
Humboldt Redwoods State Park Road and Trail Management Plan



Final Draft
2019



California State Parks
North Coast Redwoods District
Humboldt Redwoods State Park



California State Parks Mission

The mission of the California Department of Parks and Recreation 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.

Gavin Newsom
Governor

Wade Crowfoot
Secretary
Natural Resources
Agency

Lisa Mangat
Director
California State Parks

State Park Purpose Statement

The purpose of Humboldt Redwoods State Park is to preserve, protect, and perpetuate the outstanding natural and aesthetic values of the ancient redwood forests and their associated ecosystems found in the lower Eel River watershed. Through careful stewardship, the solitude and grandeur of the park's cathedral-like forests, its inherent wilderness values, and significant cultural features shall remain unimpaired for the enjoyment of current and future generations.

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
<i>Map: Overview of Planning Recommendations</i>	<i>iii</i>
Section 1 INTRODUCTION	1
1.1 Purpose	1
1.2 Planning Need	1
1.3 Project Setting.....	2
<i>Map: Vicinity Map</i>	3
<i>Map: Existing Roads and Trails at Humboldt Redwoods State Park</i>	5
Section 2 THE PLANNING PROCESS	7
2.1 RTMP Planning Process.....	7
2.2 Change-in-Use Evaluation	9
2.3 Plan Consistency	10
Section 3 PARK CONDITIONS	12
3.1 Park Visitation	12
3.2 Existing Recreational Resources	12
3.3 Adjacent Recreational Opportunities and Connections	15
3.4 Natural and Cultural Resources	15
3.5 General Plan.....	15
3.6 Wilderness Boundary.....	15
Section 4 DESIGNATIONS AND CLASSIFICATIONS	16
4.1 Road and Trail Designations	16
4.2 Designated Uses.....	17
4.3 Classification of Trails	18
Section 5 BEST MANAGEMENT PRACTICES	19
5.1 Sustainability.....	19
5.2 Resource Considerations	19
5.3 Maintenance Activities	20
5.4 Monitoring	20
5.5 Prioritization Matrix.....	20
5.6 Reconstruction	23
5.7 Re-engineering/Redesign.....	23
5.8 Road-to-Trail Conversion	23
5.9 Removal	23
5.10 Re-Route	23
Section 6 THE PLAN	24
6.1 Parkwide Recommendations	24
6.2 Area-Specific Recommendations and Maps	26
Avenue of the Giants - North Area	28

<i>Map: Avenue of the Giants - North Area - Existing Roads and Trails</i>	29
<i>Map: Avenue of the Giants - North Area - Maintenance Recommendations</i>	31
<i>Map: Avenue of the Giants - North Area - Planning Recommendations</i>	33
Bull Creek - Northwest Area	35
<i>Map: Bull Creek - Northwest Area - Existing Roads and Trails</i>	41
<i>Map: Albee Creek Campground Detail - Existing Roads and Trails</i>	43
<i>Map: Bull Creek - Northwest Area - Maintenance Recommendations</i>	45
<i>Map: Bull Creek - Northwest Area - Planning Recommendations</i>	47
<i>Map: Albee Creek Campground Detail - Planning Recommendations</i>	49
Bull Creek - Northeast Area	51
<i>Map: Bull Creek - Northeast Area - Existing Roads and Trails</i>	53
<i>Map: Dyerville Area Detail - Existing Roads and Trails</i>	55
<i>Map: Bull Creek - Northeast Area - Maintenance Recommendations</i>	57
<i>Map: Bull Creek - Northeast Area - Planning Recommendations</i>	59
Bull Creek - Southwest Area	61
<i>Map: Bull Creek - Southwest Area - Existing Roads and Trails</i>	63
<i>Map: Bull Creek - Southwest Area - Maintenance Recommendations</i>	65
<i>Map: Bull Creek - Southwest Area - Planning Recommendations</i>	67
Bull Creek - Southeast Area	69
<i>Map: Bull Creek - Southeast Area - Existing Roads and Trails</i>	71
<i>Map: Burlington and Hidden Springs Area Detail - Existing Roads and Trails</i>	73
<i>Map: Bull Creek - Southeast Area - Maintenance Recommendations</i>	75
<i>Map: Bull Creek - Southeast Area - Planning Recommendations</i>	77
Avenue of the Giants - South Area	79
<i>Map: Avenue of the Giants - South Area - Existing Roads and Trails</i>	81
<i>Map: Avenue of the Giants - South Area - Maintenance Recommendations</i>	83
<i>Map: Avenue of the Giants - South Area - Planning Recommendations</i>	85
<i>Overview Map of New Trails and Change-in-Use Recommendations</i>	87
Section 7 ENVIRONMENTAL DOCUMENT	89
Chapter 1 - Introduction	92
1.1 Introduction and Regulatory Guidance	92
1.2 Lead Agency	92
1.3 Purpose and Document Organization.....	93
1.4 Summary of Findings.....	94
Chapter 2 - Project Description.....	95
2.1 Introduction	95
2.2 Project Location	95
2.3 Background and Need for the Project	95
2.4 Project Objectives	97
2.5 Project Description	97
2.6 Related Documents.....	98
2.7 Project Actions Covered By and Excluded From the RTMP Negative Declaration	99

2.8	Project Requirements	101
2.9	Applicable Standard Project Requirements.....	102
2.10	Project Implementation.....	132
2.11	Visitation to Humboldt Redwoods SP.....	132
2.12	Consistency with Local Plans and Policies	132
2.13	Discretionary Approvals.....	132
2.14	Related Projects.....	133
Chapter 3 - Environmental Checklist		134
I.	Aesthetics.....	136
II.	Agricultural and Forest Resources	139
III.	Air Quality	142
IV.	Biological Resources	145
V.	Cultural Resources	170
VI.	Geology and Soils.....	183
VII.	Greenhouse Gas Emissions.....	190
VIII.	Hazards and Hazardous Materials	193
IX.	Hydrology and Water Quality	198
X.	Land Use and Planning.....	203
XI.	Mineral Resources	206
XII.	Noise	208
XIII.	Population and Housing.....	213
XIV.	Public Services.....	215
XV.	Recreation.....	218
XVI.	Transportation/Traffic	221
XVII.	Utilities and Service Systems	227
Chapter 4 - Mandatory Findings of Significance.....		230
Chapter 5 – Final IS/ND (with edits incorporated)		232
Chapter 6 - References		285
Chapter 7 - Report Preparation		294
Section 8 APPENDICES		295
8.1	Glossary.....	295
8.2	Visitor Survey and Responses.....	297
8.3	Maps: Potential Significance to Water Resources, Drainage Structure Condition Index, and Erosion Severity.....	308
	Avenue of the Giants - North Area	309
	<i>Map: Potential Significance to Water Resources and Drainage Structure Condition Index.....</i>	309
	<i>Map: Erosion Severity</i>	311
	Bull Creek - Northwest Area	313
	<i>Map: Potential Significance to Water Resources and Drainage Structure Condition Index.....</i>	313
	<i>Map: Erosion Severity</i>	315
	Bull Creek - Northeast Area	317

<i>Map: Potential Significance to Water Resources and Drainage Structure Condition Index</i>	317
<i>Map: Erosion Severity</i>	319
Bull Creek - Southwest Area	321
<i>Map: Potential Significance to Water Resources and Drainage Structure Condition Index</i>	321
<i>Map: Erosion Severity</i>	323
Bull Creek - Southeast Area	325
<i>Map: Potential Significance to Water Resources and Drainage Structure Condition Index</i>	325
<i>Map: Erosion Severity</i>	327
Avenue of the Giants - South Area	329
<i>Map: Potential Significance to Water Resources and Drainage Structure Condition Index</i>	329
<i>Map: Erosion Severity</i>	331
8.4 Maintenance Recommendations Matrix	333
8.5 Special Status Species	345
8.6 Parkwide Summary of Trails	361
8.7 Change-in-Use Evaluations Summary	365
8.8 Change-In-Use Survey	382
8.9 Change-In-Use Process Flow Chart	389
8.10 Seasonal Road Driving Policy	390
8.11 HRSP Wilderness Boundaries.....	392
8.12 Planning Team.....	393

EXECUTIVE SUMMARY

Trails are fundamental to fulfilling the Department's mission to create opportunities for high-quality outdoor recreation. This Road and Trails Management Plan (RTMP) for Humboldt Redwoods State Park (HRSP) describes the existing roads and trails of the park and provides specific direction for management and operations in the future. The goal is to ensure that recreational trail opportunities are made available at their fullest potential, while protecting the park's cultural and natural resources.

Located in the coastal mountains of southern Humboldt County, HRSP is internationally renowned as home of the world's largest remaining contiguous stands of ancient coast redwoods. The park has over 50 miles of roads and 60 miles of trails for hikers, bikers, and equestrians, which provide access to various sections of the park including into the steep and rugged backcountry.

The RTMP was prepared in accordance with Departmental Notice 2012-06 and applicable state and federal regulations for resource protection and public participation. The planning team consisted of multi-disciplinary staff from the park sector, district and headquarters. A base map was developed and park routes were characterized and categorized per the Department's guidelines. Data was gathered through field studies, park user surveys, and stakeholder meetings.

Issues such as trail sustainability, safety, adequate infrastructure, connectivity, land use compatibility, and potential user conflicts were identified. Various plan alternatives were considered and a preferred plan identified. The preferred plan was publicly reviewed and modified, as necessary, to incorporate public comments. The final RTMP and related environmental assessment are included herein.

The final plan provides over-arching recommendations that apply to the park's entire trail system, such as the need to make all new trails and trail alterations accessible to the extent possible, remove all non-system trails, and maintain all trails to the appropriate standard.

Area-specific recommendations were made for six identified areas of the park: Avenue of the Giants North; Avenue of the Giants South; Bull Creek Northwest; Bull Creek Northeast; Bull Creek Southwest; and Bull Creek Southeast. Within these areas, specific roads and trails were identified for conversion, removal, realignment, and reconstruction to address sustainability and accessibility concerns. Other trails were identified for potential change-in-use to expand recreational opportunities. New and upgraded trails and associated trail amenities, such as trailheads and signage, were also recommended to improve the visitor experience.

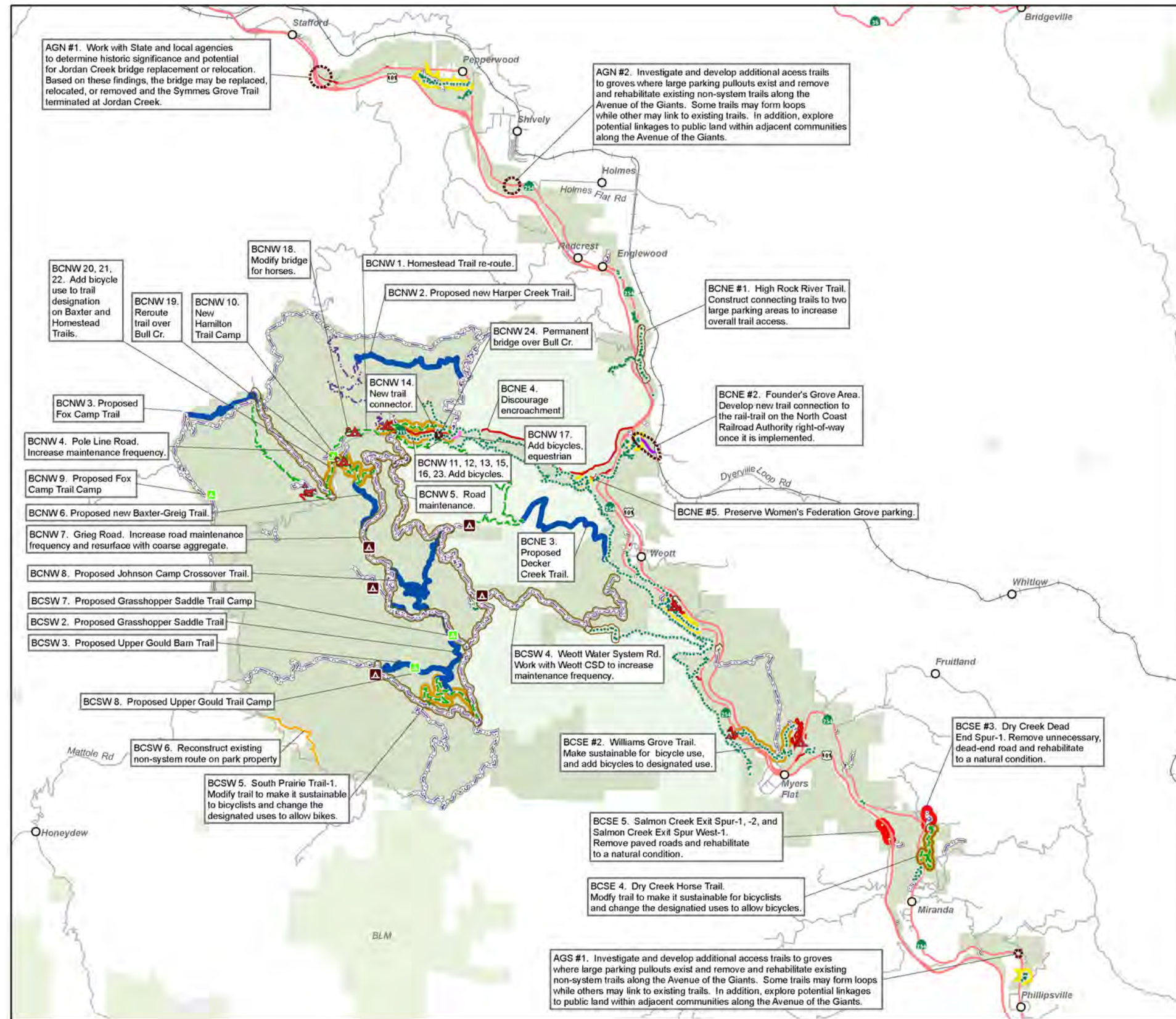
Plan recommendations include:

- The types of permissible trail uses (hike, bike, horse) for 140.46 miles of roads and trails.
- Annual and cyclical trail maintenance, including brushing, logging out, slough and berm removal, and drainage maintenance.
- Annual and cyclical road maintenance, including brushing, grading, rock armoring, and drainage maintenance.

-
- Re-engineer, reconstruct, and/or reroute approximately 72.3 miles of road or trail.
 - Decommission and restore to natural conditions approximately 0.75 miles of obsolete, harmful, or dangerous roads and trails.
 - Remove user-created (“volunteer” or “non-system”) trails and rehabilitate the vegetation where they intersect with system routes.
 - Re-engineer identified drainage structures, addressing the most significantly affected drainage structures first (See Appendix 8.3 Maps: Potential Significance to Water Resources, Drainage Structure Condition Index, and Erosion Severity).
 - Construct approximately 17.7 miles of new trails within identified corridors.
 - Develop additional access trails to groves where large parking pullouts exist and remove user-created trails along the Avenue of the Giants.
 - Explore potential linkages to public land within adjacent communities along the Avenue of the Giants.
 - Immediately add bicycles as a new use designation to 1.31 miles of trail.
 - Add bicycles as a new use designation after necessary design and/or management modifications to 11.86 miles of trail.
 - Add equestrians as a new use designation after necessary design and/or management modifications to 0.14 miles of trail.
 - Install a permanent pedestrian bridge at Bull Creek near Big Trees Day Use Area to provide a year-round trail connection between trails north and south of Bull Creek.
 - Work with state and local agencies to determine the historic significance and potential to replace, relocate, or remove the Jordan Creek Bridge.
 - Construct up to three new backcountry trail camps.

Maps that illustrate the existing conditions, as well as recommendations for planning and maintenance, are included in this plan.

Map: Overview of Planning Recommendations



Overview of Planning Recommendations

- Existing Route Recommendations
- Area Recommendations
- Proposed New Routes
- Change in Use Recommendations on Existing Trails - Add Bicycles.
- Change in Use Recommendations on Existing Trails - Add Bicycles and Equestrians.
- Route Removal
- Proposed Founder's Grove to Rails to Trails connector
- Proposed Campgrounds

Other reference layers:

Humboldt Redwoods State Park	Paved Park Roads
Subunits - Wilderness, Preserves	Non-system route.
State Park Trl; Hike	Other campground
State Park Trl; Hike and Horse	Horse Camp Area
State Park Trl; Hike, Bike and Horse	Group Camp Area
Accessible Trail Highlight	Developed Camp Area
Paved Park Trails	Environmental Camp Areas
State Park Rd; Hike, Bike and Horse	Other Public Lands
State Park Rd; No Designated Trail Use	Highways
State Park Rd; Hike	Local Road
	Cities, Towns, Places
	Railroads

Map Location

Scale
1:110,453
1 in = 1.7 miles

Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

<p>CALIFORNIA STATE PARKS: NORTH COAST REDWOODS DISTRICT, & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/22/2019</p> <p>Sources: Calif. Dept. of Parks & Recreation, Other Public Lands: GreenInfo, Inc.</p>	
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Section 1 INTRODUCTION

Trails are a key component of public recreation and, therefore, are critical to fulfilling the mission of the California Department of Parks and Recreation (Department). The Department is committed to providing the highest quality trails for a diverse user group by planning and developing trails pursuant to the Department's Trails Policy:

The Department, through a public planning process, will strive to meet the recreational, educational, and interpretation needs of its diverse trail users by developing trails within state park units, consistent with unit classification, general plan directives, cultural and natural resource protection, public safety, accessibility, use compatibility, and other legal and policy mandates. Multi-use trails and trail connectivity with adjacent public trail systems will be considered in the development of trail plans or individual trails.

1.1 Purpose

The purpose of a Road and Trails Management Plan (RTMP) is to provide specific guidance and direction for implementing the goals and objectives of the park's approved General Plan (California State Parks Planning Handbook, 2010). It describes the existing road and trail conditions in a park and provides a roadmap for future management including specific actions for individual roads and trails. It takes into consideration the park's values and mission to achieve the following goals.

- Maximize visitor use and experiences;
- Reduce potential safety issues;
- Minimize impacts to natural and cultural resources;

- Coordinate with local and regional planning efforts;
- Provide access to surrounding public lands;
- Reduce maintenance and management costs;
- Provide an appropriate range of recreational opportunities and associated infrastructure;
- Limit impacts on the natural environment to a level acceptable under CEQA;
- Prioritize roads and trails projects.

Developing a comprehensive RTMP is paramount to ensuring that recreational trail opportunities are made available at their fullest potential, while providing sufficient and often enhanced protection for cultural and natural resources. Although planning can be implemented on a single trail basis, park-wide and regional trail system planning remain the preferred and the most effective methods for identifying and establishing linked recreational trail corridors. Comprehensive planning also reduces construction and maintenance costs.

1.2 Planning Need

In most parks, roads and trails are the primary avenue for park visitors to access park features and facilities. When properly sited, designed, constructed, maintained, and managed, roads and trails can provide quality recreational opportunities while also protecting sensitive natural and cultural resources by focusing recreational activity on less sensitive park lands.

Frequently, a park's trail system has evolved from trails and unpaved roads that were on the property when it was acquired. They

were constructed to meet the needs of the original property owners, such as ranchers and loggers, and seldom serve the needs of the park unit adequately or meet trail standards currently identified in the Department’s Trails Handbook. Old trails are often improperly sited, poorly designed and constructed, or inadequately maintained. Additionally, older trails may have limited accessibility or other deficiencies. Trails also may fail to adequately protect the park’s natural or cultural resources.

This RTMP provides an opportunity for Department managers to address concerns regarding old roads and trails, propose new trails for development, and revisit, refine, and prioritize previous road and trail management recommendations.

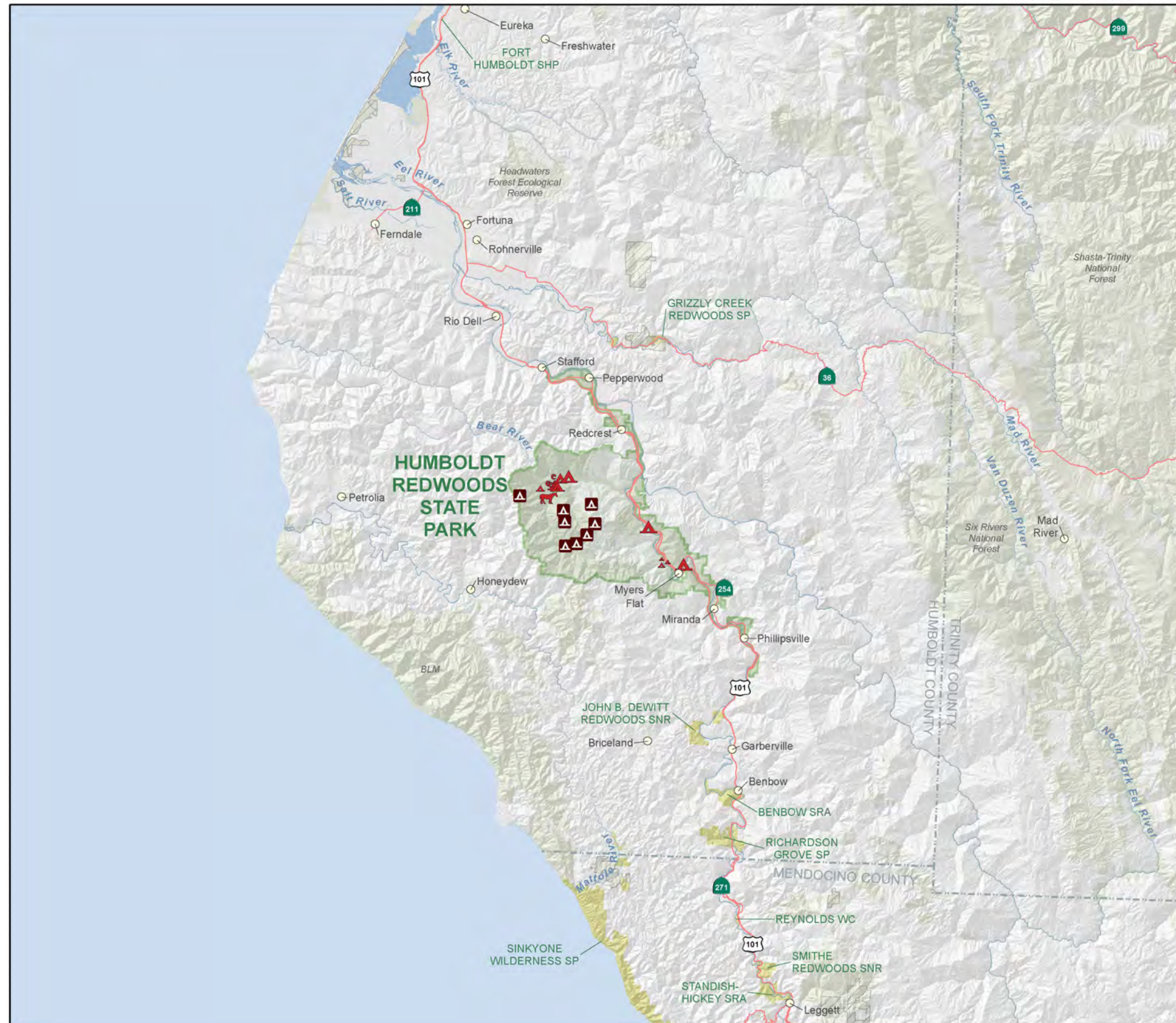


1.3 Project Setting

Located in the coastal mountains of southern Humboldt County, Humboldt Redwood State Park (HRSP) is renowned both nationally and internationally, attracting visitors from around the world. The 53,000-acre complex protects the world’s largest remaining contiguous stands of ancient coast redwoods, as well as a diverse mix of open prairies, riparian vegetation, large stands of second growth redwood forest, and ancient Douglas fir and hardwood forests.

The park is situated approximately 40 miles south of Eureka, eight miles north of Garberville, and 240 miles north of San Francisco. Primary access is from Highway 101, which flows through the park’s eastern edge. Intertwined with the river and freeway is the old highway, officially designated State Route 254, but better known as the Avenue of the Giants (“The Avenue”). The Avenue and Mattole Road, the other main circulation route in the park, provide close looks at many of the park’s beautiful ancient redwood groves, as well as views and vistas of forested lands surrounding the park. Mattole Road winds west through the park to the Pacific Ocean.

Map: Vicinity Map



Vicinity Map

Legend

- Humboldt Redwoods State Park
- SubUnits - Wilderness, Preserves
- Campground-Other category
- Developed Campground
- Horse Camp
- Group Camp
- Environmental Camp Area
- Adjacent State Parks
- Other Public Lands
- Restricted Public Access
- County Line
- Rivers
- City Points
- Highways

Scale
1:400,000
1 inch = 33,333 feet

Miles
0 1 2 3 4 5

Park Location

Humboldt Redwoods State Park Road and Trail Management Plan

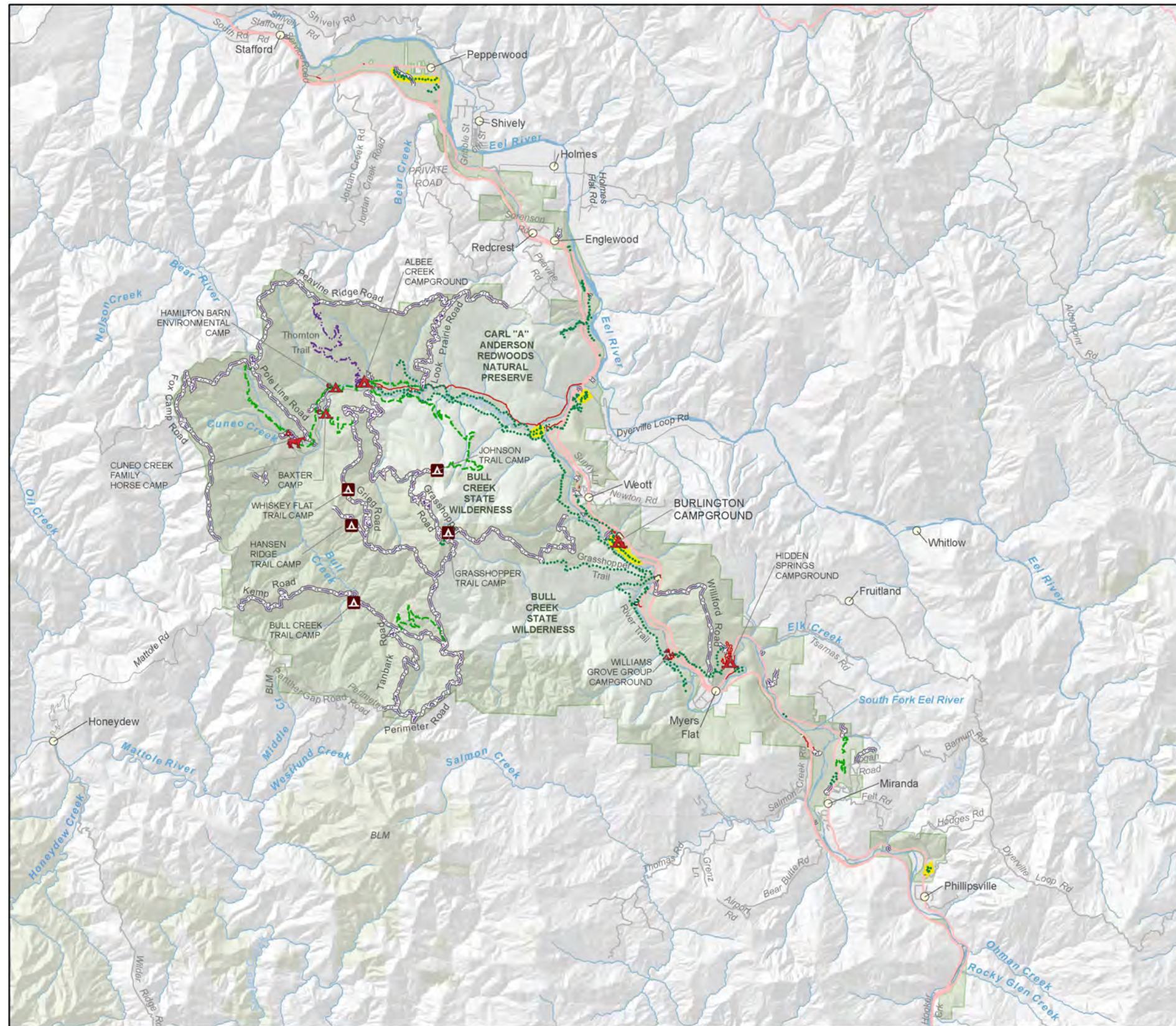
NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

CALIFORNIA STATE PARKS
NORTH COAST
REDWOODS
DISTRICT &
FACILITIES
MANAGEMENT
DIVISION

Date: 3/18/2019

Sources:
Calif. Dept. of Parks &
Recreation
Other Public Lands
GreenInfo, Inc.

Map: Existing Roads and Trails at Humboldt Redwoods State Park



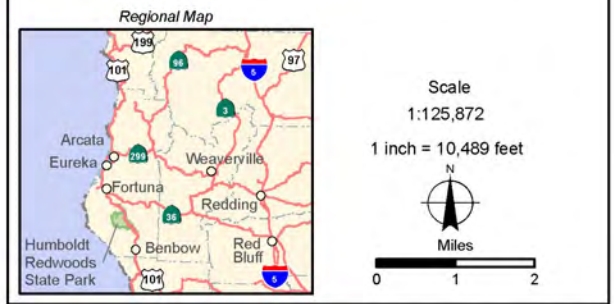
Parkwide Existing Roads and Trails

Current Road & Trail Network by Category and Use Designation

- Hike
- - - - - Hike and Horse
- - - - - Hike, Bike and Horse
- - - - - State Park Rd, Hike, Bike and Horse
- - - - - State Park Rd, No Designated Use
- - - - - State Park Rd, Hike
- - - - - Paved Park Roads
- Accessible Trail Highlighter
- - - - - Highways
- - - - - Local Road
- Humboldt Redwoods State Park
- SubUnits - Wilderness, Preserves
- ▲ Campground-Other category
- ▲ Campground
- ▲ Horse Camp
- ▲ Group Camp
- ▲ Environmental Camp Area
- Other Public Lands


Parkwide Summary of Existing Unpaved Roads and Trails by Use

Route Type	Use	Miles
Road	Hike, Bike, Horse	72 mi
Trail	Hike,	41 mi
Trail	Hike, Horse	21 mi
Trail	Hike, Bike, Horse	5 mi



Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
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<p>CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/22/2019 Sources: Calif. Dept. of Parks & Recreation Other Public Lands GreenInfo, Inc.</p>	
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Section 2 THE PLANNING PROCESS

Developing an RTMP is a dynamic process that can take several years to complete. Per the Department's Trails Policy, opportunities for public participation in the planning process must be provided. Specifically, an RTMP should:

- Meet guidelines provided by the unit's general plan;
- Address stakeholder needs;
- Incorporate and coordinate with local and regional planning documents;
- Adhere to existing laws and regulations;
- Include the public and all potential user groups in the planning process;
- Provide user accessibility;
- Protect resources; and
- Provide a mechanism to monitor outcomes.

2.1 RTMP Planning Process

Preparation of this RTMP followed the process outlined below and was in compliance with Departmental Notice 2012-06 regarding the review and approval of management plans, as well as applicable state and federal regulations for resource protection and public participation.

1. Develop the planning team. The planning team consisted of multi-disciplinary staff from the park sector, district and headquarters.

2. Inventory and Mapping. A road and trail inventory is conducted and a base map with associated attributes is created. This inventory and assessment process was developed to provide an objective and consistent method for determining road and trail infrastructural problems and associated solutions as well as to officially record road and trail information such as physical characteristics and allowed uses. The data

collection process relies on easily repeatable and non-controversial measurements of features and conditions. Terminology and methods are standardized and applicable throughout the state and across various environments to provide reliable comparisons between watersheds, parks, or other geographic areas of interest. The base map and route attributes conforms to the Department's established guidelines for categorization, segmentation, and classification of roads and trails.

3. Stakeholder Input. As appropriate to the park, data is gathered from park users and other stakeholders. Typically, data includes information on issues pertinent to road and trail use and sustainability. Public or stakeholder workshops are held to allow those people to assist in identifying needs, suggest routes and restoration opportunities, and provide general comments. Trails use surveys are conducted during different seasons and times to solicit input from trail users.

4. Evaluate and synthesize data. Data is collated, compared, and assessed. Issues such as trail sustainability, safety, adequate infrastructure, connectivity, land use compatibility, and potential user conflicts are identified.

5. Development of proposal and alternatives. To develop alternatives, staff considers stakeholder input, accessibility needs, resource issues, National Historic or Recreation Trail certification and/or nomination, and linkages to transit and other recreational trails and facilities outside the park. Recommendations for plan alternatives may include maintenance strategies, new routes, new or alterations to trailhead facilities, or change-in-use designations.

-
- 6. Administrative Draft RTMP.** A preferred plan is developed for review by departmental staff.
 - 7. Draft RTMP.** Following review, and necessary revisions, of the Administrative Draft, a Draft RTMP is developed. A public meeting, as determined by plan specifics, may be initiated to solicit comments related to the plan.
 - 8. Final Draft RTMP/Environmental Document.** The Final Draft Plan is developed to include the appropriate Draft Environmental Document as required by law. Public comments are solicited through the required environmental review process.
 - 9. Public Review.** Department staff receive and evaluate public comments and respond as appropriate per CEQA guidelines. The draft may be modified, as necessary, to incorporate public comments or concerns.
 - 10. Final RTMP/Environmental Document.** The final RTMP and associated environmental document, including changes resulting from public comments as required, is produced and recommended for adoption.

HRSP Planning Specifics

For this RTMP, the HRSP staff conducted the road and trail inventory, including components, condition assessment, and preliminary recommendations, in 2012 through 2015. The purpose of this assessment was to:

- Integrate field data into the management process;
- Provide the current status of the roads and trails for decision making purposes; and
- Provide a knowledge-base for ongoing assessment, monitoring, and planning.

The park's roads and trails were evaluated to determine: 1) roads critical for fire, public safety, resource management, and general

circulation; 2) non-system roads and trails to be decommissioned or incorporated into the system; 3) system roads and trails that require maintenance; and 4) system roads and trails that require redesign, reconstruction, or reroute to meet Departmental standards.

Information was also gathered through an existing conditions assessment in which existing uses of each road and trail were identified. The road and trail inventory and assessment did not address legacy logging roads that are no longer used as transportation routes. Because these roads have not been used as transportation routes for decades, and are degraded and unusable for transportation or recreation, they are now considered cultural and natural resource management issues that will be addressed through future watershed planning efforts.

HRSP held seven stakeholder meetings between October and December 2010 at the HRSP Visitor Center and included representatives from adjacent landowners, local non-profits, equestrian, mountain bike, and hiking groups, and local utilities. In addition, government agencies were consulted including California Department of Fish and Wildlife, CalTrans, and CalFire, and the U.S. Bureau of Land Management, National Oceanic and Atmospheric Administration, and U.S. Fish and Wildlife Service.

Staff conducted visitor trail use surveys in two locations, one in Founder's Grove (frontcountry) and one in Big Trees Day Use Area (backcountry), in May, August, and November 2010, and February 2011. Each survey period consisted of one weekday survey and one weekend survey. Altogether, 465 visitor surveys were collected. For a copy

of the survey and details on the survey results, see Appendix 8.2.

A public open house was conducted on May 16, 2017 at the River Lodge Conference Center in Fortuna, CA. The purpose of the

open house was to receive public comments on the Draft Humboldt Redwoods State Park Road and Trail Management Plan. Public and stakeholder comments were evaluated and incorporated into the plan as appropriate.



2.2 Change-in-Use Evaluation

The Department has developed a process to facilitate and make consistent the review of change-in-use proposals resulting from this planning process that would add or remove uses from existing recreational roads and trails in the state park system. This process is intended to identify those changes that best accommodate accessibility and recreational activities appropriate for each road or trail. Specifically, the process is intended to achieve the following objectives:

- Implement the Department’s Trail Policy, including consideration of multi-use trails and trail connectivity;
- Ensure that projects can be implemented in a manner that avoids or mitigates significant impacts to the environment;
- Inform decision-making to include the diversity of resources and users at each park unit;

- Ensure that changes are considered in a transparent process; and
- Establish a process for decision making with objective criteria for evaluating proposed changes to trails.

A Change-in-Use Evaluation (see appendix) can provide the planning team with critical information, including:

- Existing conditions
- Compatibility with the park’s classification and other trail uses
- Effects to trail circulation patterns
- Effects to trail safety
- Effects to trail sustainability
- Effects or impacts to natural and cultural resources
- Effects or impacts to facility maintenance and operational costs

Recommendations based on survey results typically fall into one of the following categories:

- Conditional approval that includes design modifications or repairs
- Conditional approval that includes management options
- Approval
- Disapproval
- Put on hold

When a change-in-use is conditionally approved, all proposed conditions need to be implemented, project specific environmental compliance completed, and funding secured prior to the change taking affect.

