that roadways that provide access to parks would experience a doubling of traffic volumes and generate noticeable increases in traffic noise at noise-sensitive receptors. As a result, this impact would be **less than significant**.

4.11.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With integration of SPRs, the noise impacts of a change-in-use project completed under this Process would be less than significant and mitigation measures will not be required. If a change-in-use proposal could not maintain noise impacts at less-than-significant levels with SPRs, it would be subject to a separate CEQA review process.

4.12 POPULATION AND HOUSING

This section describes the existing population and housing conditions in California, presents a description of applicable federal and State regulations, and analyzes whether possible changes in population and housing could occur from the proposed Road and Trail Change-In-Use Evaluation Process (Process). Cumulative impacts related to Population and Housing is addressed in Chapter 6.1.2, Cumulative and Growth-Inducing Impacts, of this Program EIR.

4.12.1 ENVIRONMENTAL SETTING

POPULATION

Population trends and growth projections are useful measures to help predict and plan for future State recreational facility needs. According to the California Department of Finance 2010 Census data, the population of California in 2010 was approximately 37,253,956 (DOF 2010). Since California became a state in 1850, the population has been increasing rapidly. Within the first 150 years of California's statehood, the population increased from fewer than 100,000 citizens to almost 34 million in 2000 (CSP 2005:p. 1). It is expected that the population of California will reach and surpass the 50-million mark sometime between 2030 and 2040 if the current growth rates persist (CSP 2005:p. 1). Additionally, it is expected that California will add between 425,000 and 525,000 persons annually through 2030 CSP 2005:p. 1).

HOUSING

As population within the State increases, housing distribution and household conditions are expected to evolve. Existing housing units, households, and vacancy rates for the State of California are shown below in Table 4.12-1. Data was derived from the California Department of Finance 2010 Census (DOF 2010).

Table 4.12-1 California Housing Profile

Total Housing Units	13,680,081
Total households	12,577,498
Vacant housing units	1,102,583
Owner-occupied	7,035,371
Renter-occupied	15,691,211
Homeowner vacancy rate	2.1
Rental vacancy rate	6.3

Source: DOF 2010

PARKS AND RECREATION USE

California State Parks (CSP) manages 278 parks and 5,095 miles of trails throughout the State that provide a myriad of recreational opportunities and access to the natural resources of California (CSP 2010:p. 34). The importance of these facilities to Californians was expressed in the 2007 *Attitudes* on Outdoor Recreation in California Survey, which reported that 98 percent of respondents indicated that viewing scenic beauty in California is an important part of the enjoyment of their most favorite activities (CSP 2008:p. 15)

In general, Californians enjoy the outdoors and the use the State Park System extensively (CSP 2009:p.15). Various population and demographic trends have a direct effect on the way Californians use their parks. In 2005, CSP published *Park and Recreation Trends in California,* which describes some of the most recent trends in the State. These are briefly described below.

INCREASING CALIFORNIA POPULATION

The population of California is expected to reach 50 million before 2040. The rapid increase in population has many implications on State services, such as public parks and recreation facilities. As population increases, open space land may become generally more scarce and expensive. CSP units may become more crowded and reach capacity sooner. These conditions could diminish the experience of visiting a CSP unit and are important considerations for the future planning and maintenance of the State Park System (CSP 2005:p.2).

INCREASING SENIOR CITIZEN POPULATION

California's senior population is expected to double by 2020 (CSP 2005: p.3). With an increase in senior citizens, special considerations must be made in the planning and development of new facilities and of existing facilities to make them more accessible and safe for these populations. Other issues include mobility within the CSP units and can include such things as increased handicap parking and safety railing on trails.

YOUNG ADULTS CREATING NEW WAYS TO EXPERIENCE OUTDOORS

Young adults in California (age 18-40) grew up in a time of digital revolution and rapid expansion of muscle-powered outdoor recreation (e.g., mountain biking, kayaking) and, therefore, tend to display unique patterns in their preferences and uses of recreational facilities. Many of their leisure activities involve technology in an effort to balance work and leisure. They also generally choose recreation that involves day-trips and multiple activities in one excursion (CSP 2005:p.4). CSP has begun to address the technology oriented youth by adding WIFI access to several CSP units within the State (CSP 2008:p.19).

4.12.2 REGULATORY SETTING

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

THE FEDERAL HOUSING ADMINISTRATION

The Federal Housing Administration (FHA) was created by Congress in 1934 and became part of the U.S. Department of Housing and Urban Development's (HUD) Office of Housing in 1965. The FHA made it possible for potential homebuyers to get the financing they needed to own a home. The FHA accomplished this by providing mortgage insurance on loans made by FHA-approved lenders throughout the United States. The insurance is intended to reduce the risk on lenders in the event that a homeowner defaults on a mortgage. The FHA also has various programs and regulations in place to help provide affordable and equal housing opportunities throughout the U.S. Some of these are listed below.

Civil Rights Act of 1964 Title VI

Title VI of the Civil Rights act of 1964 prohibited discrimination based on race, color, or national origin for any program receiving Federal financial assistance. (Public Law 88-352)

Housing and Urban Development Act of 1968

The Housing and Urban Development Act of 1968 established rental and homeownership programs for lower-income families and provided for the partition of the Federal National Mortgage Association (Fannie Mae) into two separate and distinct corporate entities: (1) Fannie Mae, a private, government-sponsored enterprise; and (2) the Government National Mortgage Association (Ginnie Mae), a wholly owned government corporation whose powers and duties are vested in the Secretary of HUD. (Public Law 90-448)

Rehabilitation Act of 1973

The Rehabilitation Act of 1973 prohibited discrimination based on disability status in programs conducted by Federal agencies. (Public Law 93-112)

Housing and Community Development Act of 1974

The Housing and Community Development Act of 1974 created Community Development Block Grants for state and local governments "to promote the development of viable urban communities" and also established Section 8 rent subsidies for low-income families. (Public Law 93-383)

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

CALIFORNIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

The State Tenement House Act of 1909 was the first housing regulation passed in California. The law only applied to the apartment houses and hotels within cities. Later laws such as the State Dwelling House Act and the State Housing Law (formerly the State Housing Act) were applied to a wider range of housing types and eventually lead to the formation of the Department of Housing and Community Development (HCD) in 1965.

The HCD is responsible for developing and enforcing statewide minimum construction regulations for all types of housing and to promote and maintain adequate housing and decent living environments for all of California's citizens (HCD:p. 3).

State Housing Law

The California State Housing Law (SHL) was established in 1961. The SHL applied to all apartments, hotels, and dwellings across the State (HCD:p4). The primary goal of the SHL is to ensure the availability of affordable housing and uniform code enforcement throughout California. Additionally, the SHL seeks to protect the health, safety, and general welfare of the public and occupants of all housing and buildings within the State (HCD 2011).

4.12.3 SIGNIFICANCE CRITERIA

Criteria for determining the significance of impacts related to Population and Housing are based on the environmental checklist form in Appendix G of the State CEQA Guidelines and mandatory findings of significance. An impact to population and housing would be considered significant if the proposed Process would:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);
- Displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere; or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

4.12.4 IMPACT ANALYSIS METHODS AND APPLICABLE PROJECT REQUIREMENTS

IMPACT ANALYSIS METHOD

Because this is a programmatic EIR, the analysis evaluates the potential impacts from the proposed Process on a statewide level and considers the potential for this Process to result in changes in the current population and housing supply of the State. This analysis also considers how the construction and operational activities might affect population or housing through the creation of new jobs or infrastructure that could support new populations.

As described in Chapter 3, Project Description, the proposed Process involves only existing roads and trails within the State Park System. No new CSP facilities or amenities would be created as a part of the proposed Process. As the population in California increases and ages, CSP units within the State will need to accommodate the changing population. This analysis considers how qualifying change-in-use-projects under the proposed Process may affect population and housing in California.

APPLICABLE STANDARD PROJECT REQUIREMENTS

Qualifying projects implemented under the proposed Process may require minor construction to meet use-appropriate design requirements for new trail uses. Construction activities are not anticipated to create employment opportunities and would be limited by the following SPR:

AQ-17: The maximum number of construction worker-related commute trips for any change-in-use project at a park will not exceed 60 one-way worker commute trips per day.

4.12.5 ENVIRONMENTAL IMPACTS AND MITIGATION

IMPACT 4.12-1	**Population and Housing.** Implementation of qualifying change-in-use projects under the proposed Process would not directly or indirectly result in an increase in population or a change in housing demand in California. This impact would be **less than significant.**

As described in Chapter 3, Project Description, the proposed Process involves change-in-use proposals only on existing CSP roads and trails. Potential actions under the proposed Process could include reconstruction or maintenance of trails, rerouting of trails, installation of hard surfaces, closure, decommissioning, or restoration of existing roads to natural conditions, and conversion of existing roads to new trail segments. Although the increase in population in the State would increase trail use demand over time, this increase in users would not be attributed to the Process, considering that no new CSP facilities would be provided as a result. The trail changes in use potentially approved under this proposed Process would not be of sufficient magnitude to affect the population of California, modify housing supply, or change housing demand in the State.

Population and housing could also be affected, if substantial new employment opportunities are presented as a result of Process-related construction activities. Under the proposed Process, a variety of qualifying change-in-use projects would be implemented. These qualifying projects would involve only minor construction activities and the number of crew members required would be miniscule compared to the State population or workforce. Trail construction requires small hand crews and sometimes the use of heavy equipment such as a trail dozer or excavator. For other environmental purposes, construction workers would be limited to a maximum 30 workers per day at any one CSP unit throughout the State (SPR AQ-17). Some of these construction activities would be carried out by existing CSP district staff personnel. The small-scale construction that would be necessary to complete qualifying change-in-use projects would not provide substantial new employment opportunities; therefore, construction of qualifying projects under this Process would not induce population growth locally or statewide.

The proposed Process does not include the development of any new residential uses and no new roads or parking facilities would be constructed as a result of the proposed Process. Because all qualifying change-in-use projects under the Process would occur within existing CSP units and trail/road networks, no new State attractions, facilities, or recreational areas that could attract new people to the State would directly or indirectly result from implementation of the proposed Process. This impact would be **less than significant.**

IMPACT 4.12-2	**Displacement of People and/or Existing Housing.** Under the proposed Process, no people or existing housing would be displaced. This impact would be **less than significant.**

A variety change-in-use projects that may qualify for approval under the Process would allow CSP to better protect natural and cultural resources and serve the recreational needs of CSP units throughout the State. None of these qualifying projects would include the creation of new trails, roads, or CSP units. Only minor changes to existing road and trail facilities would occur under the proposed Process (e.g., trail recontouring, reconstruction, adding or subtracting a use on a trail etc.). These activities would not result in the displacement of existing populations or housing, because residential areas are not located within CSP units. Therefore, this impact would be **less than significant.**

4.12.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

All impacts related to population and housing would be less than significant. Therefore, no mitigation would be required.

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4.13 PUBLIC SERVICES AND UTILITIES

This section describes the various types of public services and utilities that serve California State Park (CSP) units. Applicable public services include police and fire protection/emergency response. Applicable public utilities include water, sewer, and power service. Potential impacts of the proposed Road and Trail Change-In-Use Evaluation Process (Process) are analyzed, and mitigation measures are provided for those impacts determined to be significant. Cumulative impacts related to public services and utilities are addressed in Section 6.1.2, Cumulative Impacts by Resource Topic, of this Program EIR.

4.13.1 ENVIRONMENTAL SETTING

PUBLIC SERVICES

Public services are provided for public use and benefit, and generally include fire and police protection, libraries, and other public-support functions. This section identifies existing services, infrastructure, and their associated current levels of service or capacity.

POLICE PROTECTION

State Park Rangers

State Park Peace Officers (i.e., Park Rangers) are law enforcement officers who are certified in Peace Officer Standards and Training. The authority of State Park Peace Officers is specified in the California Penal Code, Section 830.2. Rangers are responsible for maintaining a peaceful and safe environment within the CSP unit and they provide around the clock police protection by patrolling the park boundaries and public use areas, enforcing the California Public Resource Code (PRC), and guarding against misuse of CSP property and resources. CSP rangers are generally the first responders to emergency situations that occur within a CSP unit. Rangers call for additional or specialized support from other law enforcement and emergency response agencies, when needed. These supporting law enforcement agencies and their standard responsibilities are discussed below.

Local Sheriff and Police

CSP units are located either in unincorporated county areas, which are generally served by county sheriff's departments, or within incorporated city limits, which are generally served by city police departments. The State Attorney General defines the jurisdiction of local law enforcement agencies as "concurrent jurisdiction" meaning that whereas State Park Peace Officers have "primary duty" to make public arrests and investigate all public offenses within the State Park System, the Sheriff or Chief of Police has the "power and duty" to arrest and investigate within the territory of their jurisdiction, as well (CSP 2003). Because CSP units are within concurrent jurisdiction of these local law enforcement agencies, no MOUs or Mutual Aid Agreements (or monetary reimbursement) are required (CSP 2003).

California Highway Patrol

California Highway Patrol (CHP) provides police protection service on State and interstate highways throughout California, including highways that pass throughout and provide access to CSP units. The CHP enforces the California Vehicle Traffic Code and other laws in order to prevent crime; manages traffic and emergency incidents; assists other public agencies with law enforcement duties; and provides protection to the public, State employees, and State infrastructure (CHP 2011).

Fire Protection and Emergency Response

CSP Emergency Medical Services (EMS) Personnel

The primary emergency response personnel for CSP includes, but is not limited to State Park Rangers, State Park Lifeguards, Seasonal Lifeguards and Pool Lifeguards (seasonal and permanent), Supervising Rangers, State Park Superintendents I, and Lifeguard Supervisors I and II. These personnel, by classification, are CSP's first line of emergency personnel to respond to accidents or medical emergencies within CSP's jurisdiction. CSP EMS personnel provide EMS in accordance with CSP policy (CSP 2007). However, CSP EMS assistance is limited to available resources and varies from park to park. Therefore, CAL FIRE and/or local fire departments (discussed below) provide fire protection and emergency response service to CSP units.

CAL FIRE

California Department of Forestry and Fire Protection (CALFIRE) personnel are equipped and trained to respond to many types of emergencies by providing fire protection; medical aid during emergencies; assistance during hazardous materials spills, civil disturbances, train wrecks, floods, and earthquakes; and search and rescue expertise. CALFIRE is primarily responsible for fire protection and stewardship of over thirty-one million acres of California's privately-owned wildlands known as State Responsibility Areas (SRAs). CALFIRE is divided into 21 units and operates 228 fire stations across the State (CALFIRE 2011).

Local Fire Departments

Local fire departments (i.e., city or county departments or fire protection districts) provide fire protection to CSP units through Mutual Aid Agreements.

PUBLIC UTILITIES

Public utilities at CSP units generally include water, drainage, sewer, power (electricity and gas), and solid waste service. These services are provided by CSP (i.e. potable water provided by on-site wells, onsite septic or wastewater treatment, and solar power), a municipal service, or hauled-in from offsite. Goals and guidelines for a park unit's infrastructure, including utilities, are provided in a park unit's general plan. A CSP park unit must have an approved general plan before any major park facilities can be developed. In addition, a facilities management plan can be developed separate from a park unit's general plan. These plans include evaluation of existing and/or proposed utilities and provide a vision for the development of future utilities (e.g. establish projection of short- and long-range facility needs based on an evaluation of anticipated visitor uses; sequence and timeline for the implementation of proposed facilities). Utilities proposed are compatible with guidelines and management zones (e.g. management purpose and intent of specific regions within a park as well as depict their intended uses) specified in the park unit's General Plan or a facilities management plan.

Water

Potable water is available at many CSP units and a number of CSP park units operate and manage water treatment plants onsite. Water is stored at many CSP units for fire suppression. Typically, water at CSP units come from on-site wells, a municipal water provider, or is hauled from off-site in water trucks and stored in tanks or cisterns. CSP units generally use little water, since water is generally used only for filling water containers and washing hands/feet/gear. Landscaping on CSP units is predominantly natural and generally not irrigated (except sometimes for the initial phases of vegetation restoration).

Sewer

Remote CSP units that provide restrooms generally rely either on septic systems (where appropriate), vault or portable toilets. At some CSP units, wastewater treatment plants are operated and managed onsite. CSP units in more urban locations provide restrooms with sewer service provided by local municipal sewer and wastewater treatment system.

Power

Electricity is typically provided by a public utility or generated on-site (i.e. diesel generator or solar photovoltaic panels). Gas is provided by a public utility or stored in tanks on-site and filled via truck. CSP roads and trails typically require very little electricity (e.g., for pathway lighting) and usually no gas.

Solid Waste

CSP does not independently collect and dispose of solid waste from operations and visitors. Solid waste collection is typically conducted through a contract with local public or private waste haulers. Disposal is handled through the local community or regional solid waste facility.

4.13.2 REGULATORY SETTING

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

No federal plans, policies, regulations, or laws related to police services, fire and emergency services, or schools are applicable to the proposed Process.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

CALIFORNIA STATE PARKS DEPARTMENTAL OPERATION MANUAL

CSP Departmental Operation Manuals (DOM) provide internal guidance to District personnel regarding an array of use, operational, and resource management activities conducted in State Park units. Chapter 1100 of CSP's DOM is the emergency medical services program for the State Park System and serves both the park visitor and employees. The policies, definitions, processes, and procedures contained in Chapter 1100 of the DOM relate to all activities involving visitors; use of public lands and resources under CSP jurisdiction. Sections pertinent to Public Services and Utilities include DOM 1101 Emergency Medical Services (EMS) and DOM 1105 Wildland Fire Management. Chapter 0300 of CSP's DOM is the basic natural resource internal guidance document for the State Park System and supersedes all previous related internal guidance documents. Within Chapter 0300, Section 0313.2 Fire Management is pertinent to Public Services and Utilities.

DOM 1101 Emergency Medical Services (EMS)

CSP has the responsibility to provide initial Basic Life Support (BLS) services to visitors within State Park system. Policy guidelines to provide quality BLS related to EMS are set forth in this section. CSP employees shall manage emergency medical scenes and patient care in accordance with California Health and Safety Code, Section 1798.6. CSP's EMS program is authorized in accordance with California Code of Regulations Title 22 and consistent with the guidelines set forth by the Emergency Medical Services Authority (EMSA).

DOM 1105 Wildland Fire Management

CSP's goal is to prevent all unplanned human-caused fires on its lands. This section sets forth roles and responsibilities for managing Wildland fires including Wildfire Management Planning and Part Unit Closure Protocols.

DOM 0313.2 Fire Management

The policies, definitions, processes, and procedures contained in Chapter 0300 of the DOM guide the internal management of natural resources under the jurisdiction of CSP, including naturally occurring physical and biological resources and associated intangible values, such as natural sounds and scenic qualities. The chapter guides and directs the various internal programs of the CSP that affect the recognition, protection, restoration, and maintenance of the natural resources so that their heritage values may be effectively perpetuated and enjoyed by present and future generations of State Park System visitors. Section 0313.2 sets forth policies to ensure park fire management programs are designed to meet park resource management objectives while ensuring that firefighter and public safety are not compromised.

4.13.3 SIGNIFICANCE CRITERIA

Criteria for determining the significance of impacts related to public services and utilities were based on the environmental checklist form in Appendix G of the State CEQA Guidelines and mandatory findings of significance.

PUBLIC SERVICES

An impact would be significant if the proposed Process results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

- Fire protection
- Police protection
- Schools
- Parks
- Other public facilities

UTILITIES

An impact would be significant if the proposed Process would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed;
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs;
- Comply with federal, State, and local statutes and regulations related to solid waste.

4.13.4 IMPACT ANALYSIS METHODS AND APPLICABLE PROJECT REQUIREMENTS

IMPACT ANALYSIS METHODS

Impacts associated with implementation of the proposed Process are evaluated by describing existing public service and utilities that currently serve CSP units and then assessing the potential for addition of user types under the proposed Process to affect the ability for those services/utilities to continue to serve the CSP unit and whether an increase in capacity would be necessary that could result in an environmental impact (e.g. expand a fire protection facility or wastewater treatment facility).

4.13.5 ENVIRONMENTAL IMPACTS AND MITIGATION

IMPACT 4.13-1 **Increased Demand for Police Protection Service.** Qualifying change-in-use projects approved under the proposed Process are not anticipated to result in a substantial increase in the numbers of visitors at a CSP unit. One of the qualifications for a change-in-use project approved with the proposed Process is consistency with the General Plan of the CSP unit. The General Plan includes provisions for law enforcement staffing sufficient to address the visitation and operational needs at the unit. Therefore, even if an increase in the number of visitors was expected, a change-in-use proposal would only be approved under the Process, if expected visitation and resulting demand for law enforcement personnel were consistent with the General Plan and unit's staffing and facilities. This impact would be **less than significant.**

As described above, CSP Park Rangers provide primary law enforcement for CSP units statewide. It is anticipated that the addition and/or removal of user types to/from existing CSP roads and trails under the Process would not result in a substantial increase or decrease in visitors at a CSP unit, because most units are in remote locations at a distance from population centers and the qualifying change-in-use actions would not substantially change facility capacity. Therefore, it is unlikely that any changes to demand for law enforcement would occur with implementation of the proposed Process.

Even if visitation were to increase because of the park's popularity or close proximity to a population center, a qualifying change-in-use proposal would only be approved, if it is consistent with the CSP unit General Plan and Facilities Plan. These plans would include provisions for all public services and utilities, including law enforcement, with appropriate staffing levels, facilities, and equipment necessary to accommodate unit visitation. New facilities and equipment would not be warranted for change-in-use proposals approved under the process, so no environmental impacts related to law enforcement demands would occur. Therefore, even if an increase in visitation were to occur as the result of a change-in-use project approved under the Process, environmental impacts associated with increased demand for police protection service would be **less than significant.**

IMPACT 4.13-2 **Increased Demand for Fire Protection Service.** CSP staff includes EMS personnel Firefighter/Security Officers that are trained in fire response. However, for the purposes of this discussion, CAL FIRE or County/City fire departments (typically under a mutual aid agreement) are the primary responders to fires at CSP units. The proposed change-in-use Process does not increase the potential for fire ignition risk and does not alter the existing fire prevention/protection standards required in the existing DOM. This impact would be **less than significant.**

CSP units are generally located within the fire protection jurisdiction of CAL FIRE and/or local City/County fire protection districts (generally under a mutual aid agreement with CSP). Although CSP staff includes State Park Firefighter/Security officers that are trained in fire response and are often the first on the scene of a fire (and could be able to extinguish a smaller fire), primary fire response is provided by CAL FIRE or the local fire protection districts.

Qualifying projects approved through the proposed Process could add bicyclists, equestrians, or other non-motorized trail users to existing hiking trails. These new user types would not increase potential ignition risk and would not alter the existing fire prevention/protection standards required in the existing DOM, as well as those included in the Standard Project Requirements (SPRs) for qualifying change-in-use projects. Please refer to Section 4.9, Hazards and Hazardous Materials, for further discussion related to increased risk of wildland fire.

Adding new user types to the CSP trails would not increase the potential for fire and would, therefore, not increase demand for fire protection services. No new or expanded fire protection facilities would be required and the proposed Process would result in a **less-than-significant** environmental impact.

IMPACT 4.13-3	**Increased Demand for or Interference with Emergency Medical Response.** As described in Section 4.9, Hazards and Hazardous Materials, accident occurrences on trails are generally infrequent, including on trails that allow equestrians and/or bicyclists. Therefore, adding these uses to existing trails under the proposed Process would only occur with trails that have use-appropriate design, which would not result in any substantial increase in accident risk. When a change in use is implemented, it may include road or trail design features that create pinch points as speed control devices. While a pinch point may narrow an existing road or trail, it would be designed to retain clearance adequate for existing medical response procedures (e.g., transporting an injured trail user on a wheeled litter). Therefore, the proposed change-in-use Process would not substantially increase demand for emergency medical response, such that new or expanded facilities would be required, nor interfere with emergency response. Therefore, this impact is considered **less than significant.**

CAL FIRE or City/County fire departments or special districts typically provide first response for emergency medical situations occurring at CSP units. Emergency service providers are equipped to respond to user's emergency needs on park roads and trails, including equipment and procedures to reach trail users, attend to the situation, and if needed, transport them from the road or trail. Existing emergency equipment is designed to negotiate narrow trail sections, such as use of a wheeled litter or gurney, for responses closer to trail heads. In more remote locations, helicopters are currently used to transport emergency personnel to a scene or remove a park user from a remote location for medical evacuation.

Section 4.9, Hazards and Hazardous Materials, of this Program EIR describes the potential for increased risk of trail-related accidents resulting from the addition of equestrian and/or bicycle use under the proposed Process. The impact discussion concludes that because these uses are reported to result in low frequency of accident occurrence, the addition to these uses at CSP roads or trails, with application of user-appropriate design criteria, would not substantially increase the risk of accidents. Also, a change-in-use project implemented under the Process could include pinch point design features (e.g., rocks or logs installed in a trail corridor to create a perceived narrow point) for the purpose of reducing bicycle speed and increasing the line of sight at curves. It is possible that pinch points would physically narrow a trail section; however, road or trail design criteria would retain sufficient width and clearance to conform to accessible trail requirements, including accessibility for existing emergency procedures and equipment. When emergency response is needed in remote trail areas of the CSP trail system, emergency response would continue to be provided via helicopter. Therefore, implementation of the proposed Process would not result in substantial increase in demand for emergency medical response and would not interfere with existing emergency response needs. No new additional emergency response facilities would be required; therefore, the impact to the environment is considered to be **less than significant**.

IMPACT 4.13-4	**Increased Demand for Public Utilities.** Trail uses typically demand low levels of utilities service, because they are often located in remote areas that are not served by municipal services, they are not usually sources of high utility demand, and they generally don't require substantial electricity or gas. Because of these low levels of demand, a change-in-use project implemented under the Process, even if it created an increase in the number of visitors, would not result in a substantial increase in the demand for a public utility, such as water, sewer, power, or solid waste, such that capacity would be constrained. Therefore, this impact is considered **less than significant.**

The addition or removal of a recreational use on an existing route within a CSP unit under the Process would result in negligible changes to existing demand for public utilities because of the dispersed, outdoor nature of the activity and the relatively lower number of individuals involved (compared to the population and comprehensive needs of a community, for instance). Because the utilities demand on CSP units is generally low, a change in user type (e.g., adding bicyclists and/or equestrians), even if it results in an increase in the overall number of visitors to a facility, would not result in a substantial increase in the demand for water, sewer, power, or solid waste, such that the capacity of the utilities provider would be constrained. This includes situations where CSP is the utilities provider (i.e., water provided by CSP-operated wells or treatment facilities, or on-site septic or wastewater treatment, etc.). This impact is therefore considered to be **less than significant**.

4.13.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

The public services and utilities impacts of qualifying projects implemented under the proposed Process would be less than significant. Mitigation measures are not required. If a change-in-use proposal could not maintain public services and utilities impacts at less-than-significant levels with SPRs, it would be disqualified from approval using this Process. If CSP pursued such a project further, the District would conduct a separate CEQA review process.

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4.14 RECREATION

4.14.1 ENVIRONMENTAL SETTING

OVERVIEW OF EXISTING ROAD AND TRAILS IN THE CSP SYSTEM

As of August 2011, there were 279 units within the California State Park System covering more than 1.5 million acres of land. The State Park System attracted more than 65.5 million visitors last year to a wide range of recreational activities (CSP 2011a; pp. 1-2). The CSP units contain a wide variety of recreational facilities, including 2,302 designated trails comprising some 5,095 miles of non-motorized roads and trails that are used by visitors each year.

These non-motorized trails consist of five categories of trails. Table 3.7-1 shows the total number of trails and the number of miles in each category within the State Park System. The categories are defined as follows: Multi-Use Trails are unpaved pathways or trails for use by all three primary types of trail users: pedestrians/hikers, equestrians, and bicycle riders. Equestrian/Pedestrian Trails or pathways are those that are designated for equestrians and pedestrians only, thereby excluding bicycles. Bicycle/Pedestrian Trails or pathways are designated only for bicycles and pedestrians thereby excluding horses. About 916 miles of trails or pathways are designated as Pedestrian only, excluding both horses and bicycles. The final category of non-motorized roads and trails are dirt or gravel Primitive/Administrative Roads that are maintained as service roads or as fire roads but are designated for trail use. These roads are generally used by all trail users (CSP 2010, pp. 42 and 61).

Table 4.14-1 Trail Use Facilities in California State Parks Units

Trail Designation	Number of Trails	Total Miles of Trails
Multi-Use Trails	494	1,365
Equestrian/Pedestrian Trails	293	751
Bicycle/Pedestrian trails	182	362
Pedestrian Only Trails	776	916
Primitive/Administrative Roads Used as Trails	557	1,701
TOTAL	**2,302**	**5,095**

Source: CSP 2010

These trails vary widely in design and condition based on their geographic setting, historic use, intended purpose and maintenance history. Each park unit has specific management objectives based on the resources that are present and available to the visitor. The corresponding trail system in each park unit is reflective of those objectives and is intended to improve the park visitor's experience and appreciation of those resources.

Individual CSP roads and trails are often connected to a larger, regional trail network, which may include roads and trails operated and maintained by other agencies, including open space districts, city or county park departments, National Park Service, US Forest Service, or US Bureau of Land Management.

OVERVIEW OF EXISTING CALIFORNIA RECREATIONAL TRAIL USE

CSP collects visitor use data system-wide only for day use (both paid and unpaid) and overnight visits. There is no data available specifically for trail use or mode of travel though some individual park units may collect trail use data for individual parks or individual trails (CSP 2010 pp. 42-43). Trail use can be characterized by the types of users and the mode of travel they use. These characteristics are important to take into consideration not only in designing trails, but also when considering a change in use, and understanding the behavior of trail users and their recreational response to changes in trail use

Hikers

Hikers are the most flexible trail users. Traveling by foot allows hikers to adjust to varying trail conditions, travelling over trails that are extremely steep or barely evident. Hiking trails generally traverse all types of environments, land capabilities, grades and surfaces. Hikers can avoid or overcome obstacles, such as downed trees, and can readily yield to other users on the trail (CSP 2011b; pg. 7).

Mountain Bicyclists

CSP policies state that trails open to mountain bikes are intended to provide access for the user to visit, observe, appreciate, and learn about park resources (CSP 2005). Some mountain bikers often desire challenging, adventurous, and/or technical-skill oriented trail experiences, including narrow single track, rough or loose surfaces, turns, and relatively steep grades. Aided by ever-advancing technology for light weight, power transfer, traction, and suspension, many mountain bikers are able to "push the envelope" of speed and obstacle negotiation capability. Mountain bikers can attain high rates of speed, particularly on wide trails with good sight lines, flat or downhill grades, and few obstacles.

Importantly, it is not CSP policy to provide trails for fast, highly technical, or adventure-oriented rides for mountain bicyclists within the State Park System. CSP trails are designed to place the emphasis on the user access to allow an appreciation of the natural setting and resources, rather than the mode of travel. CSP trails, particularly those with connectivity to other trail systems can be well-suited for longer-distance (10 miles +) mountain bike touring. Although design to accommodate mountain bikes, including speed control features, is important to make multi-use trails work, mountain bikers need to be aware of and cooperate with the type of use that CSP trails are intended to accommodate. CSP trail information emphasizes this, and the recommended trail use conflict management measures will help to reinforce this (CSP 2011b; pg. 8). (See Section 7.3, CSP Approach to Trail Use Conflicts Related to Change in Use, in Chapter 7, Trail Use Conflicts.)

Equestrians/Horses

The inherent characteristics of horses are important to understand when considering trail use by equestrians. For instance, horses are herd animals and have the instinct to run together as a herd when frightened. Horses and mules are prey animals, and flight is their primary defense. They can become nervous when escape routes are narrow or blocked and can startle when spooked by an unfamiliar experience or when something comes by them unexpectedly and/or quickly. Any new element that is unfamiliar to the horse, such as a mountain biker, dog, llama, or even a hiker, can trigger this startle instinct, particularly when they appear suddenly. This can lead to a horse running, jumping, turning quickly, kicking, or biting. Because of the height at which equestrians ride, they can be seriously injured if they fall from a horse. For travel on a multi-use trail, it is important for equestrians to train their horses to be familiar with potentially expected encounters and to have the riding experience to handle circumstances where a startle response may occur. A horse that is inexperienced with encountering other types of trail users, especially in combination with an inexperienced rider, can be a hazard to other trail users, even if other users comply with trail use rules and guidelines. Equestrians also have specific trailhead and parking needs that require more space to accommodate trailers and for staging their horses (CSP 2011b; pg. 9).