A process flow chart has been developed to assist staff in the evaluation process (see appendix). The principle steps are outlined below. The first six steps are completed as part of the RTMP process. The second half is conducted for each individual project.

1. Request for change-in-use submitted to district by a user group, Departmental staff, neighboring agency, or other stakeholder.
2. Inventory of Existing Conditions
3. Change-in-Use Evaluation completed
4. Recommendation by evaluation team
5. Input gathered from the public and stakeholders
6. Final Change-in-Use decision
7. Prepare project plans and designs
8. CEQA and permitting compliance
9. Construction cost estimate prepared
10. Work plan developed
11. Project implementation

The Department's CIU process was vetted through a Programmatic Environmental Impact Report (PEIR). The purpose of the PEIR was to evaluate the environmental effects of adoption and implementation of the CIU

process and was prepared pursuant to the California Environmental Quality Act (Public Resources Code Section 21000, et seq.).

Additional information on the Department's Trail Change-in-Use process and PEIR can be found at

http://www.parks.ca.gov/?page_id=28461.

2.3 Plan Consistency

Recommendations in this RTMP are consistent with California Public Resources Code Section 5019.53, which provides the overarching directive on the purpose of improvements, such as trails, in a state park. Specifically, the section stipulates that:

Improvements undertaken within state parks shall be for the purpose of making the areas available for public enjoyment and education in a manner consistent with the preservation of natural, scenic, cultural, and ecological values for present and future generations.

In addition, this RTMP is consistent with the park unit's classification and general plan and follows guidelines and policies established in other management and interpretive plans; departmental manuals; local, regional, and statewide plans; sensitive natural and cultural resources documents; deed restrictions; and control agency policies, including:

- Humboldt Redwoods State Park General Plan, 2002
- Redwood Pathways Strategy, 2002
- Humboldt County Regional Pedestrian Plan, 2008
- Humboldt County Regional Transportation Plan, 2008
- Humboldt People Powered Pathways, 2008
- Humboldt County Regional Trails Master Plan, draft, 2010

-
- Humboldt Regional Bicycle Plan - Update, 2012
 - California State Parks Trails Handbook, 1991
 - California State Parks General Planning Handbook, 2010

The Avenue of the Giants corridor within the park was evaluated for the possible development of a multi-use pathway as envisioned in the Avenue of the Giants Community Plan from 1998 and elsewhere. Due to geographic constraints imposed by the Eel River, State Route 101, State Route 254,

and local terrain, a single integrated trail system has been determined to be infeasible in this location. Instead, development of improved access from the Avenue into existing trail facilities is recommended. These improvements would expand the existing trail system to include connector trails to small communities and large existing parking facilities along the Avenue. Specific locations for trailheads and connector trails are not presented in this RTMP. Instead, they will be identified under project specific development and coordination efforts and guided by the RTMP recommendations.



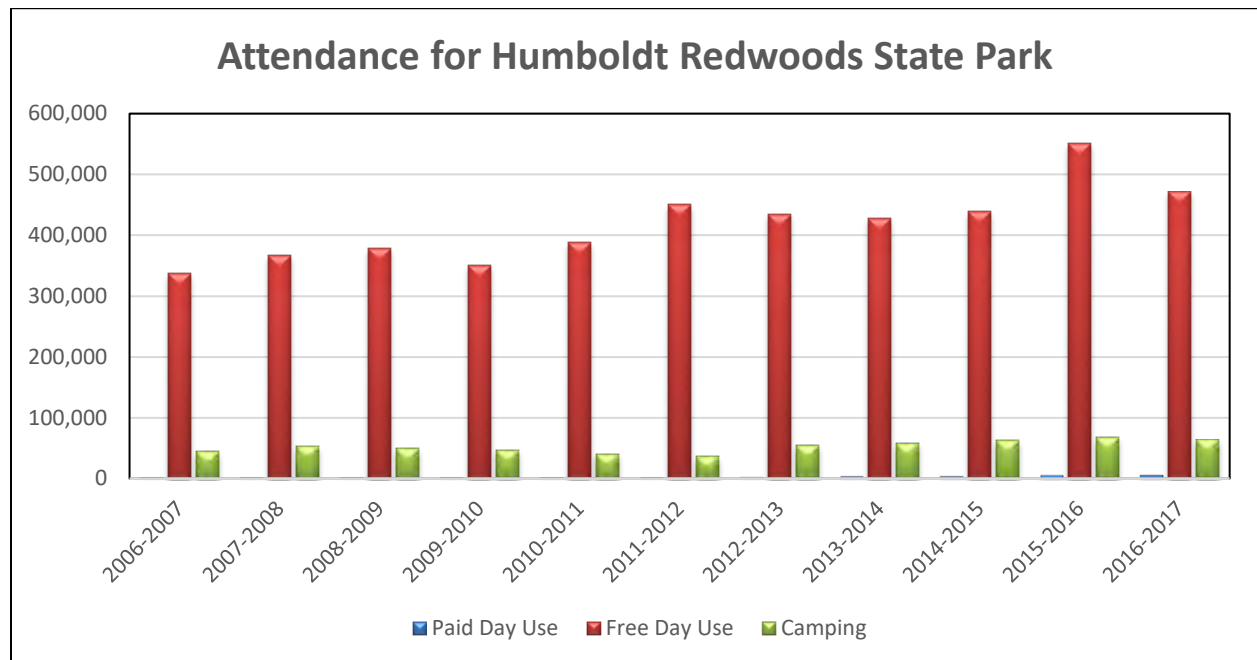
Section 3 PARK CONDITIONS

3.1 Park Visitation

HRSP is an international tourist destination that has hosted over half a million people annually for decades. The majority of visitors come from the San Francisco Bay Area but a significant percentage come from further abroad, including

internationally. Because the park is located in a rural area, many visitors stay overnight in one of over 250 campsites.

Consequently, visitation is heaviest during the summer months.



3.2 Existing Recreational Resources

HRSP provides a variety of recreational opportunities, including over 250 group, family, horse, and environmental campsites, six backcountry campsites, and nine individual and group picnic sites. The park has over 80 miles of roads and 60 miles of trails that provide access to various sections of the park for hikers, bikers, and equestrians. Most of the park's road and trail system skirts the three large ancient redwood areas, and

little access is provided into these practically untouched portions of the park.

HRSP includes a substantial backcountry of steep and rugged terrain, much of which was previously logged. Many old roads and trails access the backcountry and are available for use by hikers, bikers, and equestrians willing to expend the energy and time it takes to enter these remote sections of the park.

Popular Park Destinations

Avenue of the Giants

The Avenue of the Giants is the old alignment of Highway 101 that today is recognized as State Route 254. The road allows visitors to enjoy a 32-mile, 8-stop auto tour through the heart of an old growth stand of redwoods. The road is owned and maintained by CalTrans.

Park Visitor Center

The heart of the park is the Visitor Center, which offers interpretive exhibits and displays, theatre, bookstore, and limited picnicking sites. It is run by the Humboldt Redwoods Interpretive Association, a not-for-profit organization dedicated to educating the public about the park.

Founders Grove

This old-growth redwood forest is accessible from Highway 101 and the Avenue of the Giants. It hosts some of the tallest trees in the world and offers a half-mile ADA accessible loop trail as well as connections to longer trails in the immediate area.

Mattole Road

Mattole Road is a narrow, winding, single-lane road that traverses old growth and second growth redwood forests between Highway 101 and the Pacific Ocean. It offers limited opportunities to access trails and campgrounds within the park. Beginning at Highway 101, the first 5.26 miles is owned and maintained by the Department. From the intersection with Grasshopper Road west, the road is owned and maintained by Humboldt County.

Rockefeller Forest

The majestic 10,000 acre Rockefeller Forest is the largest remaining contiguous old-growth

coastal redwood forest in the world. The forest is accessible from the Mattole Road and offers a half-mile ADA accessible loop trail as well as the longer, 7.5-mile, Bull Creek Loop Trail.

South Fork Eel River

The park offers numerous opportunities for visitors to enjoy the recreational and scenic amenities of the South Fork of the Eel River, which flows through HRSP. Popular river access points include High Rock River Bar at the north end of the park, Gould River Bar near Park Headquarters, and Landsdale River Bar at the south end of the park. Swimming, fishing, canoeing, kayaking, and rafting are all popular summer activities.

Popular Trail Routes

Popular trail routes not listed above as a destination in themselves are listed below. A complete list of park trails and their designated uses is included in the section 8.6 of the appendix. Many of the trails below are popular because they are part of a larger loop or they lead to a visitor or scenic destination.

- Gould Grove Nature Trail (ADA Accessible)
- Drury-Chaney Loop Trail (ADA Accessible)
- Stephen's Grove Loop Trail
- Bull Creek Trails North & South
- River Trail
- Addie Johnson Trail
- Johnson Camp Trail
- Grasshopper Multi-use Trail
- Look Prairie Multi-Use Trail
- Peavine Ridge Multi-Use Trail
- Thornton Multi-Use Trail
- Grieg Multi-Use Trail
- Kemp Multi-Use Trail
- Squaw Creek Multi-Use Trail

Popular Trailheads

Big Trees Day Use Area

The Big Trees Day Use Area provides parking and trailheads for trails both north and south of Bull Creek. A footbridge is installed seasonally to provide access to the south side of Bull Creek. From late September through mid-June, the trailhead only provides access to the north side of Bull Creek. A trailhead located at the lower end of Grasshopper Road provides access to the Bull Creek Trail – South during the wet season.

Lower Grasshopper Road

The parking area and trailhead located at the lower end of Grasshopper Road provide all-season access to the south side of Bull Creek and the west side of the South Fork Eel River. This trailhead also provides access to the Grasshopper Peak area via several routes.

Blue Slide Day Use Area

The Blue Slide Day Use Area is located near the intersection of the Look Prairie Road and the Mattole Road. It provides access to North Bull Creek and Homestead Trails as well as the Look Prairie Road.

Lower Bull Creek Flats Trailhead

The Lower Bull Creek Flats Trailhead provides access to trails both north and south of Bull Creek. Footbridges are installed seasonally to provide access to the south side of Bull Creek and both sides of the South Fork Eel River. From late September through mid-June, the trailhead only provides access to the north side of Bull Creek. A trailhead located at the lower end of Grasshopper Road provides access to the Bull Creek Trail – South and the River Trail during the wet season.

Burlington Campground and Visitor Center

This area serves as the heart of the park with administrative offices, camping, a visitor center, and trailheads to trails along the South Fork Eel River as well as a self-guided interpretive trail.

Williams Grove

The Williams Grove Day Use Area and Campground provide parking and trailheads for trails along the South Fork Eel River. A footbridge is installed seasonally across the Eel River to provide access to the west side of the river via the River Trail. From late September through mid-June, the trailhead only provides access to the east side of the Eel River. A trailhead located at the lower end of Grasshopper Road provides access to the west side of the Eel River during the wet season.

Albee Creek Campground

Many of the park's backcountry trails as well as several loops are accessible from the Albee Creek Campground.



3.3 Adjacent Recreational Opportunities and Connections

The vast majority of land surrounding the park is privately owned and offers limited recreational opportunities. A notable exception is the prevalence of private campgrounds situated along the Avenue of the Giants through the park.

3.4 Natural and Cultural Resources

HRSP is located in the Coastal Mountain Range of Northern California. It consists primarily of steep, forested terrain ranging in elevation from nearly sea level to over 3,300 feet. Its forests are a mix of old growth and second growth stands of coastal redwood, Douglas fir, tanoak and Pacific madrone, including some of the largest remaining old growth redwood tracts in the world. The area receives heavy rainfall during winter months, which drains to over 170 miles of streams and rivers in the park to the South Fork of the Eel River.

While much of the cultural history of the area is known, cultural resources in the park have not been comprehensively surveyed. It is believed that many of the prehistoric Native American villages that were once located in the park have been washed away or buried by winter flooding. However, hundreds of historic sites such as homesteads, orchards, roads and trails, still exist within the park and many are accessible by the park's roads and trails.

A complete discussion of the natural and cultural history of the park, including topography, meteorology, hydrology, geology, ecology, and Native American and Euro-American sites, is included in the park's 2001 General Plan. In addition, the habitat types and associated sensitive species for

each region of the park are discussed within the area-specific recommendations herein.

A Negative Declaration (ND) has been prepared for this plan and is included in the appendix of this document. Additional information about the project location and the natural and cultural resources of the area is included in the Environmental Checklist section of the ND.

3.5 General Plan

The RTMP is intended to be a sub-component of a park's general plan, addressing the specific transportation management issues of the unit within the goals and objectives of the General Plan. The park's 2001 General Plan calls for the development of a trails management plan to evaluate the park's entire trail system and guide the placement and use of future trails and trail camps. In addition, the plan provided a list of trail-related recommendations, which have been incorporated herein as appropriate.

3.6 Wilderness Boundary

This RTMP has updated the park's wilderness boundary since it was delineated in the 2001 General Plan. The boundary is partially based on the location of specific roads and trails within the park, which were originally identified on USGS quadrangle map. Through the inventory process of this RTMP, the location of these roads and trails has been more accurately identified through the use of a global positioning system (GPS). The boundary remains as originally described in the General Plan (see Appendix 8.11), but the accuracy of the map has been improved.

Section 4 DESIGNATIONS AND CLASSIFICATIONS

The following is a summary of guidelines pertaining to the planning, design, layout, and maintenance of roads and trails in the state park system.

4.1 Road and Trail Designations

As part of this planning effort, existing roads and trails and their uses were identified in a geographic information system (GIS) database. Roads and trails were identified using the best available information from topographic and road and trail maps, existing GIS data, global positioning system data, aerial photography, light detection and ranging technology, ground surveys, staff institutional knowledge, and records searches. This information was used to develop a base map that included all system and non-system roads and trails.

All roads and trails were identified as either a “system” or “non-system” route. If the alignment is a system route, then the route was further designated as either a “road” or “trail.” System roads and trails are recognized as official routes owned and maintained by the Department and included in the park’s facilities inventory. “Non-system” routes (e.g. user-created or volunteer trails) or routes maintained by another agency or landowner are not recognized as owned or maintained by the Department.

“Non-system roads” are located on state park property, but operated or maintained by other agencies or landowners, such as private roads, local roads, county roads and highways. Management and maintenance of these roads may be determined by an easement or legal agreement with the

outside agency. “Non-system trails” occur in most parks and can be (1) routes maintained by another agency under a legal agreement, (2) unsanctioned, user created trails, or (3) remnants from historic uses. Non-system routes at HRSP, except for legacy logging roads as described above under “HRSP Planning Specifics,” were identified and recommended for removal.

If the route currently accommodates street-legal vehicles or was initially constructed to allow street-legal vehicle access, then it is designated a “road.” From here forward the term “vehicle” refers to street legal vehicles and not vehicles specifically designed for off road use only. Roads include routes that were initially constructed as roads and topographically display a road prism profile, but may no longer accommodate vehicles due to erosion, vegetation growth, physical barriers, or use designation. Roads may have trail uses such as hiking, biking, or horseback riding, in addition to vehicle use. Old roads may be difficult to detect due to vegetation overgrowth, lack of use, or geological movement. At first observation, a route may look like a trail (e.g. single-track, three feet wide), but is actually located in the middle of a twelve-foot-wide road prism profile.

Trails on road beds that are no longer passable by vehicles are considered a road in the sub-category of “Trail on Roadbed.” This sub-categorization is useful to track the location and condition of old or abandoned roads. This information can then be used to determine if the route should be maintained as a road, converted to a trail, or removed. Work to remove or maintain this type of road requires heavy equipment, not hand labor

typically associated with the removal or maintenance of trails.

The route is a “trail” if it was not initially constructed to allow street-legal vehicle access and currently does not accommodate street-legal vehicles. Unconstructed, informal routes of travel that accommodate recreational and/or vehicle uses may be designated as “routes.” Routes include river and stream gravel bars utilized as roads, paths across beaches or through sand dunes, or peak ascent paths in authorized climbing areas. They are often inherited from past land use practices. In some situations, they are designated by staff as the most appropriate place to put roads and trails in dynamic and/or sensitive environments.

4.2 Designated Uses

All trails in California’s state parks allow for pedestrian use, although pedestrian access may not be considered the primary use. Once the route is designated as a road or trail, the type of use is assigned. All roads and trails are assigned one of the following uses:

- Hike Only
- Bike
- Horse
- Bike and Horse (“multi-use”)
- None/Controlled Access (e.g. residence areas, administrative facilities)
- Road with Bike Lane

A trail designated for hiking only has a much different design than roads and trails designated for bikes or horses. For example, sight distances, abrupt grade changes, turning radii, and linear grades are much more flexible with pedestrian trails than for other types of trails and roads.

A “multi-use” trail is one that allows two or more uses in addition to pedestrian. Thus, a bike trail, which by default allows for pedestrian use, is not considered “multi-use,” but a bike and horse trail is considered “multi-use.” A multi-use trail designation dictates the most sustainable and least resource-damaging design, which is blended from both horse and bike trail standards.



4.3 Classification of Trails

Once identified, trails are further classified based on intensity of use and location within the park. Classifying trails allows a manager to objectively assign design standards and work priorities that are consistent with the primary function of the trail, environmental sensitivity of the habitat, relationship to developed facilities, and visitor use. Class I trails require the highest trail construction and maintenance standards. The standards for Classes II, III, and IV diminish consecutively. The selection of trails to receive maintenance and rehabilitation is also influenced by their classification. Assuming visitor safety, resource protection, and trail investment concerns are equal; those trails with the highest classifications (“Class I” being the highest) will receive the highest maintenance and rehabilitation priority. The Trail Classification for individual trails are located in the appendix 8.6.

- **Class I** - Includes ADA accessible, bicycle, equestrian, interpretive, and hiking trails within close proximity to developed facilities. Gravel, turnpikes, puncheons or other drainage structures are required for resource protection and visitor safety in areas of trail trenching, trampling, multiple trails, or saturated trail beds.
- **Class II** - Includes hiking, bicycle, and equestrian trails that lead away from developed facilities. Primarily native materials are used for trail tread.
- **Class III** - Includes lightly used hiking trails. Native materials are used for trail tread.
- **Class IV** - Includes special use and access trails. The minimal trail tread necessary to provide safe footing is used.



Section 5 BEST MANAGEMENT PRACTICES

This section provides a summary of the best management practices used by the Department to plan, design, construct, and maintain sustainable roads and trails within the state park system. Additional and more detailed information can be found in the Department's Project Implementation and Best Management Practices, 2009, and the Department's Trails Handbook, 1991. This section is meant to supplement but not replace avoidance, minimization, and mitigation measures located in the environmental document for this plan.

General road and trail design and layout practices include:

- Establish trail user type(s) and identify appropriate design standards.
- Maintain system connectivity and circulation patterns.
- Provide for long-lasting, low-maintenance, and low-erosion (i.e., "sustainable") roads and trails.
- Minimize disruption or alteration of the natural hydraulic flow of the landform.
- Avoid, minimize, or mitigate significant impacts to natural and cultural resources.
- Use inherent aesthetic resources to enhance new trail alignments.
- Design roads and trails so that they meet the needs of the intended user group(s).
- Use standard Departmental project requirements as described in the plan's environmental document.

5.1 Sustainability

A "sustainable" road or trail has been designed, constructed, or re-constructed such that it:

- does not adversely impact natural and cultural resources;

- can withstand the impacts of the intended user groups;
- meets the needs of the intended user to a degree that the user does not deviate from the established road or trail alignment; and
- survives the natural elements while receiving only routine cyclical maintenance.

To design, construct, and maintain sustainable roads and trails requires a thorough understanding of the landform that the road or trail is or will be traversing. It also requires an understanding of the user groups being served, and the needs and design standards that are specific to each user group. Combining this information with high-quality construction materials, results in a sustainable road or trail. Roads or trails that do not meet the sustainable definition but are considered integral to park operations may be constructed with specific trail structures added to help address the problems that lead to the lack of sustainability.

5.2 Resource Considerations

Roads and trails can be considered as park facilities similar to restrooms, campsites, and parking lots. They are developed to provide access to the natural and cultural resources of a park and to enhance the visitor's enjoyment of those resources. Thus, the resources of a park should live in harmony with its facilities and decisions regarding design, layout, and construction of roads and trails should be balanced with what is best for the park's resources. No road or trail shall compromise the integrity of park resources.

If a road or trail cannot be constructed without significantly impacting resources, or if it becomes too costly to construct or maintain a road or trail to avoid impacts to resources, an alternative corridor should be considered or the need for the trail should be reassessed.

5.3 Maintenance Activities

A thorough maintenance program will prevent deferred maintenance problems and reconstruction projects. Maintenance activities can be broken into three types:

1. Annual/Cyclical – Includes drainage maintenance, vegetation clearing, tread maintenance, and brushing performed on a re-occurring basis. Typically, annual trail maintenance tasks require minimal supervision and can be conducted by maintenance staff, a conservation corps, or volunteer crews. Typically, cyclical maintenance is planned for the average life span of a facility. However, weather, vandalism, and other unpredictable events can greatly affect the life span and periodic trail inspections are necessary to keep staff abreast of current conditions.
2. Pro-rated/Deferred – Includes construction, re-construction, re-engineering, and restoration activities performed on a periodic basis as necessary to address road and trail infrastructure deterioration due to age and/or improper initial design.
3. Incident-Related/One-time Repair – Includes construction, re-construction, re-engineering, and restoration activities performed on a project basis to address road and trail infrastructure damaged caused by natural or man-made events such a major storm, wildfire, or vandalism.

5.4 Monitoring

A comprehensive monitoring program is suggested for all roads and trails and required for some road and trail projects. The purpose of a monitoring program is to evaluate the effectiveness of the project and to adapt management of a project to improve its success over time. In addition, monitoring provides valuable data that can be used to improve the success of future road and trail projects, as well as further assess problem areas. Monitoring protocols are described in the Department's Field Guide for Road and Trail Assessment and the Office Manual for Road and Trail Assessment.

5.5 Prioritization Matrix

Usually there are more trail project proposals than there are funds and time to complete them and the project selection process can be contentious. Setting maintenance priorities facilitates allocation of limited resources and provides a focus for fund raising efforts and volunteer work. To make the prioritization of trail projects less subjective, trail projects should be categorized based on the trail's deficiencies and opportunities as well as rating.

To determine the priority of trail projects, trail deficiencies, opportunities, and their associated criteria are assigned a point value. A range of points for each criterion enables staff to determine a score that corresponds with the relative necessity of the improvement. A higher score indicates more deficiencies or opportunities for the trail.

For example, a trail with exposed rocks in the trail tread that could cause someone to trip may receive a rating of two, whereas a trail with a rotted safety railing on a bridge suspended 40 feet above a stream channel

may receive a rating of ten due to its significantly higher potential for creating a health and safety problem. A new trail that provides improved access to a view point may receive a rating of two, whereas a new trail that provides improved access to a view point and creates an important link to other trails may receive a rating of three due to the greater opportunity for recreational benefits.

The range of points for each criterion should allow more points to be awarded for those projects that are essential to the mission of the Department. Stakeholder and public

input should be considered in the assignment of point values. Thus, projects that ensure visitor safety, resource protection, or protection of the facility itself may take priority over projects that provide a visitor convenience or provide additional recreational opportunities.

Potential projects can be listed and assigned points for each of the project criterion. Those points can then be totaled and projects ranked from high to low with the highest priority projects receiving the most points.

Project Criteria	Point Rating Example	Example
Visitor Safety	1-10 points	Trail conditions that represent a threat to the safety of park visitors, usually severe enough to warrant barricades, warning signs, or temporary to permanent trail closures.
Resource Protection	1-10 points	Trail conditions that represent a threat to the park's natural or cultural resources, usually severe enough that critical resources are being damaged.
Preservation of Investment	1-7 points	Trail structure conditions that, if not repaired, will result in total loss of the structure.
Visitor Convenience	1-5 points	Trail conditions that make it uncomfortable to use the trail such as overgrown brush or desired improvements to an existing trail such as change-in-use
New Trail Construction	1-3 points	The development of an entirely new trail.

The following charts list the priority and frequency of annual trail maintenance and pro-rated and incident related maintenance.

ANNUAL TRAIL MAINTENANCE	PRIORITY	EXAMPLE MAINTENANCE OCCURRENCE
Emergency drainage	1	Major Water Runoff
Structure repair	2	Annual
Drainage repair	3	Annual
Clearing	4	Annual
Tread repair	5	Annual
Brushing	6	Annual

PRO-RATED OR INCIDENT-RELATED TRAIL MAINTENANCE	PRIORITY	EXAMPLE REPLACEMENTS
Structure construction/re-construction <ul style="list-style-type: none"> - Bridges - Puncheon - Steps - Retaining walls 	1	As Needed 8-15 years 8-15 years 10% of total yearly As Needed
Drainage facility construction/re-Construction	2	As Needed
Trio rehabilitation (Brushing, slough and berm removal, and reshaping the trail tread)	3	Every 5 years
Turnpike construction/re-construction	4	Every 10 years
Trail re-route	5	As Needed

5.6 Reconstruction

“Reconstruction” is construction work on an existing road or trail to bring it back to its original design. Reconstruction can be used to re-establish trail sustainability if the original design was sustainable, or to re-establish an “unsustainable but maintainable” trail. Trail reconstruction also may reshape the backslope of the trail, remove the berm, scarify the tread, and restore tread elevations and drainage structures. Typically, work of this scope also involves repair or reconstruction of other trail structures, such as switchbacks, climbing turns, retaining walls, steps, bridges, and puncheons.

5.7 Re-engineering/Redesign

The term “redesign” can be used interchangeably with the term “re-engineer.” Reengineering/ redesign can be used to create a sustainable trail when the existing trail alignment can be sustainable, but improperly designed structures and elements along the trail have created an unsustainable situation. Reengineering/redesign can also be implemented to create an “unsustainable but maintainable” trail when political, cultural, or environmental issues require retaining a sub-standard alignment. Minor re-routes may occur within the original trail corridor. Curvilinear techniques can reduce the linear grade and improve drainage by lengthening the trail and decoupling it from natural drainage features. Linear grades also can also be reduced by cut-and-fill techniques, where appropriate.

5.8 Road-to-Trail Conversion

Road-to-trail conversion is a re-engineering technique used for transforming an existing road, originally constructed for vehicles or

currently used by vehicles, into a recreational trail. Similar to road removal, road-to-trail conversion involves excavating road fill from the embankment and placing it against the cut bank to match the slope above. A four- to six- foot wide portion of the original road bench must be retained to serve as the new trail tread.

5.9 Removal

Road and trail removal and site restoration should correct damage or disturbance to natural and cultural resources created by road and trail construction, maintenance, and/or visitor use. When a trail or section of trail is abandoned, steps should immediately be taken to restore the habitat. Typically, the re-route or replacement trail is constructed before the old trail is removed and the site rehabilitated.

During site restoration, the cut bank and bench are de-compacted and the soil aerated to promote re-vegetation of the trail bench and bonding of imported soil, if necessary. Soil from the fillslope is excavated and placed against the cut bank to restore the natural slope or contour and facilitate natural sheet flow drainage. Once the trail bench is re-contoured and gullies are stabilized, vegetation is re-established through management of existing native seed banks, or active transplanting of native species.

5.10 Re-Route

A trail can be “re-routed” outside of its original corridor when the current corridor is determined to be unsustainable. A re-route can be used to by-pass environmentally or culturally sensitive areas, provide a sustainable grade, expand trail width, or improve system connections.

Section 6 THE PLAN

This RTMP includes system-wide and area-specific recommendations. These recommendations shall be implemented in accordance with the Department's Best Management Practices as outlined in Section 5 above to minimize and avoid impacts to resources as well as ensure road and trail sustainability. Standard Project Requirements as outlined in the RTMP's environmental document will also be required if Best Management Practices are insufficient to minimize and avoid impacts to resources and ensure road and trail sustainability. The intent of the RTMP is not necessarily to build all recommendations presented, but to provide options that have been vetted for design and resource feasibility at a planning level to help guide future park management decisions. Recommendation implementation will be dictated by park priorities and funding availability. Additional mitigation measures may also result from subsequent environmental review during specific project implementation.

6.1 Parkwide Recommendations

- All new trails and alterations to existing trails shall follow the Department's Accessibilities Guidelines and the federal accessibility guidelines for outdoor developed areas.
- Within park boundaries, every non-historic, non-system trail shall be removed and rehabilitated, unless otherwise specified in the RTMP. Non-system roads determined to be necessary for legal access will not be removed.
- Every system road and trail shall be on a park maintenance plan and receive cyclical and pro-rated maintenance. If geologically and hydrologically feasible, historically significant roads and trails shall be maintained in a condition reflecting their historic appearance, while remaining unobtrusive as possible to the surrounding natural areas. A qualified archeologist or historian should be consulted when developing prescriptions for historic roads and trail repairs and maintenance. The document "Cultural Resources Study of the Historic-Period Roads and Trails of the Bull Creek Watershed, Humboldt Redwoods State Park, Humboldt County, California," September 2001, should be referenced when planning specific road projects.
- Trail width shall be limited to that required for the type of use and classification of the specific trail. Trail layout, design, and maintenance shall follow the Department's Trails Handbook.
- Provide adequate staffing to properly maintain, plan, budget, design, and construct the unit's roads and trails system.
- Roads and trails shall be designed, constructed, re-engineered, re-constructed, or re-routed to improve sustainability and drainage, prevent erosion, and reduce future maintenance needs.
- Roads and trails shall provide public access to the park's most popular features.
- Roads and trails shall not fragment large areas of open space or viewsheds. The overall aesthetic quality of the park, including human sounds carried from one road or trail to another, should be a primary consideration of road and trail design and management.
- Consider acquisition of land and/or easements to support local, regional, state, and national trail connections.
- Loops and connections to regional trail systems are preferred, to give users more

choices for the length and duration, as well as a greater diversity of terrain and experiences.

- Consider providing additional trails camps throughout the Bull Creek Watershed. The goals and objectives as well as the general location of four trails camps were originally identified in the 2002 HRSP General Plan.

During the RTMP planning process, the camp locations identified in the park's General Plan were evaluated and refined based on current conditions. These camps are proposed to offer backcountry hikers, bicyclists, and equestrians opportunities for overnight camping at various locations and in different settings throughout the Bull Creek Watershed. Proposed trail camp locations and summary descriptions are located in the area-specific recommendations section of the RTMP.

- Connections to parking areas and pedestrian access points shall be provided and/or improved.
- Multi-use trails shall be considered in accordance with the Department's 2005-2006 Trails Policy, which states "Multiuse trails and trail connectivity with adjacent public trail systems will be considered in the development of trail plans or individual trails."
- Improve road and trail signage to enhance safety and better facilitate way-finding and interpretive opportunities.
- On a project basis, re-engineer all drainage crossings identified in the Drainage Structure Condition Index Assessment and associated maps contained in the appendices of this document. Implementation shall address the most significantly affected drainage structures first.
- Maintenance activities shall be coordinated with the district environmental staff prior to being scheduled, to avoid adversely impacting rare plants or other

sensitive resources. Conservation measures may include flagging individual rare plants for avoidance, scheduling work for a time of year when annual rare plants have already set seed, and carefully pruning rare shrubs instead of full removal.

- Improve data collection regarding trail use and visitation to the park. A number of new technologies available through smart phone applications can be harnessed to help collect, sort, and share data about the volume, frequency, and types of trail uses. In addition, automatic pay parking machines can be used to collect information about the relative use of parking locations around the park.
 - Develop new technologies, such as crowd sourcing trail information and providing trail applications for smart phones, to improve public access and information.
 - If invasive plant species or other concerns warrant, park managers should consider management actions to restrict the introduction of (contaminated) horse feces, such as the required use of weed-free feed for stock or feces collection devices such as "bun bags" on short trails.
 - User-created trails through the redwood groves and at parking areas along the Avenue of the Giants and the Mattole Road are a widespread and significant threat to ecosystem health and function. A comprehensive program should be developed to inform visitors of the impacts associated with off-trail hiking in these sensitive areas. The program could include interpretive elements, improved signage and enforcement where appropriate.
 - Annually evaluate the need for seasonal wet-weather closures on non-paved roads to protect against damage from vehicle use in accordance with the North Coast Redwoods District's existing seasonal backcountry road
-

use policy. See Appendix 8.10 Seasonal Road Driving Policy.

- Improve road and trail signage to enhance safety and better facilitate way-finding and interpretive opportunities.
- Volunteers from organizations such as the Mounted Assistance Unit have been critical partners in the development and maintenance of the park's trails. Continue to work with these types of organizations to develop volunteer resources.

6.2 Area-Specific Recommendations and Maps

Six areas of the park were identified for area-specific recommendations. Each area has unique recommendations and accompanying maps. In addition, detailed maps with greater detail have been provided for some sub-areas.

- Avenue of the Giants - North
- Avenue of the Giants -South
- Bull Creek Northwest (including an Albee Creek Campground area detail map)
- Bull Creek Northeast (including a Dyerville area detail map)
- Bull Creek Southwest
- Bull Creek Southeast (including a Burlington and Hidden Springs area detail map)

Existing Roads and Trails Maps

The area specific maps of existing road and trail conditions at the time of planning and include:

- System paved and non-paved roads and their designated uses. Non-paved roads are divided into segments and identified with a unique segment identification number.
- Non-system roads owned and operated by other agencies.

- System trails and their designated uses. These trails are divided into segments and identified with a unique segment identification number.
- Non-system trails.
- Mileage total per area for each designated use.

Maintenance Recommendations Maps

These maps show the recommended maintenance for existing roads and trails. Recommendations are made by road or trail segment. A road or trail is typically segmented where it intersects another road or trail. Recommendations may apply to only a portion of the segment (e.g. a road with a "Remove, Reconstruct/Reengineer, and Reroute" recommendation may include multiple locations within the road segment that require maintenance, or reconstruction/reengineering, or reroute, or any combination thereof). The road and trail inventory conducted as part of this RTMP can assist in determining the location of specific problems and associated treatments. Recommendation types include the following:

- **Reconstruction:** Rebuild existing roads and trails to return them to the original design. These trails typically can be sustainable if annual or cyclical maintenance occurs.
- **Re-engineering:** Apply new or additional structures, design techniques, or modifications to an existing road or trail corridor to improve sustainability.
- **Rerouting:** New sustainable road or trail sections that originate from and return to an existing road or trail. The abandoned, unsustainable section of trail is removed and the site is rehabilitated.
- **Annual or Cyclical Maintenance:** Routine periodic maintenance of existing roads and trails, including brushing, logging out, slough

and berm removal, and drainage maintenance. By default, roads and trails that are not designated for reconstruction, re-engineering, or rerouting fall into this category.

- **Road-to-Trail Conversion:** Re-engineer to transform an existing road into a recreational trail. Similar to road removal, road fill is excavated from the embankment and placed against the cut bank to match the slope above. A four- to six- foot wide portion of the original road bench serves as the new trail tread.
- **Removal:** Removal of existing road or trail that may or may not be associated with a road or trail reroute. Removal is generally associated with unsustainable trail alignments that are no longer required or that can be rerouted to more sustainable alignments.

Planning Recommendations Maps

These maps show long-term planning recommendations for roads, trails, and associated infrastructure to include:

- New trails or routes that extend or re-route existing trails to a new destination.
- Access for administration or easements along exiting roads and trails.
- Improvements to existing trailheads or new trailhead locations.
- Resource protection related to road and trail use.
- Removal of existing road or trail routes.
- Road and trail safety improvements.
- Public or administrative road and trail access improvements.
- Interpretative improvements along roads and trails.
- Change-in-use designations.

New Trails and Change-In-Use Map

This map highlights both the new trails and existing trails that will receive a change-in-use designation as recommended in this RTMP. The intent of this map is to illustrate the enhanced connectivity and trail options envisioned in this plan.



Avenue of the Giants - North Area

Significant natural resources:

This area consists of old growth and second growth redwood forests, riparian and riverine habitats, and orchards. The Avenue of the Giants is long and linear with surrounding land uses consisting of commercial timber and agriculture. Marbled murrelets (*Brachyramphus marmoratus*) may occur in old growth forests along the Eel River, such as in the vicinity of Drury-Chaney Loop Trail. Bald eagles (*Haliaeetus leucocephalus*) have been observed foraging up and down the river. Foothill yellow-legged frogs (*Rana boylei*) and western pond turtles (*Actinemys [Emys] marmorata*) are known to occur in and along the Eel River. Willows along the river may provide nesting habitat for the willow flycatcher (*Empidonax traillii*). Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*Oncorhynchus kisutch*), and steelhead (*Oncorhynchus*

mykiss) all occur in the Eel River and fish bearing tributaries such as Bear, Jordan, and Chadd creeks. Sensitive plant surveys have not been conducted in this area. However, as they occur in similar habitat elsewhere in the park, species such as Howell's montia (*Montia howellii*) may occur in some of the alluvial areas and Humboldt County fuchsia (*Epilobium septentrionale*) can be expected along the Eel River.

Significant cultural resources:

Archaeological: There are historic archaeological sites in this area associated with logging activities and the Old Redwood Highway.

Paleontological: The area has not been thoroughly surveyed for paleontological resources, which potentially exist throughout the park.

RECOMMENDATIONS

AGN #1. Symmes Grove Trail

Issue: Symmes Grove Trail vehicle bridge across Jordan Creek has abutments that are being undermined by creek bank erosion. This bridge was constructed in 1933 and may be of historic significance. The bridge may not be stable over the long term due to overall creek and watershed instability.

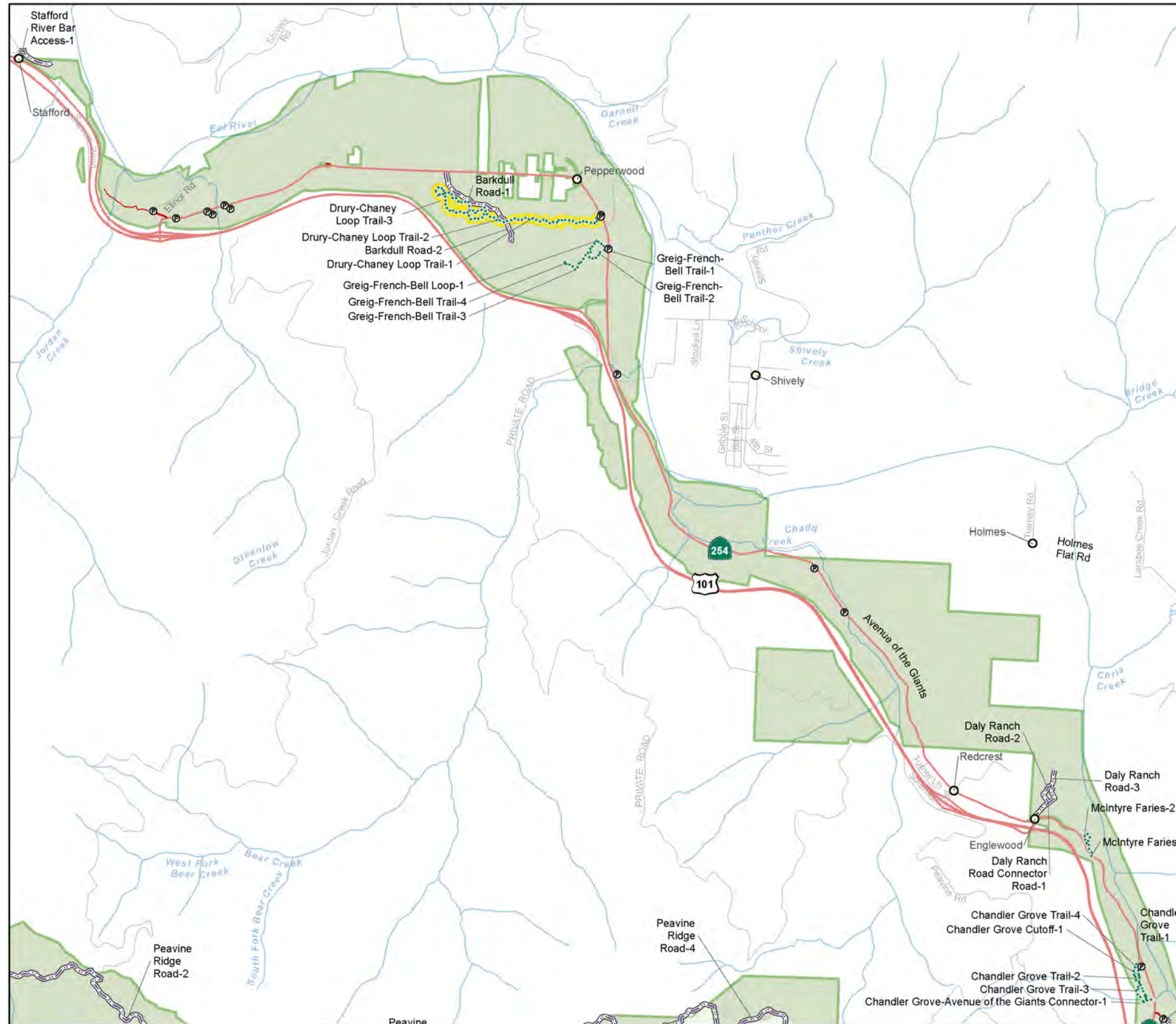
Recommendation: Department staff to work with State and local agencies to determine historic significance and potential for bridge replacement or relocation. Based on these findings, the bridge may be replaced, relocated, or removed and the Symmes Grove Trail terminated at Jordan Creek.

AGN #2. Access from Avenue of the Giants

Issue: The Avenue of the Giants runs the length of the park and is easily accessed from US 101. The Avenue has some existing trailheads that connect to redwood groves; however, many large pullouts exist where there are no system trails.

Recommendation: Investigate and develop additional access trails to groves where large parking pullouts exist and remove and rehabilitate existing non-system trails. Some trails may form new loops while others may link to existing trails. In addition, explore potential linkages to public land within adjacent communities along the Avenue of the Giants.

Map: Avenue of the Giants - North Area - Existing Roads and Trails



Existing Roads and Trails

AVENUE OF THE GIANTS - NORTH

Current Road & Trail Network by Category and Use Designation

- Hike
- State Park Rd, Hike, Bike and Horse
- Paved Park Roads
- Accessible Trail Highlight

Reference Features

- Humboldt Redwoods State Park
- SubUnits - Wilderness, Preserves
- Streams
- Highways
- Local Road
- Cities, Towns, Places
- Parking

Area Location

Scale
1:33,960
1 inch = 2,830 feet

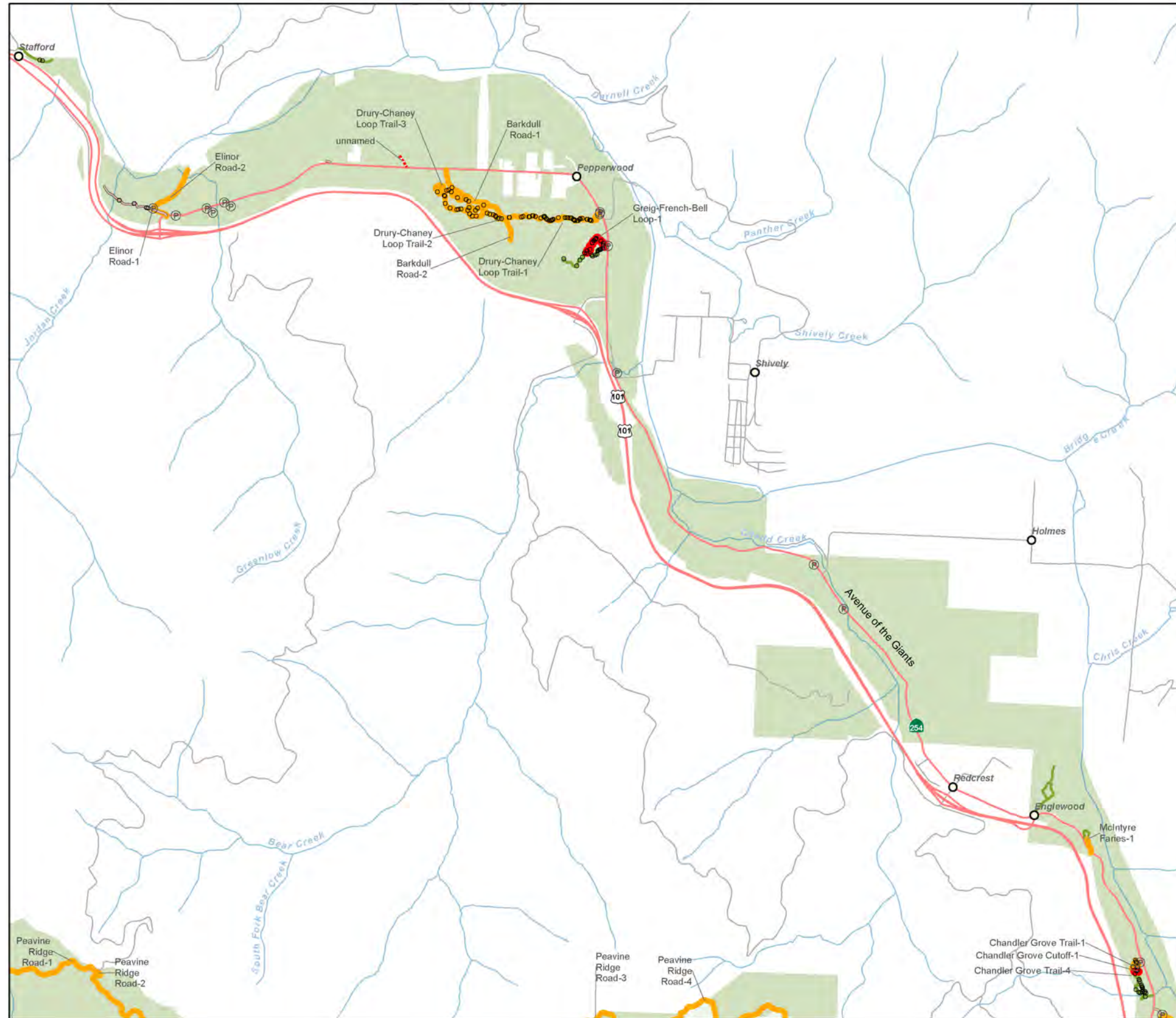
Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION

Date: 3/20/2019
Sources:
Calif. Dept. of Parks & Recreation
Other Public Lands
GreenInfo, Inc.

Map: Avenue of the Giants - North Area - Maintenance Recommendations



Maintenance Recommendations

AVENUE OF THE GIANTS - NORTH

- Unsustainable. Remove, Reconstruct/Re-Engineer, and/or Reroute
- Sustainable with Reconstruction/ Re-engineering
- Sustainable with Maintenance
- - - - Non-system route
- User-created Trail Intersections. Remove Trail and Rehabilitate Vegetation.

Note: Recommendations are made by road or trail segment. Segment recommendations may apply to only a portion of the segment (e.g. a road with a "Remove, Reconstruct/Reengineer, and Reroute" recommendation may include locations within the trail segment requiring maintenance, locations requiring reconstruction/reengineering, and locations requiring reroutes).

- Other Reference Layers:
- Humboldt Redwoods State Park
 - Wilderness / Natural Preserve
 - Paved State Park Road
 - Paved State Park Trail
 - Highways
 - Local Road
 - Streams
 - City Points
 - Ⓟ Parking

Avenue of the Giants - North

Map Page Location

Scale
1:33,760

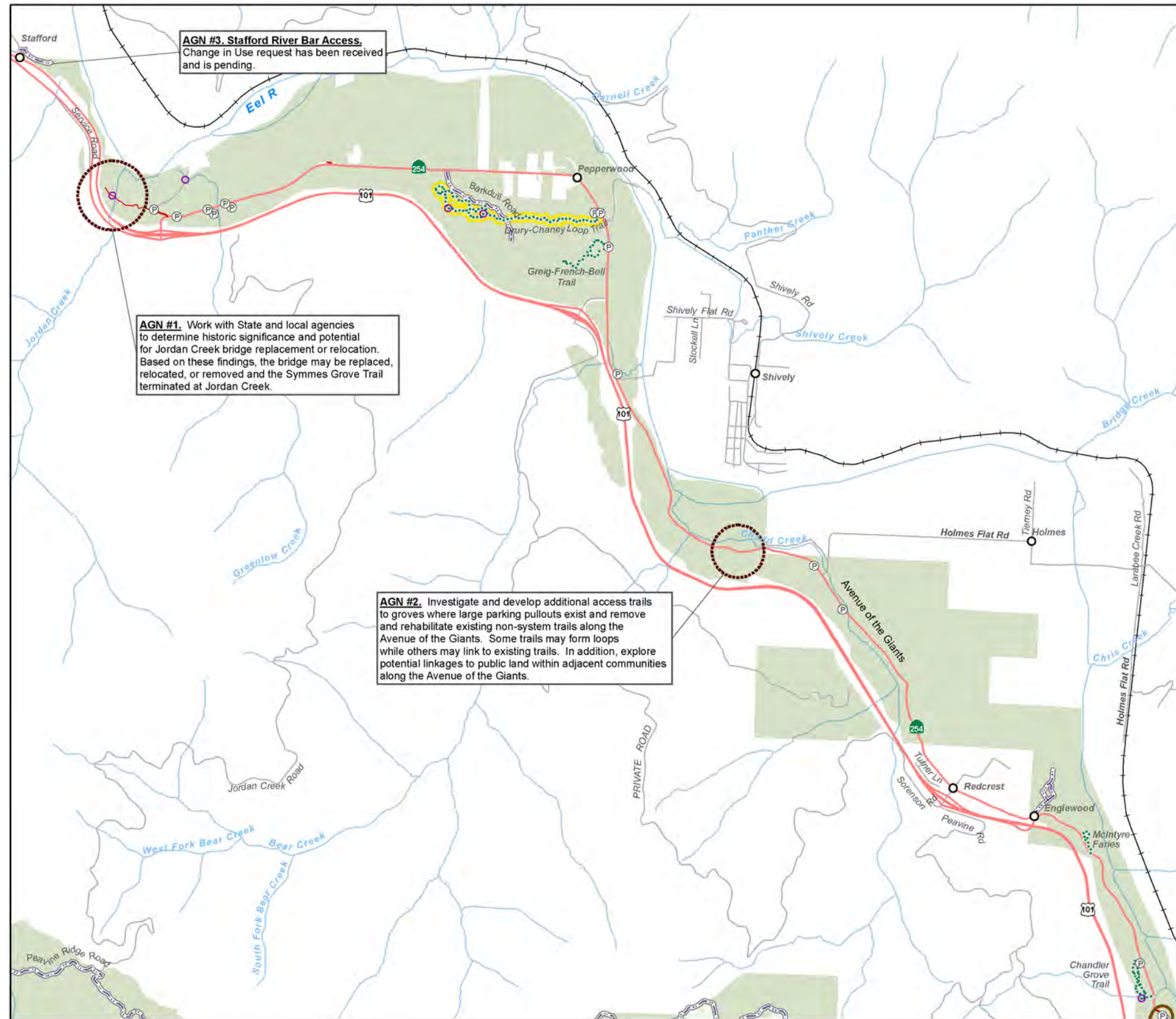
1 inch = 2,813 feet

Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
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<p>CALIFORNIA STATE PARKS: NORTH COAST REDWOODS DISTRICT, & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 4/3/2017</p> <p>Sources: Calif. Dept. of Parks & Recreation, Other Public Lands: GreenInfo, Inc.</p>	
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Map: Avenue of the Giants - North Area - Planning Recommendations



Planning Recommendations

AVENUE OF THE GIANTS - NORTH

Area Recommendations

Other reference layers:

Humboldt Redwoods State Park	Paved Park Roads
Wilderness / Natural Preserve	Bridges on Park Roads and Trails
State Park Tri; Hike	Streams
Accessible Trail Highlight	Highways
Paved Park Trails	Local Road
State Park Rd; Hike, Bike and Horse	Cities, Towns, Places
Parking	Railroads

AREA MAP LOCATIONS

Scale
1:33,760

1 inch = 2,813 feet

Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
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<p>CALIFORNIA STATE PARKS: NORTH COAST REDWOODS DISTRICT, & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/22/2019</p> <p>Sources: Calif. Dept. of Parks & Recreation, Other Public Lands: GreenInfo, Inc.</p>	
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Bull Creek - Northwest Area

Significant natural resources:

Most of this area consists of second growth montane hardwood coniferous and redwood forests interspersed with prairies. In addition, tan oak forests, alder and willow riparian habitats, and orchards can be found in this area. Look and Luke prairies provide an example of a high-quality prairie habitat with a lot of native grass compositions. The Cuneo Creek watershed, which was harvested for timber under previous management, contains very steep and unstable slopes typical of the western Bull Creek Watershed.

The Upper Bull Creek watershed, which includes the Bull Creek – Northwest Area, provides habitat for northern spotted owls (*Strix occidentalis caurina*) with several known activity centers. Pacific fisher (*Pekania pennanti*) are expected to occur throughout the area. Marbled murrelets (*Brachyramphus marmoratus*) occur in areas with old growth forests, such as along portions of the Grasshopper Trail. Townsend's big-eared bats (*Corynorhinus townsendii*) have been detected in the alluvial areas of Bull Creek and may roost and breed in basal hollows in old growth redwoods. Foothill yellow-legged frogs (*Rana boylei*) are common in the cobbles along Bull and Cuneo creeks and northern red-legged frogs (*Rana aurora*) occur throughout the area. Southern torrent salamanders (*Rhyacotriton variegatus*) and coastal tailed frog (*Ascaphus truei*) are known to occur in the higher-quality, lower-order streams that have not been impacted by sediment. Western pond turtles (*Actinemys [Emys] marmorata*) are known to occur in deeper pools in Bull Creek.

One of the last remnant patches of black cottonwood-willow riparian habitat in the watershed occurs in Bull Creek, near the Homestead Trail. Black cottonwood is present in other areas along Bull and Cuneo creeks. Prior to Euroamerican colonization of the Bull Creek watershed, this habitat was common on Bull Creek from Mill Creek up into Cuneo Creek. Chinook salmon (*Oncorhynchus tshawytscha*) and coho salmon (*Oncorhynchus kisutch*) spawn in lower gradient streams like Bull Creek and Squaw Creek, while steelhead (*Oncorhynchus mykiss*) spawn in the higher gradient streams such as Cuneo Creek and Upper Bull Creek.

Coast fawn lily (*Erythronium revolutum*), Pacific gila (*Gilia capitata* ssp. *pacifica*), marsh pea (*Lathyrus palustris*), redwood lily (*Lilium rubescens*), heart-leaved twayblade (*Listera cordata*), Howell's montia (*Montia howellii*), and white-flowered rein orchid (*Piperia candida*) are all known to occur in the Bull Creek watershed. With the exception of Pacific gila, which occurs in prairies, all of these plants primarily occur in coniferous and broadleaf forests.

Significant cultural resources:

Archaeological: There are historic archaeological sites in this area primarily associated with homestead and logging activities. Homestead sites consist of orchards and building foundations from the former community of Bull Creek. There are also prehistoric archaeological sites recorded in this area of the park, including ethnographic sites associated with the Lolangkok Sinkyone.

Paleontological: The area has not been thoroughly surveyed for paleontological resources, which potentially exist throughout the park.

RECOMMENDATIONS**BCNW #1. HOMESTEAD TRAIL RE-ROUTE**

Issue: Existing trail crosses Bull Creek in two locations. Restoration plans associated with the Bull Creek Floodplain will likely impact the crossing locations and current trail alignment.

Recommendation: Based on the Bull Creek Floodplain Restoration Plan, reroute the trail outside of the Bull Creek Floodplain, as feasible.

BCNW #2. PROPOSED HARPER CREEK TRAIL (NEW TRAIL)

Issue: Desire to provide a non-road alternative to the Peavine Ridge Road.

Recommendation: Develop the new Harper Creek Trail between Thornton Trail and Look Prairie Road. Trail use designation would be hike, bike, horse.

BCNW #3. PROPOSED FOX CAMP TRAIL (NEW TRAIL)

Issue: Desire to provide a non-road alternative to the Fox Camp Road and increase loop opportunities.

Recommendation: Develop the new Fox Camp Trail north of the Fox Camp Road from Indian Orchard Road to Fox Camp Road at the park's western boundary. Trail use designation will be hike, bike, horse.

BCNW #4. POLE LINE ROAD

Issue: This road is used year-around by private property owners and PG&E. Wet season use causes severe damage when driving surface is soft.

Recommendation: Increase maintenance frequency and resurface with coarse aggregate on a regular cycle to maintain firmness during the wet season.

BCNW #5. GRASSHOPPER ROAD

Issue: This road is used year-around by agencies servicing equipment on Grasshopper Peak and the Weott water system. Wet season use causes severe damage when driving surface is soft.

Recommendation: Increase maintenance frequency and resurface with coarse aggregate on a regular cycle to maintain firmness during the wet season.

BCNW #6. PROPOSED BAXTER-GRIEG CONNECTOR (NEW TRAIL)

Issue: Desire to improve access to the Bull Creek backcountry from the Cuneo Equestrian Campground and the Baxter and Hamilton Environmental Camps.

Recommendation: Develop new Baxter-Grieg Connector Trail. Trail use designation will be hike, bike, horse.

BCNW #7. GRIEG ROAD

Issue: This road is used year-around by agencies servicing equipment on Grasshopper Peak and the Weott water system. Wet season use causes severe damage when driving surface is soft.

Recommendation: Increase maintenance frequency and resurface with coarse aggregate on a regular cycle to maintain firmness during the wet season.

BCNW #8. PROPOSED JOHNSON CAMP CROSSOVER TRAIL (NEW TRAIL)

Issue: Desire to improve access to the Bull Creek backcountry from the Cuneo Equestrian Campground and the Baxter and Hamilton Environmental Camps.

Recommendation: Develop a new Johnson Camp Crossover Trail to connect Grieg and Grasshopper roads and the Johnson Camp Trail. It will also provide a non-road alternative to Grasshopper and Grieg roads. Trail use designation will be hike, bike, horse.

BCNW #9. FOX CAMP TRAIL CAMP

Issue: Provide additional remote overnight camping in the Bull Creek Watershed

Recommendation: Provide trail camp located along Fox Camp Road approximately midway between the Indian Orchard Trail and the Mattole Road. This camp would offer an attractive destination for visitors wishing to explore the northern edges of the Bull Creek backcountry and the open prairies of the Fox Camp Ridge. It provides a one-day trip from the Hamilton Camp or the Cuneo Creek Equestrian Campground

BCNW #10. HAMILTON TRAIL CAMP

Issue: Provide additional remote overnight camping in the Bull Creek Watershed

Recommendation: This trail camp would be located at the site of the former Hamilton Barn and provides additional capacity for hikers,

bicyclists, and equestrians along the Homestead Trail corridor. The camp will serve as a central location to begin trips north toward Fox Camp or south toward camps located in the upper Bull Creek watershed. Its central location in the Bull Creek watershed provides many opportunities for connections with trails designed for all user groups.

BCNW #11. ALBEE CAMPGROUND-BULL CREEK TRAIL NORTH CONNECTOR - 1 (CHANGE-IN-USE)

Issue: Desire to increase mountain biking opportunities and route connections.

Recommendation: Change the use of the Albee Campground-Bull Creek North Connector Trail to allow bicycle use after implementation of necessary trail modifications. This change-in-use creates a loop trail via the North Bull Creek and Homestead Trails. Final modifications will be determined by project-specific design and management recommendations to ensure trail safety and sustainability. Specifically, aggregate trail surface hardening in the redwood grove may be necessary to protect tree roots and prevent trail entrenchment.

BCNW #12. HOMESTEAD TRAIL – 1, 2, 3, 5, & 6 (CHANGE-IN-USE)

Issue: Desire to increase mountain biking opportunities and route connections. Currently bicyclists come to a dead end on the south terminus of the multi-use Thornton Trail where it intersects the Homestead Trail, which is designated hike/horse.

Recommendation: Change the use of Homestead Trail – 1, 2, 3 to add bicycles between the Albee Creek Campground and Look Prairie Road/Bull Creek Trail North to create a loop from the campground after implementation of necessary trail modifications. Change the use of Homestead

Trail – 5, 6 to add a bicycle connection between the Thornton Trail, which is currently multiuse, and the proposed change in use, to add bicycles at Albee Creek Campground, and Look Prairie Road/Bull Creek Trail North loop after implementation of necessary trail modifications.

Prescribed Modifications: Design and management modifications shall be performed prior to implementation of the change-in-use. Final modifications will be determined by project-specific design and management recommendations to ensure trail safety and sustainability. Specific modifications and actions could include:

1. Install speed control devices, such as pinch points and textured surfacing, to provide trail safety and minimize mechanical wear.
2. Brush portions of the trail beyond regular cyclical brushing standards to provide and maintain the proper sight distance and trail width necessary for trail safety per the Department's Trails Handbook.
3. Harden the trail surface where necessary to protect tree roots.

BCNW #13. ADDIE JOHNSON TRAIL - 1 (CHANGE-IN-USE)

Issue: Desire to increase mountain biking opportunities and route connections.

Recommendation: Change the use of Addie Johnson Trail - 1 (between the Homestead Trail and Mattole Road) to allow bicycle use after implementation of necessary trail modifications.

Prescribed Modifications: Design and management modifications shall be performed prior to implementation of the change-in-use. Final modifications will be determined by project-specific design and management recommendations to ensure trail safety and sustainability. Specific modifications and actions could include:

1. Install speed control devices, such as pinch

points and textured surfacing, to provide trail safety and minimize mechanical wear.

2. Brush portions of the trail beyond regular cyclical brushing standards to provide and maintain the proper sight distance and trail width necessary for trail safety per the Department's Trails Handbook.

BCNW #14. ADDIE JOHNSON-BIG TREE CONNECTOR (NEW TRAIL)

Issue: Desire to provide a non-road link from the Homestead Trail to the Bull Creek Trail - North. This will provide users two loops from the Big Trees Day Use Area and the Albee Creek Campground.

Recommendation: Develop new Addie Johnson-Big Trees Trail Connector. Trail use designation will be hike and bike.

BCNW #15. BULL CREEK TRAIL NORTH – 4, 6, 7, 8 (CHANGE-IN-USE)

Issue: Desire to increase mountain biking opportunities and route connections.

Recommendation: Change the use to allow mountain bikes without modification.

BCNW #16. HOMESTEAD TRAIL-BULL CREEK NORTH CONNECTOR - 1 & 2 (CHANGE-IN-USE)

Issue: Desire to increase connectivity and loop options for bicyclists.

Recommendation: Change the designated use to allow bicycles after required trail modifications are complete.

Prescribed Modifications: Design and management modifications shall be performed prior to implementation of the change-in-use.

Final modifications will be determined by project-specific design and management recommendations to ensure trail safety and sustainability. Specific modifications and actions could include:

1. Brush portions of the trail beyond regular cyclical brushing standards to provide and maintain the proper sight distance and trail

width necessary for trail safety per the Department's Trails Handbook.

2. Harden the trail surface where necessary to protect tree roots.

BCNW #17. BULL CREEK TRAIL NORTH - 3 (CHANGE-IN-USE)

Issue: Desire to add trailhead options and connectivity for bicyclists and equestrians.

Recommendation: Change the use to allow bicycles without modification. Due to the location and confined design of the current trail segment, it will require a minor reroute away from Bull Creek to provide safe passing width required for equestrian users. Once re-routed, change the designated use to allow for equestrians.

BCNW #18. HOMESTEAD TRAIL MILL CREEK BRIDGE

Issue: The bridge crossing at Mill Creek is not accessible to horses due to steps.

Consequently, equestrians cross through Mill Creek just up river of the bridge, impacting natural resources.

Recommendation: Modify bridge approach to remove steps and provide access to equestrians.

BCNW #19. HOMESTEAD-BAXTER TRAIL CONNECTOR

Issue: Restoration of the Bull Creek Floodplain may affect the routing of the trail where it crosses Bull Creek.

Recommendation: Based on the Bull Creek Floodplain Restoration Plan, reroute the trail and Bull Creek crossing as necessary to maintain trail connectivity.

BCNW #20. HOMESTEAD TRAIL - 8 & 9 (CHANGE-IN-USE)

Issue: Desire to increase mountain biking opportunities and route connections.

Recommendation: Change the use of

Homestead Trail - 8 between the Hamilton Environmental Campground and Pole Line Road to allow bicycles after implementation of necessary trail modifications. Prescribed Modifications: Design and management modifications shall be performed prior to implementation of the change-in-use. Final modifications will be determined by project-specific design and management recommendations to ensure trail safety and sustainability. Specific modifications and actions could include:

1. Install speed control devices, such as pinch points, sinuosity, and textured surfacing, to provide trail safety and minimize mechanical wear.

2. Brush portions of the trail beyond regular cyclical brushing standards to provide and maintain the proper sight distance and trail width necessary for trail safety per the Department's Trails Handbook.

BCNW #21. BAXTER CAMP 2 TRAIL - 1 (CHANGE-IN-USE)

Issue: Desire to provide bicycle access to Baxter Environmental Camps from Mattole Road.

Recommendation: Change the use of Baxter Camp 2 Trail-1 to allow bikes.

BCNW #22. BAXTER TRAIL - 1, 2, & 3 (CHANGE-IN-USE)

Issue: Desire to increase mountain biking opportunities and route connections.

Recommendation: Change the use of Baxter Trail to allow bicycle use after implementation of necessary trail modifications.

Prescribed Modifications: Design and management modifications shall be performed prior to implementation of the change-in-use. Final modifications will be determined by project-specific design and management recommendations to ensure trail safety and sustainability. Specific modifications and

actions could include:

1. Brush portions of the trail beyond regular cyclical brushing standards to provide and maintain the proper sight distance and trail width necessary for trail safety per the Department's Trails Handbook.
2. Harden the trail surface where necessary to protect tree roots.

BCNW #23. ALBEE CREEK CAMPGROUND HOMESTEAD CONNECTOR-1 (CHANGE-IN-USE)

Issue: Desire to increase mountain biking opportunities and route connections. The Thornton Trail is currently designated multiuse. Changing the use of this the Albee Creek Campground Homestead Connector – 1 to allow bicycles would provide a bicycle connection to the Albee Creek Campground by way of Homestead Trail-6. This connection would be contingent on the change of use to add bicycles to Homestead Trail-6.

Recommendation: Change the use of Albee Creek Campground Homestead Connector – 1 to add bicycles between the Albee Creek

Campground and the Thornton Trail after implementation of necessary trail modifications.

Prescribed Modifications: Design and management modifications shall be performed prior to implementation of the change-in-use. Final modifications will be determined by project-specific design and management recommendations to ensure trail safety and sustainability. Specific modifications and actions could include:

1. Install speed control devices, such as pinch points, sinuosity, and textured surfacing, to provide trail safety and minimize mechanical wear.
2. Harden the trail surface where necessary to protect tree roots and minimize trail entrenchment.

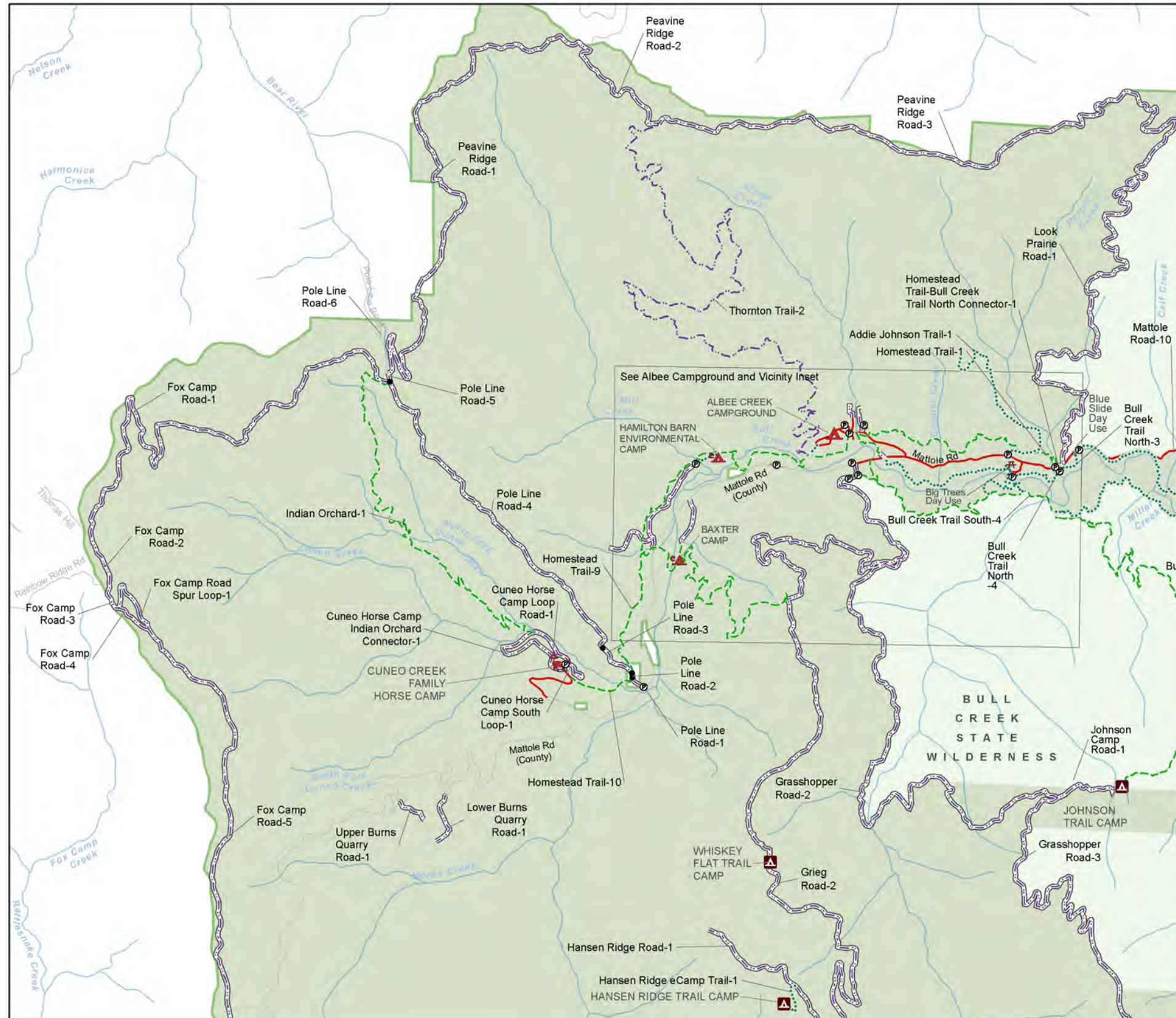
BCNW #24. BULL CREEK BRIDGE

Issue: Trail connectivity along Bull Creek. Limited access to trails south of Bull Creek.

Recommendation: Install permanent bridge at Bull Creek to provide year-round connection between trails North and south of the river.