4.14.2 REGULATORY SETTING

FEDERAL AND STATE PLANS, POLICIES, REGULATIONS, AND LAWS

CSP DEPARTMENTAL OPERATION MANUAL (DOM)

CSP's Departmental Operation Manual (DOM) includes several recreation-related management policies, processes, and procedures that are relevant to the proposed Process, including the following:

0317.1 Visitor Recreational Uses

Many visitors come to State Park System lands to enjoy the scenic beauty and to explore the natural world. Many of the recreational opportunities afforded in parks are directly related to the diversity and health of the natural resources. Uses, including sightseeing, hiking, mountain bike riding, and camping can impact the health of the natural environment, and in turn, the quality of the visitor experience.

Once recreational uses become established, they can be very hard to change – both types of use and locations. Changing uses can also be costly. For example, in the past, overnight facilities were located within prime natural resources. Impacts of such uses were only later discovered, e.g. impact to wildlife movement or sustainable populations of keystone species. In the more recent past, values of solitude or soundscape were not fully understood.

Planning decisions should assess natural resource values and visitor needs and opportunities on a regional basis. This can contribute to higher quality recreation, reduced capital outlay costs, reduced staff demands, and habitat conservation. At times, park planning for recreational uses has attempted to provide many recreational opportunities in a specific park, putting additional pressure on natural resources.

Unit long-term monitoring and health assessments of parks and selected natural resource values are important to understanding the location and intensity of certain recreational uses.

0317.1.1 Visitor Recreational Uses Policy

It is the policy of CSP that careful analysis of long-term impacts to natural processes and resources will be carried out when planning recreational uses, including interim public use, for State Parks, State Reserves, State Natural Preserves and State Wildernesses. Districts should complete long-term planning for removal or relocation of impacting visitor uses within prime resource areas. District Superintendent closures, permanent or temporary, should be considered in areas where restoration is needed for significant natural resource values that have been degraded by recreational use. Long-term monitoring of the natural resource health will be selectively applied to assess recreational impact on key indicators of parkland health.

0317.1.2 Attractions in Themselves

(Change-in-use projects that would qualify for the proposed Process would not be "Attractions in Themselves" because CSP trails are intended to provide access to the natural and/or cultural resources- for which a park unit was established, as opposed to an attraction such as a destination restaurant, sports complex, or trail facility intended for the purpose of testing skills or providing adventure experiences; however, the concept of "Attractions in Themselves" as stated in the DOM is provided below, because it is an important consideration in CSP recreation planning, and it is important to understand the distinction between CSP trails and these attractions.)

A fundamental purpose of the State Park System is to provide opportunities for enjoyment of park natural resource values. The Department is committed to providing appropriate, high quality opportunities to enjoy parks. However, some types of facilities used by the public do not require a state park setting.

"Attractions in themselves" are prohibited in units classified as State Parks, State Seashores or in coastal stretches designated State Seashore by the Legislature (PRC Sections 5001.6, 5019.53 and 5019.62). It is sometimes difficult to make the distinction between those facilities that assist visitors in enjoying a park's resource values and those facilities that are attractions in themselves. Attractions in themselves are facilities that a portion of the public uses without experiencing the other opportunities for which a park was established and planned. These types of facilities, such as community centers, team sports complexes or "destination"-type restaurants, are not normally associated with resource-based outdoor recreation, do not depend on location within a park, and are often available to the public within a reasonable distance outside the park. These types of facilities can usually be accommodated outside a park unit, often on private land.

Attractions in themselves can have the following impacts:

- Reduce parkland available for resource-based outdoor recreational uses;
- Displace park users;
- Reduce the options and area for development of park facilities;
- Reduce the unit's sense of place;
- Reduce open space and habitat or restorable habitat acreage;
- Consume staff time for General Plan amendments, contracts and overseeing improvements
- Divert scarce resources away from necessary park facilities.

It is recognized that some park facilities either acquired or developed in the past may be considered to be attractions in themselves. These facilities typically have long-established use and enjoyment as such and may be valued features of the State Park System. In some cases, these uses were present on the land when it was acquired by CSP.

California Recreational Trails Committee

According to California Public Resources Code (5074(a)), the California Recreational Trails Committee is responsible for coordinating trail planning and development among cities, counties, and districts. In carrying out this responsibility, the committee reviews records of easements and other interests in lands that are available for recreational trail usage, including public lands, utility easements, other rights-of-way, gifts, or surplus public lands that may be adaptable for such use, and advises CSP in the development of standards for trail construction. While the committee does directly participate in the review and evaluation of change-in-use proposals, it has been involved in the development of standard trail requirements that have been used in the Process.

4.14.3 SIGNIFICANCE CRITERIA

THRESHOLDS OF SIGNIFICANCE

Criteria for determining the significance of impacts related to recreation are based on the environmental checklist form in Appendix G of the State CEQA Guidelines and mandatory findings of significance. Implementation of the proposed Process would result in a significant impact if a qualifying change-in-use project would:

- increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
- include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

4.14.4 IMPACT ANALYSIS METHODS AND APPLICABLE PROJECT REQUIREMENTS

IMPACT ANALYSIS METHODS

Impacts associated with implementation of the proposed Process are evaluated by describing existing CSP recreation facilities and then assessing the potential for addition or removal of user types under the proposed Process to result in an increase in use that would substantially physically deteriorate an existing recreational facility. This analysis also determines whether implementation of the proposed Process may involve the need to expand or construct new recreation facilities (in addition to those evaluated under the proposed Process) that could result in adverse physical effects on the environment.

APPLICABLE STANDARD AND PROJECT-SPECIFIC REQUIREMENTS

The Standard Project Requirements (SPRs) do not include a category of provisions specifically related to recreation use management.

ENVIRONMENTAL IMPACTS AND MITIGATION

IMPACT 4.14-1	**Indirect adverse effects to existing, off-site trail facilities.** Removal of a user type under the proposed Process would result in existing trail users seeking other trails for their preferred use type. Addition of a user type may result in some existing users deciding to use other trails. Adding or removing a user type under the proposed Process would not result in substantial adverse physical impacts to these other, off-site trail facilities, because CSP would consider the displacement of users and coordinate with agencies with facilities near change-in-use proposals to confirm adequate capacity at other nearby trails and the level of displacement would not be substantial over the long term. Further, experience at park units has shown that as the novelty of a new use added to a road or trail diminishes, the attraction of additional users would be expected to normalize and the potential for user displacement would diminish. Over the long term, the patterns of existing trail use would typically return to an equilibrium that would not be substantially different than prior to the change-in-use decision. This impact would be **less than significant.**

POTENTIAL DISPLACEMENT OF TRAIL USE TO OTHER FACILITIES

Trail users may seek alternative facilities in the region when their use is eliminated from a trail and when a new mode of use is added to a trail, existing users' may choose to seek other locations to recreate that they perceive are more conducive to the experience they are seeking (See Section 8.2.1, Trail Conflict Issues Related to Change in Use, in Chapter 8, Trail Use Conflicts). In either case, existing users could be displaced from the existing trail, and levels of use may change at nearby trail facility locations.

When elimination of a use is proposed, as a routine part of the evaluation, CSP would consult with agencies that manage other nearby trails to confirm that adequate capacity for displaced users is available in the region. The displaced use may relocate to other CSP trails or other CSP park units that accommodate that use. It is also possible that the use may be displaced to trails managed by other land management agencies including local or regional parks, private recreation sites, or Federal lands such as those managed by the U.S. Forest Service, Bureau of Land Management, or the National Park Service. By considering the available capacity of trail facilities in the region, CSP would account for the trail opportunities for displaced users in its decision on a change-in-use proposal, so the potential for an indirect, adverse effect on other trail facilities from displaced users would be less than significant.

When adding a use to an existing trail, existing trail users may decide to seek other locations as a result of the addition of a trail use. The potential for the resultant displacement would typically be temporary and more noticeable just after the change in use is implemented, when additional users may be attracted to the trail because the experience would be new and novel. As the novelty diminishes, the attraction of additional trail users would be expected to normalize and the potential for displacement would diminish. Over the long term, the patterns of existing trail use would typically return to an equilibrium that would not be substantially different than prior to the change-in-use decision. This return to equilibrium would occur over time, because a variety of factors additional to the change-in-use decision influence the level and character of trail use, such as size of and distance to user populations, user demographics, activity and travel costs, and range of available trail resources in a region. Except for the change-in-use decision, all of the other factors influencing trail use would remain the same, which would tend to support a general return to historic use patterns over time, leading to a less-than-significant potential indirect effect on other trail facilities in the vicinity of a change-in-use project.

Coordination between CSP and other land management agencies regarding potential displacement of trail users to other recreation facilities is consistent with guidance in the California Outdoor Recreation Plan 2008 (CSP 2008) that encourages developing linkages with other recreation providers. CSP recognizes that all outdoor recreation providers need to better coordinate the provision of recreation opportunities and provide a seamless delivery of these opportunities to all Californians (CSP 2008; pp. 67-69). This includes trails connectivity across land ownership and recreation providers, as well as coordinated recreation and trails planning across jurisdictions.

IMPACT 4.14-2	**Impacts from an increase in trail use demand or extension of trail use range.** The potential for an increase in trail use sufficient to result in environmental damage would be less than significant, because many factors influencing demand would remain unchanged and any increases demand would typically be temporary. Also, an extension of the geographic range of trail use may occur, but only on trails already used by the public. If unanticipated environmental effects began to occur, they would be noted through the Adaptive Use Management strategy and adaptive adjustments would be implemented to preclude significant impacts. This impact would be **less than significant.**

Because trail users have specific needs related to their mode of transport, and expectations about their trail experience, their response to a proposed change in use may take a variety of forms. This response may occur immediately based on perceptions of what is anticipated from the new users of a trail, or it may occur gradually over time as users adjust to the new change in use through experience and shared information within user groups. Also, consistent with CSP DOM 3.17.1.2, the primary attractions to a park are the natural and/or cultural resources for which the unit was established and planned, rather than the attraction of a trail experience in itself. Therefore, when a change-in-use proposal is implemented, the primary attractions that influence use demand, i.e., the park's resources, remain unchanged. In any event, CSP will consider these potential recreational responses by trail users in evaluating any change-in-use proposal.

Potential Increases in Use Levels with Addition of Trail Use

When a new use is added to an existing trail, the numbers of users on the trail could increase, allowing more visitors to enjoy park resources. Implementation of the proposed Process would ensure that trail design is appropriate and adequate for the expected numbers and types of trail users, allowing for a quality recreational experience for all users and preventing environmental damage from the changed uses.

The potential for an increase in use would typically be temporary and more noticeable just after the change in use is implemented, when additional users may be attracted to the trail because the experience would be new and novel. Experience at park units has shown that as the novelty diminishes, the attraction of additional trail users would be expected to normalize and the potential for displacement would diminish. Over the long term, the patterns of existing trail use would typically return to an equilibrium that would not be substantially different than prior to the change-in-use decision. This return to equilibrium would occur over time, because a variety of factors additional to the change-in-use decision influence the level and character of trail use, such as size of and distance to user populations, user demographics, activity and travel costs, and range of available trail resources in a region. Also, the primary attractions of user demand for a park, i.e., its natural and cultural resources, would be the same before and after a change-in-use action. Consistent with CSP operational directives (DOM 3.1.1.2), change-in-use projects would not create “attractions in themselves,” so they would not be designed to stimulate demand for adventure-oriented or technical-skill oriented trail experiences. Except for the change-in-use decision, all of the other factors influencing trail use would remain the same, which would support an overall return to historic use patterns over time, leading to a less-than-significant potential for increased use that could be sufficient to cause environmental effects.

Although the potential for increased use would not be expected to result in significant environmental impacts, CSP recognizes that uncertainty exists. District personnel would use Adaptive Use Management (AUM), one of the SPRs described in Section 3.6.4 and 3.8 of this Program EIR, to prevent any potential significant environmental impacts from occurring as a result of an increase or other change in recreational use resulting from a change-in-use project. The strategy involves monitoring of the affected trail and associated use areas by qualified CSP staff semi-annually for the first five years after the change in use is implemented. An Adaptive Management Report would be prepared at the end of each year regarding achievement of the performance standards established for the project. Based on this, CSP would take action to remedy any resource degradation and avoid any significant adverse impacts that may potentially occur as a result of adding a use or increasing the level of trail use.

Potential to Extend Road or Trail Use Beyond Change-in-Use Project Areas Through Trail Connections

Trails that may be opened to new users may also increase the range of travel for those new uses. For example, based on typical recreation behavior and travel capability, day-use mountain bikers that gain access to an existing hiking trail would likely travel greater distances than equestrians or hikers during the same period of time. This opens up the possibility of extending use beyond the trails being considered in the change-in-use proposal to other trails within the park unit, or to connecting trails on lands outside the park unit that may be managed by another recreation provider. As discussed above, there is a need for connectivity with adjoining and nearby parks and lands and for trail linkages that may involve other recreation providers (CSP 2008). The extension of range of use would involve connections to trails that are already subject to public use, so trail use would not be a new activity in managed park areas. CSP would consider the potential to extend trail use beyond the borders of its units when evaluating a change-in-use proposal, and would coordinate with potentially affected land management agencies and recreation providers to help ensure that CSP multi-use trails would not result in policy conflict with these outside agencies. CSP would also employ AUM in this circumstance to preclude the potential for significant impacts from occurring as a result of the extension of the range of trail use from a change-in-use project.

POTENTIAL FOR THE CREATION OR ELIMINATION OF VOLUNTEER TRAILS

One of the goals of considering a change-in-use request may be to reduce the volunteer trails within a park unit that are created by users not permitted on a trail. Volunteer trails are unauthorized trails that have been created by repeated use or unplanned actions of trail users. Because the volunteer trails are not planned and designed for the intended use, they may create erosion problems and encourage other users to use a trail that is not designed or built to safely accommodate users and protect resources. For example, trail users who may not be allowed to use certain trails within a park unit may find or create volunteer trails to get around this restriction. By considering use-appropriate design and authorizing the use on the trail through the proposed Process, CSP may be able relocate this unauthorized use to properly designed and designated roads and trails. This would also allow CSP to eliminate and restore volunteer trails and prevent future volunteer trails from being created and resulting in environmental benefits.

4.14.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With integration of SPRs, including AUM, the potential would be less than significant for a change-in-use project completed under this Process to increase or change trail use demands and geographic areas sufficient to cause environmental damage would be less than significant. Mitigation measures are not required. If a change-in-use proposal could not maintain impacts at less-than-significant levels with SPRs, it would be disqualified from approval using this Process. If CSP pursued such a project further, the District would conduct a separate CEQA review process.

4.15 TRAFFIC AND TRANSPORTATION

This section provides an overview of roadway and transportation facilities that are located around CSP units and evaluates the potential of the proposed Road and Trail Change-In-Use Evaluation Process (Process) to substantially degrade the existing and future service levels of these facilities or cause other significant traffic and transportation impacts. Cumulative traffic and transportation impacts are addressed in Section 6.1.2, Cumulative Impacts By Resource Topic, of this Program EIR.

4.15.1 ENVIRONMENTAL SETTING

MODES OF TRAVEL

The most common mode of transportation for accessing the State Park System is by private passenger automobile or truck. However, most CSP units are commonly accessed by high-occupancy vehicles, including shuttles, private bus charters, and public transportation. Many CSP trails are also accessed by bicycle and, to a lesser extent, ride-in horseback. Some CSP units and associated trails are accessible by other modes of transportation, such as boat. In most cases, these are not the primary modes to access a CSP unit, but in some cases, they are the only mode. (For example, Angel Island State Park is accessible only by private boat and public ferry.)

THE ROADWAY SYSTEM

The three most basic types of roadways in California include Interstate Highways, State Routes, and local roadways. Roadways are generally classified according to Federal Highway Administration (FHWA) Functional Classification Guidelines according to the designed level of mobility and land access. Local roadways emphasize the land access function and are consequently generally smaller and provide the greatest amount of access to adjacent land via driveways and other roadways. Arterials emphasize a high level of mobility for through movement and consequently have higher capacity and speed with relatively little accessibility to adjacent land. (Interstate Highways and State Routes are generally characterized as intercity highways or principal arterials.) Collectors offer a combination of both functions. Nearly all CSP units are directly and/or indirectly accessed by one or more of these roadway types.

TRAFFIC CONTROL

Various traffic control devices are utilized to manage the flow of traffic. Common traffic control devices for roadways include speed limits and speed control devices (e.g., speed bumps), number of lanes, and lane striping, metering at freeway onramps, among many others. Traffic through intersections is also controlled through several devices, including stop and yield signs, traffic circles, and traffic signals.

PARKING

Vehicle parking for access to CSP trails facilities is generally provided in off-street surface parking lots or legal on-street parking spaces. Parking fees are collected for most CSP units. During periods of peak use, parking at some CSP lots exceeds the capacity of the designated parking area.

4.15.2 REGULATORY SETTING

FEDERAL AND STATE PLANS, POLICIES, REGULATIONS, AND LAWS

CALTRANS

The California Department of Transportation (Caltrans) is responsible for planning, designing, constructing, operating, and maintaining all State-owned roadways. Federal highway standards for interstate highways are implemented in California by Caltrans.

LOCAL PLANS, POLICIES, REGULATIONS, AND LAWS

No local plan, policy, regulation, or ordinance applies to the proposed Process because CSP units are located within State property and are therefore not subject to local requirements. However, CSP coordinates with local agencies and complies with local policies and ordinances to the extent feasible.

4.15.3 SIGNIFICANCE CRITERIA

THRESHOLDS OF SIGNIFICANCE

Criteria for determining the significance of impacts related to traffic and transportation are based on the environmental checklist form in Appendix G of the State CEQA Guidelines and mandatory findings of significance. Implementation of the proposed Process would result in a significant impact if a qualifying change-in-use project would:

- cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections);
- exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways;
- result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- result in inadequate emergency access;
- result in inadequate parking capacity; or
- conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

Road and Trail design-related hazards are addressed in Section 4.9, Hazards and Hazardous Materials.

4.15.4 IMPACT ANALYSIS METHODS AND APPLICABLE PROJECT REQUIREMENTS

IMPACT ANALYSIS METHODS

Impacts associated with implementation of the proposed Process are evaluated by describing existing roadway and transportation facilities and then assessing the potential for addition of user types under the proposed Process to affect the level of service at those facilities and/or result in conflicts with vehicles. This analysis also determines whether implementation of the proposed Process could affect parking capacity and/or emergency access and whether addition of user types under the Process could conflict with alternative transportation policies, plans, or programs.

APPLICABLE STANDARD AND PROJECT-SPECIFIC REQUIREMENTS

The following Standard Project Requirements (SPRs) are related to transportation and apply to qualifying projects under the proposed Process. Because SPRs would be applicable at all park units for an array of change-in-use project scenarios, placeholders are provided in several of the SPRs (such as for responsible parties), so that, depending on the location and type of project and associated resource issues, the requirement can be applied to specific projects and associated responsible parties**.**

TRAN-1 In cases where addition of a use is proposed for trails within urban areas or immediately accessible by urban populations such that the new park users could meaningfully utilize the trails before or after normal weekday business hours (8 am to 5 pm), a designated CSP District staff person will, prior to implementing the change in use, first review the local jurisdiction's General Plan for guidance on level of service (LOS) changes, or Caltrans standards if the affected facilities are part of a state highway. If it is determined that (or uncertain whether) project traffic could potentially result in unacceptable LOS of local traffic facilities, CSP will coordinate with the applicable jurisdiction(s) that operate/maintain the traffic facilities in the vicinity of the trail heads and associated parking areas to determine the maximum number of peak hour trips that could be generated by the proposed additional use that would not cause significant adverse local traffic effects. If CSP demand projections identify an increase in visitation that would generate peak hour, weekday trips that exceed the maximum number of trips identified by the applicable agency, the proposed additional use would be disqualified from the proposed process and would require individual CEQA analysis, including project-specific traffic analysis. In addition, following implementation of the proposed additional use **[insert who]** will include follow-up consultation with the applicable agency as part of the Adaptive Use Management process to consider the actual traffic levels generated by the additional trail use and the LOS of the affected transportation facilities. If the increased trips generated by the additional trail users are found to exceed original projections and are also found to be causing an exceedance of applicable LOS standards, **[insert who]** will implement a management response to resolve the exceedance, in consultation with the applicable agency. Measures in the management response will include (but will not be limited to) public education actions to encourage visitation during non-peak traffic periods, restriction of the timing of certain types of trail use during peak traffic periods, altering the point(s) of access to transfer project-related traffic from impacted roadways/intersections to less constrained roadways/intersections, coordination with local transit operators to increase access to the trail, coordination with the local transportation department regarding improved bicycle connectivity (for addition of bicycle use), or a combination of these measures.

TRAN-2 For proposed addition of bicycle use, stop signs for cyclists will be installed at all locations where the trail crosses a roadway (including maintenance roads). Appropriate warning signs will be installed along the roadways and on pavement (as necessary) at the approach of bicycle crossings to warn drivers of potential crossing bicyclists.

TRAN-3 For proposed addition of equestrian use, **[insert who]** will ensure driveways/access points to parking facilities have adequate line-of-sight for horse trailers and that parking facilities are either designed to be "pull through" or include a designated "turn-around" for horse trailers (where vehicle parking is restricted). Parking and access for parking facilities accommodating vehicles with horse trailers will be designed per American Association of State Highway and Transportation Officials (AASHTO) standards.

TRAN-4 **[insert who]** will assess parking capacity prior to implementing a proposed change in use. After implementation of the change in use, CSP staff will monitor parking levels as part of the Adaptive Use Management process. If monitoring indicates an exceedance of parking capacity (i.e., increased use of undesignated on-street parking or increased illegal parking due to overflow of parking lot facilities), the **[insert who]** will implement a management response to resolve the parking capacity issue. Measures in the management response may include, but would not be limited to re-designing parking facilities (including minor parking lot expansions in areas where environmental resources will not be affected), installing parking meters and/or applying time limits, working with local transportation departments to increase nearby off-site parking availability, directing users to other existing lots, and/or working with local transit operators to increase transit to the trail facility. CSP District personnel will determine which actions are feasible at the park unit.

TRAN-5 Prior to initiating construction activities the construction manager will have a Construction Traffic Management Plan (CTMP), prepared by a qualified professional, that will provide measures to reduce potential traffic obstruction or service level degradation at affected traffic facilities. The scope of the CTMP will depend on the type, intensity, and duration of the specific construction activities associated with each qualifying change-in-use project under the Process. Measures included in the CTMP could include (but are not be limited to) construction signage, flaggers for lane closures, construction schedule and/or delivery schedule restrictions, etc. The CTMP will be submitted to the local Public Works Department.

4.15.5 ENVIRONMENTAL IMPACTS AND MITIGATION

IMPACT 4.15-1 **Short-term, Construction-related Traffic Obstruction or Degradation of Level of Service (LOS).** The proposed Process involves the addition or removal of user types (i.e. bicyclists and/or equestrians) on existing CSP roads and trails. Minor improvements and/or realignments could be necessary to accommodate new users. The construction associated with these improvements could generate vehicle trips associated with equipment and materials hauling and construction worker trips. Construction-related traffic is short term. In addition, SPRs TRAN-5 is included as part of the proposed Process and requires preparation of a construction traffic management plan (CTMP) for qualifying change-in-use projects that require construction. The CTMP would reduce the potential for traffic obstruction and/or LOS degradation due to construction activities. This impact would be **less than significant.**

To allow additional user types (e.g., bicyclists and/or equestrians) on existing CSP trails, minor trail improvements and/or realignments could be necessary so that the trail would accommodate the new user type. These minor trail improvements would require construction. Trails are designed to follow existing topography to the extent possible, so trail construction generally requires little earth movement (i.e., grading and excavation) and, therefore, very little (if any) import or export of soil. Relatively few construction workers are necessary and few (if any) pieces of heavy equipment would be used (e.g., a trail dozer). Hence, construction of trails generally requires few truck trips and few construction worker trips. However, even small construction efforts could temporarily obstruct traffic and degrade LOS of nearby roadways and intersections, if the management of traffic during construction is not appropriately planned. Traffic generated by construction would be short term.

SPR TRAN-5 requires that a CTMP be prepared by a qualified transportation engineer that would include recommendations for appropriately managing traffic during the construction period using measures such as signage, flaggers, construction schedule restrictions, etc. These measures would promote traffic movement during construction and would avoid substantial LOS degradation (i.e., LOS levels that are worse than the locally adopted LOS thresholds) because of construction traffic. The CTMP would also be submitted to the local Department of Public Works official with jurisdiction over the affected transportation facilities. Implementation of SPR TRAN-5 would maintain short-term, construction-related impacts associated with qualifying change-in-use projects at less-than-significant levels. Short-term, construction-related traffic impacts would be **less than significant**.

IMPACT 4.15-2	**Operations-related Degradation of Roadway and Intersection LOS.** Although it is not possible to precisely estimate the number of trips that could be generated by a change-in-use project qualified for approval under the proposed Process, it is expected that in most cases opening trails to new user types would not generate a substantial increase in visitors, and therefore, visitor traffic. Even if a larger-than-anticipated increase in visitors occurs at a CSP facility, peak trail use typically occurs on weekends outside peak traffic hours. Therefore, any increased traffic resulting from qualifying change-in-use projects would not degrade existing or future, peak-hour roadway or intersection LOS. Further, in those limited cases where an increase in new visitors is higher than anticipated, such as where the trail is located in a more urbanized or urban fringe area (i.e., where visitors could more easily access the facility during morning or evening peak hours), SPR TRAN-1 requires coordination with the local Department of Public Works official to monitor traffic levels and implement a management response plan that would include a range measures to maintain effects to local roadway LOS at less-than-significant levels. With implementation of SPR TRAN-1, this impact would be **less than significant.**

Potential increases in vehicle trip generation as a result of implementing qualifying projects under the proposed Process would vary among CSP units, based on the quality of the trail experience, degree of user attraction, distance to population centers, accessibility by highways and roadways, parking capacity, and other factors. Although it is not possible to precisely estimate the number of trips that could be generated by a change-in-use project qualified for approval under the proposed Process, it is expected that opening trails to new user types in most cases would not generate a substantial increase in visitors, and therefore, visitor traffic. This expectation is reasonable, because CSP trails are often at units located relatively far from population centers; qualifying change-in-use actions are not intended to substantially increase facility capacity; and it is reasonably conceivable that some existing users may elect to use a trail less often when new users are added.

It is possible that a change in use at some trails could result in higher-than-anticipated increase in visitation at the affected CSP trail, such as where a trail is within a very popular CSP unit or is located in an urban area or urban fringe where trail demand is high. In these cases, operational impact to existing roadway and intersection LOS is still unlikely to be substantial, because the timing of greatest trail use does not occur during the peak hours of traffic. Trails, especially those in remote areas, tend to experience peak use during weekends. Roadways and intersections, on the other hand, tend to experience peak congestion during morning and evening rush hours on weekdays. Therefore, the peak trail use periods would occur outside the peak traffic periods. Peak traffic hours typically provide the basis for the LOS standards.

It is reasonable to conclude that trails in remote parks will be accessed primarily by campers staying in the park, thus contributing only minimal traffic to little-used area roadways. It can also be reasonably ascertained that peak trail use in in some urban area parks occur outside peak-hour traffic periods. Some CSP units in or near urban areas; however, are sufficiently accessible that users visit the trails before and/or after work hours. As a result, some qualifying change-in-use projects would be expected to receive visitor traffic during the typical morning or afternoon rush hours. This could result in a higher-than-typical increase in peak hour vehicle trips. Generally, the numbers of visitors using a trail before and after work would not typically reach the traffic generation volumes that would be reasonably expected to alter roadway or intersection LOS. Nonetheless, the possibility of contributing to already congested roadways and intersections cannot be entirely dismissed. . Consequently, measures in the management response could include (but would not be limited to) public education actions to encourage visitation during non-peak traffic periods, restriction of the timing of certain types of trail use during peak traffic periods, or alteration of the point(s) of access to transfer project-related traffic from impacted roadways/intersections to less constrained roadways/intersections, or a combination of these measures. With implementation of SPR-5, this impact would be **less than significant**.

IMPACT 4.15-3	**Potential for Vehicle/Trail User Conflicts.** Addition or removal of user types under the proposed Process could alter the existing access and circulation patterns for vehicles at affected CSP units. Without modifying circulation design, and in some cases road and trail design, to accommodate these new user types, conflicts between vehicles and trail users could occur. This would be most notable with the addition of equestrian use, where horse trailers could be accessing parking facilities that were not originally designed for trailers. Other potential conflicts could occur with the addition of bicyclists where trails intersect with roadways. Conflicts could also arise if adding other user types results in inadequate parking capacity such that drivers may be parking in unauthorized locations (e.g., along the shoulders of busy roadways). SPRs TRAN-2 and TRAN-3 require appropriate access and circulation for horse trailers and appropriate signage for bicyclists crossing roadways. SPR TRAN-4 requires monitoring of parking levels as part of the Adaptive Use Management process and management response (e.g., minor parking expansions, parking meters, time limits, or off-site parking or transit solutions), if capacity is exceeded. With implementation of these SPRs, the potential for vehicle conflicts is maintained at a **less-than-significant** level.

On-site access, parking facilities, and internal circulation vary greatly among CSP units throughout the State. At one end of the spectrum, are the trailheads that are located at major CSP units with an extensive internal road system, large paved parking lots with striped spaces, and sidewalks. At the other end of the spectrum are the trailheads in remote locations that include trail access signage and little or no staging or parking areas. There are many different kinds of parking and access configurations in between these two extremes.

The potential for vehicle/trail user conflicts would occur with changes in the types of trail users. For instance, with respect to adding bicyclists to a CSP trail under the proposed Process, the access and parking needs of bicyclists differ very little from the access and parking needs of hikers. Bicyclists typically transport their bicycles in a pick-up-truck bed or on a top rack or rear rack mounted to their personal vehicle. Therefore, parking area configuration or driveway/roadway line-of-sight needs are roughly the same as for any typical personal vehicle. Horses; however, require trailers and larger towing vehicles for transport. Consequently, the addition of equestrian uses to an existing CSP trail could present challenges with respect to access and parking. Adequacy of access and parking would be addressed in the initial survey prepared for a change-in-use proposal.

Access challenges would occur where access points on public roadways provide limited sight distance (i.e., on a blind turn or where features otherwise obstruct sight distance); where turning radius or driveway throat depth is not sufficient to safely complete a turn through an intersection; or where access points are located on steep grades. (Minimum Required Throat Depth is the minimum length of a driveway entrance necessary to clear entering vehicles through an intersection before a decision point is reached.) For example, if a vehicle hauling a horse trailer makes a left turn into a parking facility where there is insufficient throat depth for such a long vehicle, the trailer could protrude into the oncoming traffic lane while the driver maneuvers to resolve the turning conflict. Or where access is located on a blind turn, the existing sight distance could be adequate for a smaller passenger vehicle, but could be insufficient for a vehicle hauling a large horse trailer, due to the increased time required for the trailer to clear the intersection. Steep grades are also a design consideration for sites allowing horse trailer access due to the slower acceleration speeds of vehicles under load.

Under the proposed Process, a qualifying change-in-use project to allow equestrians on a CSP trail would require implementation of SPR TRAN-2. SPR TRAN-2 requires parking and access facilities to be designed and constructed consistent with American Association of State Highway and Transportation Officials (AASHTO) standards. This would ensure appropriate sight distance, turning radius, throat depth, and other access and parking design features to appropriately accommodate vehicles with horse trailers.

Although addition of bicyclists under the proposed Process would not typically require modification to site access or parking, vehicle conflicts with bicycles could potentially occur where existing trails intersect with public roadways. Whereas hikers would have time to see (and hear) an upcoming roadway crossing, bicyclists traveling at cruising speeds require a longer stopping distance, increasing the risks where a bicycle trail crosses a roadway. SPR TRAN-2 requires stop signs for bicyclists to be installed on the trails at roadway crossings and warning signs ("bicycle crossing") to be installed on the roadway at the approach of such crossings to warn drivers, which would adequately address this risk. Implementation of SPRs TRAN-2 and TRAN-3 maintain vehicle/trail user conflict issues at **less-than-significant** levels.

IMPACT 4.15-4	**Potential Conflicts with Alternative Transportation Plans.** A change in use is unlikely to have an influence on local transportation plans for non-motor vehicle transportation. Allowing equestrians on a CSP road or trail would not typically conflict with any local or regional alternative transportation plans because horseback riding does not affect transit demand or transit/bicycle facilities. Although a change in use to allow bicyclists on a CSP road or trail could result in bicyclists using buses to access the CSP unit, any increase would be negligible as most recreational trips are made via private automobile. Change in use projects that occur near residential areas could result in bike use on non-park roadways serving the CSP unit. These improvements are likely to be consistent with the overall goals and objectives of alternative transportation plans, but are not necessarily currently identified within the existing plans. The proposed Process would not result in conflicts with alternative transportation plans, and this impact would be **less than significant.**

Changing the use of a CSP trail will not affect local transportation planning and non-motor vehicle transportation. Riders on horseback do not use alternative transportation facilities (i.e., bicycle or transit); therefore, changes in use adding equestrians would not affect alternative transportation plans. Adding bicycle-related use to trails in urban parks could increase the demand for bicycle facilities around the CSP unit, including bicycle access (e.g., bike lanes on roads serving the CSP unit) but is unlikely to require bicycle accommodation on transit serving the CSP unit. Generally, any increase in bicycle use would be consistent with the overarching goals and objectives of an alternative transportation plan (including a bicycle master plan).