Map: Bull Creek - Northwest Area - Existing Roads and Trails



Existing Roads and Trails

BULL CREEK - NORTHWEST

Current Road & Trail Network by Category and Use Designation

- Hike
- Hike and Horse
- Hike, Bike and Horse
- State Park Rd, Hike, Bike and Horse
- State Park Rd, No Designated Trail Use
- State Park Rd, Hike
- Paved Park Roads

Reference Features

- ▭ Humboldt Redwoods State Park
- ▭ Subunits - Wilderness, Preserves
- ⛶ Picnic Areas
- ⚠ Campground-Other category
- 🐎 Horse Camp
- ⚠ Environmental Camp Area
- ⚠ Campground
- Streams
- Highways
- Local Road
- Calib_Pts_Rd
- Ⓟ Parking

Area Location

Scale
1:31,690
1 inch = 2,641 feet

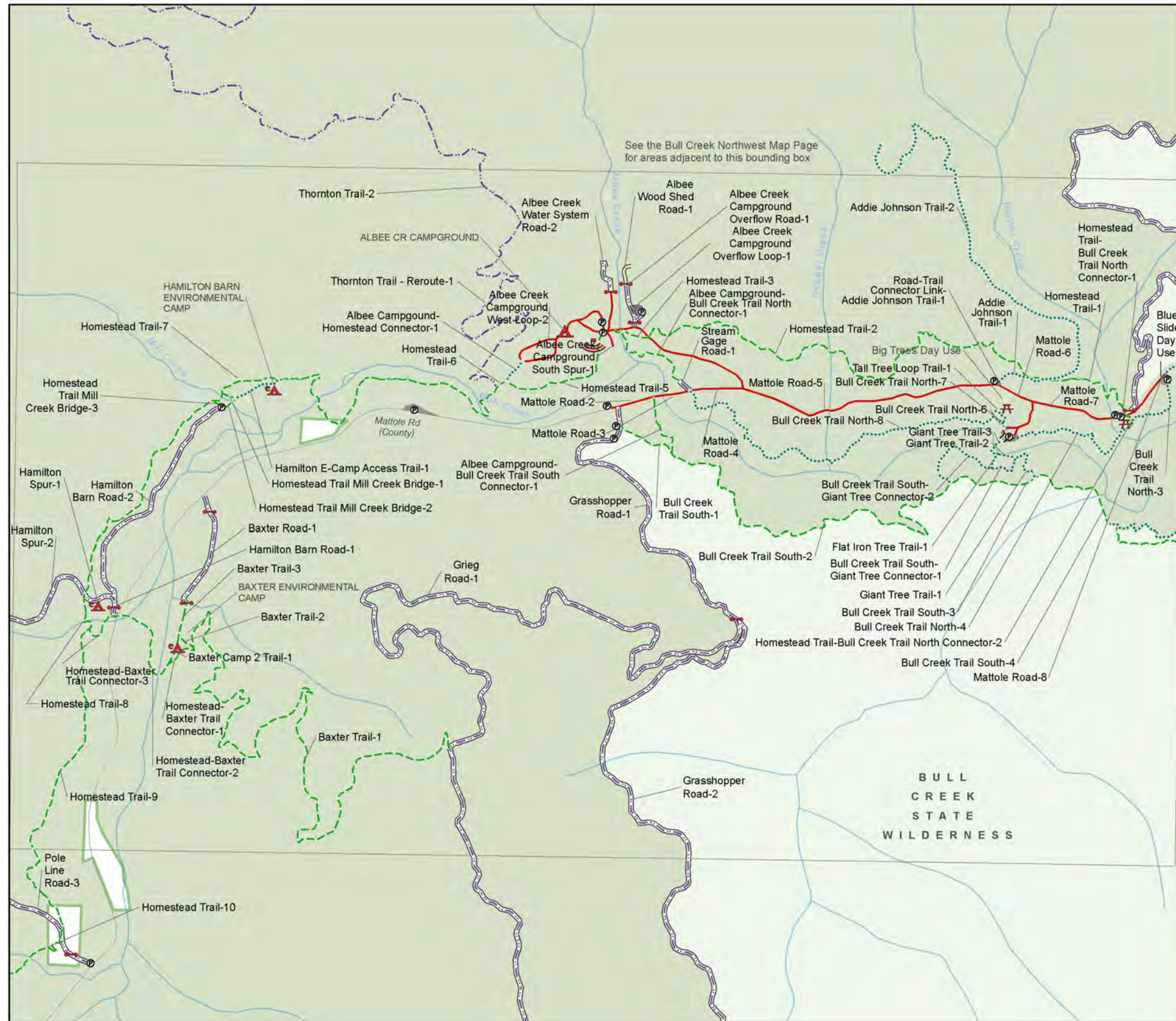
Feet
0 1,000 2,000

Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
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<p>CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/22/2019 Sources: Calif. Dept. of Parks & Recreation Other Public Lands GreenInfo, Inc.</p>	
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Map: Albee Creek Campground Detail - Existing Roads and Trails



Existing Roads and Trails

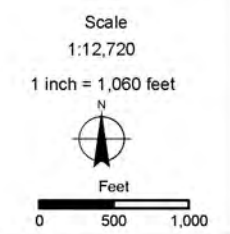
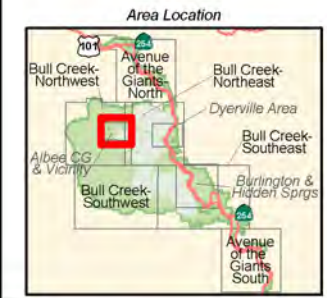
ALBEE CREEK CAMPGROUND AND VICINITY

Current Road & Trail Network by Category and Use Designation

- Hike
- Hike and Horse
- Hike, Bike and Horse
- State Park Rd, Hike, Bike and Horse
- State Park Rd, No Designated Use
- State Park Rd, Hike
- Paved Park Roads

Reference Features

- Humboldt Redwoods State Park
- Subunits - Wilderness, Preserves
- Picnic Areas
- Environmental Camp Area
- Campground
- Campfire Center
- Gate
- Streams
- Highways
- Local Road
- Parking

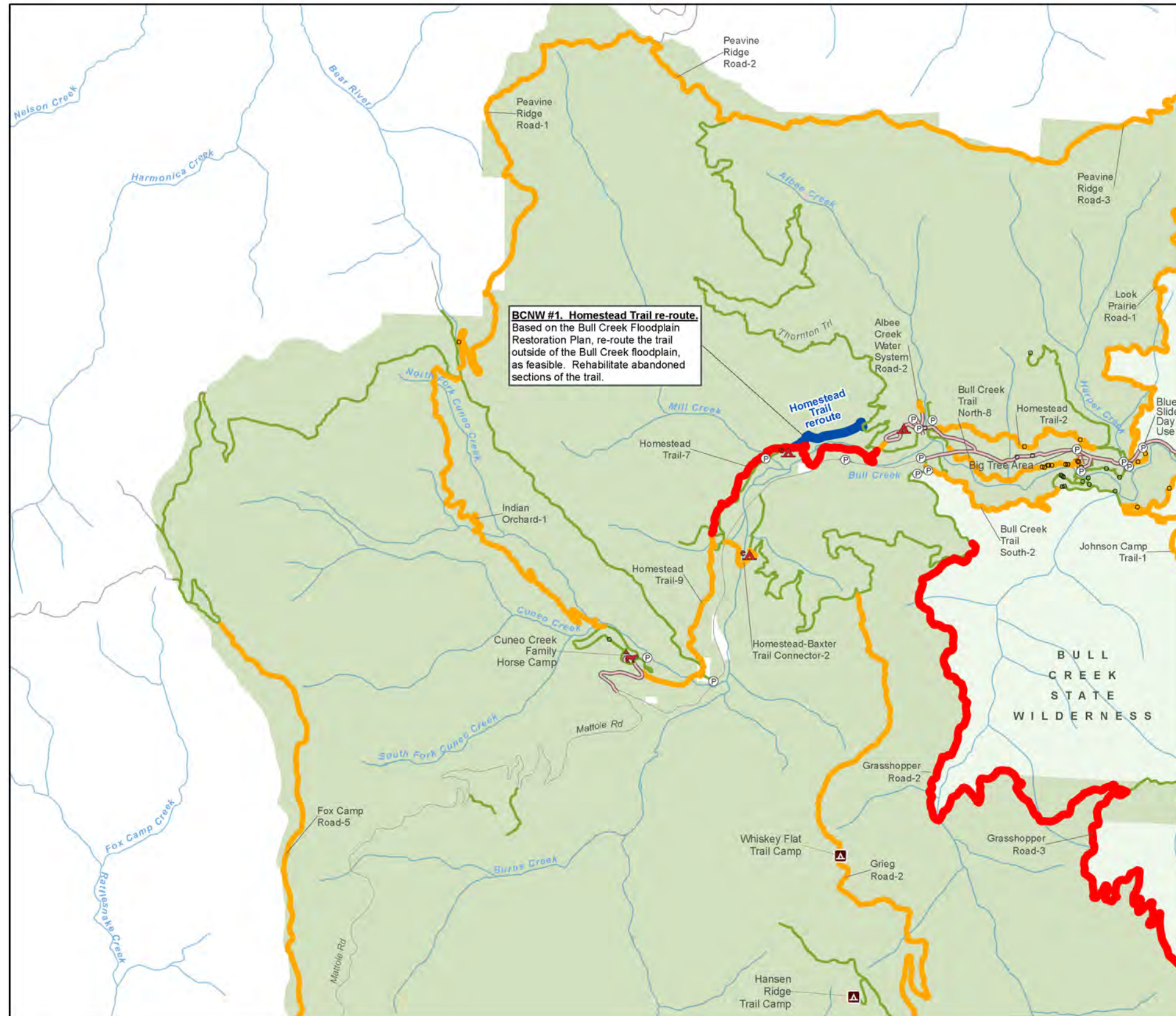


Humboldt Redwoods State Park Road and Trail Management Plan

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<p>CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/22/2019 Sources: Calif. Dept. of Parks & Recreation Other Public Lands GreenInfo, Inc.</p>	
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Map: Bull Creek - Northwest Area - Maintenance Recommendations



Maintenance Recommendations

BULL CREEK - NORTHWEST

- Unsustainable. Remove, Reconstruct/Re-Engineer, and/or Reroute
- Sustainable with Reconstruction/ Re-engineering
- Sustainable with Maintenance
- ⋯ Non-system route
- User-created Trail Intersections. Remove Trail and Rehabilitate Vegetation.
- Proposed Re-routes on Existing Trails

Note: Recommendations are made by road or trail segment. Segment recommendations may apply to only a portion of the segment (e.g. a road with a "Remove, Reconstruct/Reengineer, and Reroute" recommendation may include locations within the trail segment requiring maintenance, locations requiring reconstruction/reengineering, and locations requiring reroutes).

Other Reference Layers:

- Humboldt Redwoods State Park
- Subunits - Wilderness, Preserves
- Paved State Park Road
- Highways
- Local Road
- A Other campground
- H Horse Camp Area
- D Developed Camp Area
- E Environmental Camp Areas
- Streams
- P Parking

Map Page Location

Scale
1:31,670

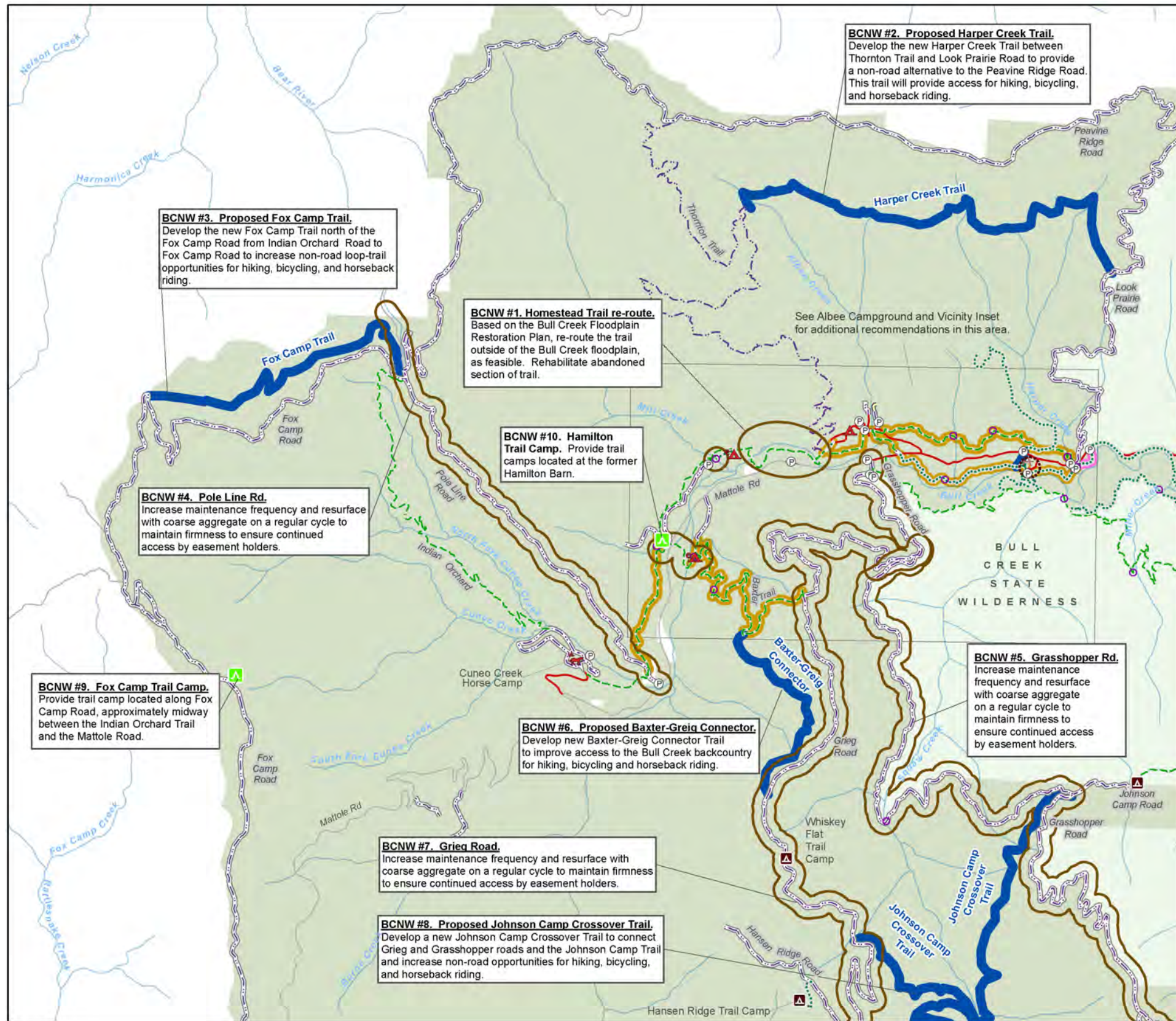
1 inch = 2,639 feet

Humboldt Redwoods State Park Road and Trail Management Plan

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<p>CALIFORNIA STATE PARKS: NORTH COAST REDWOODS DISTRICT, & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/21/2019</p> <p>Sources: Calif. Dept. of Parks & Recreation, Other Public Lands: GreenInfo, Inc.</p>	
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Map: Bull Creek - Northwest Area - Planning Recommendations



Planning Recommendations

BULL CREEK - NORTHWEST

- Existing Route Recommendations
- Area Recommendations
- Proposed New Routes
- Change in Use Recommendations on Existing Trails - Add Bicycles.
- Change in Use Recommendations on Existing Trails - Add Bicycles and Equestrians.
- Proposed Trail Camps

Other reference layers:

Humboldt Redwoods State Park	Paved Park Roads
HRSP_SubUnits_Revised...	Bridges on Park Roads and Trails
State Park Trl; Hike	Other campground
State Park Trl; Hike and Horse	Horse Camp Area
State Park Trl; Hike, Bike and Horse	Developed Camp Area
State Park Rd; Hike, Bike and Horse	Environmental Camp Areas
State Park Rd; No Designated Trail Use	Picnic Areas
State Park Rd; Hike	Streams
Parking	Local Road

AREA MAP LOCATIONS

Scale
1:31,686

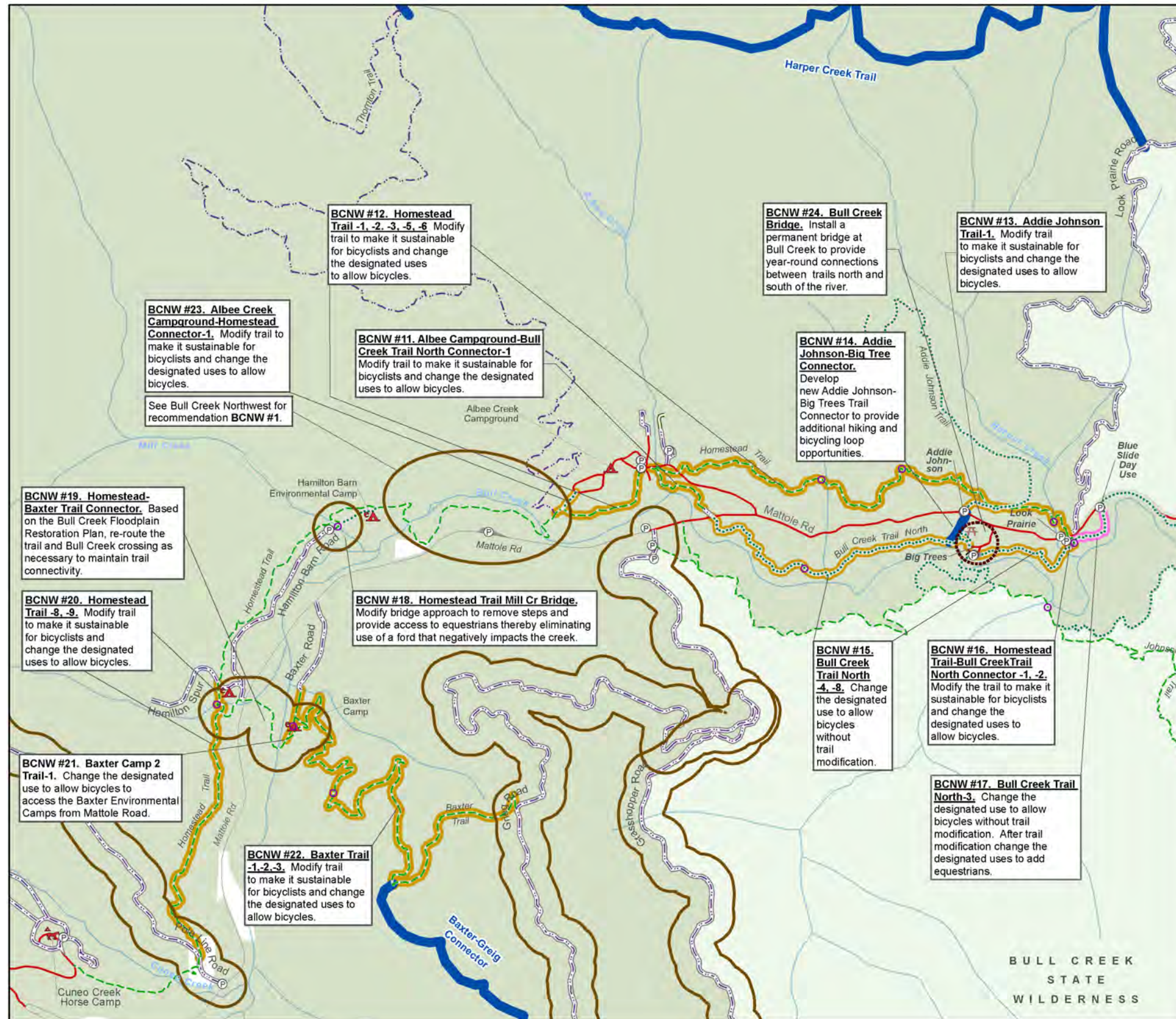
1 inch = 2,641 feet

Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

<p>CALIFORNIA STATE PARKS: NORTH COAST REDWOODS DISTRICT, & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/22/2019</p> <p>Sources: Calif. Dept. of Parks & Recreation, Other Public Lands: GreenInfo, Inc.</p>	
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Map: Albee Creek Campground Detail - Planning Recommendations



Planning Recommendations

ALBEE CREEK CAMPGROUND AND VICINITY

- Existing Route Recommendations
- Area Recommendations
- Proposed New Routes
- Change in Use Recommendations on Existing Trails - Add Bicycles.
- Change in Use Recommendations on Existing Trails - Add Bicycles and Equestrians.

Other reference layers:

- Humboldt Redwoods State Park
- Subunits - Wilderness, Preserves
- State Park Trl; Hike
- State Park Trl; Hike and Horse
- State Park Rd; Hike, Bike and Horse
- State Park Rd; No Designated Trail Use
- State Park Rd; Hike
- Parking
- Paved Park Roads
- Bridges on Park Roads and Trails
- Horse Camp Area
- Developed Camp Area
- Environmental Camp Areas
- Picnic Areas
- Streams

AREA MAP LOCATIONS

Scale
1:15,515

1 inch = 1,293 feet

Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

**CALIFORNIA STATE PARKS:
NORTH COAST
REDWOODS
DISTRICT, &
FACILITIES
MANAGEMENT
DIVISION**

Date: 3/22/2019

Sources:
Calif. Dept. of Parks & Recreation,
Other Public Lands:
GreenInfo, Inc.

Bull Creek - Northeast Area

Significant natural resources:

This area includes the Rockefeller Forest, the largest extant contiguous old growth redwood forest. Also in this area is the Carl A. Anderson Redwoods Natural Reserve and the northern section of the Bull Creek State Wilderness. These areas hold some of the largest unfragmented old growth forest in the park. The Bull Creek – Northeast Area also includes riparian and riverine habitat and prairies.

The old growth redwood forests provide essential habitat for marbled murrelets (*Brachyramphus marmoratus*), which are known to occur here, especially along the alluvial flats of Bull Creek. These forests also contain habitat for the northern spotted owl (*Strix occidentalis caurina*). A bald eagle (*Haliaeetus leucocephalus*) nest occurs along this section of the Eel River. Pacific fisher (*Pekania pennanti*), which can be sensitive to habitat fragmentation, has been documented in Tepee, Cow, and Calf creeks and is expected to occur throughout the Bull Creek Northeast Area. Townsend's big-eared bats (*Corynorhinus townsendii*) have been detected in the alluvial areas of Bull Creek and may roost and breed in basal hollows in old growth redwoods.

Significant cultural resources:

Archaeological: There are archaeological sites in this part of the park associated with the historic communities of Bull Creek, Dyerville, and Weott. A historic fireplace designed by architect Julia Morgan is located at the California Federation of Women's Club Grove. There are also historic sites recorded in this area of the park associated with logging activities.

Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*Oncorhynchus kisutch*) and steelhead (*Oncorhynchus mykiss*) all occur in the main stem and South Fork of the Eel River, and spawn in Bull Creek and some of its anadromous tributaries.

Few botanical surveys have been conducted in this area; however, Humboldt County fuchsia (*Epilobium septentrionale*) and northern bugleweed (*Lycopus uniflorus*) have been documented along the South Fork Eel River where the former occurs in sandy soils along the river and the latter occurs in bogs and wetlands. Heart-leaved twayblade (*Listera cordata*) and white-flowered rein orchid (*Piperia candida*), which primarily occur in coniferous and broadleaf forests, have been documented in the Bull Creek watershed and Howell's montia (*Montia howellii*) occurs in both the South Fork Eel and Bull Creek watersheds.

Prehistoric sites recorded in this part of the park include ethnographic village sites associated with the Lolangkok Sinkyone.

Paleontological: The area has not been thoroughly surveyed for paleontological resources, which potentially exist throughout the park.

RECOMMENDATIONS

BCNE #1. HIGH ROCK RIVER TRAIL

Issue: This trail provides access to many redwood groves and the Eel River.

Currently the trail connects to the Avenue of the Giants in four locations providing opportunities for short hikes along the Avenue. However, lack of parking limits the amount of access the trail can provide.

Recommendation: Construct connecting trails to two large parking areas off the Avenue of the Giants.

BCNE #2. FOUNDER'S GROVE AREA

Issue: Desire to link to the rail-to-trail on the North Coast Railroad Authority right-of-way as proposed in the 2002 Redwood Pathway Implementation Strategy.

Recommendation: Develop new trail connection to the rail-to-trail once it is implemented.

BCNE #3. PROPOSED DECKER CREEK TRAIL (NEW TRAIL)

Issue: Desire to improve access to the Bull Creek backcountry.

Recommendation: Develop new Decker Creek Trail to connect the Avenue of the Giants to Bull Creek backcountry. Trail use designation will be hike.

BCNE #4. MATTOLE ROAD

Issue: The Mattole Road is a well-traveled narrow road that requires passing pullouts and wide shoulders for safety. Existing pullouts have been expanded for parking by users over the years to gain access to visitor attractions along the road. These unofficial parking areas and associated user-created trails cause resource damage.

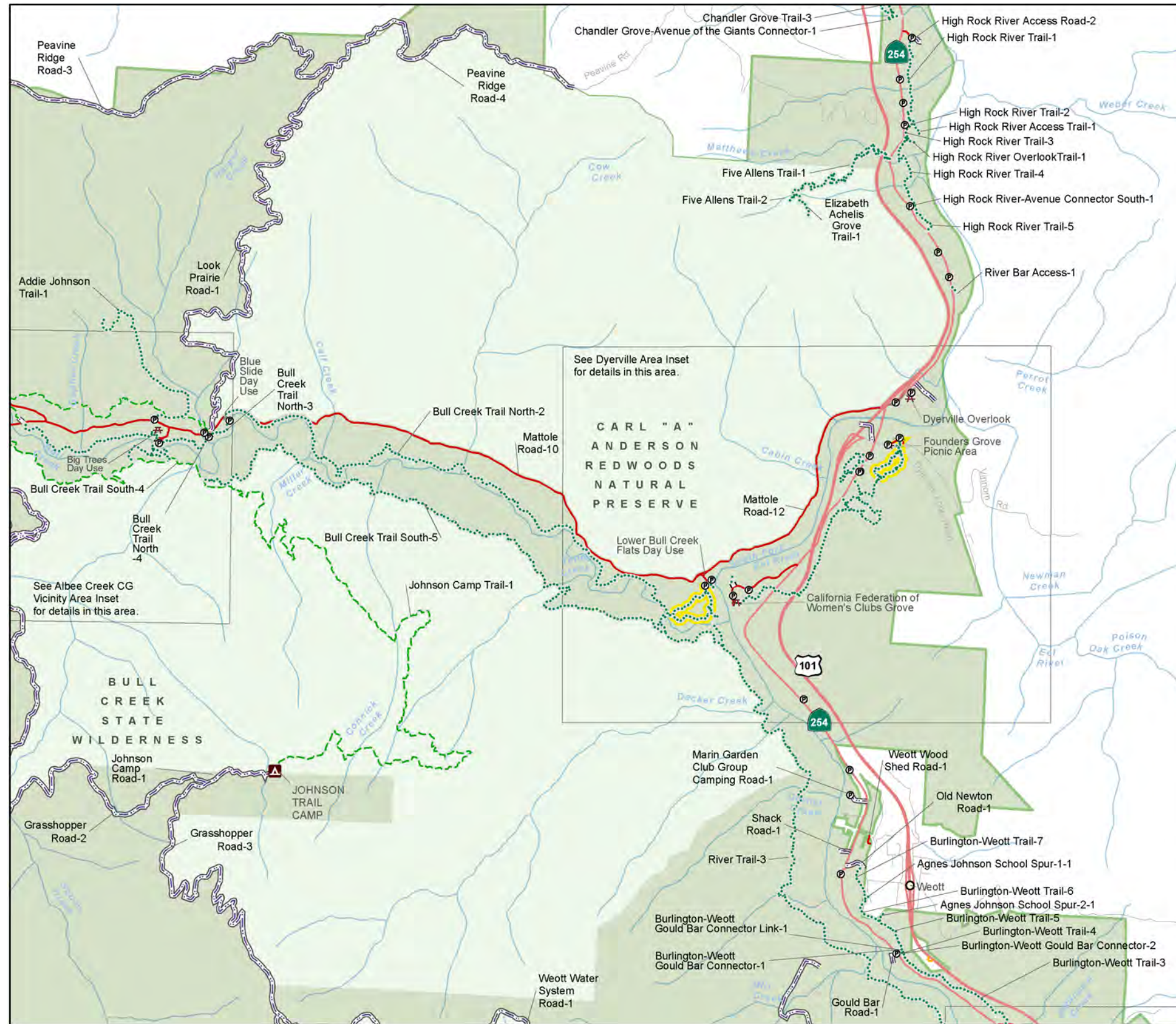
Recommendation: Maintain existing established vehicle pullouts and shoulders along the Mattole Road to allow for safe passing on this narrow road. Use natural elements such as large woody debris and live vegetation to discourage further encroachment and establishment of parking pullouts into undisturbed areas. Improve signage and mapping to limit parking to designated day use areas along the road.

BCSW #5. WOMENS FEDERATION PARKING LOT

Issue: Erosion of the right bank of the South Fork Eel River has undercut sections of the parking lot. The erosion, if left untreated, may further encroach on the facility eliminating vehicle use altogether.

Recommendation: The Department will work with local, State, and federal agencies to determine a plan for preserving the parking lot at the Women's Federation Grove.

Map: Bull Creek - Northeast Area - Existing Roads and Trails



Existing Roads and Trails

BULL CREEK - NORTHEAST

Current Road & Trail Network by Category and Use Designation

- Hike
- - - - - Hike and Horse
- State Park Rd, Hike, Bike and Horse
- State Park Rd, Hike
- Paved Park Roads
- Non-system Route
- Accessible Trail Highlight

Reference Features

- Humboldt Redwoods State Park
- ✠ Picnic Areas
- ▲ Campground-Other category
- Streams
- Highways
- Local Road
- Cities, Towns, Places
- P Parking

Area Location

Scale
1:30,050

1 inch = 2,504 feet

Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

<p>CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/20/2019</p> <p>Sources: Calif. Dept. of Parks & Recreation Other Public Lands GreenInfo, Inc.</p>	
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Map: Dyerville Area Detail - Existing Roads and Trails



Existing Roads and Trails

DYERVILLE AREA

Current Road & Trail Network by Category and Use Designation

- Hike
- State Park Rd, Hike, Bike and Horse
- State Park Rd, Hike
- Paved Park Roads
- Accessible Trail Highlight

Reference Features

- Humboldt Redwoods State Park Subunits - Wilderness, Preserves
- ⛶ Picnic Areas
- ⚡ Gate
- ~ Streams
- Highways
- Local Road
- P Parking

Area Location

Scale
1:12,460
1 inch = 1,038 feet

Humboldt Redwoods State Park
Road and Trail Inventory
and Assessment

NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

<p>CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/21/2019</p> <p>Sources: Calif. Dept. of Parks & Recreation Other Public Lands GreenInfo, Inc.</p>	
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Map: Bull Creek - Northeast Area - Maintenance Recommendations



Maintenance Recommendations

BULL CREEK - NORTHEAST

- Unsustainable. Remove, Reconstruct/Re-Engineer, and/or Reroute
- Sustainable with Reconstruction/ Re-engineering
- Sustainable with Maintenance
- ⋯ Non-system route
- User-created Trail Intersections. Remove Trail and Rehabilitate Vegetation.

Note: Recommendations are made by road or trail segment. Segment recommendations may apply to only a portion of the segment (e.g. a road with a "Remove, Reconstruct/Reengineer, and Reroute" recommendation may include locations within the trail segment requiring maintenance, locations requiring reconstruction/reengineering, and locations requiring reroutes).

Other Reference Layers:

- Humboldt Redwoods State Park
- Subunits - Wilderness, Preserves
- Paved State Park Road
- Highways
- Local Road
- A Other campground
- Streams
- City Points
- P Parking

Map Page Location

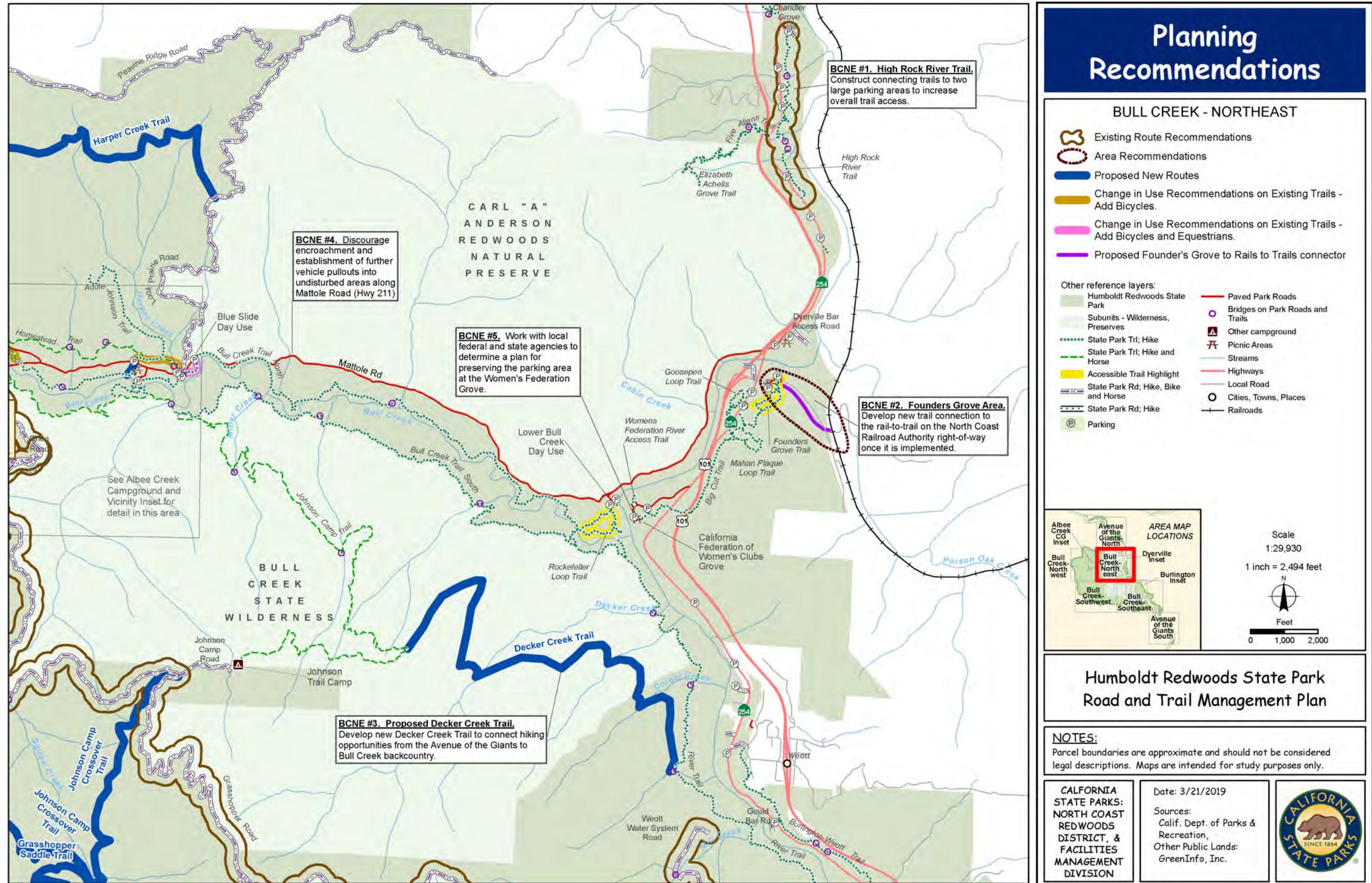
Scale
1:29,920
1 inch = 2,493 feet

Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
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<p>CALIFORNIA STATE PARKS: NORTH COAST REDWOODS DISTRICT, & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 4/3/2017 Sources: Calif. Dept. of Parks & Recreation, Other Public Lands: GreenInfo, Inc.</p>	
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Map: Bull Creek - Northeast Area - Planning Recommendations



Bull Creek - Southwest Area

Significant natural resources:

This area is similar to the Bull Creek - Northwest Area and consists of second growth montane hardwood coniferous and redwood forests, interspersed with prairies. There is also a small patch of Chaparral just below the Grasshopper Lookout Tower. Some of the prairies, such as Fox Camp, Grasshopper, Preacher, and Hansen, have been partially converted to forest due to the lack of fire. Much of the Upper Bull Creek watershed was harvested under previous management on steep unstable slopes, which has resulted in high sediment rates in the creeks. Some of these second growth forests have residual scattered old growth trees.

Upper Bull Creek watershed provides habitat for northern spotted owls (*Strix occidentalis caurina*) and there are several known activity centers. Pacific fisher (*Pekania pennanti*) are expected to occur throughout this area in forested habitats. Foothill yellow-legged frogs (*Rana boylei*) are common in the cobbles along Bull Creek and northern red-legged frogs (*Rana aurora*) occur throughout the area. Southern torrent salamanders (*Rhyacotriton variegatus*) and coastal tailed frogs (*Ascaphus truei*) are known to occur in the higher-quality, lower-order streams. Steelhead (*Oncorhynchus mykiss*) spawn in Upper Bull Creek where efforts have been occurring over several years to restore the cottonwood – willow and alder riparian forests. Few botanical surveys have been conducted in this area; however, species detected elsewhere in the Bull Creek watershed can be expected.

Significant cultural resources:

Archaeological: Archaeological resources are located throughout this region of the park, including the historic Gould Ranch and orchard, the remains of the Quigley Barn, and sites associated with logging activities. The Grasshopper Fire Lookout Station is located at Grasshopper Peak. Prehistoric sites have been recorded in this area of the park.

Paleontological: The area has not been thoroughly surveyed for paleontological resources, which potentially exist throughout the park.

RECOMMENDATIONS

BCSW #1. PREACHER GULCH BYPASS

Issue: Portion of road is unsustainable.

Recommendations: Reroute road to sustainable alignment and rehabilitate the original alignment to a natural state.

BCSW #2. PROPOSED GRASSHOPPER SADDLE TRAIL (NEW TRAIL)

Issue: Desire to improve access to the Bull Creek backcountry from the Cuneo Equestrian Campground and the Baxter and

Hamilton Environmental Camps.

Recommendation: Develop the new Grasshopper Saddle Trail to connect the proposed Johnson Camp Crossover Trail to the South Prairie Trail and provide a non-road alternative to Grasshopper and Grieg roads. Trail use designation will be hike, bike, horse.

BCSW #3. PROPOSED UPPER GOULD BARN TRAIL (NEW TRAIL)

Issue: Desire for access to the upper and lower Gould Barn sites and a non-road alternative to Grieg Road in the Southern Bull Creek backcountry.

Recommendation: Develop new Upper Gould Barn Trail to connect Bull Creek and Upper Gould Trail Camps to the South Prairie Trail and/or the Grieg Road. Trail use designation will be hike, bike, horse.

BCSW #4. WEOTT WATER SYSTEM ROAD

Issue: The Weott Water System Road is used year-around by the Weott Community Services District. Wet season use causes severe damage when driving surface is soft.

Recommendation: Work with Weott Community Services District to increase maintenance frequency and resurface with coarse aggregate on a regular cycle to maintain firmness during the wet season.

BCSW #5. SOUTH PRAIRIE TRAIL - 1 (CHANGE-IN-USE)

Issue: Desire to increase mountain biking opportunities and route connections.