4.15.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With integration of SPRs, the transportation and traffic impacts of a qualifying change-in-use project under this Process would be less than significant. Mitigation measures are not required. If a change-in-use proposal could not maintain transportation and traffic impacts at less-than-significant levels with SPRs, it would be disqualified from approval using this Process. If CSP pursued such a project further, the District would conduct a separate CEQA review process.

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5 EFFECTS FOUND NOT TO BE SIGNIFICANT

Because California State Parks (CSP) decided to prepare a Program EIR from the outset of environmental review, an Initial Study did not need to be prepared. This option is permitted under State CEQA Guidelines Section 15063(a), which states that if the Lead Agency determines an EIR will be required for a project, the Lead Agency need not conduct further initial review and may begin work on the EIR. The Initial Study Environmental Checklist form contained in the State CEQA Guidelines Appendix G was utilized to identify the issue areas and significance criteria considered within this Program EIR. All of the environmental resources are analyzed in Chapter 4 of this Draft Program EIR. The analysis conducted for this document determined that the Process would result in certain effects found not to be significant, and therefore, those effects would not need detailed discussion. This chapter describes certain environmental resource topics that contained no significant effects and other impacts that were found to not be significant within resource topics that were evaluated.

5.1 ENVIRONMENTAL TOPICS NOT ANALYZED FURTHER IN THIS DRAFT PROGRAM EIR

5.1.1 AGRICULTURE AND FORESTRY

Potential subsequent project actions that may result from recommendations for a change-in-use through the Process would primarily occur within an existing CSP road or trail prism (See Chapter 3, Section 3.5, Project Actions Covered by and Excluded from the Process). Therefore, project actions associated with the Process would not occur within areas used for agriculture, nor on forestry land. Implementation of the Process would not convert Important Farmland to nonagricultural uses or cause changes that would result in the conversion of Important Farmland. The project would not convert agricultural or forestry uses and would therefore have no impact on these resources.

5.1.2 LAND USE AND PLANNING

Land use and planning impacts would occur if the Process would physically divide an established community (e.g., a freeway dividing a populated residential community), if it would conflict with a land use policy adopted for the purpose of avoiding an environmental impact, or if it would conflict with an applicable habitat conservation plan or natural community conservation plan.

Potential subsequent project actions that may result from recommendations for a change-in-use through the Process would primarily occur within an existing CSP road or trail prism (See Chapter 3, Section 3.5, Project Actions Covered by and Excluded from the Process). Recommendations for a change-in-use through the Process would, therefore, would not result in any physical barriers that would divide an established community. Although the Sierra Azul Open Space Preserve abuts the Santa Clara Habitat Conservation Plan (HCP), the project site is not included within the boundaries of the HCP or any other habitat conservation or natural community conservation plans, and therefore would not conflict with any such plans.

Regarding land use policies, each section of the Draft EIR addresses the potential for conflicts between the project and relevant plans adopted for the purpose of avoiding environmental impacts.

5.2 OTHER EFFECTS FOUND NOT TO BE SIGNIFICANT

5.2.1 TERRESTRIAL BIOLOGICAL RESOURCES

Two impact topics were initially determined to not be significant or require detailed analysis: conflict with local ordinances and consistency with established conservation plans. Local ordinances intended to protect biological resources would not apply to CSP lands, so compliance would not be required. Nonetheless, CSP always seeks to avoid conflicts with local plans and policies when they are consistent with CSP's mission and stewardship of natural resources. Implementation of all change-in-use proposals on CSP land would comply with any applicable established conservation plans in which CSP is a participant.

5.2.2 AQUATIC BIOLOGICAL RESOURCES

Three impact topics were initially determined to not be significant or require detailed analysis: conflict with local ordinances, consistency with established conservation plans, and substantial impacts to wildlife movement corridors. Local ordinances intended to protect biological resources would not apply to CSP lands, so compliance would not be required. Nonetheless, CSP always seeks to avoid conflicts with local plans and policies when they are consistent with CSP's mission and stewardship of natural resources. Implementation of all change-in-use proposals on CSP land would comply with any applicable established conservation plans in which CSP is a participant. Because implementation of change-in-use projects would be limited mostly to existing disturbed road and trail prisms, which currently experience noise and other disturbances associated with motorized and non-motorized use and maintenance, project areas are not expected to function as significant movement corridors for common or sensitive aquatic animal species; and potential impacts to suitable habitat and movement requirements for most aquatic species would be very infrequent and are not expected. The types of change-in-use projects that qualify under the proposed Process are not expected to create new movement barriers, bifurcate any important habitat areas, or prevent aquatic species from continuing to access or travel between habitat areas in the vicinity.

5.2.3 HAZARDS AND HAZARDOUS MATERIALS

Potentially significant environmental impacts would clearly not occur related to airports or airstrips and are dismissed from the detailed environmental impacts discussions. Potential subsequent project actions that may result from recommendations for a change-in-use through the Process would not include development of new buildings or structures and would, therefore, pose no increased air traffic hazard. Therefore, the proposed Process would involve no change in the level of hazard associated with proximity to airports or airstrips.

5.2.4 HYDROLOGY, WATER QUALITY, AND SEDIMENTATION

Potential subsequent project actions that may result from recommendations for a change-in-use through the Process would not result in the depletion of groundwater supplies or substantially interfere with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted). Change-in-use proposals through the Process would not involve groundwater extraction or major excavations that could intercept or otherwise interfere with groundwater flow or groundwater quality. Water supplies for CSP units would not be affected by the proposed project.

Road and trail change-in-use projects would not result in placing housing within a FEMA designated 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance. The proposed Process does not include housing construction or placement, and therefore no significant impact would result.

5.2.5 NOISE

Potential subsequent project actions that may result from recommendations for a change-in-use through the Process would primarily occur within an existing CSP road or trail prism (See Chapter 3, Section 3.5, Project Actions Covered by and Excluded from the Process). Recommendations for a change-in-use through the Process would, therefore, not result in development of new sensitive noise receptors (e.g., residences, schools, churches), an increase in exposure from aircraft-related noise, or the placement of people in the proximity of an airport or airstrip.

5.2.6 PUBLIC SERVICES AND UTILITIES

Among the significance criteria in State CEQA Guidelines Appendix G related to public services and utilities, those associated with impacts to schools and other public facilities (i.e., libraries) are clearly less than significant and are dismissed from the detailed environmental impacts discussions. As described in Section 4.12, Population and Housing, the proposed Process would not add residences or a major employer and therefore would not directly or indirectly affect population levels on a local, regional, or State-wide level. Implementation of the proposed Process would, therefore, not increase demand for public schools or libraries and would result in no environmental impacts associated with building expanded or new facilities.

Impacts related to increased demand for stormwater drainage facilities would also not be discussed further in this Program EIR. CSP trails facilities are not typically served by municipal storm drain facilities. Environmental impacts associated with rate of stormwater runoff and stormwater quality are discussed in Section 4.10, Hydrology, Water Quality, and Sedimentation.

In addition, impacts related to solid waste will also not be discussed. The proposed Process for changes in user types on existing CSP trails would not be anticipated to result in any change in the level of solid waste generated at a CSP trail facility. Hikers, bicyclists, and equestrians generally would not produce substantially different volumes of solid waste, because all are primarily day use activities in the context of the proposed Process. Therefore, projects qualifying for approval through the proposed Process would not affect permitted capacity of local or regional solid waste disposal services serving the CSP facilities. The proposed Process would also not change existing levels of compliance with federal, state, and local regulations related to solid waste.

5.2.7 TRAFFIC AND TRANSPORTATION

Among the significance criteria in State CEQA Guidelines Appendix G related to transportation and traffic, those involving changes in air traffic patterns are clearly less than significant and are dismissed from the detailed environmental impacts discussions. Implementation of the proposed Process does not include development of new structures and would not increase demand for air travel. Adding or removing a recreational use from an existing trail would not alter the level of emergency access.

5.2.8 NON-CEQA RELATED ISSUES

The topic of trail safety, in terms of use-appropriate trail design, trail crossings of roadways, or similar subjects relevant to the physical environment, is an environmental impact topic within the purview of CEQA for which a significance determination is made and feasible mitigation measures or alternatives defined, if a significant impact is identified. This topic is addressed in Section 4.9, Hazards and Hazardous Materials, of this Program EIR.

During the Program EIR scoping process, members of the public expressed comments about the potential for trail use conflicts associated with the change or addition of uses to existing CSP recreational roads or trails. The potential for trail use conflict is an important social issue and trail management concern; however, for purposes of CEQA it is not, by itself, a physical environmental impact topic. A strong body of study and informed opinion documents the importance of trail use conflict as a social issue (Alta 2011). As noted in State CEQA Guidelines Section 15064(e), "economic and social changes resulting from a project shall not be treated as significant effects on the environment. Economic or social changes may be used, however, to determine that a physical change shall be regarded as a significant effect on the environment. Where a physical change is caused by economic or social effects of a project, the physical change may be regarded as a significant effect in the same manner as any other physical change resulting from the project. Alternatively, economic and social effects of a physical change may be used to determine that the physical change is a significant effect on the environment. If the physical change causes adverse economic or social effects on people, those adverse effects may be used as a factor in determining whether the physical change is significant. For example, if a project would cause overcrowding of a public facility and the overcrowding causes an adverse effect on people, the overcrowding would be regarded as a significant effect. "

As noted in State CEQA Guidelines Section 15064(d)(1)(2), "a direct physical change in the environment is a physical change in the environment which is caused by and immediately related to the project. An indirect physical change in the environment is a physical change in the environment which is not immediately related to the project, but which is caused indirectly by the project. If a direct physical change in the environment in turn causes another change in the environment, then the other change is an indirect physical change in the environment."

Recognizing the topic's importance and the degree of concern expressed by the public, CSP has conducted an extensive research effort about the state of understanding trail use conflict issues and design or management responses in connection with change in use. Chapter 8, Trail Use Conflicts, of this Program EIR summarizes the results of the trail use conflict research and Appendix C includes the complete technical report to help provide information for CSP's decision-making about the proposed Process, additional to information about its environmental impacts. The results of the research indicate that the orientation, perception, attitude, recreation experience expectations, and behavior of users are major factors in generating concerns and complaints about trail conflict. Although it tends to be social and perceptual, rather than represented by significant physical evidence, trail use conflict is a very real issue for almost all multi-use trail managing organizations consulted during the research effort (Alta 2011). Please refer to Chapter 8, Trail Use Conflicts, and Appendix E of this Program EIR.

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FILE CONTENTS

APPENDICES

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Appendix E

EXHIBITS

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TABLES

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ACRONYMS/ABBREVIATIONS

California State Parks (CSP
Habitat Conservation Plan (HCP

REFERENCES

Alta 2011

IMPACT AND MITIGATION SUMMARY

No table of contents entries found.

6 CUMULATIVE AND GROWTH INDUCING IMPACTS

6.1 CUMULATIVE IMPACTS OF THE PROPOSED CHANGE-IN-USE PROCESS

Section 15130 of the State CEQA Guidelines requires that an EIR discuss cumulative impacts of a project and determine whether the project's incremental effect is "cumulatively considerable." The definition of cumulatively considerable is provided in Section 15065(a)(3):

> "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

According to Section 15130(b) of the State CEQA Guidelines,

> [t]he discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

For purposes of this EIR, the Road and Trail Change-In-Use Evaluation Process (Process) would have a significant cumulative effect if:

- the cumulative effects of related projects (past, current, and probable future projects) are not significant and the incremental impact of qualifying projects implemented under the proposed Process is substantial enough, when added to the cumulative effects of related projects, to result in a new cumulatively significant impact; or
- the cumulative effects of related projects (past, current, and probable future projects) are already significant and the change-in-use projects implemented under the proposed Process make a considerable contribution to the effect. In accordance with CEQA Section 21083.3(b)(2),"cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." The California Supreme Court has determined that in certain circumstances, miniscule contributions to a cumulative significant impact can be determined to be less than considerable (*Save the Plastic Bag Coalition v. City of Manhattan Beach*, S180720, July 14, 2011).
- Issues that could contribute considerably to cumulatively significant effects are discussed below.

6.1.1 RELATED PROJECTS FOR CUMULATIVE IMPACT ANALYSIS AND GEOGRAPHIC SCOPE

The analysis of cumulative environmental impacts associated with the Process addresses the potential incremental impacts of qualifying projects implemented under the proposed Process in combination with those of other past, present, and probable future related projects. For purposes of this Program EIR, related projects would involve the full range of capital projects implemented or planned to be implemented by California State Parks (CSP) for providing high quality outdoor recreational opportunities in pursuit of its overall mission. The proposed Process would apply to all State Parks, State Recreation Areas, and State Beaches, so the full CSP capital program related to outdoor recreational opportunities at these units would be involved, including but not limited to day use, overnight camping, group camping, trail, vehicular access and parking, and educational/interpretive facilities. (State Vehicular Recreation Areas are not included in the analysis, because change-in-use proposals do not involve trails in those units.) Capital improvements are implemented in compliance with CSP unit General Plans, which include provisions for natural and cultural resources protection, consistent with CSP' role as a trustee of the resources within its jurisdiction and with its overall mission to preserve natural and cultural resources of the State Park System.

The cumulative impact analysis is also considered within the broader scope of trail corridors, connections, and linkages to roads and trails on surrounding federal, regional, county, and city lands. Therefore, trail impacts on connecting facilities and adjacent lands are considered when appropriate. The geographic area that could be affected by the Process varies depending on the type of environmental resource being considered. The general geographic area associated with different types of environmental effects of the project defines the scope of the area considered in the cumulative impact analysis (see Table 6-1).

Table 6-1 Geographic Scope of Cumulative Impacts

Resource Issue	Geographic Area
Air Quality and Climate Change	Local (construction related) Air Basin (construction related and mobile sources) Global (greenhouse gas emissions)
Biological Resources	Local and ecoregional
Cultural Resources	Local
Employment, Population, and Housing	Regional and local
Geology and Paleontology	Local
Hazards and Hazardous Materials	Immediate project vicinity
Hydrology and Water Quality	Immediate project vicinity and local watershed
Land Use and Planning	Regional and local
Noise	Immediate project vicinity
Public Services	Local
Transportation	Regional and local
Utilities and Service Systems	Regional and local
Visual Resources (light and glare; aesthetics)	Local

Source: Data compiled by Ascent Environmental, Inc. in 2011

6.1.2 CUMULATIVE IMPACTS BY RESOURCE TOPIC

AESTHETICS AND VIEWS

As discussed in Section 4.2, Aesthetics and Views, the proposed Process would not result in significant changes to the visual setting of existing CSP facilities. Because implementation of SPRs would restrict or limit the potential for projects approved under the Process to degrade scenic views, visual character, or features, the contribution from projects implemented under the Process would not be considerable. Also, no permanent lighting would be included in qualifying change-in-use projects and existing light levels associated with trails use would not change under the proposed Process.

CSP's resource protection mission would include scenic resources. To implement any design or operational use changes to trail facilities in a CSP unit that would cause or contribute to significant cumulative aesthetic impacts would be contrary to this mission. With incorporation of SPRs, the potential aesthetic and view impacts of a change-in-use project approved under the Process would be less than significant. If a change-in-use proposal could not maintain aesthetic and view impacts at less-than-significant levels with SPRs, it would be disqualified from approval using this Process. If CSP pursued such a project further, the District would conduct a separate CEQA review process; this would be a **less-than-significant** cumulative impact.

AIR QUALITY

As described in Section 4.3, Air Quality, the proposed Process would result in less-than-significant impacts related to short-term, construction-generated emissions. Because qualifying projects would comply with Standard Project Requirements (SPRs) that limit the type and intensity of construction-related activities and would not exceed the mass emission thresholds recommended by air districts in California and, they would not contribute to pollutant concentrations that exceed the National Ambient Air Quality Standards (NAAQS) or California Ambient Air Quality Standards (CAAQS) or expose receptors to substantial pollutant concentrations.