Recommendation: Change the use of South Prairie Trail to allow bicycle use after required trail modifications are complete. Prescribed Modifications: Design and management modifications shall be performed prior to implementation of the change-in-use. Final modifications will be determined by project-specific design and management recommendations to ensure trail safety and sustainability. Specific modifications and actions could include:

1. Install speed control devices, such as pinch points and textured surfacing, to provide trail safety and minimize mechanical wear.
2. Harden the trail surface where necessary to protect tree roots.

3. Reconstruct drainage crossings for improve sustainability.

BCSW #6. PANTHER GAP ROAD ALTERNATE ROUTE (RECONSTRUCT EXISTING NON-SYSTEM ROAD)

Issue: A portion of the existing park road passes through private property.

Recommendation: Reconstruct existing non-system route on park property to improve vehicle administrative and emergency access and provide additional trail access for visitors. Trail use designation will be hike, bike, horse.

BCSW #7. GRASSHOPPER TRAIL CAMP

Issue: Provide additional remote overnight camping in the Bull Creek Watershed

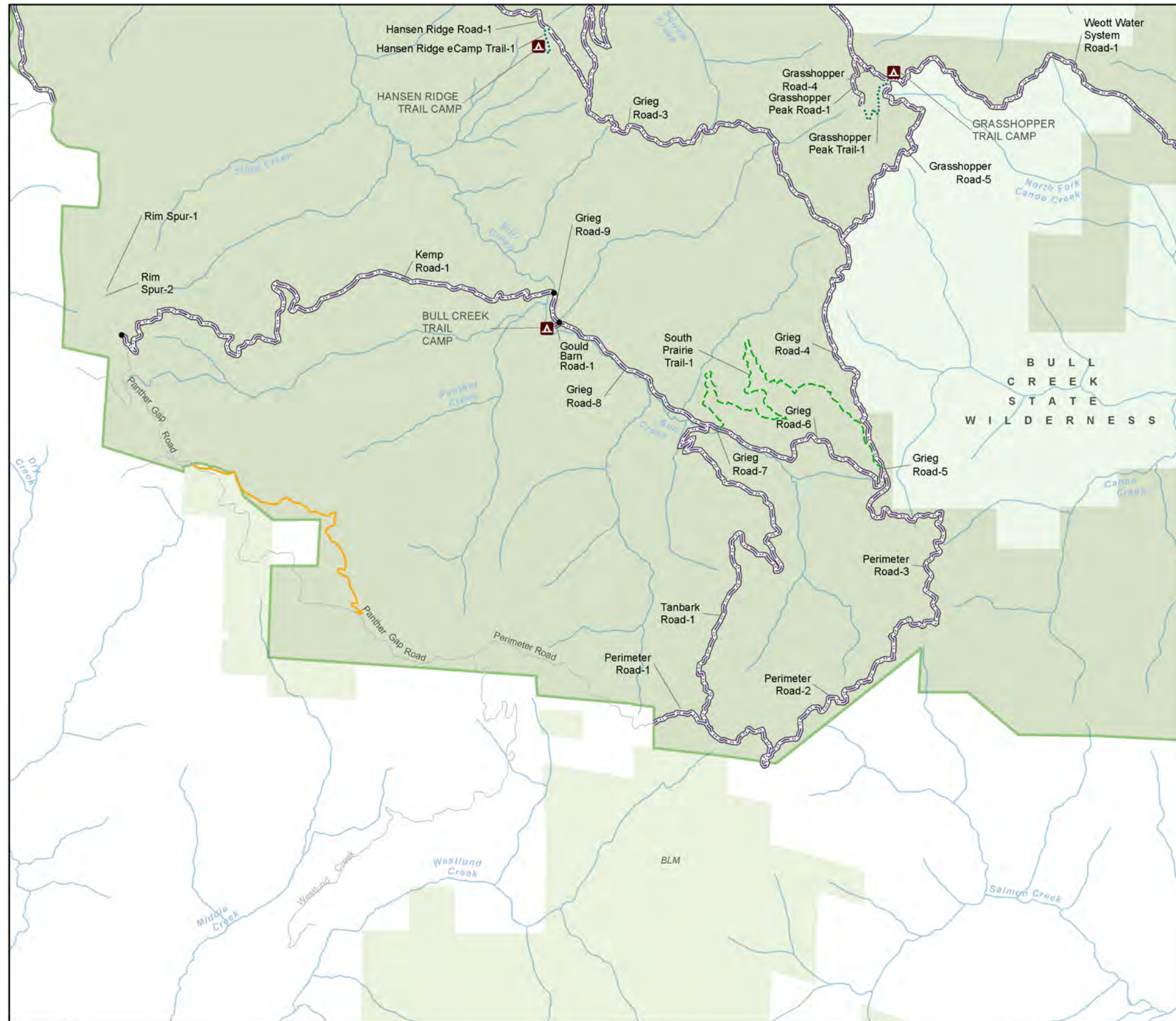
Recommendation: This camp would be located near Grasshopper Peak and is situated between Grieg Road and the proposed Grasshopper Saddle Trail. The trail will serve as part of a loop around Grasshopper Peak and provide a layover camp for those wishing to venture further into the upper Bull Creek Watershed, the proposed Upper Gould Barn Camp, and the Bull Creek Trail Camp.

BCSW #8. UPPER GOULD TRAIL CAMP

Issue: Provide additional remote overnight camping in the Bull Creek Watershed

Recommendation: This camp would be located at the site of the former Bull Creek Ranch along the proposed Upper Gould Barn Trail. It provides a destination for those seeking to explore the deepest backcountry areas of the park. It provides an ideal destination for those seeking to extend their trip beyond the camps around Grasshopper Peak.

Map: Bull Creek - Southwest Area - Existing Roads and Trails



Existing Roads and Trails

BULL CREEK - SOUTHWEST

Current Road & Trail Network by Category and Use Designation

- ⋯ Hike
- - - Hike and Horse
- State Park Rd, Hike, Bike and Horse
- Non-system Route
- Selected End-of-Segment Markers

Reference Features

- Humboldt Redwoods State Park
- Subunits - Wilderness, Preserves
- Other Public Lands
- Campground-Other category
- Streams
- Local Road
- P Parking

Area Location

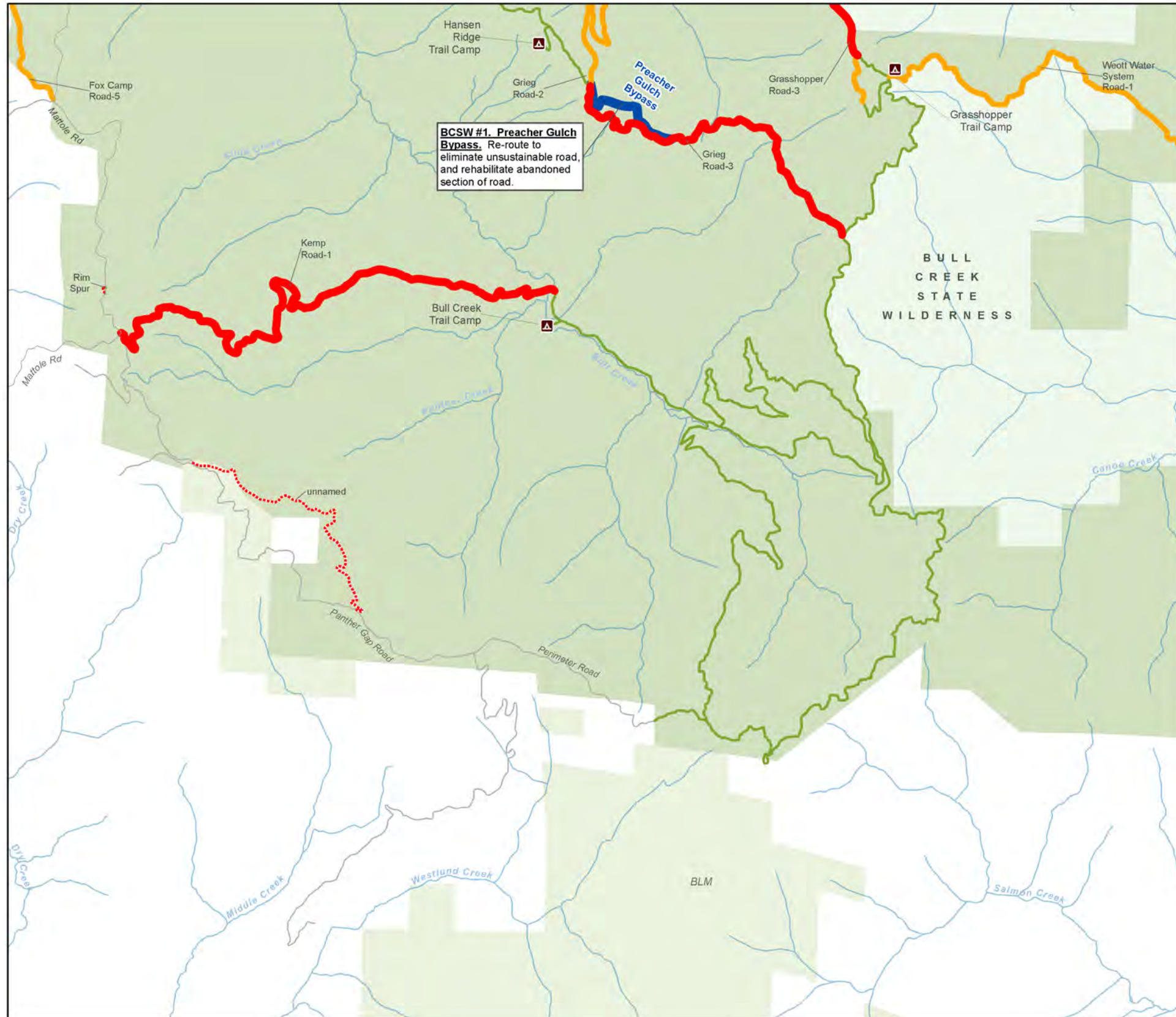
Scale
1:34,138
1 inch = 2,845 feet

Humboldt Redwoods State Park
Road and Trail Management Plan

NOTES:
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CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION	Date: 3/20/2019 Sources: Calif. Dept. of Parks & Recreation Other Public Lands GreenInfo, Inc.	
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Map: Bull Creek - Southwest Area - Maintenance Recommendations



Maintenance Recommendations

BULL CREEK - SOUTHWEST

- Unsustainable. Remove, Reconstruct/Re-Engineer, and/or Reroute
- Sustainable with Reconstruction/ Re-engineering
- Sustainable with Maintenance
- ⋯ Non-system route
- Proposed Re-routes on Existing Trails

Note: Recommendations are made by road or trail segment. Segment recommendations may apply to only a portion of the segment (e.g. a road with a "Remove, Reconstruct/Reengineer, and Reroute" recommendation may include locations within the trail segment requiring maintenance, locations requiring reconstruction/reengineering, and locations requiring reroutes).

Other Reference Layers:

- Humboldt Redwoods State Park
- Subunits - Wilderness, Preserves
- Local Road
- Other campground
- Streams
- Parking

Map Page Location

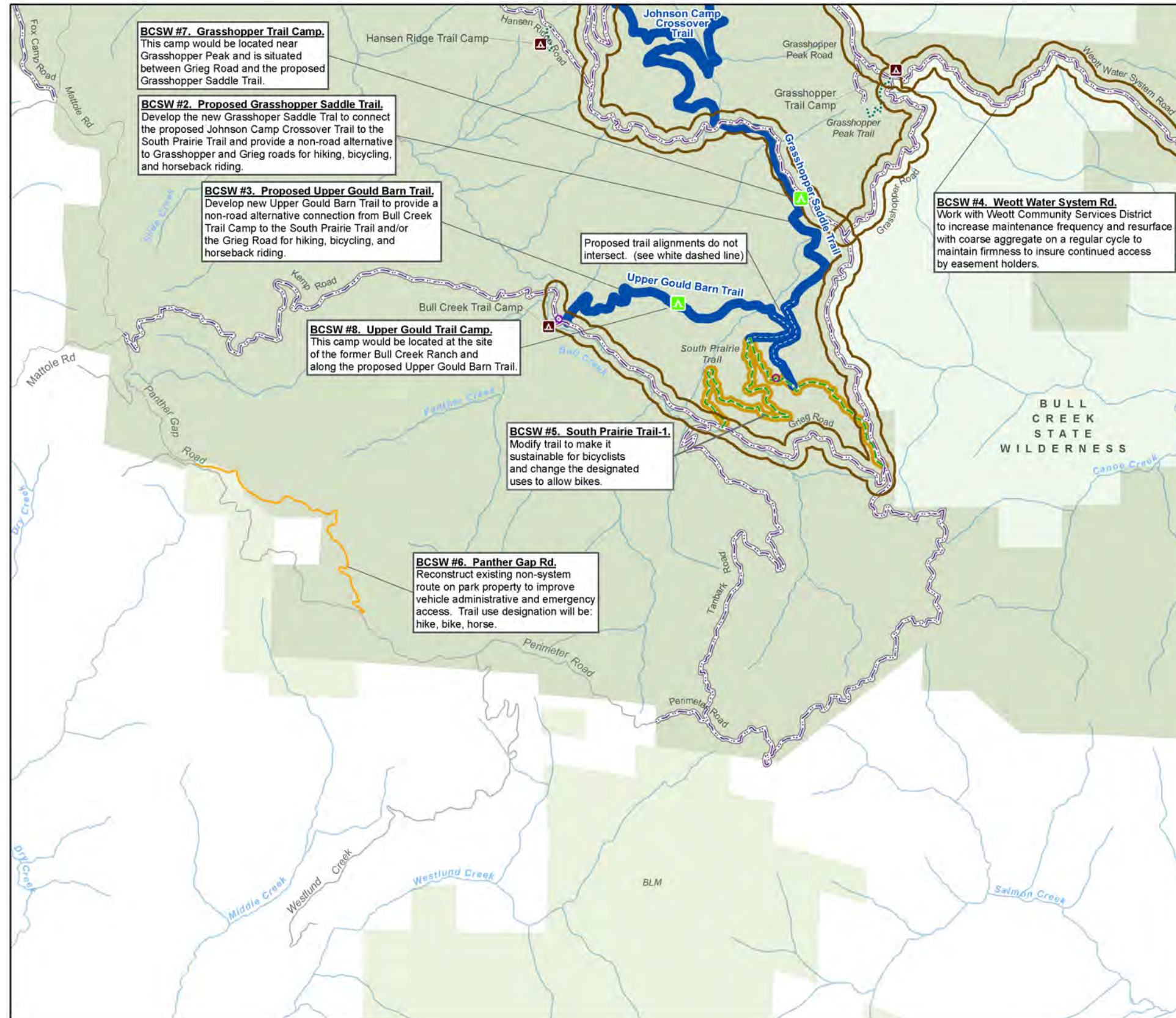
Scale
1:33,940
1 inch = 2,828 feet

Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

<p>CALIFORNIA STATE PARKS: NORTH COAST REDWOODS DISTRICT, & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/21/2019 Sources: Calif. Dept. of Parks & Recreation, Other Public Lands: GreenInfo, Inc.</p>	
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Map: Bull Creek - Southwest Area - Planning Recommendations



Planning Recommendations

BULL CREEK - SOUTHWEST

- Existing Route Recommendations
- Proposed New Routes
- Change in Use Recommendations on Existing Trails - Add Bicycles.
- Proposed Trail Camps

Other reference layers:

- Humboldt Redwoods State Park
- Subunits - Wilderness, Preserves
- State Park Trl; Hike
- State Park Trl; Hike and Horse
- State Park Rd; Hike, Bike and Horse
- Other campground
- Parking
- Bridges on Park Roads and Trails
- Streams
- Other Public Lands
- Local Road

AREA MAP LOCATIONS

Scale
1:33,940

1 inch = 2,828 feet

Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
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<p>CALIFORNIA STATE PARKS: NORTH COAST REDWOODS DISTRICT, & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/21/2019</p> <p>Sources: Calif. Dept. of Parks & Recreation, Other Public Lands: GreenInfo, Inc.</p>	
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Bull Creek - Southeast Area

Significant natural resources:

This area contains the southern section of Bull Creek State Wilderness. Canoe Creek, which feeds into the South Fork Eel River, is the largest subwatershed in the area. The Canoe watershed also supports one of the largest unfragmented old growth redwood forests in the park. Old growth forests are less common east of U.S. Highway 101 and are primarily concentrated along the South Fork Eel River and the Hidden Springs Campground area. The remainder of the forests on the east side of Highway 101 consist of second growth redwood and montane coniferous hardwood forests.

Old growth redwood forests in Canoe Creek and along the South Fork Eel River support marbled murrelets (*Brachyramphus marmoratus*). Northern spotted owls (*Strix occidentalis caurina*) may occur throughout the forested environments. Pacific fisher (*Pekania pennanti*) are also known from the Canoe Creek watershed and Townsend's big-eared bats (*Corynorhinus townsendii*) may breed in the large basal hollows common in the alluvial areas.

Western pond turtles (*Actinemys [Emys] marmorata*) and foothill yellow-legged frogs occur in the South Fork Eel River. Southern torrent salamanders (*Rhyacotriton variegatus*) and coastal tailed frog (*Ascaphus truei*) may occur in the higher-quality, lower-order streams. Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*Oncorhynchus kisutch*) and steelhead (*Oncorhynchus mykiss*) all occur in the South Fork Eel River and Canoe Creek.

Few botanical surveys have been conducted in this area although Humboldt County fuchsia (*Epilobium septentrionale*), which occurs in sandy habitats along the river, and Howell's montia (*Montia howellii*), an ephemeral wetland species, have been documented along the South Fork Eel River. Howell's montia can often be found in compacted soils, such as along roadsides or trails.

Significant cultural resources:

Archaeological: Archaeological sites in this region of the park include abandoned segments of the historic Old Redwood Highway, wagon roads, and sites associated with logging activities. The Holmgren homestead site is in this region of the park and consists of an orchard, historic structures, and a cemetery. Prehistoric sites recorded in this part of the park are mostly associated with historic hunting activities.

Paleontological: The area has not been thoroughly surveyed for paleontological resources, which potentially exist throughout the park.

RECOMMENDATIONS

BCSE #1. GRASSHOPPER TRAIL

Issue: Steep grades and entrenchment make portions of the trail unsustainable. A reroute was planned, designed, and evaluated for environmental compliance in 2001 but was not developed due to the 2003 Canoe Creek Fire.

Recommendation: Re-establish the previously identified re-route corridor and construct new trail segment. Remove the abandoned trail alignment and rehabilitate the habitat.

BCSE #2. WILLIAMS GROVE TRAIL - 1, 2, & 3 (CHANGE-IN-USE)

Issue: Desire to increased mountain biking opportunities and route connections.

Recommendation: Change the use of Williams Grove Trail to allow bicycle use after required trail modifications are complete.

Prescribed Modifications: Design and management modifications shall be performed prior to implementation of the change-in-use. Final modifications will be determined by project-specific design and management recommendations to ensure trail safety and sustainability. Specific modifications and actions could include:

1. Install speed control devices, such as pinch points and textured surfacing, to provide trail safety and minimize mechanical wear.
2. Harden the trail surface where necessary to prevent entrenchment and ensure sustainability.
3. Ensure sufficient clearance below power pole support cables.

BCSE #3. DRY CREEK DEAD END SPUR - 1

Issue: This is a dead end overgrown route and does not serve a quality visitor or administrative function.

Recommendation: Remove road and rehabilitate to a natural condition

BCSE #4. DRY CREEK HORSE TRAIL (CHANGE-IN-USE)

Issue: Desire to increase bicycling opportunities and route connections.

Recommendation: Change the use of Dry Creek Horse Trail to allow bicycle use after implementation of necessary trail modifications.

Prescribed Modifications: Design and management modifications shall be performed prior to implementation of the change-in-use. Final modifications will be determined by project-specific design and management recommendations to ensure trail safety and sustainability. Specific modifications and actions could include:

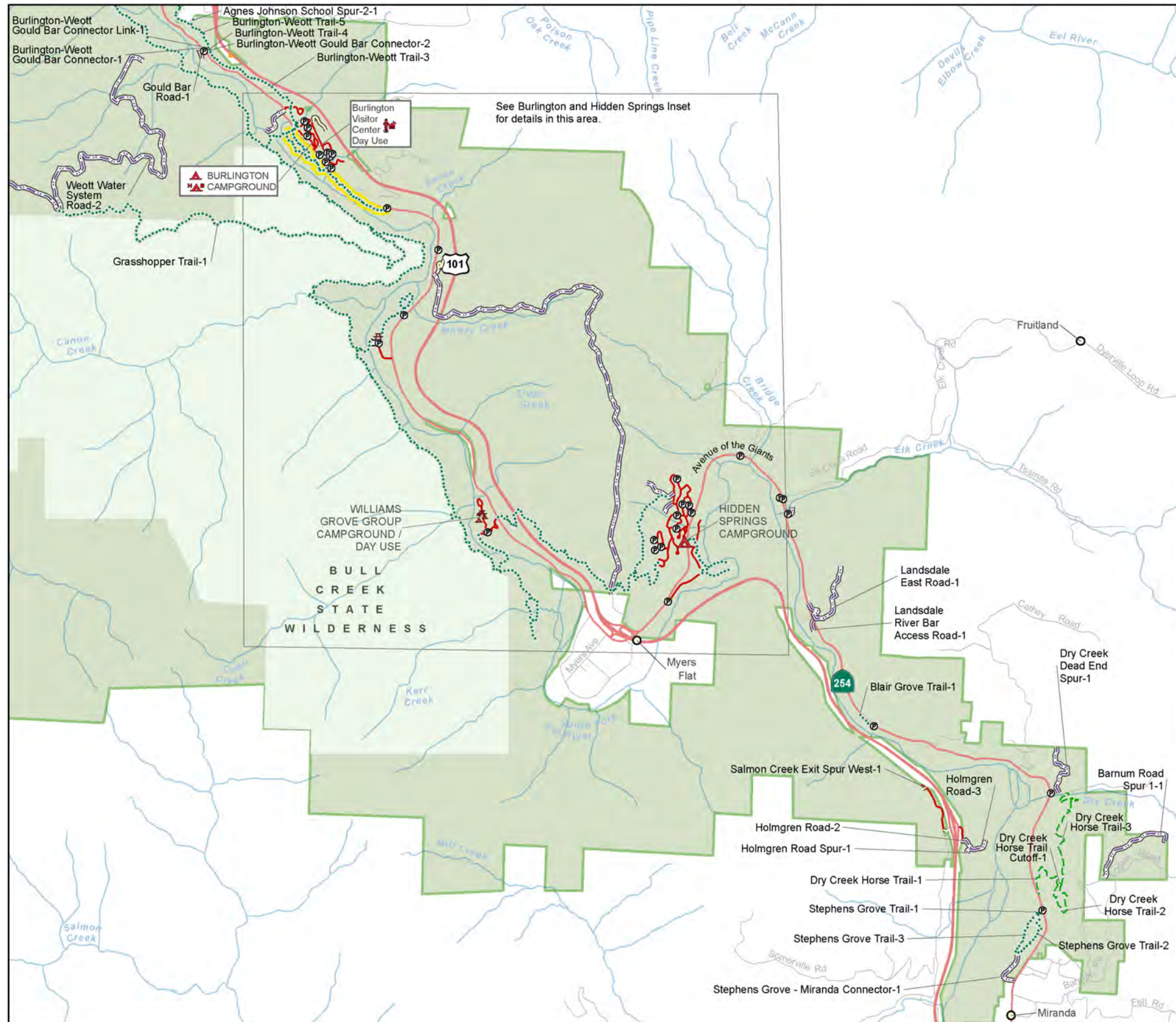
1. Install speed control devices, such as pinch points and textured surfacing, to provide trail safety and minimize mechanical wear.
2. Brush portions of the trail beyond regular cyclical brushing standards to provide and maintain the proper sight distance and trail width necessary for trail safety per the Department's Trails Handbook.
3. Harden the trail surface where necessary to protect tree roots.

BCSE #5. SALMON CREEK EXIST SPUR WEST - 1

Issue: This old asphalt frontage road provides no valuable access to park amenities and is often used for illicit activities and illegal dumping.

Recommendation: Remove road and rehabilitate to a natural condition.

Map: Bull Creek - Southeast Area - Existing Roads and Trails



Existing Roads and Trails

BULL CREEK - SOUTHEAST

Current Road & Trail Network by Category and Use Designation

- Hike
- - - - - Hike and Horse
- State Park Rd, Hike, Bike and Horse
- - - - - State Park Rd, No Designated Trail Use
- State Park Rd, Hike
- Paved Park Roads
- Non-system Route
- Accessible Trail Highlight

Reference Features

- Humboldt Redwoods State Park
- Subunits - Wilderness, Preserves
- ✠ Picnic Areas
- ⛺ Group Camp
- ⛴ Campground
- Streams
- Highways
- Local Road
- Cities, Towns, Places
- P Parking

Area Location

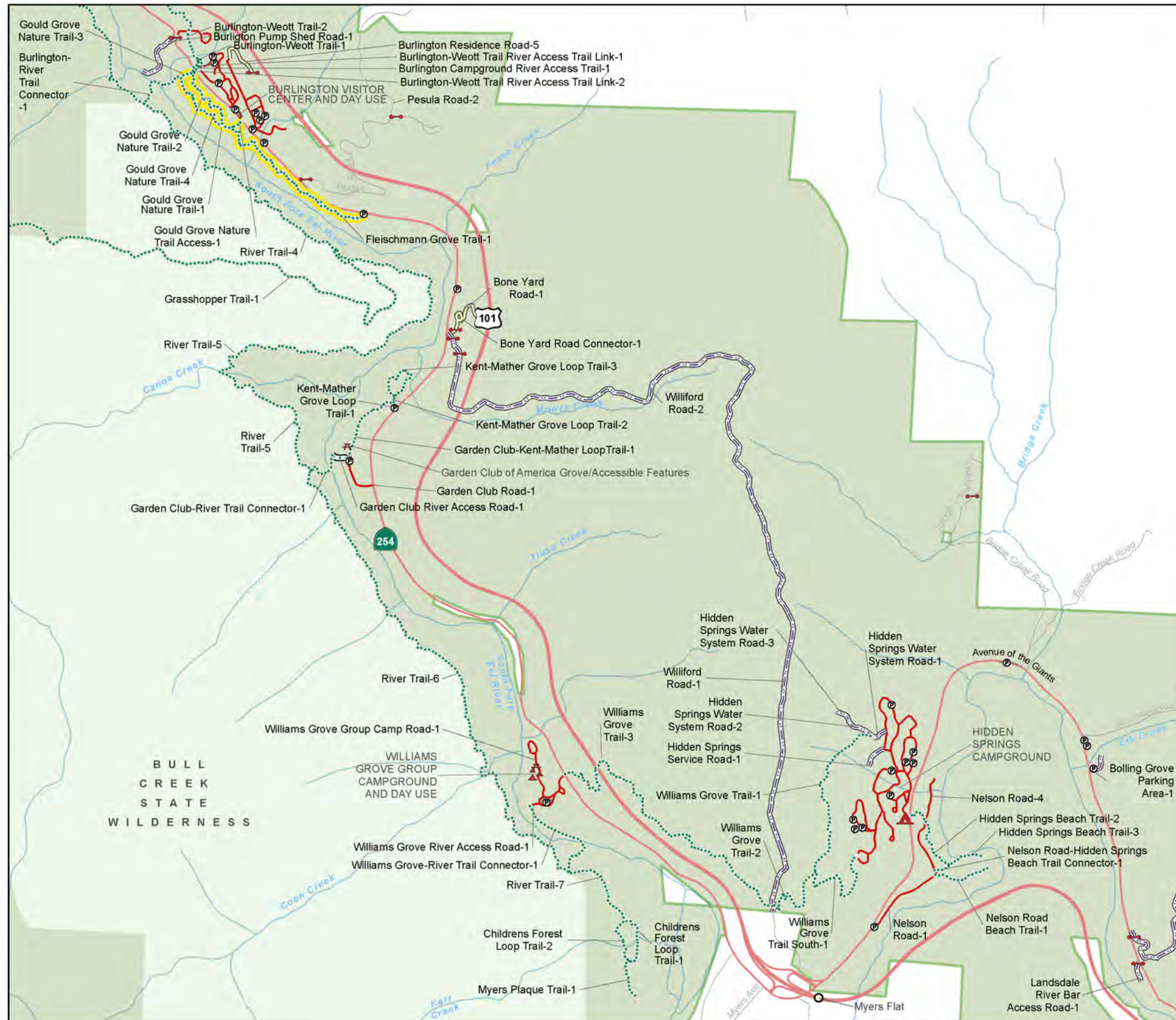
Scale
1:37,670
1 inch = 3,139 feet

Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

<p>CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/20/2019</p> <p>Sources: Calif. Dept. of Parks & Recreation Other Public Lands GreenInfo, Inc.</p>	
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Map: Burlington and Hidden Springs Area Detail - Existing Roads and Trails



Existing Roads and Trails

BURLINGTON AND HIDDEN SPRINGS

Current Road & Trail Network by Category and Use Designation

- ⋯ Hike
- State Park Rd, Hike, Bike and Horse
- State Park Rd, No Designated Use
- State Park Rd, Hike
- Paved Park Roads
- Accessible Trail Highlight

Reference Features

- Humboldt Redwoods State Park
- Subunits - Wilderness, Preserves
- ⊕ Picnic Areas
- ⊕ Group Camp
- ⊕ Campground
- Gate
- Streams
- Highways
- Local Road
- P Parking

Area Location

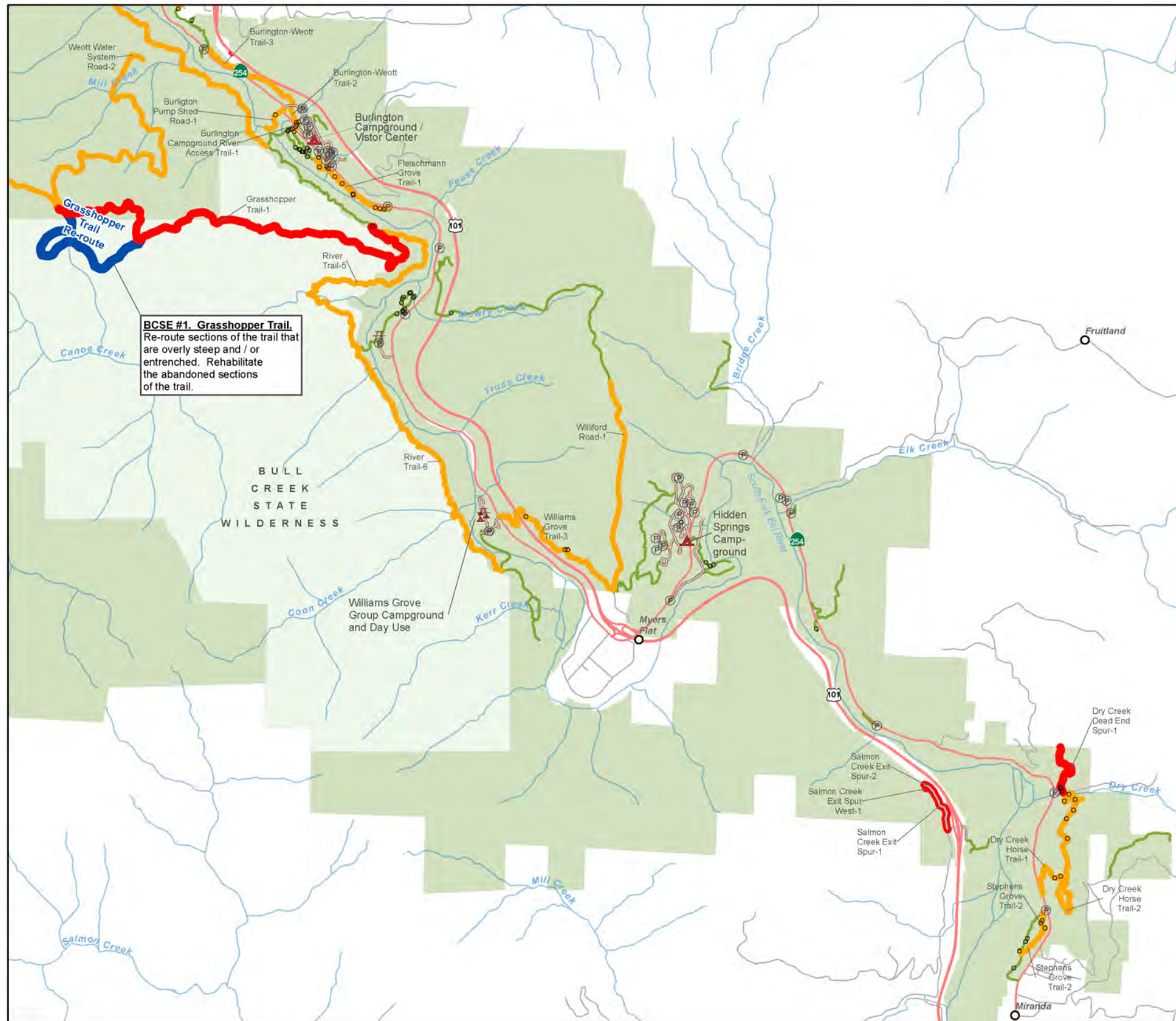
Scale
1:20,750
1 inch = 1,729 feet

Humboldt Redwoods State Park Road and Trail Inventory and Assessment

NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

<p>CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/20/2019</p> <p>Sources: Calif. Dept. of Parks & Recreation Other Public Lands GreenInfo, Inc.</p>	
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Map: Bull Creek - Southeast Area - Maintenance Recommendations



BCSE #1. Grasshopper Trail.
Re-route sections of the trail that are overly steep and / or entrenched. Rehabilitate the abandoned sections of the trail.

Maintenance Recommendations

BULL CREEK - SOUTHEAST

- Unsustainable. Remove, Reconstruct/Re-Engineer, and/or Reroute
- Sustainable with Reconstruction/ Re-engineering
- Sustainable with Maintenance
- - - - Non-system route
- User-created Trail Intersections. Remove Trail and Rehabilitate Vegetation.
- Proposed Re-routes on Existing Trails

Note: Recommendations are made by road or trail segment. Segment recommendations may apply to only a portion of the segment (e.g. a road with a "Remove, Reconstruct/Reengineer, and Reroute" recommendation may include locations within the trail segment requiring maintenance, locations requiring reconstruction/reengineering, and locations requiring reroutes).

Other Reference Layers:

- Humboldt Redwoods State Park
- Wilderness / Natural Preserve
- Paved State Park Road
- Highways
- Local Road
- ▲ Group Camp Area
- ▲ Developed Camp Area
- Streams
- City Points
- Parking

Map Page Location

Scale
1:37,450
1 inch = 3,121 feet

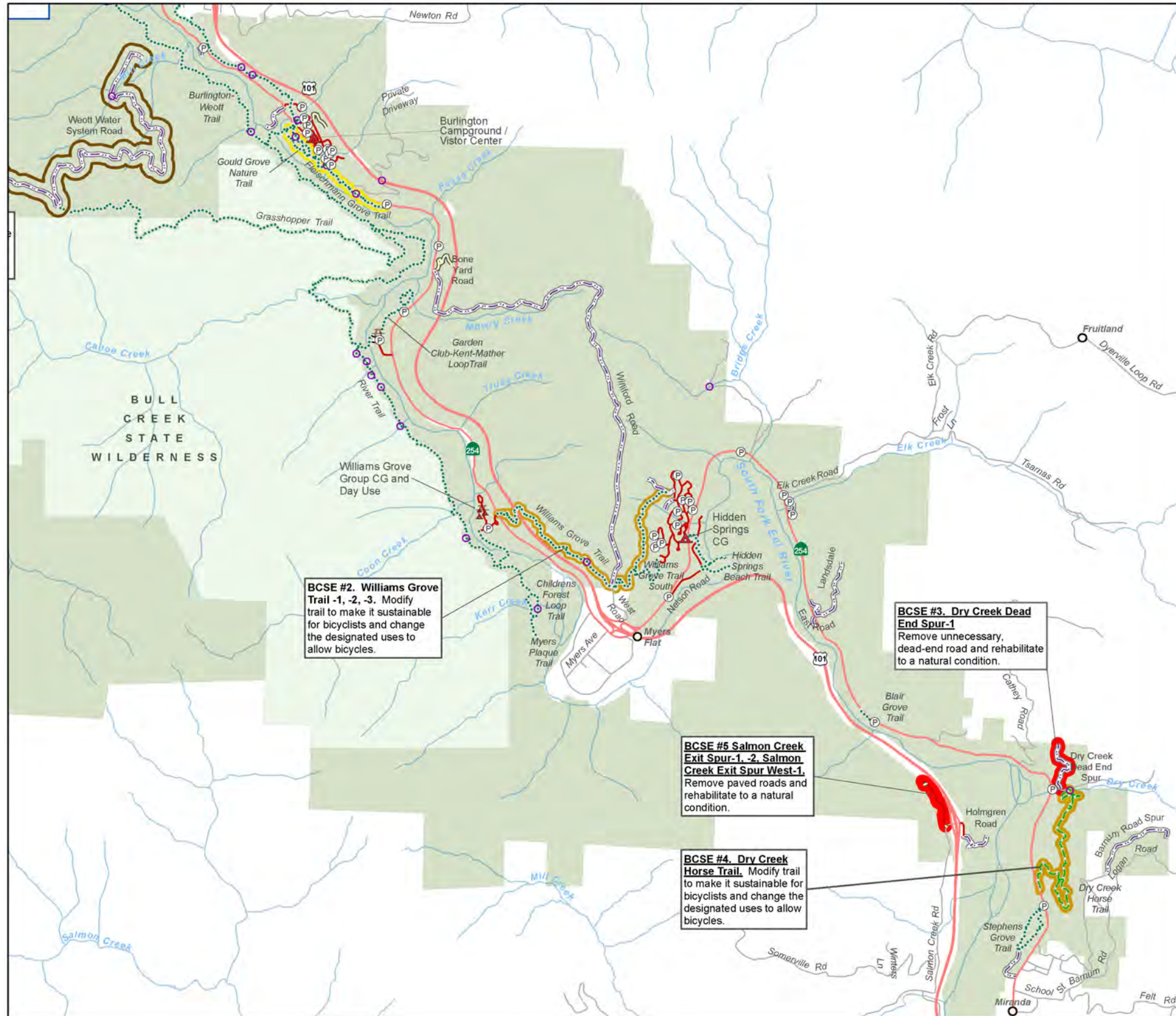
Miles
0 0.1 0.2

Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

<p>CALIFORNIA STATE PARKS: NORTH COAST REDWOODS DISTRICT, & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 4/3/2017 Sources: Calif. Dept. of Parks & Recreation, Other Public Lands: GreenInfo, Inc.</p>	
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Map: Bull Creek - Southeast Area - Planning Recommendations



BCSE #2. Williams Grove Trail -1, -2, -3. Modify trail to make it sustainable for bicyclists and change the designated uses to allow bicycles.

BCSE #3. Dry Creek Dead End Spur-1
Remove unnecessary, dead-end road and rehabilitate to a natural condition.

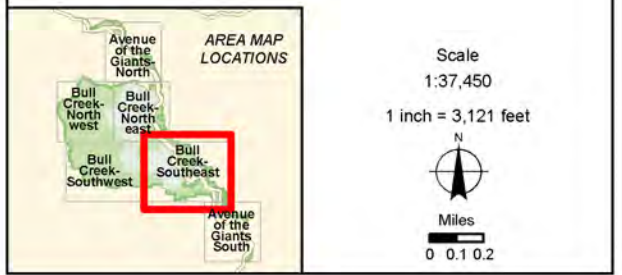
BCSE #5 Salmon Creek Exit Spur-1, -2, Salmon Creek Exit Spur West-1. Remove paved roads and rehabilitate to a natural condition.

BCSE #4. Dry Creek Horse Trail. Modify trail to make it sustainable for bicyclists and change the designated uses to allow bicycles.

Planning Recommendations

- BULL CREEK - SOUTHEAST**
- Existing Route Recommendations
 - Change in Use Recommendations on Existing Trails - Add Bicycles.
 - Route Removal

- Other reference layers:
- Humboldt Redwoods State Park
 - Wilderness / Natural Preserve
 - State Park Trl; Hike
 - State Park Trl; Hike and Horse
 - Accessible Trail Highlight
 - State Park Rd; Hike, Bike and Horse
 - State Park Rd; No Designated Trail Use
 - State Park Rd; Hike
 - Parking
 - Paved Park Roads
 - Bridges on Park Roads and Trails
 - Group Camp Area
 - Developed Camp Area
 - Picnic Areas
 - Streams
 - Highways
 - Local Road
 - Cities, Towns, Places



Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

<p>CALIFORNIA STATE PARKS: NORTH COAST REDWOODS DISTRICT, & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/22/2019 Sources: Calif. Dept. of Parks & Recreation, Other Public Lands: GreenInfo, Inc.</p>	
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Avenue of the Giants - South Area

Significant natural resources:

This area consists of one small, disconnected portion of the park and linear parcels along the South Fork Eel River. These habitats are fragmented and impacted by adjacent land uses. The old growth forest primarily occurs in small, fragmented patches along the South Fork Eel River.

As with other old growth redwood stands in the park, these areas are expected to support marbled murrelets (*Brachyramphus marmoratus*). The forested areas are expected to support northern spotted owls (*Strix occidentalis caurina*) and possibly Pacific Fisher (*Pekania pennanti*), although the habitat is rather fragmented for the later species. Bald eagles (*Haliaeetus leucocephalus*) forage along the South Fork Eel River.

Western pond turtles (*Actinemys [Emys] marmorata*) and foothill yellow-legged frogs (*Rana boylei*) occur in the South Fork Eel River. Northern red-legged frogs are also expected to occur (*Rana aurora*). Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*Oncorhynchus kisutch*), and steelhead (*Oncorhynchus mykiss*) all occur in the South Fork Eel River.

Few botanical surveys have been conducted in this area however; species such as Humboldt County fuchsia (*Epilobium septentrionale*) and streamside daisy (*Erigeron biolettii*) are some of the plants that may occur in this area.

Significant cultural resources:

Archaeological: Archaeological sites in this area include abandoned segments of the historic Old Redwood Highway, homestead sites, and sites associated with logging activities. There are recorded prehistoric archaeological sites within this area of the park.

Paleontological: The area has not been thoroughly surveyed for paleontological resources, which potentially exist throughout the park.

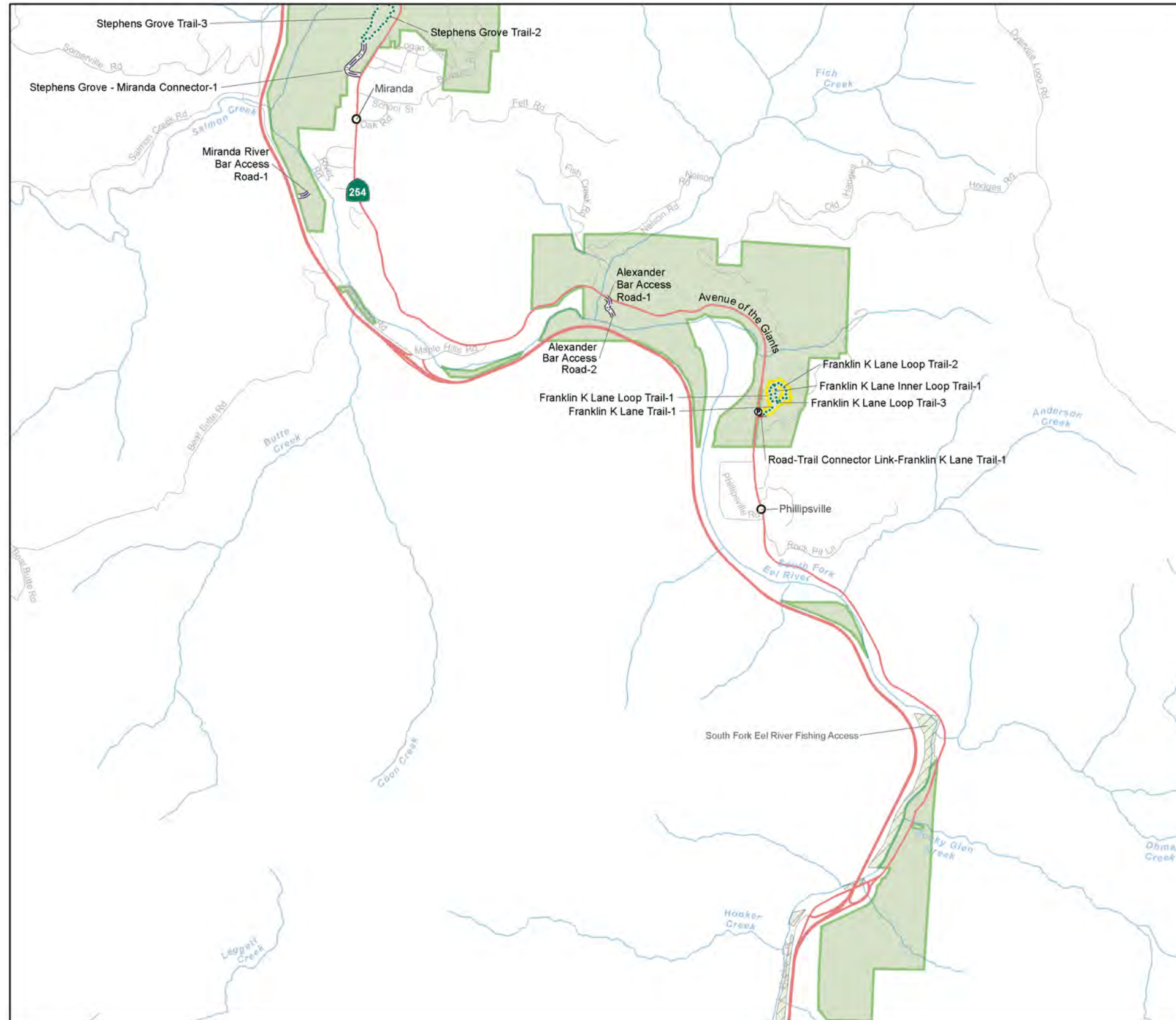
RECOMMENDATIONS

AGs #1. ACCESS FROM AVENUE OF THE GIANTS

Issue: The Avenue of the Giants runs the length of the park and is easily accessed from US 101. The Avenue has some existing trailheads that connect to redwood groves; however, many large pullouts exist where there are no trails.

Recommendation: Investigate and develop additional access trails to groves where large parking pullouts exist and remove and rehabilitate existing non-system trails. Some trails may form new loops while others may link to existing trails. In addition, explore potential linkages to public land within adjacent communities along the Avenue of the Giants.

Map: Avenue of the Giants - South Area - Existing Roads and Trails



Existing Roads and Trails

AVENUE OF THE GIANTS SOUTH

Current Road & Trail Network by Category and Use Designation

- Hike
- == State Park Rd, Hike, Bike and Horse
- Paved Park Roads
- Accessible Trail Highlight

Reference Features

- Humboldt Redwoods State Park
- Other Public Lands

Other Public Lands Access Restrictions

- ▨ Restricted Access
- Streams
- Highways
- Local Road
- Cities, Towns, Places
- Ⓟ Parking

Area Location

Scale
1:29,940
1 inch = 2,495 feet

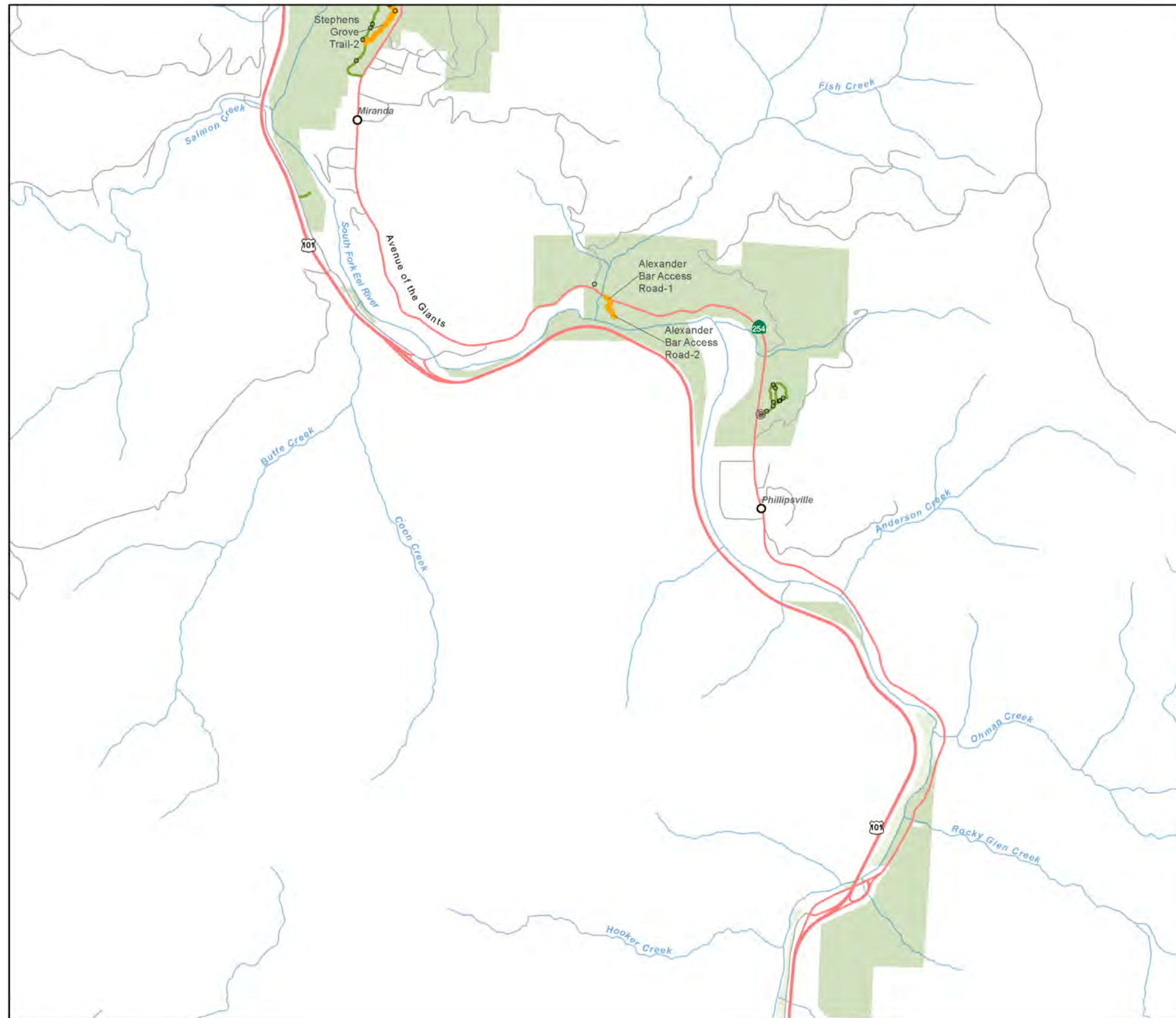
Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
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CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION

Date: 3/20/2019
Sources:
Calif. Dept. of Parks & Recreation
Other Public Lands
GreenInfo, Inc.

Map: Avenue of the Giants - South Area - Maintenance Recommendations



Maintenance Recommendations

AVENUE OF THE GIANTS - SOUTH

- Unsustainable. Remove, Reconstruct/Re-Engineer, and/or Reroute
- Sustainable with Reconstruction/ Re-engineering
- Sustainable with Maintenance
- ⋯ Non-system route
- User-created Trail Intersections. Remove Trail and Rehabilitate Vegetation.

Note: Recommendations are made by road or trail segment. Segment recommendations may apply to only a portion of the segment (e.g. a road with a "Remove, Reconstruct/Reengineer, and Reroute" recommendation may include locations within the trail segment requiring maintenance, locations requiring reconstruction/reengineering, and locations requiring reroutes).

Other Reference Layers:

- Humboldt Redwoods State Park
- Paved State Park Road
- Highways
- Local Road
- Streams
- City Points
- Parking

Map Page Location

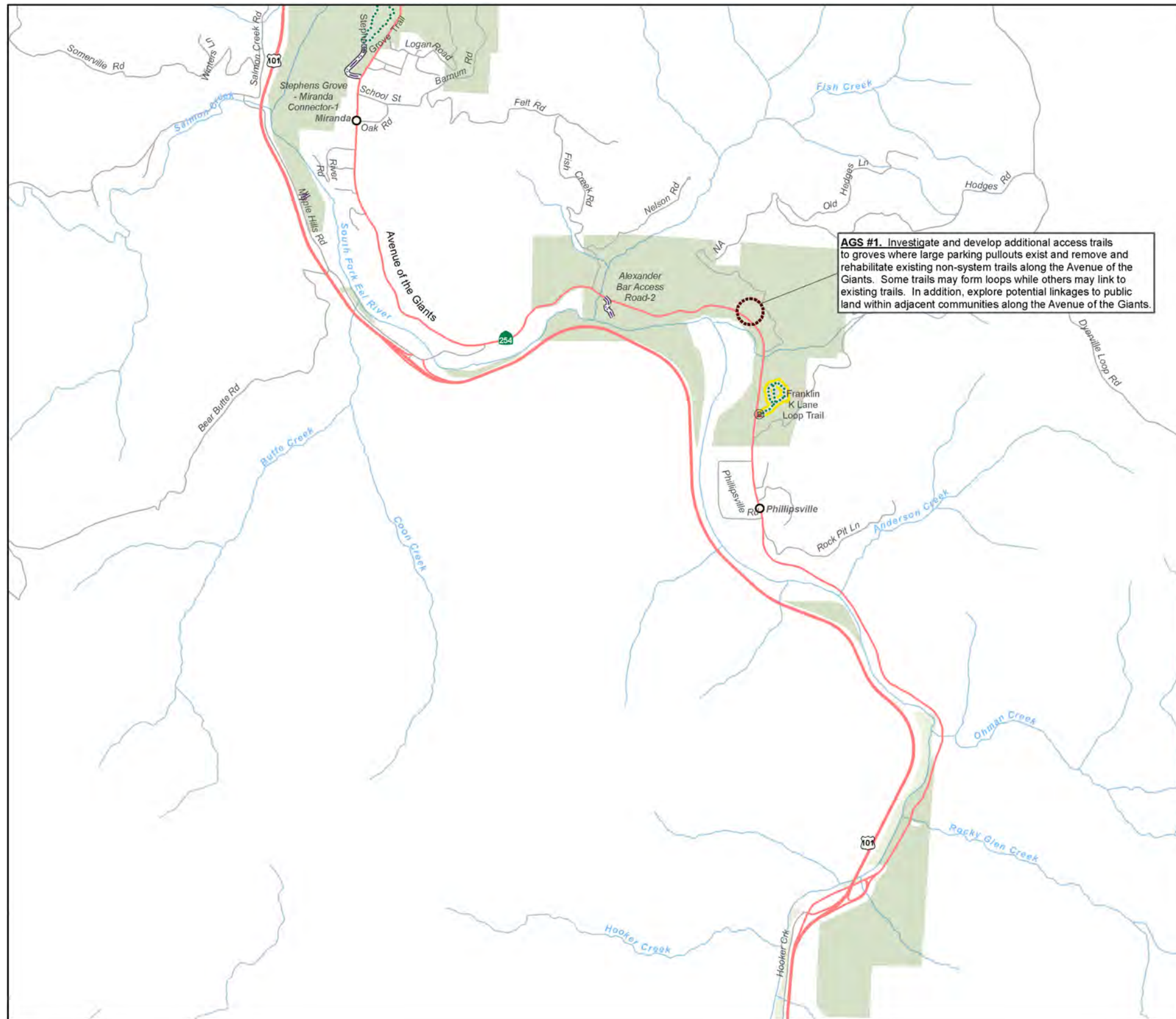
Scale
1:29,900
1 inch = 2,492 feet

Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

<p>CALIFORNIA STATE PARKS: NORTH COAST REDWOODS DISTRICT, & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 4/3/2017 Sources: Calif. Dept. of Parks & Recreation, Other Public Lands: GreenInfo, Inc.</p>	
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Map: Avenue of the Giants - South Area - Planning Recommendations



Planning Recommendations

AVENUE OF THE GIANTS SOUTH

Area Recommendations

- Area Recommendations

Other reference layers:

- Humboldt Redwoods State Park
- Other Public Lands
- State Park Tri; Hike
- Accessible Trail Highlight
- State Park Rd; Hike, Bike and Horse
- Paved Park Roads
- Streams
- Parking
- Highways
- Local Road
- Cities, Towns, Places

Scale
1:29,950
1 inch = 2,496 feet

Miles
0 0.1 0.2

AREA MAP LOCATIONS

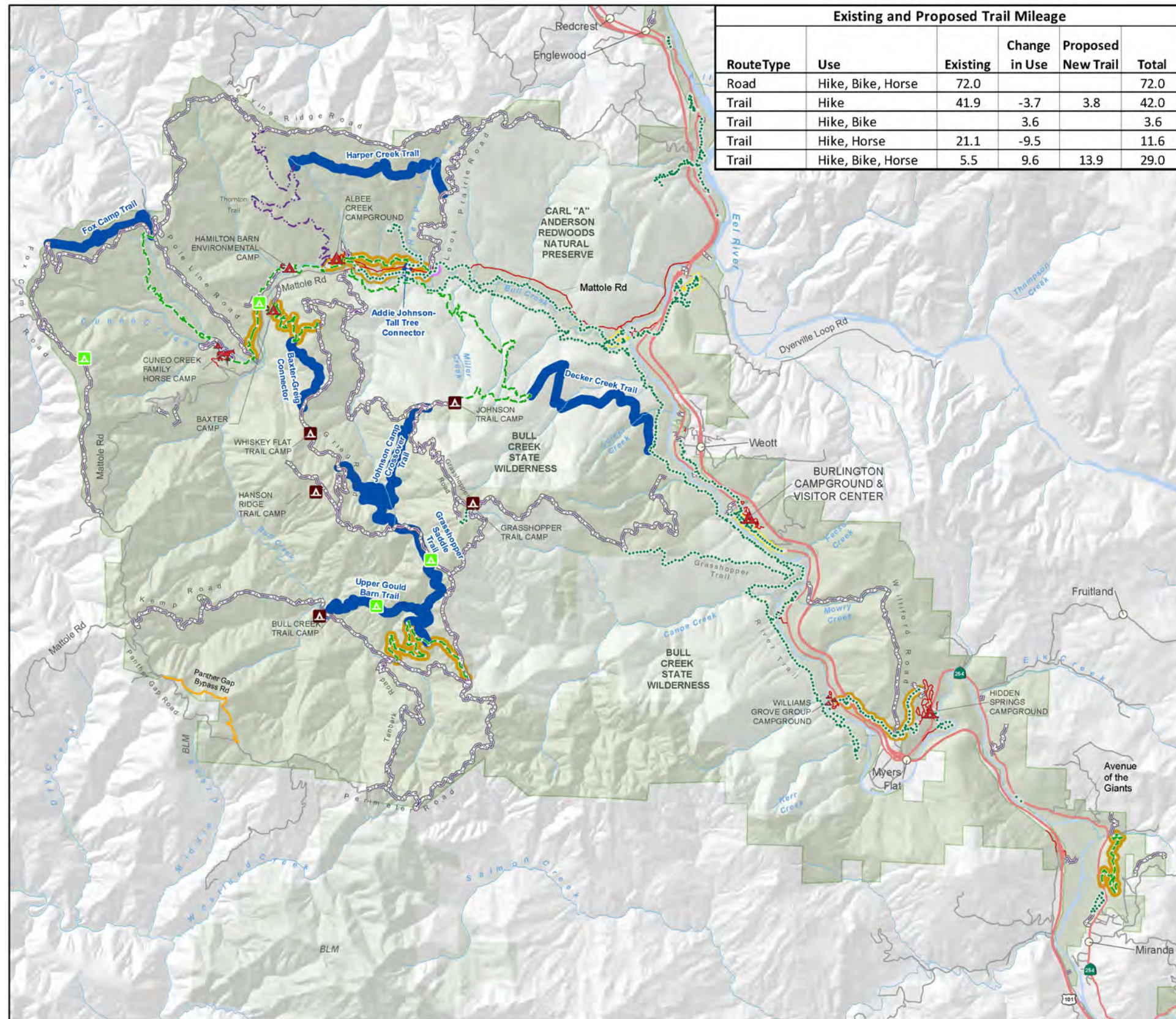
Humboldt Redwoods State Park Road and Trail Management Plan

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Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

**CALIFORNIA STATE PARKS:
NORTH COAST REDWOODS DISTRICT, & FACILITIES MANAGEMENT DIVISION**

Date: 3/22/2019
Sources:
Calif. Dept. of Parks & Recreation,
Other Public Lands:
GreenInfo, Inc.

Overview Map of New Trails and Change-in-Use Recommendations



RouteType	Use	Existing	Change in Use	Proposed New Trail	Total
Road	Hike, Bike, Horse	72.0			72.0
Trail	Hike	41.9	-3.7	3.8	42.0
Trail	Hike, Bike		3.6		3.6
Trail	Hike, Horse	21.1	-9.5		11.6
Trail	Hike, Bike, Horse	5.5	9.6	13.9	29.0

Parkwide New Trail and Change in Use Recommendations

Legend

- Proposed New Routes
- Change in Use on Existing Trails - Add Bicycles
- Change in Use on Existing Trails - Add Bicycles and Equestrian
- Non-system route proposed for reconstruction
- Proposed Trail Camps

Reference Features

- Humboldt Redwoods State Park
- SubUnits - Wilderness, Preserves
- Existing Unpaved Park Trails
- Trail Designation:
 - Hike
 - Hike and Horse
 - Hike, Bike and Horse
 - Accessible Trail Highlight
- Existing Unpaved Park Roads
- Trail Designation:
 - Hike, Bike and Horse
 - Hike
 - Paved Park Roads
- Campground-Other category
- Campground
- Horse Camp
- Group Camp
- Environmental Camp Area
- Highways
- Local Road
- Streams, Rivers
- Cities, Towns, Places

Map Location

Scale
1:77,270
1 inch = 6,439 feet

Miles

Humboldt Redwoods State Park Road and Trail Management Plan

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<p>CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/21/2019</p> <p>Sources: Calif. Dept. of Parks & Recreation Other Public Lands GreenInfo, Inc.</p>	
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Section 7 ENVIRONMENTAL DOCUMENT

DRAFT

**PROGRAMMATIC INITIAL STUDY /
NEGATIVE DECLARATION**

**HUMBOLDT REDWOODS STATE PARK
ROAD AND TRAIL MANAGEMENT PLAN**

January 2019



State of California
California State Parks

NEGATIVE DECLARATION

**PROJECT: HUMBOLDT REDWOODS STATE PARK ROAD & TRAIL
MANAGEMENT PLAN**

LEAD AGENCY: California State Parks

AVAILABILITY OF DOCUMENTS: The Initial Study for this Negative Declaration is available for review at:


- North Coast Redwoods District Headquarters
California State Parks
3431 Fort Avenue
Eureka, CA 95503
- Humboldt Redwoods State Park
17119 Avenue of the Giants
Weott, CA 95571
- Northern Service Center
California Department of Parks & Recreation
One Capital Mall – Suite 410
Sacramento, California 95814
- Humboldt County Library Branches:
 - Eureka Main Library
1313 3rd Street
Eureka, California 95501
 - Fortuna Library
753 14th Street
Fortuna, California 95540

A copy of the Initial Study is attached. Questions or comments regarding this Initial Study/ Negative Declaration may be addressed to:

North Coast Redwoods District
California State Parks
PO Box 2006
Eureka, CA 95502-2006
Trails@parks.ca.gov

Pursuant to Section 21082.1 of the California Environmental Quality Act, the California Department of Parks and Recreation (DPR or California State Parks) has independently reviewed and analyzed the Initial Study and Draft Negative Declaration for the proposed project and finds that these documents reflect the independent judgment of DPR. DPR,

as the lead agency, also confirms that the project measures detailed in these documents are feasible and will be implemented as stated in the Negative Declaration.



Victor Bjelajac
District Superintendent

12/6/2018
Date



Shannon Dempsey
Environmental Coordinator

12-07-2018
Date

Chapter 1 - Introduction

1.1 Introduction and Regulatory Guidance

California Department of Parks and Recreation (DPR) has prepared this Initial Study/Negative Declaration (IS/ND) as a Programmatic document to evaluate the potential environmental effects resulting from the adoption and implementation of the proposed Road and Trail Management Plan (RTMP) at Humboldt Redwoods State Park (HRSP), Humboldt County, California.

A Programmatic IS/ND is prepared on a series of actions that can be characterized as one large project and are related either geographically, as logical parts in the chain of contemplated actions, in connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program....” (CEQA Guidelines Section 15168). As the proposed project would implement a management plan for roads and trails within the park unit, it meets the intent in that it consists of logical parts in a chain of actions.

This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code §21000 *et seq.*, and the State CEQA Guidelines, California Code of Regulations (CCR) §15000 *et seq.*

An Initial Study (IS) is conducted by a lead agency to determine if a project may have a significant effect on the environment [CEQA Guidelines §15063(a)]. If there is substantial evidence that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) must be prepared, in accordance with CEQA Guidelines §15064(a). However, if the lead agency determines that there is no substantial evidence that the project or any of its aspects may cause a significant effect on the environment, a ND may be prepared. The lead agency prepares a written statement describing the reasons a proposed project will not have a significant effect on the environment and, therefore, why an EIR need not be prepared. This Programmatic IS/ND conforms to the content requirements under CEQA Guidelines §15071.

1.2 Lead Agency

The lead agency is the public agency with primary approval authority over the proposed project. In accordance with CEQA Guidelines §15051(b)(1), "the lead agency will normally be an agency with general governmental powers, such as a city or county, rather than an agency with a single or limited purpose." The lead agency for the proposed project is DPR. The contact person for the lead agency regarding specific project information is:

Jason Spann, 1725 23rd Street, Ste. 200, Sacramento, CA 95816
Fax # (916) 324-1610, trails@parks.ca.gov

Questions or comments regarding this IS/ND should be submitted to:

Shannon Dempsey, PO Box 2006, Eureka, CA 95502
Fax # (707) 441-5737, shannon.dempsey@parks.ca.gov

Submissions must be in writing and postmarked or received by fax or email no later than March 4, 2019. The originals of any faxed document must be received by regular mail within ten working days following the deadline for comments, along with proof of successful fax transmission. Email or fax submissions must include full name and address. All comments will be included in the final environmental document for this project and become part of the public record.

1.3 Purpose and Document Organization

The purpose of this document is to evaluate the potential environmental effects of the proposed RTMP and identified actions at HRSP. No mitigation measures were necessary or incorporated to eliminate potentially significant impacts or reduce them to a less-than-significant level.

This document is organized as follows:

- Chapter 1 - Introduction.
This chapter provides an introduction to the project and describes the purpose and organization of this document.
- Chapter 2 - Project Description.
This chapter describes the reasons for the project, scope of the project, and project objectives.
- Chapter 3 - Environmental Setting and Impacts Analysis.
This chapter identifies the significance of potential environmental impacts, explains the environmental setting for each environmental issue, and evaluates the potential impacts identified in the CEQA Environmental (Initial Study) Checklist.
- Chapter 4 - Mandatory Findings of Significance.
This chapter identifies and summarizes the overall significance of any potential impacts to natural and cultural resources, cumulative impacts, and impact to humans, as identified in the Initial Study.
- Chapter 5 - References.
This chapter identifies the references and sources used in the preparation of this IS/ND.
- Chapter 6 - Report Preparation
This chapter provides a list of those involved in the preparation of this document.

1.4 Summary of Findings

Chapter 3 of this document contains the Environmental Checklist (Initial Study or IS), which identifies the potential environmental impacts (by environmental issue) and a brief discussion of each impact resulting from implementation of the proposed project.

Based on the IS/ND and supporting environmental analysis provided in this document, the proposed RTMP and identified actions would result in less than significant impacts for the following issues: aesthetics, agricultural resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation/traffic, and utilities and service systems.

Based on the available project information and the environmental analysis presented in this document, there is no substantial evidence that the proposed project would have a significant effect on the environment. In accordance with §15063(b)(2) of the CEQA Guidelines, a lead agency shall prepare a negative declaration if there is no substantial evidence that the project or any of its aspects may cause a significant effect on the environment.

Chapter 2 - Project Description

2.1 Introduction

DPR has prepared this Programmatic IS/ND to evaluate the potential environmental effects that may result from the adoption and implementation of the proposed RTMP and identified actions at HRSP, located in Humboldt County, California. The proposed project would implement a management plan for roads and trails within the park unit.

2.2 Project Location

HRSP is located in the Northern California coastal forests ecoregion of the Coast Range Geomorphic Province. The park is situated approximately 45 miles south of Eureka and 220 miles north of San Francisco. This 53,000-plus-acre park contains more than 17,000 acres of ancient coast redwood and Douglas fir trees. The Mattole River Valley and Pacific Ocean are west of the park, the City of Fortuna and State Route Highway 36 are north, and Ruth Lake is east. This park is home to the Rockefeller Forest, the largest contiguous, ancient coast redwood forest on the planet. The park provides one of the best places to see redwoods by car along the 32-mile-long Avenue of the Giants. The South Fork of the Eel River provides excellent opportunities for fishing, boating, picnicking, and swimming.

HRSP neighbors several rural communities along the Avenue of the Giants, which parallels Highway 101 from Pepperwood in the north to Phillipsville in the south. Other communities along the main route in southern Humboldt County include Holmes, Redcrest, Weott, Myers Flat, and Miranda. To the west of the Avenue of the Giants, the park encompasses the entire Bull Creek watershed, tributary to the South Fork Eel River (SFER).

HRSP has a moderate climate with hot, dry summers and cool, wet winters. Average rainfall ranges from 60-80 inches and the vast majority falls between October and May. Elevation ranges from 170 feet above mean sea level at the mouth of Bull Creek to 3,379 feet at Grasshopper Peak in the upper watershed. Local fog and fog that creeps up the Eel River from the Pacific Ocean help moderate temperatures and provide moisture to the forest, especially the ancient redwoods.

2.3 Background and Need for the Project

California Public Resources Code (hereinafter referred to as PRC) Section 5019.53 provides the directive on the use and management of trails in a state park, "...to preserve outstanding natural, scenic, and cultural values, indigenous aquatic and terrestrial fauna and flora, and the most significant examples of ecological regions of California ...". In addition, improvements undertaken within state parks shall be for the purpose of making the areas available for public enjoyment and education in a manner consistent with the preservation of natural, scenic, cultural, and ecological values for present and future generations. Furthermore, improvements may be undertaken to

provide for recreational activities, so long as those improvements involve no major modification of lands, forests, or waters (PRC 5019.53).

Roads and trails at HRSP provide park visitors the primary means to access park features and facilities. They also help DPR fulfill its mission by meeting the recreational needs of the public. Properly sited, designed, constructed, maintained, and managed roads and trails can provide quality recreation while also protecting sensitive natural and cultural resources. However, frequently, a park's trail system has evolved from trails and unpaved roads that were on the property when it was acquired. They were constructed to meet the needs of the original property owners, and seldom adequately serve the needs of park operations or public access, nor do they meet current road and trail standards for sustainability. Furthermore, prior to DPR's formalized trails training program, new trails were often improperly sited and poorly designed and constructed. As a result, many of the park's roads and trails are unsustainable, causing erosion and runoff that impact natural and cultural resources, leaving the trails difficult or impossible to use.

The park's October 2001 General Plan calls for the development of a road and trails management plan to evaluate the park's entire trail system and guide the placement and use of future trails and trail camps. The plan provides a list of specific trail related objectives grouped under three main goals: to "increase visitor's enjoyment and safety", "expand park trail links with trails on surrounding lands", and "assure that the trail system maintains a high level of protection for the park's resources" (DPR 2001). Work towards implementation of these goals is on-going and objectives have been included in the recommendations of this RTMP as appropriate.

Developing a RTMP is a dynamic process. It must meet guidelines provided by the unit's general plan; meet specific trail user needs; incorporate and coordinate with regional and state planning documents; adhere to existing laws and regulations; include the public and all potential user groups; use sustainable design to provide user accessibility and protect resources; and provide a mechanism to monitor roads and trails for adaptive management. Developing a comprehensive RTMP ensures that recreational trail opportunities are made available to the fullest potential, while also providing sufficient and often enhanced protection for cultural and natural resources. While maintenance and repairs can be implemented on a trail-by-trail basis, park-wide and regional trail system planning remains the preferred and the most effective method for identifying and establishing linked recreational trail corridors. Comprehensive planning also mitigates resource impacts and reduces construction and maintenance costs.

The RTMP defines the objectives, methodologies, and/or designs on how management goals will be accomplished. The document is consistent with DPR and park unit policies and with the HRSP General Plan, and serves as a bridge between the desired conditions stated as goals and guidelines in the general plan and the measurable implementation actions. Unlike general plans, individual management plans are more dynamic, changing as necessary to serve management needs.

This RTMP will provide management focus for identified paved and non-paved roads and trails in HRSP by designating the types of permissible trail uses, identifying needed

trail facilities, and removing obsolete, harmful, or dangerous roads and trails. This RTMP will be a management tool that can also be used to assess change-in-use requests and minimize impacts to the natural and cultural resources for the foreseeable future.