Operation of individual change-in-use projects approved under the Process could potentially result in an increase in vehicle trips and associated mobile-source emissions. However, it is not anticipated that any change-in-use project would result in substantial increases in traffic on local roadways leading to and from the respective CSP unit; primarily because it would be contrary to CSP's mission to implement any design or operational use changes to any CSP unit that would overwhelm its capacity or the use capacity of any single road or trail. Also, it is not anticipated that all of the additional trips would be occurring during the peak hour because day-use visitors to recreational areas typically arrive and depart throughout the day. Moreover, because of the influence of SPRs, these potential increases would not exceed applicable thresholds recommended by air districts in California and, thus, would not substantially contribute to concentrations that exceed the NAAQS or CAAQS and/or conflict with air quality planning efforts. Because potential emissions would be consistent with air quality attainment planning, which serves as a previously approved plan to lessen cumulative impacts, the contribution from projects implemented under the Process would not be considerable.

As described in Section 4.3, Air Quality, projects approved under the proposed Process would incorporate several SPRs that would limit or minimize exposure of sensitive receptors to toxic air contaminant (TAC) emissions that would exceed air district thresholds, fugitive dust emissions containing naturally occurring asbestos, and/or excessive odors. This would be a less-than-significant impact, and the contribution from projects implemented under the Process would not be considerable.

It would be contrary to CSP's resource protection mission to implement any design or operational use changes to the trails in a CSP unit that would cause or contribute to significant cumulative air quality impacts. Because CSP would implement air quality-related SPRs, some of which include an Adaptive Use Management (AUM) process, and CSP's mission and policies are to protect the natural resources of the State Park System, the approval of change-in-use projects under the proposed Process would not cause significant cumulative air quality impacts or considerable contributions to existing cumulative air quality problems; this would be a **less-than-significant** cumulative impact.

TERRESTRIAL AND AQUATIC BIOLOGICAL RESOURCES

Implementation of the proposed Process could result in potential short-term construction-related impacts to common and sensitive terrestrial and aquatic biological resources, as described in Sections 4.4, Terrestrial Resources, and 4.5, Aquatic Resources. Because ground disturbances would be limited to existing disturbed road and trail prisms and adjacent areas, which currently experience noise and other disturbances associated with motorized and non-motorized use and maintenance, potential impacts to sensitive biological resources would be very infrequent and are not expected; and impacts to common biological resources would be very minor. As discussed in Sections 4.4, Terrestrial Resources, and 4.5, Aquatic Resources, most of the long-term effects of implementing projects approved under the proposed Process on biological resources are expected to be beneficial or neutral, because (1) any change in use must be developed and implemented with the CSP objective of natural and cultural resource protection, (2) the specific purpose of many change-in-use proposals would be to correct existing conditions that presently contribute to natural resource degradation, (3) most actions and ground disturbances would occur within existing disturbed areas, and (4) SPRs to protect biological resources during construction and operation are incorporated into the Process.

It would be contrary to CSP's resource protection mission to implement any design or operational use changes to the trails in a CSP unit that would cause or contribute to significant cumulative impacts related to terrestrial biological resources. With resource-protection SPRs incorporated into the project and mitigation measures to reduce remaining significant impacts to less-than-significant levels, implementation of projects approved under the proposed Process, in combination with other related projects is not expected to result in adverse cumulative effects on the composition, structure, or abundance of common or sensitive biological resources. The proposed Process is not expected to substantially affect the breeding productivity or population viability of any common or special-status species, cause a change in species diversity locally or regionally, or remove any known or potentially significant wildlife movement corridors. Therefore, the project is not expected to make a considerable contribution to the cumulative impact on common and sensitive terrestrial and aquatic biological resources; this would be a **less-than-significant** cumulative impact.

CULTURAL AND PALEONTOLOGICAL RESOURCES

As described in Section 4.6, Cultural Resources, potential impacts to road or trail historical resources by projects approved under the proposed Process would be less than significant. Because qualifying projects approved under the Process would comply with the Secretary of the Interior's Standards during design and construction pursuant to SPRs, there would be no material impairment or substantial adverse change in the significance of the existing roads or trails that qualify as historical resources. Potential impacts related to discovery of human remains would be less than significant because projects that qualify for approval under the Process would adhere to the associated SPR (Discovery of Human Remains) to ensure the integrity and significance of the find is maintained. Implementation of qualifying projects under the proposed Process, in combination with other related projects throughout the State that would implement similar measures, would not contribute to or result in a cumulatively considerable impact; this would be a less-than-significant cumulative impact.

Potential impacts to archaeological historical resources by projects proposed under the Process would be less than significant with implementation of SPRs. It is anticipated that other cumulative development would implement mitigation measures similar to the SPRs related to archaeological resources.

Some CSP units and individual road or trail facilities are located in areas that could support significant paleontological resources. Because projects that qualify for approval under the Process would adhere to the established SPRs to avoid or minimize adverse direct and/or indirect effects to unique paleontological resources or geologic features during design, construction and ground-disturbing activities, including inadvertent discovery measures, potential impacts to unique paleontological resources or geologic features by projects that qualify under the Process would be less than significant. Therefore, the project is not expected to make a considerable contribution to the cumulative impact on paleontological resources; this would be a **less-than-significant** cumulative impact.

CSP's mission includes preservation of important cultural resources. Although not individually significant because cultural resources are not expected to be subject to significant adverse effects from qualifying road or trail change-in-use projects under the proposed Process (in some cases after mitigation), cumulative impacts could result to the extent that the loss of cultural resources would occur elsewhere in the State. However, the SPRs under the Process combined with existing resource protection and preservation policies established by CSP would protect documented cultural resources within CSP units. As a result, cumulative impacts associated with cultural resources would be **less than significant**.

GEOLOGY, SOILS, AND MINERAL RESOURCES

As described in Section 4.7, Geology, Soils, and Mineral Resources, project construction and user activities approved under the Process may have the potential to result in soil erosion and be subject to slope instability and seismic effects. However, under the proposed Process, potentially significant geology and soils effects would be avoided through the implementation of several SPRs, including the AUM process, as well as measures outlined in CSP BMP manuals, Department Operations Manuals (DOMs), and Trails Handbook. Other cumulative development would be required to implement similar measures. This would be a less-than-significant impact, and the contribution from projects implemented under the Process would not be considerable. Implementation of qualifying projects approved under the proposed Process would result in no individual impacts to mineral resources and, therefore, no contribution to cumulative impacts. For geology, soils, and mineral resources issues, there would be a **less-than-significant** cumulative impact.

GREENHOUSE GAS/CLIMATE CHANGE/SEA-LEVEL RISE

Because climate change is a global issue, greenhouse gas (GHG) emissions are a cumulative impact issue by nature. Thus, the evaluation of the potential for greenhouse gas emissions to be generated by qualifying change-in-use projects addressed in detail in Section 4.8, Greenhouse Gas/Climate Change/Sea-Level Rise, of this Program EIR also constitute a cumulative impact analysis. The analysis of impacts and determination of significance recognize that SPRs would be implemented to help maintain GHG emissions at less-than-significant levels.

It would be contrary to CSP's resource protection mission to implement any design or operational use changes to the trails in a CSP unit that would cause or contribute to significant cumulative impacts related to greenhouse gas and climate change. Because CSP would implement SPRs addressing such impacts, some of which include an AUM process, and CSP's mission and policies are to protect the natural resources of the State Park System, the approval of change-in-use projects under the proposed Process would not cause significant cumulative greenhouse gas and climate change impacts or considerable contributions to existing cumulative greenhouse gas emissions and climate change impacts; this would be a **less-than-significant** cumulative impact.

HAZARDS AND HAZARDOUS MATERIALS

As described in Section 4.9, Hazards and Hazardous Materials, projects approved under the proposed Process would result in less-than-significant impacts related to the creation of hazards through the use, transport, or disposal of hazardous materials. Projects approved under the Process would comply with hazardous materials SPRs, including relevant federal and State regulations. The Process's contribution would not be considerable.

If a qualifying project requires road or trail modification in areas where previous hazardous materials have been handled or stored, an SPRs requiring a Phase 1 Environmental Site Assessment (ESA) will be prepared and recommendations therein implemented, including possible soil removal and/or other remediation. Through application of relevant SPRs, the potential for exposure of people to existing hazardous materials or soil contamination would be maintained at less-than-significant levels. It is anticipated that other cumulative development would implement similar mitigation for potential hazardous materials impacts.

Although many CSP units are located in high and very high fire risk areas, implementation of SPRs would reduce risk of ignition associated with construction activities; therefore, the proposed Process would not result in substantial increased risk of wildland fire, and the impact is less than significant. Recognizing that the Process only involves existing trails with their current risks of wildland fires, the contribution from projects implemented under the Process would not be considerable.

Any qualifying change-in-use project would require use-appropriate trail design that is consistent with CSP standards and best management practices. The Proposed Project Evaluation Form (Appendix E) includes specific use-appropriate design criteria for bicycle and equestrian uses. Design features are tailored to the specific new use(s) and maintain a safe trail design by including features to address travel speed, response time and maneuverability, traction, adequate passing opportunities, and awareness of other user types and trail rules. Trails proposed for a change in use that do not provide use-appropriate design either would be required to upgrade to the standards expressed in the Project Evaluation Form or would be disqualified from approval under the proposed Process. Meeting these criteria would ensure that trails incorporate use-appropriate design; therefore, trail safety impacts would be less than significant. Consequently, the project is not expected to make a considerable contribution to any cumulative impact related to hazards or hazardous materials; this would be a **less-than-significant** cumulative impact.

HYDROLOGY, WATER QUALITY, AND SEDIMENTATION

As described in Section 4.10, Hydrology, Water Quality, and Sedimentation, project construction and user activities approved under the Process may have the potential to result in degradation of water quality, violation of water quality standards or waste discharge requirements, alteration of existing drainage patterns that would result in substantial erosion or sedimentation, alteration of the course of a stream or river, increase the rate or amount of surface runoff in a manner that could result in flooding, or contribution of runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. However, under the proposed Process, potentially significant surface runoff, water quality, and sedimentation would be avoided through the implementation of several SPRs, including the AUM process, as well as measures outlined in CSP BMP manuals, Department Operations Manuals (DOMs), and Trails Handbook. Other cumulative development would be required to implement similar measures. This would be a less-than-significant impact, and the contribution from projects implemented under the Process would not be considerable.

Under the proposed Process, qualifying projects located within 100-year flood hazard areas would be designed to accommodate flood flows, consistent with SPRs and construction design standards in the CSP BMP manuals and Trails Handbook. Increased use levels in flood-hazard areas could also result in safety concerns. Because implementation of design standards in the CSP Trail Handbook and incorporation of an SPR would require safety plans and educational signage as part of the project design, the Process would maintain the potential for hazard risk to trail users within flood prone areas at less-than-significant levels. Implementation of qualifying projects under the proposed Process, in combination with other related projects throughout the State, would not contribute to or result in a cumulatively considerable impact; this would be a less-than-significant cumulative impact.

In some areas, qualifying projects under the proposed Process could place people in areas that could be inundated by seiche, tsunami, or mudflows. Under the proposed Process, qualifying projects on existing trails could be located adjacent to or within areas that could be inundated by seiches, tsunamis, or mudflows, which are naturally occurring events. The location or type of change-in-use project activity does not increase the likelihood of occurrence of these natural phenomena. An SPR provides measures for providing signage to alert trail users to the risk of seiches, tsunamis, and mudflows, and the development of safety and evacuation plans, would avoid or minimize potential risks, if these types of events occur. Recognizing that the Process only involves existing trails with their current risks of natural events and that standard warning signage would be required, the contribution from projects implemented under the Process would not be considerable.

It would be contrary to CSP's resource protection mission to implement any design or operational use changes to the trails in a CSP unit that would cause or contribute to significant cumulative impacts related to hydrology, water quality, and sedimentation. Because CSP would integrate SPRs and SWPPP BMPs, and the application of provisions of the CSP Trails Handbook and other CSP design guidance documents, to address such impacts, some of which include an adaptive use management process, and CSP's mission and policies are to protect the natural resources of the State Park System, the approval of change-in-use projects under the proposed Process would not cause significant cumulative hydrology, water quality, and sedimentation impacts or considerable contributions to existing cumulative hydrology, water quality, and sedimentation problems; this would be a **less-than-significant** cumulative impact.

NOISE

As discussed in Section 4.11, Noise, noise- and ground vibration-generating construction activities associated with qualifying projects approved under the proposed Process would implement several SPRs including keeping equipment maintained and properly shrouded and locating construction activities and staging areas as far as possible from sensitive receptors. Therefore, change-in-use projects under the Process would not expose nearby sensitive receptors to excessive levels of noise and ground vibration. In addition, it is not anticipated that construction noise generated by change-in-use projects and construction noise related to non-CSP projects would simultaneously impact the same noise-sensitive receptors. Moreover, a relevant SPR requires CSP-related noise-generating construction activity to be performed during less sensitive daytime hours in accordance with local requirements. This would be a less-than-significant impact.

Traffic noise impacts resulting from trips generated by different land uses are inherently a cumulative issue because the analysis takes other traffic generation into account. Cumulative traffic noise impacts occur where traffic noise levels exceed local noise standards. The incremental increases in traffic volumes associated with individual qualified change-in-use projects under the proposed Process would not result in noticeable increases in traffic noise. Therefore, traffic noise impacts associated with qualified change-in-use projects would not be cumulatively considerable.

Projects approved under the proposed Process would not result in noise levels that would cumulatively combine with other projects such that they would exceed State noise standards; nor would the Process, in combination with cumulative development, result in a substantial increase in traffic noise along area roadways. Therefore, cumulative noise impacts would be **less than significant** and the contribution of qualifying change-in-use projects would not be considerable.

POPULATION AND HOUSING

As described in Section 4.12, Population and Housing, implementation of the proposed Process would result in approval of qualifying CSP road or trail change-in-use projects throughout the State. These projects are limited to activities such as adding or subtracting a use from a trail, converting an existing road to a trail, recontouring and reconstructing existing trails, parking facility improvements, and other qualifying improvements to existing CSP road and trail facilities. No new roads or trails would be constructed as a result of implementation of the proposed Process. Because no housing, employment, or infrastructure would result, projects approved under the proposed Process would not contribute to population growth or housing demand in the State; this would be a **less-than-significant** cumulative impact.

PUBLIC SERVICES AND UTILITIES

As discussed in Section 4.13, Public Services and Utilities, one of the qualifications for a change-in-use project approved under the proposed Process is consistency with the General Plan and Facilities Plan of the CSP unit. The General Plan/Facilities Plan includes provisions for law enforcement staffing sufficient to address the visitation and operational needs at the unit. Therefore, even if an increase in the number of visitors was expected, a change-in-use proposal would only be approved if expected visitation and resulting demand for law enforcement personnel were consistent with the General Plan and the unit's staffing and facilities. This impact would be less than significant, and the contribution from projects implemented under the Process would not be considerable.

Projects approved under the proposed Process would not increase the potential for fire ignition risk with implementation of SPRs related to hazards and hazardous materials (please refer to Section 4.9, Hazards and Hazardous Materials, for further discussion related to increased risk of wildland fire) and would not alter the existing fire prevention/protection standards required in the existing CSP DOM. Further, adding new user types to qualifying CSP trails would not increase the potential for fire and would, therefore, not increase demand for fire protection services. This impact would be less than significant, and the contribution from projects implemented under the Process would not be considerable.

As described in Section 4.9, Hazards and Hazardous Materials, accident occurrences on trails are generally infrequent, including on trails that allow equestrians and/or bicyclists. Therefore, adding these uses to existing trails under the proposed Process would only occur with trails that have use-appropriate design, which would not result in any substantial increase in accident risk. Therefore, the proposed Process would not substantially increase demand for emergency medical response, such that new or expanded facilities would be required. Therefore, this impact is considered less than significant, and the contribution from projects implemented under the Process would not be considerable.

Because the utilities demand on CSP units is generally low, a change in user type (e.g., adding bicyclists and/or equestrians), even if it results in an increase in the overall number of visitors to a facility, would not result in a substantial increase in the demand for water, sewer, power, or solid waste, such that the capacity of the utilities provider would be constrained. This includes situations where CSP is the utilities provider (i.e., water provided by CSP wells, or on-site septic or other wastewater treatment, etc.). This impact is therefore considered to be less than significant.

Because of the low levels of demand for public utilities on trails, a change in the type of use on the trail, even if it includes an increase in the number of visitors, would not result in a substantial increase in the demand for a public utility, such as water, sewer, power, or solid waste, such that capacity would be constrained. Therefore, the project is not expected to make a considerable contribution to the cumulative impact on public utilities; this would be a less-than-significant cumulative impact.