2.4 Project Objectives

The RTMP will be used as a long-term guiding document and takes into consideration all of the elements of the park's values, goals and mission. Key components of the RTMP include:

- Maximize visitor experience;
- Reduce potential safety issues;
- Minimize natural and cultural resource impacts;
- Coordinate with local and regional planning efforts;
- Provide access to surrounding public lands;
- Reduce maintenance and management costs;
- Improve road and trail sustainability; and
- Prioritize roads and trails projects.

2.5 Project Description

This Project will approve the RTMP and actions identified therein. The RTMP conveys goals, actions, and priorities to implement a comprehensive road and trail management program, prioritizes actions, and directs limited funding. It provides management recommendations (for identified roads, trails, and non-system routes) to increase visitor safety and enjoyment, while protecting natural and cultural resources. Refer to Section 6 of the RTMP for a detailed list of parkwide and area-specific recommendations with accompanying maps. In summary, Plan recommendations include:

- Designation of types of permissible trail uses (hike, bike, horse) for 140.46 miles of system roads and trails.
- Perform annual and cyclical trail maintenance, including brushing, logging out, slough and berm removal, and drainage maintenance.
- Perform annual and cyclical road maintenance, including brushing, grading, rock armoring, and drainage maintenance.
- Re-engineer, reconstruct, and/or reroute approximately 72.3 miles of road or trail.
- Decommission and restore to natural conditions approximately 0.75 miles of obsolete, harmful, or dangerous roads and trails.
- Remove user-created ("volunteer" or "non-system") trails and rehabilitate the vegetation where they intersect with system routes.
- Re-engineer identified drainage structures, addressing the most significantly affected drainage structures first (See Appendix 8.3 Maps: Potential Significance to Water Resources, Drainage Structure Condition Index, and Erosion Severity).

-
- Construct approximately 17.7 miles of new trail within identified corridors.
 - Develop additional access trails to groves where large parking pullouts exist and remove user-created trails along the Avenue of the Giants.
 - Explore potential linkages to public land within adjacent communities along the Avenue of the Giants.
 - Immediately add bicycles as a new use designation to 1.31 miles of trail.
 - Add bicycles as a new use designation after necessary design and/or management modifications to 11.86 miles of trail.
 - Add equestrians as a new use designation after necessary design and/or management modifications to 0.14 miles of trail.
 - Install a permanent pedestrian bridge at Bull Creek near Big Trees to provide a year-round trail connection between trails north and south of Bull Creek.
 - Work with state and local agencies to determine the historic significance and potential to replace, relocate, or remove the Jordan Creek Bridge.
 - Construct up to three new trail camps.

Specific actions covered by this IS/ND are outlined in Section 2.7, along with RTMP actions that may require additional environmental review.

The purpose of the RTMP is to provide a tool to deliver a comprehensive road and trail management program and direct future capital outlay and maintenance funding. While the implementation timeline depends on many factors, such as funding availability and staffing resources, setting priorities within a park unit will facilitate allocation of limited resources and can help place focus for funding and grant raising efforts. See Section 5.5 of the RTMP for more information about how priorities will be established.

2.6 Related Documents

The Initial Study for the Project is *tiered* from the [HRSP General Plan and Environmental Impact Report \(GP EIR\)](#) adopted on October 26, 2001, by the State Park and Recreation Commission. “Tiering” refers to 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.

Tiering from an EIR or Program EIR allows agencies to consider broad environmental issues at the general planning stage, followed by more detailed examination of actual development projects in subsequent environmental documents. The GP EIR and Change-in-Use Program EIR represent the first tier environmental review, consistent with PRC Sections 21093 and 21094 and State CEQA Guidelines Sections 15152 (Tiering) and 15168 (Program EIR).

While general plans define an overall framework for a park's future resource stewardship, visitor use and services, and interpretation, more focused planning is

required to address the details that a general plan cannot. Management plans are thus used to identify more definite objectives and methods and or designs for attaining the goals set in general plans. The degree of specificity at this second level of planning is shaped by the complexity of the issues being addressed, regulatory and legal requirements and departmental standards.

The general plan is a goal-based document whereas management plans (such as the subject RTMP) are objective-based, used to detail the objectives, methodologies, or designs of projects that may be implemented. For example, the GP called for the preparation of a RTMP to evaluate the park's entire trail system and guide the placement and use of future trails and trail camps. It established the broad goals of placing emphasis on creating opportunities for visitors to enjoy the diverse topography, biotic communities, and scenic views at the park, as well as possible regional trail connections. The RTMP on the other hand, defines the specific objectives, methodologies, and/or designs on how the District will accomplish these management goals.

On May 2, 2013, DPR certified a [Program Environmental Impact Report \(PEIR\)](#) approving the Road and Trail Change-in-Use Evaluation Process. This process established the method by which designated trail uses can be added or removed to roads and trails in the state parks system and would be the process followed for any road or trail changes in use.

This Programmatic IS/ND tiers off the GP EIR and PEIR with respect to consideration of effects resulting from RTMP recommendations and future changes-in-use on specific trails in HRSP, respectively. Its purpose thus is, to evaluate the potential environmental impacts that may result from the adoption and implementation of the HRSP RTMP with respect to the analysis in the HRSP GP EIR. Additionally, it helps determine what level of additional environmental review, if any, is appropriate, depending on the nature of the action and whether environmental impacts are within scope of the tiered documents.

2.7 Project Actions Covered By and Excluded From the RTMP Negative Declaration

The RTMP and this IS/ND cover the following actions performed on identified roads and/or trails within HRSP:

- Closure, decommissioning, and restoration of existing roads and trails to natural conditions.
- Re-engineering within an existing road or trail prism (i.e., encompasses an area extending from the top of the road or trail's cut bank to the bottom of the fill slope).
- Development of new, appurtenant facilities (e.g. trailheads, parking improvements, signage), related to recreational road or trail use, where no additional natural landscape disturbance or substantial increase in capacity would occur.
- Minor re-routing of a road or trail alignment outside the existing road or trail prism (i.e., encompasses an area extending from the top of the road or trail's cut bank to

the bottom of the fill slope) to correct otherwise unsustainable road and trail conditions where realignment begins and ends at an existing route and extends only as far as necessary to avoid the unsustainable condition.

- Conversion of existing roads to trails.

For the above types of actions, the project manager will develop a specific project description that incorporates appropriate standard project requirements (discussed in Section 2.8 below), and it will be evaluated by resources staff using the Department's Project Evaluation Form (PEF) to ensure actions are within the scope of this IS/ND and the District will file a Notice of Determination.

Some actions addressed in the RTMP may also require preparation of additional environmental documentation. These types of actions include:

- Change-in-use projects that meet the conditions of the PEIR will require a Notice of Determination. If the change-in-use project does not meet the conditions of the PEIR, then additional environmental documentation may be required.

Actions addressed in the RTMP that will require the preparation of additional environmental documentation include:

- New roads and trails.
- New trail camps.
- Major re-routing of a road or trail alignment outside the existing road or trail prism (i.e., encompasses the area extending from the top of the road or trail's cut bank to the bottom of the fill slope); where the realignment begins but does not end at an existing route; and/or that has the potential for significant environmental effects.

Actions that are outside the scope of the RTMP and this IS/ND include:

- Actions that add motorized uses to a road or trail, except as currently allowed for Other Power Driven Mobility Devices (OPDMD), consistent with DPR policy.
- Actions inconsistent with the HRSP General Plan, RTMP, or state park classification.
- Actions that result in unavoidable significant effects on the environment or potentially mitigatable significant effects that cannot be clearly reduced to less than significant without detailed investigations or mitigation planning.

Maintenance and/or reconstruction of existing road and trail facilities are categorically exempt from the provisions of CEQA and do not require the preparation of environmental documents [California Code of Regulations (CCR) §15300 et seq.] In accordance with CCR 15300.4, DPR has produced a list of activities commonly carried out, which, in most cases, would not be subject to CEQA compliance per CCR §15060 (c)(2). These activities include trail or road repairs (DPR 2003).

Maintenance of existing roads and trails includes annual/cyclical activities such as clearing ditches, removing downed trees and vegetation, outsloping trail tread, road grading, re-armoring surfaces with gravel, and removing encroaching vegetation on a re-occurring basis. Replacement and reconstruction entail returning the road or trail

back to its original design. This may include activities performed on a pro-rated or deferred basis to address deterioration due to age such as reshaping the trailway or roadway for proper drainage, replacing degraded drainage structures, or replacing wooden members of a trail bridge, retaining wall, or steps after they begin to rot. It may also include activities performed on a one-time or incident related basis to address infrastructure that was damaged by a natural event such as a fallen tree, wild fire, major storm; or a one-time event such as vandalism. These types of activities are categorically exempt per CCR §15301 Existing Facilities and CCR § 15302 Replacement or Reconstruction. Therefore, in keeping with DPR policy, the North Coast Redwoods District will prepare a PEF, as needed, for road and trail maintenance activities within all park units. Appropriate standard project requirements, similar to those discussed in Section 2.8 below, will be incorporated into the operating procedures for all maintenance activities. If review by specialists determines the maintenance activities have no possibility of any significant effect on the environment, the North Coast Redwoods District will file a Notice of Exemption in accordance with CCR § 15062.

2.8 Project Requirements

Under CEQA, DPR has the distinction of being considered both a lead and trustee agency. A lead agency is a public agency that has the primary responsibility for carrying out or approving a project and for implementing CEQA. A trustee agency is a state agency having jurisdiction by law over natural resources affected by a project that are held in trust for the people of the State of California. With this distinction comes the responsibility to ensure the protection of both cultural and natural resources on all projects. Therefore, DPR maintains a list of project requirements (“Standard Project Requirements” or “SPRs”) that are included in project design to reduce impacts to resources. SPRs are not mitigation measures. They are *required* elements of any DPR project and are intended to eliminate impacts to natural and cultural resources. Mitigation measures are imposed on a project to minimize impacts to “less than significant levels”. SPRs are also distinct from Best Management Practices (BMPs), which are *recommended* policies and procedures for project implementation. Recommended BMPs are listed in Section 5 of the RTMP.

SPRs are assigned as appropriate to all DPR projects. For example, projects that include ground-disturbing activities, such as constructing a trail reroute, will always include SPRs that address the discovery of archaeological artifacts. However, for a project that entails only brush removal for which ground disturbance would not be necessary, SPRs for ground disturbance will not be applicable and will not be assigned to the project. When evaluating a project, environmental coordinators or other specialists evaluating the project will apply only the relevant SPRs and complete missing information in the relevant SPRs, such as the individual responsible for implementing the SPRs and the specific resources being protected.

DPR also makes use of “Project Specific Requirements” (PSRs). PSRs are written for and applied to projects as necessary to protect specific resources from actions caused by the type of project and/or resulting from the area where the project will be

implemented. PSRs are design, construction, and management measures developed and incorporated by the appropriate DPR staff into the project description. A PSR may be a project design that avoids a specific resource that is not covered by an SPR. For example, if a project is trying to avoid a particular species of snail with no special status designation, a PSR may be necessary to delay project implementation in the vicinity of snails until they are relocated to a suitable location outside of the project area by a DPR-approved biological monitor.

2.9 Applicable Standard Project Requirements

The following SPRs are designed to reduce impacts associated with construction created by projects identified in the RTMP. Where noted, the SPR applies only to projects that contain a change-in-use component and thus subject to the statewide Programmatic Environmental Impact Report for change-in-use projects.

- GEN-1:** Prior to the start of on-site construction work, a **[insert who]** will consult with the contractor and/or 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 DPR-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 activities, the project manager will determine the minimum area required to complete the work and define the boundaries of the work area on the project drawings and/or with flagging or fencing on the ground, as appropriate.
- GEN-5:** 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 or otherwise demarcate all **[insert discipline or resource]** with a buffer of **[insert distance]** for avoidance during on-site construction activities. The **[insert who]** will remove the demarcation from around the Environmentally Sensitive Area after project completion.
- GEN-6:** Prior to any earthmoving activities, a DPR-qualified **[insert who]** will approve all subsurface work, including the operation of heavy equipment within **[insert distance]** of the identified Environmentally Sensitive Area.

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- GEN-7:** 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-8:** A DPR-qualified **[insert who]** will monitor all ground-disturbing phases of this project at his/her discretion.
- GEN-9:** The **[insert who]** will post information signs near project areas with restricted access or closures lasting longer than three months. The signs will include an explanation for and description of the project, and the anticipated completion date.
- GEN-10:** District staff will employ “Adaptive Use Management” for change-in-use projects 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/trail. 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.
- GEN-11:** To eliminate an attraction to predators, all food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in closed containers; these containers will be removed at least once every day from the entire project site.
- GEN-12:** No pets of any kind are permitted on construction sites by contractors or other personnel.

AESTHETICS AND VIEWS STANDARD PROJECT REQUIREMENTS

- AES-1:** Projects will be designed to incorporate appropriate scenic and aesthetic values of HRSP, 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 park’s 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]**.

AGRICULTURAL AND FOREST RESOURCES STANDARD PROJECT REQUIREMENTS

The SPRs do not include a category of provisions specifically related to agriculture and forest resources.

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 if existing ground moisture is insufficient.
- 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 if existing ground moisture is insufficient to minimize fugitive dust emissions. 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 (consistent with DPR's Genetic Integrity Policy for revegetation), except for areas intended to be used as roads/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:** 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.

- AQ-9:** Excavation, grading, land clearing, other mechanical ground disturbance, and demolition activities will be suspended when sustained winds exceed 25 mph and/or instantaneous gusts exceed 35 mph or when dust from construction might obscure driver visibility on public roads.

EXHAUST EMISSIONS CONTROL MEASURES

- AQ-10:** Operation of large diesel- or gasoline-powered construction equipment (i.e., greater than 50 horsepower) will not exceed 60 equipment-hours per day, where an equipment-hour is defined as one piece of equipment operating for one hour.
- AQ-11:** 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.
- AQ-12:** Whenever possible, removed vegetative material will be either left in place (e.g. for use as mulch) or chipped on site. If approved, an air curtain burner may be used. When pile burning is deemed necessary, a burn permit would be obtained from the local air quality management district and burn piles would be no larger than 10x10x5 feet and ignited on approved burn days only.

MOBILE-SOURCE EMISSIONS RELATED MEASURES

- TRAN-3:** **[insert who]** will assess parking capacity prior to implementing a proposed change in use. After implementation of the proposed change in use, DPR 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. DPR District personnel will determine which actions are feasible at the park unit.
- TRAN-4:** Prior to initiating any construction activities with the potential to significantly or permanently disrupt traffic flows, the construction manager will have a Construction Traffic Management Plan (CTMP), prepared by a
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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 the project. Measures included in the CTMP could include (but are not limited to) construction signage, flaggers for lane closures, construction schedule and/or delivery schedule restrictions, etc. The CTMP will be submitted to the local agency having jurisdiction over the affected traffic facilities.

TERRESTRIAL BIOLOGICAL RESOURCES STANDARD PROJECT REQUIREMENTS

GENERAL BIOLOGICAL RESOURCE STANDARD PROJECT REQUIREMENTS

- BIO-1:** All construction, improvement, modification, or decommissioning of road/trails, and conversion of roads-to-trails, will be consistent with DPR BMPs, Departmental Operations Manuals (DOMs), Vegetation Management Guidelines, and Trail Handbook guidelines.
- BIO-2:** Construction activities that could spread invasive plants/animals noxious weeds, or pathogens, such as sudden oak death, 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, invertebrates, noxious weeds, or pathogens. 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 inspected to certify that material is weed free, to the extent feasible.
- BIO-3:** Prior to the start of on-site construction activities, a DPR-approved biologist will hold a pre-construction training with 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-4:** At the discretion of **[insert who]**, project activities will be monitored to ensure that impacts to sensitive biological resources are avoided or minimized.

BIO-5: No trees, brush, soil, or other material shall be felled, placed, or deposited into an identified Environmentally Sensitive Area without pre-construction approval of a DPR-qualified biologist.

BIO-6: All project-related vehicle traffic will be restricted to established roads and other designated areas. Designated areas would be included in pre-construction surveys and, to the maximum extent possible, would be established in locations disturbed by previous activities.

BIO-7: To prevent inadvertent entrapment of wildlife during construction, all excavated, steep-walled holes, or trenches will be covered at the close of each working day with plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wood planks. Before such holes or trenches are filled, the on-site biologist will thoroughly inspect the opening for trapped animals. If at any time a trapped listed animal is discovered, the on-site biologist will immediately place escape ramps or other appropriate structures to allow the animal to escape from the opening.

PROJECTS WITH POTENTIAL IMPACTS TO LISTED SPECIES

BIO-8: For projects that have potential for impacts to federally listed species and that have a federal nexus, the lead federal permitting or funding agency will be required to consult with the U.S. Fish and Wildlife Service (USFWS) as specified under Section 7 of the federal Endangered Species Act (FESA). Authorization for proceeding with the project or activity would then be subject to conditions identified in consultation with the USFWS.

BIO-9: For projects that have potential for impacts to federally listed species and that do not have a federal nexus, a DPR-approved biologist will initiate Technical Assistance with USFWS as specified under Section 7 FESA. Authorization for proceeding with the project or activity would then be subject to conditions identified in a letter of Technical Assistance.

BIO-10: For projects that have a potential for impacts to state listed species, a DPR-approved biologist will initiate consultation with California Department of Fish and Wildlife (CDFW) in order to obtain a Section 2081 Incidental Take Permit (or equivalent) or a Consistency Determination for state-listed species when all species are State and federally listed.

BIO-11: Construction activities occurring in marbled murrelet habitat during the breeding season, March 24 through September 15, and that generate noise above the ambient level, shall not occur without obtaining technical assistance from the USFWS and consultation with the CDFW. For activities occurring within a quarter mile of marbled murrelet habitat, buffer areas shall be established around activities that may result in an increase above ambient noise. Buffer distances shall be determined by referencing

the USFWS (2006) guidance document on Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California.

BIO-12: Protocol northern spotted owl surveys (USFWS 2011) will be conducted for activities occurring in or within a quarter mile of suitable NSO nesting/roosting habitat during the breeding season, February 1 through August 31. For activities that have the potential to affect NSO, USFWS/CDFW will be consulted using the most current NSO survey data to establish avoidance buffers.

NATURAL COMMUNITY STANDARD PROJECT REQUIREMENTS

BIO-13: During the design and/or review of project activities, a DPR-approved biologist will evaluate the project area for sensitive natural communities.

BIO-14: Projects will be designed to avoid direct or indirect effects on all sensitive natural communities to the maximum extent practicable.

BIO-15: Projects will avoid or minimize impacts to federally protected wetlands to the extent practicable.

BIO-16: Natural wetland habitat such as marsh, riparian, and vernal pools will not be filled by stream-crossing construction projects unless approved by the regulatory agencies. Equipment will remain on existing road or trail alignments to the maximum extent practicable.

BIO-17: 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-18: 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.

VEGETATION STANDARD PROJECT REQUIREMENTS

BIO-19: A DPR-approved biologist will conduct focused pre-construction surveys for special-status plant species and sensitive natural communities with potential to be affected by a project. Surveys will be conducted in accordance with the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFG 2009). 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.

- BIO-20:** If special-status plant species are located within the project area, they will be avoided to the extent feasible with a plant protection buffer delineated with high visibility flagging. Plant protection buffers will be 25 feet in size unless otherwise agreed upon by regulatory agencies. A DPR-approved biologist will periodically inspect the fenced or flagged areas to ensure impacts are being avoided. CNPS Rank 3 and 4 plants will be avoided when feasible; however, avoidance is not required.
- BIO-21:** No special-status plant species will be removed, transplanted, damaged in any way, cut, pruned, or pulled back without prior approval from a DPR-approved biologist in consultation with USFWS and/or CDFW. Recommended transplanting and/or seed collection will occur in nearby suitable habitat during the dormant season.
- BIO-22:** All projects will be designed to minimize the removal of 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-23:** Within the root health zone (5 times DBH) of any native tree with a DBH of 12 inches or greater, no roots with a diameter of 2 inches or greater will be severed by project activities, unless authorized in advance by a DPR-approved biologist.
- BIO-24:** No ground disturbance or staging will be allowed within the root health zone (5 times the DBH) of retention trees, unless approved in advance by a DPR-approved biologist, forester, or certified arborist. Staging areas within existing compacted road or trail surfaces are exempted as they are already well compacted from use.
- BIO-25:** A **[insert who]** will be present during all ground-disturbing activities within the root health zone (5 times the DBH) of retained trees when requested by a DPR-approved biologist.
- BIO-26:** To maintain genetic integrity, only plant stock collected consistent with the DPR's Genetic Integrity Policy will be used for re-vegetation in the project area.
- BIO-27:** The design of road and trail improvements will consider desired snag retention needs for wildlife. All snags will be retained unless they are determined to be a safety hazard through consultation with a DPR-
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approved biologist. Where this occurs, a minor reroute of the road and/or trail alignment will be considered.

- BIO-28:** Install signage at key trailheads and other locations, as applicable and relevant, that informs the public about protecting natural resources (e.g., protecting sensitive vegetation, identification of noxious weeds, how invasive plant species are spread, reduce erosion and sediment delivery) by staying on trail.

TERRESTRIAL WILDLIFE STANDARD PROJECT REQUIREMENTS

- BIO-29:** All Projects will be designed to avoid 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. If take of listed species cannot be avoided, a Incidental Take Permit (ITP), or equivalent, will be obtained. For other special-status wildlife species (e.g., species of special concern), project impacts will be avoided to the maximum extent practicable.
- BIO-30:** Project activities that could affect a special-status wildlife species, bats, migratory birds, or raptors will be scheduled to avoid the breeding season and/or other sensitive life-history periods of the species (e.g., breeding, hibernation, denning, etc.) to the extent feasible as determined by a DPR-approved biologist.
- BIO-31:** 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 DPR-approved 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 DPR-approved biologist confirms that the nest, den, or other activity center is no longer active/occupied during the critical life-history period.
- BIO-32:** Trees with nests or cavities that may provide nesting or denning opportunities will not be felled without the pre-construction review and approval of a DPR-approved biologist. If such trees are located during operations, then operations within 50 feet of the tree will cease until reviewed by a DPR-approved biologist.
- BIO-33:** Minor reroutes will be established away from basal hollows or so that basal hollows cannot be seen from trail.

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- BIO-34:** If special-status species are known to occur in the project area, immediately prior to the start of work each day, a DPR-approved biologist will conduct a visual inspection of the construction zone and adjacent areas, as appropriate.
- BIO-35:** 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 DPR-approved biologist. A DPR-approved biologist, or other staff trained by a DPR-approved biologist will inspect work area 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 distance]** from the project area.
- BIO-36:** Project activities will not remove any trees equal to or greater than 24 inches DBH unless first inspected by a DPR-approved biologist and determined to be non-essential breeding habitat for special-status bird or other species.

AQUATIC BIOLOGICAL RESOURCES STANDARD PROJECT REQUIREMENTS

- BIO-37:** Construction activities in close proximity to potential special-status aquatic species' habitat will be limited to the dry season to the extent feasible to avoid specific periods of animal activity (e.g., breeding, larval/juvenile development, etc.).
- BIO-38:** For project activities that could affect special-status aquatic species, a DPR-approved biologist will conduct a survey to determine if the special-status species occurs within **[insert distance]** of the project area.
- BIO-39:** If special-status aquatic species are known to occur in the vicinity of the project area, a DPR-approved biologist, will conduct surveys for those aquatic species within the project area, and surrounding area as deemed appropriate, immediately prior to the start of project-related activities each day.
- BIO-40:** If a special-status aquatic 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 accord, or is temporarily relocated by a DPR-approved biologist.
- BIO-41:** 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 DPR-approved biologist, or other staff trained by a DPR-approved
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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 DPR-approved biologist) in suitable habitat at an appropriate distance from the project area as determined by a DPR-approved biologist.

- BIO-42:** All new stream crossings will be designed to convey the flow and associated debris of a 100-year, 24-hour storm event. All stream crossings that are part of the project will be designed to maintain both upstream and downstream fish passage when located on fish-bearing streams. Pedestrian bridges across stream habitats will be designed in a manner that does not impede stream flow and ensures year-round passage of anadromous and other aquatic species through the area.
- BIO-43:** 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 that create low entry velocity will be used for water drafting pumps to minimize removal of aquatic species, including juvenile fish, amphibian egg masses and tadpoles from aquatic habitats.
- BIO-44:** Avoid vegetation removal that could reduce shaded areas and increase stream temperatures. Minor reroutes, where needed, will not be designed to travel adjacent to streams to the maximum extent practicable.
- BIO-45:** Minor reroutes, where needed, will be designed to avoid crossing springs and seeps and where feasible will traverse upslope of these features. Fill will not be placed in springs or seeps that provide habitat for the Southern Torrent Salamander.
- BIO-46:** For any project requiring a permit from USACE, RWQCB, CDFW, National Marine Fisheries Service (NMFS), USFWS, 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-47:** Staging areas will be located outside of sensitive habitats at an appropriate distance as determined by a DPR-approved biologist, from vernal pools, seasonal wetlands, ponds, streams, riparian habitat, and other aquatic habitats.
- BIO-48:** When determined necessary by a DPR-approved biologist, exclusionary fencing, flagging, staking, or signage will be installed around all Environmentally Sensitive Areas as an initial construction task. The Environmentally Sensitive Areas will be delineated to limit encroachment by construction personnel and equipment into sensitive aquatic habitats without affecting public access routes.

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- BIO-49:** 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, 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.
- BIO-50:** Construction activities near water courses and riparian areas will be monitored daily. Monitoring will include checking silt fences, erosion and sediment control BMPs, and Environmentally Sensitive Area fencing to make sure they are functioning properly to avoid project impacts.

GENERAL PROJECT REQUIREMENT FOR THE TREATMENT OF CULTURAL RESOURCES

- CUL-1:** Prior to the start of on-site construction work, the **[insert who]** will notify the Supervisor of the District Cultural Resources Program, 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-2:** 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 if the DPR-qualified historian or archaeologist deems necessary.
- CUL-3:** 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 for the Treatment of Historic Properties.
- CUL-4:** 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 DPR 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.
- CUL-5:** Increase public awareness of local history and archaeology, and the need to protect cultural resources. Ways to accomplish this awareness include highlighting certain cultural resources along the road or trail with interpretive signs and information kiosks, and/or by placement of a

historical marker along a segment of a road or trail, which provides information to the user about the importance of the site and/or the event.

HISTORIAN'S SPECIFIC PROJECT REQUIREMENTS

- CUL-6:** When there is potential to impact historic resources, A DPR-qualified historian will survey roads and/or trails prior to the start of any proposed improvements or changes in use to identify potentially significant historic resources. To determine the historic significance of road and trail alignments, a DPR-qualified historian will conduct comparisons of current road and trail alignments with historic documentation of historic alignments.
- CUL-7:** A DPR-qualified historian shall use flags, protective fencing, or other methods to identify and provide a buffer zone for any resources discovered during trail survey. The historian shall establish a specific buffer zone around the features based on the type of resources and the proposed scope of work.

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.
- CUL-9:** 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."
- CUL-10:** 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.

ARCHAEOLOGIST'S SPECIFIC PROJECT REQUIREMENTS

- CUL-11:** To prevent disturbance to high value archaeological resource areas, redirect visitors away from the resources employing appropriate placement of trails, creating barriers, or other suitable methods to discourage access.
- CUL-12:** Decommission and/or reroute roads and trails away from high value archaeological resources whenever possible and/or feasible.
- CUL-13:** Prior to implementing any project that would involve ground disturbance, cultural resource staff will determine if the project area is located in an of

area of high archaeological value. If the area is determined sensitive, the area will require field survey by a DPR-qualified archaeologist who will make recommendations and develop proposals for procedures deemed appropriate to further investigate and/or avoid adverse impacts to those resources.

- CUL-14:** Prior to implementing any project that would involve ground disturbance, cultural resource staff will consult DPR cultural resource data files, and if deemed necessary, contact the appropriate Information Center of the California Historical Resources Information System to request a record search of known cultural resources located within and adjacent to the proposed project area.
- CUL-15:** DPR will conduct the tribal consultations prior to any new ground disturbances related to road and trail construction; in previously disturbed soil where archaeological sensitivity is high and trail work is proposed; or for projects which require CEQA review. The consultation protocol will follow the steps identified in the Department Operations Manual 0400 Cultural Resources.
- CUL-16:** Where road and trail activities cannot avoid sensitive archaeological resources, the project actions will require modifications to incorporate the resources into the RTMP and provide a resource protection plan for its maintenance and future protection.

Archaeological Resources – Standard Project Requirements

- CUL-17:** Prior to the start of any ground-disturbing activities, a qualified archaeologist will complete preconstruction investigations 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.
- CUL-18:** 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 DPR-qualified archaeologist.
- CUL-19:** In an archaeologically sensitive area, **[insert who]** will manually remove or flush cut vegetation to avoid ground-disturbing activities; removal of roots will not be allowed.
- CUL-20:** 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 DPR-qualified Cultural
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Resources Specialist of any subsurface disturbance, including but not limited to grading, excavation or trenching.

CUL-21: [Insert who] will review and approve monitoring of subsurface disturbance by a Native American monitor.

CUL-22: 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 DPR 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 Supervisor of the District Cultural Resources Program immediately and [insert who] will temporarily halt or divert work within the immediate vicinity of the find until a qualified Cultural Resources Specialist 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-23: 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 DPR 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 DPR 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 DPR representative 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.

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 one acre or more, DPR will direct the preparation of a Stormwater Pollution Prevention Plan (SWPPP) by a Qualified Stormwater Pollution Plan Developer (QSD) for DPR 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, etc.) and permanent BMPs (e.g., structural containment, preserving or planting of vegetation, etc.) 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 road/trails, and conversion of roads-to-trails, will be consistent with DPR BMPs, Departmental Operations Manuals (DOMs), Vegetation Management Guidelines, and Trail Handbook guidelines.

GEO-3: A qualified or California licensed geologist will review road decommissioning, new routes, road-to-trail conversion sites, and landslide repairs during project planning to determine if any geologic or soil conditions exist that require additional assessment or alteration of prescriptions. If unique features do exist or conditions so require, a California licensed geologist or their designee will conduct a geologic assessment/investigation and make appropriate design recommendations, and, if needed, define the boundaries of the work area on project drawings.

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. Qualified inspectors will continually evaluate slope geometry and earth materials and caution operators if unstable conditions are indicated.

GEO-5: No high ground pressure vehicles will be driven through project areas during the rainy season or when soils are wet and saturated to avoid compaction and/or damage to soil structure. Undisturbed areas will be avoided by vehicles to the extent practicable during all seasons. If vehicles

must be driven through previously undisturbed areas during moist conditions, then the path of travel will be distributed and/or the travel way will be decompacted upon project completion. Existing compacted road or trail surfaces are exempted as they are already well compacted from use.

- GEO-6** Topsoil excavated during initial construction will be segregated and used as a finishing surface over other fill to help conserve topsoil and promote revegetation.
- GEO-7:** 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 or concentrated overland flow will not be allowed to discharge onto spoil areas, regardless of discharge rate.
- GEO-8:** Bare ground will be mulched with native vegetation removed during the work, or with other non-exotic plant-bearing mulch materials, to the maximum extent practicable to minimize surface erosion. Sufficient openings will be left in the mulch to allow revegetation.
- GEO-9:** Immediately following reconstruction, roads and 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 route opens to the public. Routine maintenance will also be performed on the road or 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-10:** Road and trail stream crossings will have any new drainage structures designed for the 100-year storm flow event or be capable of passing the 100-year peak flow, debris, and sediment loads without significant damage.
- GEO-11:** Road and trail stream crossings will be designed and constructed without the potential for stream diversion.
- GEO-12:** DPR staff will install appropriate energy dissipaters and employ other erosion control measures at water discharge points, as appropriate.
- GEO-13:** 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-14:** All drainages (including micro drainages) will not be captured, diverted or coupled with other drainages by the road or trail.

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- GEO-15:** Water will not be accumulated on a road or trail and drained off onto landforms where natural drainages do not exist.
- GEO-16:** Road and trail fillslopes will be designed with stable slope gradients as defined in DPR trail construction manuals, guidelines, and handbooks, or as recommended by a qualified professional reviewing site-specific conditions. Unstable fillslopes will be stabilized or removed.
- GEO-17:** Road and trail surfaces and ditches will be hydrologically disconnected from wetlands, streams and stream crossings to the extent feasible.
- GEO-18:** Provide outslope to the road bed or trail tread and remove any outer edge berm to facilitate sheet flow off the road or trail where the dispersed flow can be filtered by vegetation and organic litter.
- GEO-19:** When outsloping road or trail surfaces is not feasible, such as steep linear grades, construct rolling dips to direct runoff safely off the route 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 routes receiving minimal use. Water bars will be constructed to divert water to controlled points along the route and with rock armor at the downslope end for energy dissipation.
- GEO-20:** If soils and parent material geologic capability are not sustainable, overly steep grades will be mitigated with surface hardening techniques. Hardening techniques (such as compacted aggregate or trail structures such as steps or retaining walls) will keep the surface sustainable, firm and stable.
- GEO-21:** DPR staff will develop a rehabilitation plan for decommissioned routes that includes using brush and trees removed from the new or existing route alignment for bio-mechanical erosion control (bundling slash and keying it in to fall line of the route, filling damaged sections with soil and duff removed from the new or existing alignment, constructing water bars if necessary, and replanting native trees and shrubs).
- GEO-22:** Both ends of a decommissioned road or trail, road-to-trail conversion or abandoned trail segment will be clearly blocked, and scatter its length with vegetative debris from new route construction to discourage continued use and degradation of the decommissioned portion of the road or trail.
- GEO-23:** Seasonally close roads and trails to all users when soils are saturated and softened.
- GEO-24:** Install “pinch points” to reduce downhill bicycle speed and increase the line of sight at curves.
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GEO-25: Construct or repair barriers at switchbacks to discourage shortcuts and user-created trails.

EVENT-RELATED MEASURES

GEO-26: After a large earthquake event in the region (i.e., magnitude 5.0 or greater centered within 75 miles of the project site or Cascadia subduction zone event in excess of magnitude 7.5 that ruptures south from Brookings, Oregon), DPR 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 by a qualified or licensed professional and/or repaired. Seismically generated ground cracks along ridgecrests or other landforms removed from, but potentially affecting, the infrastructure will be evaluated as part of the investigation.

GEO-27: After or during a large storm or rainfall event (i.e., equal to or more than: six inches in 24 hours; 12 inches in 72 hours; or 15 inches in 120 hours, as measured at the Cuneo Campground weather station, or peak stream flows measured at the Bull Creek stream gage in excess of 6500 cubic feet per second), DPR staff will inspect all project structures and features for damage, as soon as is safely possible after or during 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 by a qualified or licensed professional and/or repaired.

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

CONSTRUCTION-RELATED EMISSION CONTROL MEASURES

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

AQ-10: Operation of large diesel- or gasoline-powered construction equipment (i.e., greater than 50 horsepower [hp]) will not exceed 60 equipment-hours per day, where an equipment-hour is defined as one piece of equipment operating for one hour.

AQ-11: 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

AQ-12: Whenever possible, removed vegetative material will be either left in place (e.g. for use as mulch) or chipped on site. If approved, an air curtain burner may be used. When pile burning is deemed necessary, a burn

permit would be obtained from the local air quality management district. Burn piles would be no larger than 10x10x5 feet and ignited on approved burn days only.

AQ-13: Haul truck trips to and from the site will be limited to 40 one-way trips per day. This includes trips for hauling gravel, materials, and equipment to and from the site.

AQ-14: The maximum number of construction worker-related commute trips for any project at a park will not exceed 60 one-way worker commute trips per day.

AQ-15 All motorized construction equipment will be shut down when not in use. Idling of equipment and haul trucks will be limited to five minutes.

MEASURES PERTINENT TO CARBON SEQUESTRATION

BIO-16: Natural wetland habitat such as marsh, riparian, and vernal pools will not be filled by stream-crossing construction projects unless approved by the regulatory agencies. Equipment will remain on existing road or trail alignments to the maximum extent practicable.

BIO-22: All projects will be designed to minimize the removal of 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-23: Within the root health zone (5 times DBH) of any native tree with a DBH of 12 inches or greater, no roots with a diameter of 2 inches or greater will be severed by project activities, unless authorized in advance by a DPR-approved biologist.

BIO-24: No ground disturbance or staging will be allowed within the root health zone (5 times the DBH) of retention trees, unless approved in advance by a DPR-approved biologist, forester, or certified arborist. Staging areas within existing compacted road or trail surfaces are exempted as they are already well compacted from use.

BIO-25: A [insert who] will be present during all ground-disturbing activities within the root health zone (5 times the DBH) of retained trees when requested by a DPR-approved biologist.