Because CSP would implement related SPRs and be consistent with existing CSP General Plans and fire prevention/protection standards required in the existing CSP DOM, and CSP's mission and policies are to protect the natural resources of the State Park System, the approval of change-in-use projects under the proposed Process would not cause significant cumulative public service or utility-related impacts or result in a considerable contribution to existing cumulative public service and utility effects; this would be a **less-than-significant** cumulative impact.

RECREATION

As described in Section 4.14, Recreation, changes in use (either addition of a new use or removal of an existing use), implemented under the proposed Process, may result in changes to the distribution and demand of trail users. This additional demand/distribution in anticipated to be minor because trails planning and coordination with other trails management agencies would reduce potential increases in use at other trails and any initial increase in use would be expected to diminish and reach equilibrium over time. The potential for the project to result in volunteer trails is also described in Section 4.14, Recreation, and is determined to be reduced overall due to appropriate trail design. Implementation of changes in use under the Proposed Process would result in **less-than-significant** impacts related to recreation and the contribution of projects implemented under the Process would not be considerable.

TRAFFIC AND TRANSPORTATION

The proposed Process would not result in any impacts related to transportation considered to be individually significant. This is primarily because a change in use to allow bicyclists and/or equestrians would not typically involve substantial increases in vehicle trips during peak traffic hours. Furthermore, SPRs included in the proposed Process would reduce potential for traffic-related impacts. Even when combined with other projects throughout the State, including other recreation/open space projects, the individual impacts associated with the proposed Process are not cumulatively considerable. The proposed Process results in a less-than-significant cumulative impact with respect to traffic and transportation. If a change-in-use proposal could not maintain transportation and traffic impacts at less-than-significant levels with SPRs, it would be disqualified from approval using this Process. If CSP pursued such a project further, the District would conduct a separate CEQA review process. This would be a **less-than-significant** impact, and the contribution from projects implemented under the Process would not be considerable.

6.2 GROWTH-INDUCING IMPACTS OF THE PROPOSED PROCESS

6.2.1 CEQA REQUIREMENTS

CEQA Section 21100(b)(5) specifies that growth-inducing impacts of a project must be addressed in an EIR. Section 15126(d) states that a proposed project is growth-inducing if it could “foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.” Included in the definition are projects that would remove obstacles to population growth. Examples of growth-inducing actions include developing water, wastewater, fire, or other types of services in previously unserved areas; extending transportation routes into previously undeveloped areas; and establishing major new employment opportunities. The following is a summary of the direct and indirect growth-inducing impacts that could result with implementation of the proposed Process.

6.2.2 GROWTH-INDUCING IMPACTS

Project construction activities would typically be performed by existing CSP trail crews. Therefore, project construction would not foster short-term economic activity or related employment opportunities. Operation of a change-in-use project approved under the Process would also foster little, if any, additional economic activity associated with new permanent employment opportunities, because the Process only makes modifications to existing trails.

The implementation of projects approved under the proposed Process would not increase population growth in the surrounding area, because it would not create new employment opportunities sufficient to attract out-of-area workers or construct new housing, and it would not remove barriers to population growth in the vicinity of the associated CSP unit through the construction of new public infrastructure. All projects approved under the Process would be located within a CSP unit. The proposed Process would not require the extension or expansion of local public infrastructure facilities and utilities would not be extended to currently unserved areas.

Implementation of change-in-use projects approved under the Process would not be growth inducing, foster substantial economic activity, or generate substantial new employment opportunities at CSP units; therefore, the Process would not affect the ability of public services providers to serve their existing customers, nor would it require the construction of new facilities to serve CSP units. The Process would not result in an increased demand for housing near approved projects and no population or employment growth is expected with implementation of the project so implementation of projects approved under the Process would not exceed the projections of local general plans in the communities surrounding CSP units.

6.3 SIGNIFICANT AND IRREVERSIBLE COMMITMENT OF RESOURCES

With implementation of SPRs and other measures, qualifying change-in-use projects approved under the proposed Process would not result in the significant and irreversible commitment of any resources. From the perspective of commitment of resources, the trail construction projects approved under the proposed Process would be minor in magnitude.

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FILE CONTENTS

APPENDICES

Appendix E

EXHIBITS

No table of contents entries found.

TABLES

ACRONYMS/ABBREVIATIONS

Adaptive Use Management (AUM
California Ambient Air Quality Standards (CAAQS
California State Parks (CSP
Department Operations Manuals (DOMs
Environmental Site Assessment (ESA
greenhouse gas (GHG
National Ambient Air Quality Standards (NAAQS
Road and Trail Change-In-Use Evaluation Process (Process
Standard Project Requirements (SPRs
toxic air contaminant (TAC

REFERENCES

none

IMPACT AND MITIGATION SUMMARY

No table of contents entries found.

7 ALTERNATIVES

7.1 INTRODUCTION

The California Environmental Quality Act (CEQA) Guidelines (State CEQA Guidelines) Section 15126.6[a] requires an EIR to “describe a range of reasonable alternatives to the project, ... [that] would feasibly attain most of the basic project objectives but would avoid or substantially lessen any of the significant effects, and evaluate the comparative merits of the alternatives.” The purpose of the alternatives analysis is to determine whether or not an alternative to the proposed Road and Trail Change-in-Use Evaluation Process (Process) would feasibly reduce or eliminate significant project impacts, within the basic framework of the objectives.

The range of alternatives studied in an EIR is governed by the “rule of reason,” requiring evaluation of only those alternatives “necessary to permit a reasoned choice” (State CEQA Guidelines Section 15126.6[f]). Further, an agency “need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative” (State CEQA Guidelines Section 15126.6[f][3]). The analysis should focus on alternatives that are feasible (i.e., that may be accomplished in a successful manner within a reasonable period of time, taking economic, environmental, social, and technological factors into account). Alternatives that are remote or speculative or that do not feasibly meet most of the project objectives need not be discussed. Furthermore, the alternatives analyzed for a project should focus on reducing or avoiding significant environmental impacts associated with the project, as proposed.

The objectives of the proposed Process are listed below. The evaluation of alternatives is conducted in the context of seeking to meet most of these objectives. They are:

- to implement the CSP Trail Policy, including to provide multi-use trails and trail connectivity;
- to evaluate appropriate proposals for road and trail change-in-use projects (i.e., add uses to or remove uses from existing roads and trails) in CSP units that can be implemented in a manner that avoids or clearly mitigates potential significant effects on the environment;
- to provide an objective and consistent evaluation tool and process to inform decision-making while recognizing the diversity of resources and users at each park unit; and
- to ensure that these objectives are achieved in an open and transparent process.

7.2 ALTERNATIVES EVALUATED IN THIS PROGRAM EIR

Because the proposed project is an evaluation process intended to improve the consistency, comprehensiveness, and efficiency of the environmental review of change-in-use proposals, the alternatives analysis is tailored to variations in the process. As a result, two alternatives are evaluated:

- No Project Alternative, which would involve the case-by-case, individual evaluation of each change-in-use proposal;
- Complete Impact Avoidance Alternative, which would involve making avoidance of all significant or potentially significant environmental impacts the goal of applying Standard Project Requirements (SPRs) and Project-Specific Requirements (PSRs) within the evaluation process.

Other options were considered as potential alternatives and rejected from further evaluation, because they did not represent true alternatives to the proposed Process. Rather, the options involved various trail configurations, which would relate to different CSP trail policy questions that are not the subject of this proposal.

The two alternatives are discussed in the following sections and the other options considered but eliminated from detailed analysis are summarized thereafter.

7.2.1 NO PROJECT ALTERNATIVE

DESCRIPTION OF THE NO PROJECT ALTERNATIVE

Under the No-Project Alternative, when Districts, other agencies, or user groups propose change-in-use projects, they would be reviewed and evaluated without the benefit of the systematic and consistent, proposed Process. Road and trail change-in-use proposals would be evaluated for implementation by CSP on an individual, case-by-case basis and subject to independent CEQA processes. Adherence to a comprehensive and consistent set of SPRs would not occur. If Adaptive Use Management (AUM) is employed, its application may vary from one District to another. Any approved change-in-use projects would still be carried out in a manner consistent with all CSP policies, best management practices (BMPs), Trails Handbook, and legal requirements (including accessibility requirements, such as Other Power-Driven Mobility Devices [OPDMD]), which include many features intended to reduce or eliminate potential significant environmental impacts. Recognizing that each project would receive its case-by-case review without the opportunity for consistent application of SPRs, AUM, and mitigation from a Program EIR, the CEQA documentation would likely be repetitive from one project to the next and the potential for variability in mitigation approaches may exist.

ACHIEVEMENT OF BASIC OBJECTIVES

The No Project Alternative would not achieve the basic objectives of the proposed Process. A system would not be established to evaluate road and trail change-in-use projects that would require avoidance or mitigation of all significant environmental impacts. Consideration of change-in-use proposals would necessarily be case-by-case. Evaluations of proposals would be naturally variable, depending on the different perspectives of District personnel, so an objective and consistent evaluation tool would be lacking. The environmental review of individual change-in-use proposals would require case-by-case evaluation, repeating analyses of impacts that are similar from one project to the next, along with repeated cumulative analysis, which would require more CSP staff and financial resources than using the proposed Process. The openness and transparency of the case-by-case project evaluation process, while complying with all legal requirements, could also be variable, depending on the nature of the proposal and the approaches of each District.

COMPARATIVE ENVIRONMENTAL IMPACTS OF THE NO PROJECT ALTERNATIVE

The No Project Alternative would require case-by-case evaluation of change-in-use proposals without the benefit of consistently applied SPRs and AUM, and mitigation available from the Program EIR. CSP would require compliance with CEQA for all change-in-use proposals equally, regardless of whether it is conducted in a systematic and comprehensive manner or on a case-by-case basis. It is reasonable to conclude, however, that the risk of significant environmental impacts may be greater as a practical matter for case-by-case review, compared to the proposed Process, because change-in-use projects approved through the proposed Process must necessarily avoid or ultimately mitigate significant environmental impacts, while case-by-case CEQA review can allow significant impacts to occur (as permitted by CEQA for unavoidable significant effects, when overriding considerations exist). Independent environmental review conducted by the Districts would necessarily comply with CEQA; however, the type of mitigation recommended in separately prepared environmental documents could vary depending on physical resource conditions and decisions made by District personnel. The primary potential difference in environmental outcomes relates to a District opportunity to accept a change-in-use project when all significant impacts cannot be feasibly avoided or mitigated to a less-than-significant level, which would not occur under the proposed Process.

The types of expected environmental impacts would be the same for change-in-use proposals handled independently under the No Project Alternative as those described for the proposed Process, including the potential for significant terrestrial biology, aquatic biology, and cultural resources impacts. The approach to reducing potentially significant environmental impacts could vary from one change-in-use proposal to the next, because of potential variations in the applications of SPRs, AUM, and mitigation measures by Districts. For instance, design standards created as a result of the coordinated and systematic consideration of SRPs that maintain soil erosion, stormwater runoff, and stream sedimentation effects at less-than-significant levels may not be applied in the same manner for the design of trails considered individually on a case-by-case basis. These natural and cultural resources impacts could be addressed by project-specific mitigation measures, but they would still be derived on a case-by-case basis, which would diminish consistency in mitigation approach. While the goal of case-by-case review would be to achieve the same mitigation effectiveness as under the comprehensive proposed Process, there would be an inherent effectiveness risk related to variability of mitigation strategies that would need to be avoided by careful scrutiny of each individual project's impacts. Air quality, noise, and greenhouse gas impacts, which are mostly related to construction activities, would occur in a manner that could result in significant environmental impacts, requiring mitigation, instead of avoidance through the application of construction-related SPRs, based on the potential for variable application of SPRs by different Districts.

Overall, the No Project Alternative could be environmentally similar to the proposed Process, because CSP would require CEQA compliance regardless of whether the process is comprehensive or case-by-case. There is a risk that case-by-case review could be environmentally disadvantageous, compared to the proposed Process, if variability in the application of SPRs and mitigation measures by Districts resulted in differing levels of impact avoidance and mitigation effectiveness; however, careful scrutiny in environmental evaluation of case-by-case reviews would prevent this outcome.

Regarding the social issue of the potential for trail use conflict, the No Project Alternative could result in greater risks of conflict between user types, because the process would lack the consistent application of design strategies that help achieve use-appropriate and low-conflict design and the consistently applied open and transparent project evaluation process. Potential for conflict between users of the same type could also increase, compared to the proposed Process, for the same reasons.

7.2.2 COMPLETE IMPACT AVOIDANCE ALTERNATIVE

DESCRIPTION OF THE COMPLETE IMPACT AVOIDANCE ALTERNATIVE

As an alternative to the proposed Process, which allows for potentially significant effects that can be mitigated to less than significant, the purpose of this alternative is to consider whether the project objectives could be met while achieving complete avoidance of significant adverse environmental effects. The proposed Process included the opportunity for compensatory mitigation measures where SPRs and PSRs could not avoid a significant environmental effect or reduce it to less-than-significant levels and the use of AUM to address uncertainties about potential environmental effects. Under the Complete Impact Avoidance Alternative, when Districts, other agencies, or user groups propose change-in-use projects, they would be reviewed and evaluated using a more stringent set of SPRs than the proposed Process that necessitate complete avoidance of significant environmental impacts. Change-in-use proposals would be evaluated for implementation by CSP using this more stringent, Road and Trail Change-in-use Process, including its SPRs and PSRs that would require avoidance of impacts all sensitive habitats, wildlife impacts, water quality impacts, and other environmental effects. The concept of this alternative also would not rely on AUM to respond to unanticipated environmental effects, because the need for AUM is based on uncertainties that significant effects may emerge that require a new management response. Any approved change-in-use projects would still be carried out in a manner consistent with all CSP policies, best management practices (BMPs), Trails Handbook, and legal requirements (including accessibility requirements, such as OPDMD), which include many features intended to reduce or eliminate potential significant environmental impacts.

ACHIEVEMENT OF BASIC OBJECTIVES

The Complete Impact Avoidance Alternative could achieve many of the basic objectives of the proposed Process, but the number of change-in-use proposals that could attain complete avoidance of significant impacts without mitigation measures and AUM would be limited. It is possible that very few change-in-use proposals could be implemented under this alternative process, because existing trails often encounter or otherwise affect streams, sensitive habitats, sloped areas, or other sensitive resources. A system could be established to identify road and trail change-in-use projects that would avoid significant environmental impacts; however, this would be more challenging and perhaps infeasible in many cases, because of the need to recognize uncertainties regarding some potential for impacts (which would be resolvable through mitigation measures and AUM under the proposed Process). Consideration of change-in-use proposals could be facilitated with the potential for streamlining of some environmental reviews where significant environmental impacts could be avoided or mitigated. An objective and consistent evaluation tool could be established with different SPRs that reflect the goal of avoiding all significant impacts. The openness and transparency of the project evaluation process could also be established, similar to the approach for the proposed Process. In summary, although the Complete Impact Avoidance Alternative would achieve the basic objectives of the project for the road and trail change-in-use projects that meet the stringent standard of complete significant impact avoidance, the number of projects that may feasibly achieve that standard would be limited, and potentially too few to make this a feasible alternative for CSP.

COMPARATIVE ENVIRONMENTAL IMPACTS OF THE COMPLETE IMPACT AVOIDANCE ALTERNATIVE

The Complete Impact Avoidance Alternative would, by its definition, result in the prevention of any significant or potentially significant environmental impacts without the use of mitigation measures or AUM. This would be accomplished by the application of more stringent SPRs and PSRs. Projects that involved a potentially significant environmental effect requiring consideration of mitigation would be disqualified from approval under the alternative process. A District could still pursue such a change-in-use project, but would do so under an individual project CEQA review. Because of the stringent standard inherent in the alternative, it is reasonable to conclude that there would be an absence of significant environmental impacts under this alternative process.

The range of types of expected environmental impacts would be more limited for the change-in-use proposals approved under this alternative process, compare to those described for the proposed Process. For instance, while projects evaluated under the proposed Process may include the potential for significant terrestrial biology, aquatic biology, water quality, and cultural resources impacts, under the alternative process, projects could only be approved if they avoid those significant or potentially significant impacts. While under the proposed Process, unanticipated environmental impacts related to changing trail use patterns and number of users visiting a change-in-use project trail could be monitored through an AUM strategy, with appropriate management responses in keeping with the goal of creating separate trails or replacement trails, projects approved under the alternative process would need to clearly avoid changes in use levels and patterns that could affect environmental conditions.

In the final outcome of the environmental consequences of change-in-use projects, the Complete Impact Avoidance Alternative and the proposed Process would be environmentally similar, because both processes ultimately lead to less-than-significant environmental effects. The difference between the alternatives relates to the approach to reach that outcome, and the relative feasibility of change-in-use proposals to end up without significant effects, when mitigation measures and AUM can (proposed Process) or cannot (alternative process) be used to help attain that goal.

Regarding the social issue of the potential for trail use conflict, there would be no difference between the proposed Process and this alternative process. Potential for conflict between users of the same type would not change, compared to the proposed Process.

7.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED EVALUATION

The following options were considered as potential alternatives, but eliminated from detailed evaluation, because they did not feasible meet the basic objectives of the project or were not viable because of conflicts with the State Trail Policy.

HIKING TRAILS/MULTI-USE ROADS

Under the option of Hiking Trails/Multi-use Roads Alternative, CSP could prioritize hiking use for all trail change-in-use proposals in the State Park System. Other trail users would only be allowed when a change-in-use proposal applied to existing roads (not including conversion of an existing road to a trail, which would then be prioritized for hiking only). Over time, as change-in-use projects were implemented, this alternative would support high quality outdoor recreation opportunities for hikers through the improvement or construction of additional trails, but would likely diminish the quality of opportunities for other users, as they are restricted more to a limited number and miles of existing CSP roads. It is reasonable to expect that CSP would not build additional roads just to accommodate non-hiking users, because of the relative cost and magnitude of potential impacts of new roads in CSP units. This option would not be viable as a true alternative, because it would not comply with the State Trail Policy for provision of multi-use trails by restricting trails to hiking use, and only allowing multi-use on roads.

SINGLE-USE TRAILS AND ROADS ONLY

CSP policy currently calls for consideration of multi-use trails to provide opportunities for high-quality outdoor recreation (CSP 2005). Under the Single-Use Only option, CSP could pursue an alternative approach of only approving changes in use that lead to single-use trails supporting primary trail user types, i.e., hiking, horseback riding, and mountain biking. Change-in-use proposals would be limited to those resulting in single-use facilities, such as removal of a use (leaving a single use on a subject trail) or road to single-use trail conversions. Consequently, all trails approved for changes in use would be use-restricted with designations for hiking, horseback riding, or mountain biking. (Other legally required accessibility features of trails would be included, such as for OPDMDs). CSP would seek to coordinate the designation of trails, so that opportunities could be provided for the full range of types of trail demands within the District at a reasonable distance; however, it is likely that overall outdoor recreation opportunities on CSP trails could decrease on the existing trail system. This option would conflict with the multi-use trail provisions of the State Trails Policy, so it would not be viable as a true alternative to the proposed action. Another disadvantage would be the reasonable potential that proposals to increase the number of single-use trails may occur, so that recreational demands could be met (because the number of multi-use trails would not be increased under this option), which may lead to the need to disturb more landscape with new single-use trails. This option could also preclude access for particular user groups to trail destinations or park facilities.

SEPARATE TRAILS OPTION

For the Separate Trails option, when a District or user group proposes the addition of a use to an existing trail, CSP would respond with consideration of establishing a separate trail at the unit with use-appropriate design for the proposed use. The separate trail for an added use would provide connectivity similar to the existing trail, and may either follow a parallel alignment or an alternative route to achieve that connectivity, depending on the circumstances of the project and surrounding resources. In response to a proposal to remove a use, CSP would consider provision of a replacement trail for the removed use at the unit or another nearby unit in the District to maintain comparable recreation opportunities. (Other legally required accessibility features of trails would be included, such as for OPDMDs). A major disadvantage of this alternative would be the reasonable expectation that that the area of landscape disturbance would necessarily expand substantially to accommodate construction of separate or replacement trails, because development of entire trail segments would be involved. Separate trails would not be a feasible option either, because the substantial additional fiscal resources would be necessary to construct separate trails in response to proposals by user groups. This option would not feasibly meet the objectives of the proposed project.

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ACRONYMS/ABBREVIATIONS

California Environmental Quality Act (CEQA
Road and Trail Change-in-Use Evaluation Process (Process
Standard Project Requirements (SPRs
Project-Specific Requirements (PSRs
Adaptive Use Management (AUM
best management practices (BMPs
Other Power-Driven Mobility Devices (OPDMD

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CSP 2005

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8 TRAIL USE CONFLICTS

8.1 INTRODUCTION AND CEQA CONTEXT

It is the mission of California State Parks (CSP) to provide opportunities for high-quality outdoor recreation within the State Park System. Trails are primary state park facilities that offer health-enhancing recreational opportunities, access to park resources for interpretation and education, and enhanced community involvement (CSP 2005). To provide for access to park units for all Californians, CSP seeks to provide use opportunities on these trails for all modes of users, including hikers, equestrians, and mountain bikers. Many existing trails limit modes of use, because trail design or resource conditions may not be appropriate for all users. CSP may seek to change the types of uses allowed on these trails, either adding or restricting uses, for a variety of reasons. A proposal for a change in use on an existing trail can either be pursued using the proposed Road and Trail Change-in-Use Evaluation Process (Process) or with an independent planning and environmental review approach, if it does not qualify for approval under the proposed Process.

Changes in trail use may require design improvements to trails to better accommodate different trail users, i.e., achieve user-appropriate trail design for the designated uses. In accordance with CSP policy, such improvements are made only if they directly enhance the visitor's enjoyment of a park's natural, scenic, cultural, and ecological resources, and do not involve major modifications of land, forests, or waters leading to damage of the park unit's resources. State Park System trails are not designed for riding challenges, high speed, or demonstrations of technical skill by users. As described in this Program EIR, the environmental effects of each proposed change in trail use are thoroughly evaluated using the proposed Process. Standard Project Requirements (SPRs) are included as part of the Process to avoid potentially significant environmental effects or maintain them at less-than-significant levels. Such requirements may include trail design modifications to achieve user-appropriate design, which maintains safe trail conditions.

Trail use conflict is an important concern to CSP. Multi-use trail cooperation is one of the key Program Goals of the CSP *Recreational Trails Plan* (CSP 2002; pp. 23 – 24). Collaboration and cooperative relationships among trail users and advocates are recognized as important in progress made toward implementing this plan (CSP 2009; p. 4). Despite implementation of design features to accommodate different modes of use and reduce safety issues, recreationists report trail use conflict issues. Examples include excessive mountain bike speeds, one type of user's failure to yield properly to another, or inexperienced horses or riders not allowing adequate room for others to pass. Conflict can even entail one user's resentment at the presence of any other user or user type. These are user attitude or behavior-based incidents that reflect user conflicts on shared-use trails that are not caused by trail design or environmental resource factors.

An extensive study was undertaken by CSP as part of the effort leading up to preparation of this Program EIR to gather existing information and consult with trail managers regarding the current state of knowledge about multi-use trail conflicts. The results of the research are presented in Appendix C, Trail Use Conflict Study (CSP 2011). As reported in the study, trail use conflict incidents most often reflect reactions based on social attitudes, behaviors, and perceptions among different users and user groups. These social conflicts may be important enough to lead users to seek changes to the allowed use of trails, to find alternative trails that allow or do not allow certain uses, or to seek recreational opportunities elsewhere.

Under the provisions of the California Environmental Quality Act (CEQA), which is focused by the Legislature on impacts to the physical environment, human conflict on recreational roads and trails is a social issue that does not qualify, by itself, as an environmental impact. Analogously, driving over the legal speed limit, failure to yield, or other conflict-generating driver behaviors on a highway are not evaluated as significant environmental impacts under CEQA. Sections 21080(e)(2) and 21082.2(c) of CEQA exclude evidence of social impacts as “substantial evidence” that supports a determination of a significant environmental effect. Section 15064(e) and 15131(a) of the State CEQA Guidelines direct that “social changes resulting from a project shall not be treated as significant effects on the environment.” As a result, the issue of trail use conflict is not included among the environmental impact topics addressed in Chapter 4, Environmental Setting, Environmental Impacts, and Mitigation Measures. Nonetheless, it is an important trail management subject and has been identified in multiple comments received during the scoping process for this Program EIR as an issue of concern to a variety of trail users. Consequently, a summary of the research conducted about trail use conflict is presented as follows.

8.2 TRAIL CONFLICT ISSUES

Multi-use trails in CSP units allow hikers, mountain bikers, equestrians, and trail users traveling via other modes to access the natural and cultural resources for which these parks were designated. The potential for trail use conflict is higher for multi-use trails compared to single-use trails. Facts support a conclusion that trail use conflicts are not a source of significant environmental impacts and that while the level of concern about conflicts is high among trail managers and users, the number of actual reported trail use conflict incidents is very low by comparison and accidents affecting the safety of users are rare (CSP 2011). Nonetheless, disputes among user groups and the controversy created by such disputes points to a need to address these issues with the public and user groups and take management actions as appropriate when change of use of a trail is proposed. As documented in the Trail Use Conflict Study, there is a strong body of research and informed opinion indicating that trail use conflict is an important social issue, and that perceptions, attitudes, and behavior of users are major factors in generating concern and complaints about trail conflict (CSP 2011).

8.2.1 TRAIL CONFLICT ISSUES RELATED TO CHANGES IN USE

Trail conflict issues can take many forms. Surveys and literature reviews conducted in the Trail Use Conflict Study show that conflicts among trail users are highly influenced by perceptions, attitudes, and behavior on both sides of conflicting parties (CSP 2011). Conflict can be described as goal interference, which can be either interpersonal when it is based on the physical presence of other users, or social when it is based only on perceptions of another group that may not be present. This means that trail conflict can stem from different users’ lifestyles and values that overshadow the actual trail use. Interestingly, the objectives of users representing different groups are expressed in very similar terms, i.e., to enjoy the resources offered by the park. However, opinions also exist among different types of users about what are acceptable modes of travel, the focus of the trips people take, expectations of encounters with other users, attitudes about the environment or wilderness, level of tolerance of others, and different norms or stereotypes held by different users.

When a change in use is proposed, these social values are seldom directly expressed by users, who instead tend to reflect perceptions that a change of use would be unsafe or that they are bothered by the presence of other types of trail users. Concerns about mountain bikers failing to yield, traveling too fast, or passing too quickly are examples of the types of comments expressed about a potential change in use adding cyclists as a trail user. These concerns were raised during the public review of a proposed change in use at Bill’s Trail in Samuel P. Taylor State Park (CSP 2011). This may result in users feeling discouraged from using those trails or feeling that their experience is reduced by adding a particular use. If users are sufficiently discouraged and alternative facilities are located within a reasonable distance, it may lead to displacement of use to other trails or other lands outside the CSP unit. While this displacement may separate uses or reduce conflict within a park, users that cease to use the park hinder achievement of CSP’s goal to provide access to park resources for all

Californians. It is therefore in CSP's interest to present ways to resolve use conflicts and encourage cooperatively shared, multi-use trails within the State Park System.

8.2.2 EXISTING CALIFORNIA STATE PARKS POLICIES AND APPROACH TO TRAIL CONFLICTS

CSP units have been established to preserve outstanding natural, scenic, cultural, and ecological values, and to provide access to Californians to experience and enjoy these resources. CSP policies provide for improvements to make parks available for public enjoyment and education consistent with those values. CSP provides trails to allow people to access these park attributes, recognizing hiking, horseback riding, and mountain biking among the uses that are appropriate within portions of the State Park System.

Current policy (CSP Policy No. 2005-06) outlines the standard operating procedures that CSP uses to resolve conflicts as they occur among trail users, and to help park units avoid these trail conflicts (CSP 2005; p. 3). The goal of this policy is to provide more meaningful public input on trail planning, allowing for users to provide suggestions, relay concerns, or participate in dialogue with park personnel leading to solutions that are acceptable to the users. If such an agreement is not possible, the policy describes how the CSP will resolve the conflict.

The kind of management response to conflict by CSP depends upon the results of these public outreach efforts, the nature of the conflict, and the options available in the particular park unit where the conflict is identified. Sometimes conflicts arise because a user fails to comply with rules and regulations for trail use and behavior, requiring additional compliance or enforcement measures. Excessive speed, failure to comply with the "yield triangle" (See Exhibit 8-1), failure to warn other users when passing, or simply not having the appropriate skills for the trail, are examples of these conflicts that could require management action.

Exhibit 8-1. Multi-use Trail Yield Triangle

Both trail design and management responses may be appropriate to address trail conflict issues. Each trail use conflict situation requires a local public process, tailored assessment of the trail-specific conditions and issues, and case-by-case identification of potential responses. Decisions can be made by CSP trail managers regarding the appropriateness of a type of use on a trail, based on the characteristics of the trail's design, public input, and environmental conditions. User-appropriate trail design features can be incorporated into an existing trail, such as features intended to control travel speed or ensure adequate passing space. In some cases, an appropriate management action may be to separate trail uses either in location or in time. While creating parallel trails that separate mountain bikers from equestrians and hikers may seem like a good solution to trail use conflict, an additional trail can increase environmental effects on resources and new trails may be precluded because of the potential impact to sensitive park resources and values. On a recreational road, physical separation strategies may also direct that mountain bikers or equestrians use one side of a park road and reserve the other side for hikers, for example. Other possible solutions may be to separate users in time such as mountain bikes only on even days, only in the mornings, only in certain seasons, or only in times of the year when other use is light. These solutions often create other management concerns related to user notification and expectations but nevertheless, they should be included as potential tools in CSP's "toolbox" of management strategies.

8.3 CALIFORNIA STATE PARKS APPROACH TO TRAIL USE CONFLICTS RELATED TO CHANGES IN USE

CSP will continue to address cooperatively shared, multi-use trails within the State Park System through the Road and Trail Change-in-Use Evaluation Process. Recognizing that trail use conflicts may arise, CSP will proceed with a three-pronged approach to address the social aspects of trail use conflict when considering changes of use. This approach incorporates existing CSP policy, and includes user-appropriate and low-conflict, multi-use trail design, public outreach and education, and management actions aimed at reducing conflict.

Because CSP trails are not intended for or appropriate as active recreation attractions on their own (e.g., for high-speed adventurous travel, demonstration of technical skills, and permitted events at some CSP units), but as a means of public access to the natural, scenic, cultural and ecological values of the State Park System, CSP trails will benefit from considering design criteria that specifically aim to reduce conflict among trail users. The Trail Use Conflict Study proposes a *Checklist for Low-Conflict Multi-Use Trail Design* that includes such criteria (see Table A-1 in Appendix C). While many of these criteria are already in use by CSP, the checklist focuses on the key issues related to reducing trail use conflict such as mountain bike speed, sight distance, tread width and passing space. CSP will continue to incorporate use-appropriate, low-conflict, multi-use design features into State Park System trails, as changes in use are proposed**.**

Public outreach and education will continue to be targeted locally by park managers to reduce potential conflicts and dispel misperceptions among all trail users, focusing on the common interests in the park resources held by all users, consistent with current trail conflict policy. While many of the social and interpersonal issues that lead to trail use conflict are societal in nature, as described above, local efforts to address conflict, improve perceptions, alter behavior, and generally increase tolerance among users will serve to reduce conflict on individual trails. Potential outreach strategies are offered in the Trail Use Conflict Study as a *Checklist for Trail Use Conflict Management* in Table A-2 of that study (Appendix C). These include increasing the availability, consistency, and understandability of user information on trails; improved public notification and input on proposed changes of use; and education of local user groups and users at events and meetings by staff, volunteers, and docents. CSP District personnel and trail managers will continue to assist with public outreach and education efforts that help minimize the potential for trail use conflict and respond to it, if conflict incidents and/or complaints arise, including trails proposed for change-in-use.

Other management actions could also be considered to minimize user conflicts, and are also included in the *Checklist for Trail Use Conflict Management*. These include adopting and posting rules and regulations; enforcement and compliance efforts supplemented by organized volunteer patrols; collecting and tracking data to inform decision-makers and the public; and taking specific actions to improve user group relations. CSP will continue to explore other feasible and effective management strategies to help reduce the potential for trail use conflict and encourage the ongoing cooperative enjoyment of multi-use trails in the State Park System, including trails proposed for a change in use.

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ACRONYMS/ABBREVIATIONS

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proposed Road and Trail Change-in-Use Evaluation Process (Process
Standard Project Requirements (SPRs
California Environmental Quality Act (CEQA

REFERENCES

CSP 2002
CSP 2005
CSP 2009
CSP 2011
CSP 2011

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