MEASURES PERTINENT TO RESILIENCY TO CLIMATE CHANGE

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- HAZ-10:** 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 (Cal Fire) and local fire department(s).
- HAZ-11:** All heavy equipment will be required to include spark arrestors or turbochargers that eliminate sparks in exhaust and have fire extinguishers on-site.
- HAZ-12:** 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-13:** DPR personnel will have a DPR 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-14:** 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-27:** After or during a large storm or rainfall event (i.e., equal to or more than: six inches in 24 hours; 12 inches in 72 hours; or 15 inches in 120 hours, as measured at the Cuneo Campground weather station, or peak stream flows measured at the Bull Creek stream gage in excess of 6500 cubic feet per second), DPR staff will inspect all project structures and features for damage, as soon as is safely possible after or during 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 by a qualified or licensed professional and/or repaired.
- HYDRO-4:** All construction activities will be suspended during heavy precipitation events (i.e., more than one 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 (e.g. 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.

HAZARDS AND HAZARDOUS MATERIALS STANDARD PROJECT REQUIREMENTS

- HAZ-1:** Avoid locating route 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
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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 U.S. Environmental Protection Agency, Occupational Safety and Health Administration, and Department of Toxic Substances Control 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 construction process;
- and identification of lawfully permitted or authorized disposal destinations outside of the project site.

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- 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 construction activities that cause disturbances to the native soil and/or mine and mill materials causing 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 DPR 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 on-site construction activities, **[insert who]** will clean and repair (other than emergency repairs) all equipment outside the project site boundaries.
- HAZ-9:** **[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.]**.
- HAZ-10:** 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 (Cal Fire) and local fire department(s).
- HAZ-11:** 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-12:** Construction crews will park vehicles **[insert distance]** from flammable material, such as dry grass or brush. At the end of each workday,
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construction crews will park heavy equipment over a non-combustible surface to reduce the chance of fire.

HAZ-13: DPR personnel will have a DPR 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-14: Under dry conditions, a filled water truck and/or fire engine will be onsite during activities with the potential to start a fire.

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 one acre or more, **[insert who]** will prepare and submit a Storm Water Pollution Prevention Plan (SWPPP) for DPR 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 BMPs (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, 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 North Coast Regional Water Quality Control Board Basin Plan.

CONSTRUCTION-RELATED MEASURES

HYDRO-3: All construction, improvement, modification, or decommissioning of road/trails, and conversion of roads-to-trails, will be consistent with DPR BMPs, Departmental Operations Manuals (DOMs), Vegetation Management Guidelines, and Trail Handbook guidelines.

HYDRO-4: All construction activities will be suspended during heavy precipitation events (i.e., more than one 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 (e.g. 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-5: For construction activities extending into or occurring during the rainy season, or if an un-seasonal storm is anticipated, DPR staff will properly winterize the site by covering (e.g. 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-6: Treat rehabilitated, reengineered, or rerouted road or 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. Filter windrows (structures made of slash, forest debris, and logs to protect forest streams from sediment) shall be added to the toe of fill slopes for any treated alignment where the vegetated or mulched buffer is located closer to a watercourse than is recommended for the steepness of the hillslope, as described in the table below:

Recommended minimum distance between the vegetated or mulched buffer of wildland roads/trails and streams	
Slope of land between road/trail and stream (%)	Minimum distance of vegetated/mulched buffer (ft)
0	50
10	90
20	130
30	170
40	210
50	250
60	290
70	330

These setbacks or windrow designs may be modified based on concurrence from a qualified geologist after reviewing vegetation and soil conditions on the slope between the alignment and the watercourse. The windrows shall not provide structural support to the fills.

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- HYDRO-7:** Salvage trees and brush removed prior to excavation for mulching bare soil areas after construction.
- HYDRO-8:** 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 State Water Resources Control Board. 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 from the SWPPP options, if applicable, or based on soil, traffic, and other site-specific conditions.
- HYDRO-9:** Excavation and grading activities will be suspended when sustained winds exceed 25 miles per hour (mph), instantaneous gusts exceed 35 mph, or when dust occurs from remediation related activities where visible emissions (dust) cannot be controlled by watering or conventional dust abatement controls.
- HYDRO-10:** 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-11:** Staging and stockpile areas will be designated and/or located, and suitable barriers installed, 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 water bodies.
- HYDRO-12:** Decontamination of heavy equipment shall occur prior to delivery onto state park lands. Heavy equipment shall be thoroughly power washed prior to delivery to the job site. Equipment shall be free of woody and organic debris, soil, grease, and other foreign matter. The engine compartment, cab, and other enclosed spaces shall also be free of the aforementioned debris. Equipment shall be thoroughly inspected by DPR's State Representative upon delivery and may be rejected if in the opinion of the DPR representative the equipment does not meet decontamination standards. If a piece of equipment is removed from the park for unrelated work or work not identified as part of the project, it will be re-inspected upon re-entry to the park. Upon demobilization decontamination shall take place off-site.
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HYDRO-13: All heavy equipment parking, refueling, and service will be conducted within designated areas with suitable barriers outside of the 100-year floodplain to avoid watercourse contamination.

PROJECT DESIGN-RELATED MEASURES

HYDRO-14: 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 modifications will be developed.

HYDRO-15: DPR staff will install appropriate energy dissipaters and employ other erosion control measures at water discharge points, as appropriate.

HYDRO-16: Routes will be designed and constructed so that they do not significantly disrupt or alter the natural hydraulic flow patterns of the landform.

HYDRO-17: Routes 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-18: For decommissioning and restoration projects, 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-19: Install armored rock crossings at ephemeral drainages, micro drainages and swales to harden the tread in areas of potential interface between trail users and natural topographic drainage features.

HYDRO-20: Provide outslope to the road bed or trail tread and remove any outer edge berm to facilitate sheet flow off the road or trail where the dispersed flow can be filtered by vegetation and organic litter.

HYDRO-21: When outsloping road or trail surfaces is not feasible, such as steep linear grades, construct rolling dips to direct runoff safely off the route 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 routes receiving no use. Water bars will be constructed to divert water to controlled points along the route and with rock armor at the downslope end for energy dissipation, where needed.

HYDRO-22: Install gravel surfacing on routes in areas with saturated or unstable soils, and on bridge or ford approaches to provide a stable tread surface.

HYDRO-23: Seasonally close multi-use trails to all users when soils are saturated and softened.

HYDRO-24: Install “pinch points” on multi-use trails where necessary to reduce downhill bicycle speed and increase the line of sight at curves.

HYDRO-25: Construct or repair barriers at switchbacks on multi-use trails to discourage shortcuts and the creation of user-created trails.

LAND USE AND PLANNING STANDARD PROJECT REQUIREMENTS

The SPRs do not include a category of provisions specifically related to land use and planning.

MINERAL RESOURCES STANDARD PROJECT REQUIREMENTS

The SPRs do not include a category of provisions specifically related to mineral resources use.

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 Humboldt County or surrounding communities. 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 7:00 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.

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

POPULATION AND HOUSING STANDARD PROJECT REQUIREMENTS

- AQ-14:** The maximum number of construction worker-related commute trips for any project at a park will not exceed 60 one-way worker commute trips per day.

PUBLIC SERVICES AND UTILITIES STANDARD PROJECT REQUIREMENTS

The SPRs do not include a category of provisions specifically related to public services and utilities management.

RECREATION STANDARD PROJECT REQUIREMENTS

The SPRs do not include a category of provisions specifically related to recreation use management.

TRANSPORTATION AND TRAFFIC STANDARD PROJECT REQUIREMENTS

- TRAN-1:** 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-2:** 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 standards.
- TRAN-3:** **[insert who]** will assess parking capacity prior to implementing a proposed change in use. After implementation of the proposed change in use, DPR 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. DPR District personnel will determine which actions are feasible at the park unit.
- TRAN-4:** Prior to initiating any construction activities with the potential to significantly or permanently disrupt traffic flows, 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 the project. Measures included in the CTMP could include (but are not limited to) construction signage, flaggers for lane closures, construction schedule and/or delivery schedule restrictions, etc. The CTMP will be submitted to the local agency having jurisdiction over the affected traffic facilities.

2.10 Project Implementation

As noted previously, the RTMP will provide focus for management of paved and non-paved roads and trails. Subsequent work undertaken pursuant to the RTMP would generally occur Monday through Friday, during daylight hours. Weekend or holiday work could be implemented to accelerate the construction schedule or address emergencies or unforeseen circumstances.

2.11 Visitation to Humboldt Redwoods SP

Visitation to HRSP has increased steadily consistent with population growth in general. The RTMP is designed to support existing park use and is not expected to significantly increase the number of visitors to the park. However, it does establish a management policy to enhance sustainability and improve the experience of those using the roads and trails.

2.12 Consistency with Local Plans and Policies

The RTMP is consistent with the HRSP General Plan and serves as a bridge between the desired conditions stated as goals and guidelines in the general plan and the measurable implementation actions. The RTMP defines the objectives, methodologies, and/or designs on how management goals will be accomplished. This RTMP is focused on specific management topics, goals, or issues applying to all roads and trails within HRSP.

2.13 Discretionary Approvals

DPR has approval authority for subsequent projects under the RTMP within the boundaries of HRSP. The following permits and/or consultations may be required to allow implementation of components of the RTMP:

- A Section 404 Clean Water Act permit from the U.S. Army Corps of Engineers (Corps or USACE) Regulatory Branch, if the project is determined to be within USACE jurisdiction.
- A Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB)
- A Streambed Alteration Agreement (Section 1602) from the CDFW.
- Section 7 consultation with the USFWS for Northern Spotted Owl and Marbled Murrelet will be conducted, in compliance with the federal Endangered Species Act.
- 2081 take permit or Consistency Determination for state-listed species in compliance with the California Endangered Species Act.

2.14 Related Projects

DPR often has other smaller maintenance programs and rehabilitation projects planned for a park unit. For the areas adjacent to the road and trail system, these include:

- Environmental Restoration Projects (e.g., Bull Creek Floodplain Restoration Project)
- Facilities Maintenance (i.e., back country pit toilets)
- Accessibility Improvement Projects
- Deferred Maintenance (e.g., facilities, roads, etc.)

Chapter 3 - Environmental Checklist

PROJECT INFORMATION	
1. Project Title:	Humboldt Redwoods State Park Road and Trail Management Plan
2. Lead Agency Name & Address:	California Department of Parks and Recreation
3. Contact Person & Phone Number:	Shannon Dempsey (707) 445-5344
4. Project Location:	Humboldt Redwoods State Park- Humboldt County, California
5. Project Sponsor Name & Address:	California Department of Parks and Recreation North Coast Redwoods District 3431 Fort Ave. Eureka, CA 95503
6. General Plan Designation:	State Wilderness, Natural Preserve, and State Park – Humboldt Redwoods State Park General Plan
7. Zoning:	Public Lands/Public Resource
8. Description of Project:	Refer to Section 7, Chapter 2
9. Surrounding Land Uses & Setting: Planning)	Refer to Chapter 3 of this document (Section IX, Land Use
10. Approval Required from Other Public Agencies	Refer to Chapter 2, Section 2.9

1. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact", as indicated by the checklist on the following pages.

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agricultural Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |
| <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning |
| <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Mandatory Findings of Significance | <input checked="" type="checkbox"/> None |

DETERMINATION

On the basis of this initial evaluation:

I find that the proposed project **COULD NOT** have a significant effect on the environment and a **NEGATIVE DECLARATION** will be prepared.

I find that, although the original scope of the proposed project **COULD** have had a significant effect on the environment, there **WILL NOT** be a significant effect because revisions/mitigations to the project have been made by or agreed to by the applicant. A **NEGATIVE DECLARATION** will be prepared.

I find that the proposed project **MAY** have a significant effect on the environment and an **ENVIRONMENTAL IMPACT REPORT** or its functional equivalent will be prepared.

I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated impact" on the environment. However, at least one impact has been adequately analyzed in an earlier document, pursuant to applicable legal standards, and has been addressed by mitigation measures based on the earlier analysis, as described in the report's attachments. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the impacts not sufficiently addressed in previous documents.

I find that, although the proposed project could have had a significant effect on the environment, because all potentially significant effects have been adequately analyzed in an earlier EIR or Negative Declaration, pursuant to applicable standards, and have been avoided or mitigated, pursuant to an earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, all impacts have been avoided or mitigated to a less-than-significant level and no further action is required.


Shannon Dempsey
Environmental Coordinator

12-7-18
Date

ENVIRONMENTAL ISSUES

I. Aesthetics

ENVIRONMENTAL SETTING

Humboldt Redwoods State Park contains significant scenic and irreplaceable resources, including the largest contiguous stand of old-growth coast redwoods, prairie vistas, historic ranchlands, and the largest backcountry area found in any of California's redwood state parks. Significant wildlife populations and the presence of water in the landscape contribute to the scenic resources of the park.

Two major roadways, California's Highway 101 and the scenic Avenue of the Giants, cut across the eastern side of the Park providing periodic glimpses of small rural agricultural communities along the Lower South Fork Eel River. Neither of these highways are designated as a state scenic highway (Caltrans 2011). Towering old-growth redwoods and a fern laden understory dominate the area, which is punctuated by the river flowing through.

To the west, second-growth mixed forest is readily visible from the curving Mattole Road between Albee Creek and Panther Gap within the Bull Creek watershed. Numerous landslides, natural and human induced, are an apparent component of the view-scape evidencing the unstable geologic formations and steep slopes found in the area. Abandoned logging road scars are ubiquitous and dissect many of the subwatersheds. The low-lying areas are subject to seasonal flooding and bank erosion, exacerbated by large quantities of sediment generated by decades of human land use, primarily logging and related road building. Open meadows, prairies, and orchards provide strong contrasts and visual variety to the predominantly forested landscape of this region. At the top of the watershed, panoramic vistas are available from the summits of Grasshopper Peak, Panther Gap, and Peavine Ridge.

Numerous species of wildlife are found in the park and many types of wildflowers and grasses cover the prairies during the spring. Lush green prairies gradually turn golden brown during the summer. In the fall maples, oaks, poison oak, cottonwoods, and willows turn brilliant colors. All the while, the ancient coast redwoods maintain their dominating presence of towering evergreen, where their tops can only be spotted from river or creek edges while standing at a distance.

WOULD THE PROJECT:	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| b) Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

DISCUSSION

- a) Impacts could occur if a road or trail alignment was altered to the degree that the existing views are no longer accessible. Impacts to scenic vistas would also 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 vegetation or geologic features), such that the scenic view would be substantially degraded. None of these potential outcomes will occur as a result of the RTMP.

The RTMP will provide a management tool that will be used to assess Change-in-use requests and manage the roads and trails to minimize impacts to the natural and cultural resources. Trail modifications could be associated with a subsequent project (e.g., addition of design features and BMPs, minor widening, alignment shift); however, projects that propose buildings or other conspicuous structures would not occur as a result of the RTMP. Furthermore, incorporation of SPR AES-1 would ensure that design and materials of road and trail modifications are consistent with the surrounding visual setting, including scenic views. Equipment and materials storage during construction would occur outside existing scenic viewsheds (SPR AES-2). Less than significant impact.

- b,c) The visual character of HRSP varies greatly and generally exhibits high scenic, and in many cases, substantial visual features (i.e. large trees, wide open prairies, riparian areas, water bodies, etc.) that enhance the visual character of the roads and trails. The RTMP will provide a management tool that will be used to assess change-in-use requests and manage the roads and trails to minimize impacts to the natural and cultural resources. Route modifications, including re-engineering, minor realignments, and/or decommissioning (restoration to natural conditions) could be necessary for subsequent projects done pursuant to the RTMP. These road and trail improvements would be designed to minimize effects to the physical environment. For example, SPR BIO-22 requires minimizing removal of native trees, and avoidance of trees over 24 inches DBH. Also, qualifying projects would be designed to avoid substantial alteration to existing geological features and water bodies (see HYDRO and GEO SPRs). Therefore, subsequent projects would not

substantially affect the existing visual character or features of the scenic landscape. Furthermore, SPR AES-1 and SPR AES-2 would ensure that design and materials used for road and/or trail modifications would be consistent with the surrounding visual character and that equipment and materials storage during construction would occur outside prominent viewsheds.

Projects qualifying for conditional approval for a change-in-use could include minor physical alterations to existing DPR roads and trails. Under the process, physical changes would be limited to decommissioning, 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 DBH (according to SPR BIO-22). 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.

Future actions that are included in the RTMP include potential changes in use, reroutes, new connector trail segments, and/or new trail camps. Because work plans have not been prepared for these road and trail segments, additional and subsequent environmental review will be necessary to assess potential impacts on visual character resulting from physical changes to the routes to accommodate the change-in-use or new route alignments and features. In general, any impacts resulting from physical alterations to the routes or landscape can be addressed with implementation of SPR AES-1 and AES-2 as noted above. The impact is less than significant.

- d) No additional permanent light source (e.g., lighting for a new emergency call box or trail head-area path lighting) will be installed. 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 RTMP will not change substantially from existing conditions. No impact.

MITIGATION MEASURE AESTHETICS

None Required

II. Agricultural and Forest Resources

ENVIRONMENTAL SETTING

During the 1860s, the first Euro American settlers came to the South Fork Eel River area and established small agricultural communities. By 1890, most of the region was homestead, where early farmers raised hogs, sheep, and cattle, and harvested apples, pears, plums, and nuts from their orchards. Logging in the South Fork area occurred from the time of first settlement; however, logging did not become important to the economy until around 1915 when much of the land use shifted to timber operations. Logging in the upper Bull Creek watershed did not begin until the late 1940's. The Bull Creek watershed was the last major acquisition of the Park in 1962 and timber operations were discontinued as part of the transition from private timber holdings to public parkland (DPR 2001).

Humboldt County encompasses approximately 2,290,000 acres with approximately 27% of Humboldt County land (634,000 acres) in agricultural use (according to the 2002 U.S Department of Agriculture Census). There are 1.2 million acres of private forested land and 0.3 million acres of public forested land in Humboldt County, covering more than 80% of the County's land area. Roughly 990,000 acres are zoned Timber Production Zone (two-thirds of which are held by timber companies.) (Humboldt County 2017). The primary traditional agricultural product of Humboldt County is harvested timber, for which the County leads the state in both volume and value.

At this time, no lands within the boundaries of HRSP are used or zoned for agricultural purposes; however, agricultural relics are readily observable in and around the park. A few privately held smaller parcels occur in the vicinity, however much of the land surrounding the Park belongs to logging companies; and is used for timber production.

Currently, the County has approximately 200,000 acres under Williamson Act conservation agreement contracts (Humboldt County 2017), and no lands classified as prime, unique, or farmland of statewide importance by the Farmland Mapping and Monitoring Program (FMMP). The FMMP produces maps and statistical data used for analyzing impacts on California's agricultural resources; however, data and maps for Humboldt County have not been collected to date.

WOULD THE PROJECT*	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Convert prime farmland, unique farmland, or farmland of statewide importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the Calif. Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Conflict with existing zoning for agricultural use or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

*In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997), prepared by the California Department of Conservation as an optional model for use in assessing impacts on agricultural and farmland.

DISCUSSION

- a) The proposed project contains no lands used for agriculture. None of the land within Humboldt Redwoods SP, the area immediately surrounding the park, or area impacted by the proposed project is included in any of the Important Farmland categories, as delineated by the California Department of Conservation, under the Farmland Mapping and Monitoring Program (FMMP). No impact.
- b) The project is located wholly on State Park land and is not in conflict with existing zoning for agricultural use in the Humboldt County General Plan or any Williamson Act land contracts. HRSP is part of the California state park system and does not support any agricultural operations or farmland.
- c) Commercial extraction of timber is not allowed in State Parks per California Public Resource Code (PRC §5001.65). The project would have no impact on any timber zoning or cause rezoning of any land. No impact.
- d,e) No conversion of adjacent agricultural or forest lands to non-agricultural/timber production uses would occur as a result of the project. The project encompasses only State Park land and involves a management plan for roads and trails solely within the park (although it does examine external trail links to trails within non-state park open space). The project would have no influence on, or involve changes in, the surrounding environment that would cause the conversion of any lands from agricultural or timber production use. The project will have no effect on farmland/timberland conversion.

MITIGATION MEASURE AGRICULTURAL AND FOREST RESOURCES

None Required

III. Air Quality

ENVIRONMENTAL SETTING

Humboldt Redwoods SP is located in Humboldt County, which is part of the North Coast Air Basin, under the jurisdiction of the North Coast Unified Air Quality Management District (NCUAQMD) and United States Environmental Protection Agency (USEPA) Region IX. Humboldt, Trinity, and Del Norte counties all fall under the regional jurisdiction of the NCUAQMD, whose main purpose is to enforce local, state, and federal air quality laws and regulations. Their primary responsibility is controlling air pollution from stationary sources.

Pursuant to the federal Clean Air Act, the NCUAQMD is required to reduce emissions of criteria pollutants for which the Basin is in nonattainment. Humboldt County has relatively clean air due to frequent rains, ocean winds, low levels of commuter traffic, and a small industrial base. Because of these conditions, Humboldt County is currently in attainment with most California standards (Table 3.1). However, the Basin is considered a non-attainment area for suspended particulate matter (PM₁₀ or particles with an aerodynamic diameter of 10 microns or less) under California Clean Air Act. The major sources of PM₁₀ are combustion (e.g. wood smoke, emissions from industry, automobiles, and diesel engines) and dust (e.g. airborne soil, road dust caused by vehicle travel).

Table 3.1. North Coast Air Basin Attainment Status

data obtained from <https://www.arb.ca.gov/desig/adm/adm.htm>, latest available data from December 2015

Pollutant	Averaging Time	State Status	National Status
Suspended particulate matter (PM ₁₀)	24-hr and Annual	Non-attainment*	Unclassifiable/Attainment
Fine suspended particulate matter (PM _{2.5})	24-hr and Annual	Attainment	Unclassifiable/Attainment
Ozone	1-hr. 8 hr.	Attainment Attainment	No federal standard Unclassifiable/Attainment
Carbon monoxide	1-hr. and 8-hr.	Unclassified	Unclassifiable/Attainment
Nitrogen-dioxide	1-hr. and Annual	Attainment	Unclassifiable/Attainment
Sulfur dioxide	1-hr. and 24-hr.	Attainment	Unclassifiable/Attainment
Sulfates	24-hr.	Attainment	No federal standard
Lead	30-day	Attainment	Unclassifiable/Attainment
Hydrogen sulfide	1-hr.	Unclassified**	No federal standard
Visibility reducing particles	8-hr.	Unclassified	No federal standard

*Del Norte and Trinity Counties are in attainment, Humboldt County is non-attainment.

**Del Norte and Trinity Counties are unclassified, Humboldt County is attainment.

WOULD THE PROJECT

	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan or regulation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations (e.g. children, the elderly, individuals with compromised respiratory or immune systems)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION

- a) The project would not conflict with, or obstruct implementation of, the 1995 Particulate Matter (PM10) Attainment Plan (Plan) prepared by NCUAQMD. The main objective of the 1995 Draft Report is to present available information about the nature and causes of exceedances of the PM10 standards, and to identify cost-effective control measures, which can be implemented to bring ambient PM10 levels down to meet California’s standards for PM10. The study identifies the major contributors of PM10; however, is not a document requiring the measures be implemented in order for the District to come into attainment of the state standards. The District is planning to update the document. No impact.
- b) The RTMP itself would not result in a new source of emissions that would violate any local, state, or federal ambient air quality standards or contribute substantially to an existing or projected air quality violation. The project is a management tool that will be used to assess change-in-use requests and manage the roads and trails to minimize impacts to the natural and cultural resources. Minor route modifications, reroutes, new trails, reengineering, decommissioning, and/or

appurtenant facilities could be necessary for subsequent projects done pursuant to the RTMP. As such, the temporary use of equipment for construction, transport of materials, and/or the clearing of vegetation or excavation for new trail alignments would emit ozone precursors and fugitive dust. However, with the temporary nature of the construction projects and compliance with applicable AIR QUALITY SPRs, potential adverse air quality impacts would be less-than-significant.

- c) The project area encompassed by the RTMP is located within a region of nonattainment for PM10 according to state ambient air quality standards. The major sources of PM10 are combustion (e.g. wood smoke, emissions from industry, automobiles, and diesel engines) and dust (e.g. airborne soil, road dust caused by vehicle travel), both of which have the potential to be emitted during subsequent construction activities carried out pursuant to the RTMP. However, due to the temporary nature of the activities undertaken with inclusion of the applicable AIR QUALITY SPRs, it would not have a considerably cumulative net increase of any criteria pollutant. Less than significant impact.
- d) The project consists of a guiding document for park managers, staff, and volunteers, who construct trail improvements, maintain or repair existing roads and trails, or are otherwise involved with road and trail issues. The Plan establishes goals for the overall trail system as well as guidelines for appropriate trail uses, trail closures and reroutes, road and trail maintenance and repair activities, trail aesthetics, and a route monitoring system. The Plan also defines trail-specific actions for individual trails as well as recommended future planning efforts. The plan does not involve physical changes and as such, no impact would result.
- e) As noted above, the project consists only of a guiding document for road and trail planning, management, and maintenance. Subsequent trail construction that may result from approval of this document will not create objectionable odors for any individuals.

MITIGATION MEASURE AIR QUALITY-

None Required

IV. Biological Resources

This section provides an evaluation of the potential biological effects of implementing the proposed RTMP. Road and trail closure, decommissioning, reengineering, minor rerouting, road-to-trail conversion, change-in-use, and other activities subject to the RTMP may result in the degradation of biological resources.

The following environmental assessment includes a review of biological resources potentially affected by the implementation of the RTMP, including existing and potential biological resources within Humboldt Redwoods State Park. Biological resources include common vegetation and wildlife, sensitive plant communities, and special-status plant and animal species.

This analysis includes a review of applicable regulations, requirements, plans, and policies from the following sources that were incorporated into the policies and applicable Standard Project Requirements (SPRs) of the RTMP:

- California Environmental Quality Act (CEQA)
- Federal Endangered Species Act (FESA)
- California Endangered Species Act (CESA)
- Humboldt Redwoods General Plan
- Humboldt Redwoods Resource Inventory

ENVIRONMENTAL SETTING

HRSP is within the Klamath/North Coast Bioregion, which extends south from the Oregon-California border roughly one-quarter of the way down the coast of California and east across the coastal range and into the Cascades. The diversity of vegetation and habitats at HRSP provides for an assortment of flora and fauna. Most of these species are found within the Outer North Coast Range of the California Floristic Province (Jepson et al., 2017).

The northern extent of HRSP, extending north from the confluence of the Eel River and South Fork Eel River at Dyerville, is within the Scotia Hydrologic Subarea (HSA) of the Lower Eel River Hydrologic Area (HA), as defined by the Department of Water Resources. Most of the park lies within the Weott and Benbow HSA's of the South Eel River HA. Both HA's are within the Eel River Hydrologic Unit (HU) of the North Coast Hydrologic Basin (HB).

Steep slopes and a high rate of natural erosion characterize the topography of HRSP. Slopes are commonly 50% or steeper with some areas exceeding 70%. These steep slopes, combined with the high amounts of rainfall characteristic of the region, lead to flooding and its consequent transportation of large volumes of sediment. Lower elevations within the park, especially the areas surrounding the park's larger streams, have much more gradual slopes. Elevations within the park range from 80 feet (24 meters) above sea level along the Eel River near the town of Stafford, to the 3,379-foot (1,030-meter) summit of Grasshopper Peak.

Rockefeller Forest, located in the lower Bull Creek Watershed, contains the largest extent of old growth redwood forest. Other areas of old growth redwood forest occur along the South Fork Eel River and along HWY 254. The extensive logging that occurred in the upper Bull Creek Watershed and many of the eastern portions of the park, removed old-growth Douglas-fir and, to a smaller extent, redwood forests. Today, the second-growth forests of HRSP are even-aged stands that have substantial variation in species composition and stand structures; the clearcut logging often favored the regeneration of tanoak due to its ability to sprout. Restoration efforts, primarily in the Panther and Cuneo watersheds, have been conducted to enhance second growth forests and to increase their trajectory towards a late seral condition.

Methodology

All special-status species and their habitats were evaluated for potential impacts from this project. To address the potential impacts to biological resources in the project area, the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDDB) (CDFW 2017a) and the California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Plants of California (CNPS 2017) were queried. The assessment area was defined as the 6 USGS 7.5' quadrangles in which the park is located (Scotia, Redcrest, Bull Creek, Weott, Myer's Flat, and Miranda), as well as 16 adjacent quadrangles (Fortuna, Hydesville, Owl Creek, Yager Junction, Taylor Peak, Bridgeville, Larabee Valley, Buckeye Mountain, Blocksburg, Shubrick Peak, Honeydew, Ettersburg, Fort Seward, Briceland, Garberville, and Harris, CA.). Results from the query are presented below under the corresponding sections and in Appendix 8.5.

Additional information on special-status species and communities was obtained from DPR databases on file at the North Coast Redwoods District office and through discussions with DPR biologists, literature review, and past on-site focused surveys for projects. No survey efforts were conducted specifically for the review of this management plan.

Vegetation

Plant Communities

HRSP is within the Klamath/North Coast Bioregion, which extends south from the Oregon-California border roughly one-quarter of the way down the coast of California and east across the coastal range and into the Cascades. The diversity of vegetation and habitats at HRSP provides for an assortment of flora and fauna. Most of these species are preserved through the protection and restoration of habitats found within the Outer North Coast Range of the California Floristic Province (Jepson et al. 2017).

Plants

The CDFW List of Natural Communities (CDFW, 2017b) is based on classification described in *A Manual of California Vegetation* (MCV) (Sawyer et al. 2009). An exception to this classification is that we use the older classification of California Annual Grassland Series as described in Sawyer and Keeler-Wolf (1995). This is due to an inadequate sampling of grasslands in the park and that grasslands are not understood completely and are among the most difficult to analyze (Sawyer et al. 2009). We also

combine the Red Alder and White Alder alliances due to an inadequate number of plots in those habitat types and the inability to differentially map these two alliances (CDPR 2017 - HRSP Draft Vegetation Management Plan). The list ranks natural communities in California by their rarity and threatened status. Ten Vegetation Alliances can be found within HRSP (HRSP Draft Vegetation Management Plan (CDPR 2017) (Table 4.1). Series listed with an asterisk and all the associations within them are considered rare and worthy of consideration by CNDDDB.

Table 4.1 Number of Hectares in Each MCV Vegetation Series, Humboldt Redwoods State Park

Series	Hectares	Acres
Redwood Alliance*	11,797	29,152
Douglas fir – Tanoak Alliance	5,234	12,934
Tanoak Alliance	2,146	5,303
Douglas-fir Alliance	603	1,491
California Annual Grassland Series	548	1,353
Coyote Brush Alliance	124	50
Pacific Madrone Alliance	70	172
Red/White Alder Alliance	65	162
Eastwood Manzanita Alliance	2	5
Black Cottonwood Alliance*	Not mapped due to limited size	

* Denotes Sensitive Natural Community considered rare and worthy of consideration.

Vascular plant species diversity is high with 536 species surveyed in the park (NCRD databases).

Humboldt Redwoods State Park is dominated by three large well-developed riparian zones associated with the South Fork and main stem of the Eel River, and with Bull Creek.

Both anthropogenic and natural events have heavily influenced the vegetative composition of the park. Major flood events in 1955 and 1964, which followed decades of heavy logging, resulted in the deposition of large amounts of sediments disturbing and burying riparian vegetation along the Eel River, South Fork Eel River, and especially in the in the Bull Creek riparian corridor. These sediment deposits continue to impede the establishment and success of riparian vegetation, and limit the diversity of riparian vegetation.

The lower reaches of Bull Creek are dominated by Rockefeller Forest, an alluvial old-growth redwood forest, while further upstream the Douglas-fir-Tanoak Series, Douglas-fir Series, and in smaller patches the Tanoak Series characterize the watershed. The Redwood Series, a sensitive vegetation series described below, is the dominate

vegetation alliance or series in HRSP. Douglas-fir (*Pseudotsuga menziesii*) is found in association with redwoods, particularly on upper slopes and in recently disturbed areas, where the Redwood Alliance is integrating to the Douglas-fir-Tanoak alliance.

The following discussions regarding the vegetation alliances with the park are from the HRSP Draft Vegetation Management Plan (CDPR 2017).

Baccharis pilularis Shrubland Alliance (Coyote brush scrub)

Coyote brush (*Baccharis pilularis*) is the sole or dominant shrub in this alliance. Shrubs are typically < 2 m. (6.6 ft.) forming continuous or intermittent canopies. Other species present may include; California blackberry (*Rubus ursinus*), California buckwheat (*Eriogonum fasciculatum*), California coffeeberry (*Frangula californica*), wax-myrtle (*Morella californica*), poison oak (*Toxicodendron diversilobum*), and/or salal (*Gaultheria shallon*). Ground layer is variable. Away from the coast, this series colonizes recently logged lands or other disturbed areas forming permanent stands or developing into forest.

Arctostaphylos glandulosa Shrubland Alliance (Eastwood manzanita Chaparral)

This shrubby vegetation type occurs in a few small patches near the top of Grasshopper Peak. It is predominantly composed of Eastwood's manzanita (*Arctostaphylos glandulosa* ssp. *glandulosa*). There is little or no herbaceous understory.

California Annual Grassland Series

Grassland vegetation occurs on slopes and ridges. Non-native grasses and forbs, with a less extensive native component, dominate many of the grasslands and prairies in the park. Frequently found non-native species include European hairgrass (*Aira caryophylla*), dogtail grass (*Cynosurus echinatus*), soft chess (*Bromus hordeaceus*), ripgut grass (*Bromus diandrus*), slender wild oats (*Avena barbata*), barley (*Hordeum murinum* ssp. *leporinum*), six-weeks fescue (*Festuca bromoides*), and hairy cats-ear (*Hypochaeris radicata*). Native species include California brome grass (*Bromus carinatus*), California oatgrass (*Danthonia californica*), blue wild-rye (*Elymus glaucus*), Douglas iris (*Iris douglasiana*), dogbane (*Apocynum androsaemifolium*), yarrow (*Achillea millefolium*), bracken fern (*Pteridium aquilinum* var. *pubescens*), and miniature lupine (*Lupinus bicolor*). Traditionally the grasslands found in this series are referred to as prairies (Look Prairie, Luke Prairie, etc.) and this document will refer to this series as such.

Populus trichocarpa Forest Alliance (Black cottonwood forest)

This vegetation type provides valuable wildlife habitat and occurs in a few isolated locations along the South Fork of the Eel River and a small remnant patch along Bull Creek. The Black Cottonwood alliance used to occur along Bull Creek from above Albee Creek to Burns Creek and in Cuneo Creek; however, the vegetation type has been greatly reduced since 1953. Black cottonwood (*Populus trichocarpa*) is the dominant canopy species. Co-dominants in the subcanopy are alder (*Alnus* ssp.) and several species of willow, including shining willow (*Salix lasiandra* var. *lasiandra*) and Scouler's willow (*Salix scouleriana*).

Alnus rubra and Alnus rhombifolia Forest Alliance (Red Alder forest and White Alder groves)

These two alliances primarily occur along intermediate to small perennial streams, such as the upper reaches of Bull Creek and Cuneo Creek. They are functionally equivalent and nearly synonymous in species composition, with the exception of the dominant species. Red Alder Series is dominated by red alder (*Alnus rubra*) and occurs alongside more coastally influenced streams, generally downstream from the Dyerville area. White alder (*Alnus rhombifolia*) dominates the White Alder Series and occupies drier, more inland locations, such as the Bull Creek drainage although there is some controversy about distribution. A few different species of willow (*Salix* sp.) are common canopy or subcanopy components in both alliances.

Quercus garryana Woodland Alliance (Oregon white oak woodland)

Oregon white oaks (*Quercus garryana*) are sole or dominant species developing continuous, intermittent, or savanna-like canopies that are sometimes two-tiered. Trees are generally < 30m (98 ft.) in height and can consist of California bay (*Umbellularia californica*), California black oak (*Quercus kelloggii*), canyon live oak (*Quercus chrysolepis*), Douglas-fir (*Pseudotsuga menziesii*), incense cedar (*Calocedrus decurrens*), and Pacific madrone (*Arbutus menziesii*). Shrubs may be infrequent to common and ground layer sparse to grassy.

Lithocarpus densiflorus Forest Alliance (Tanoak forest)

In this alliance, tanoak (*Lithocarpus densiflorus*) is the sole or dominant tree in the canopy; however, California black oak, California bay, canyon live oak, and/or Pacific madrone may be present. Trees are generally less than 75 m. (246 ft.) in height, with a canopy that is continuous and may be two-tiered. Shrubs are infrequent or common and ground layer is sparse to abundant. This alliance is located within old-growth forest boundaries and exists in cut-over stands.

Arbutus menziesii Forest Alliance (Pacific madrone forest)

A 57-hectare (140 acre) stand of almost pure Pacific madrone occurs on a southwest aspect of the Mill Creek drainage between 400 m. (1,340 ft.) and 600 m. (1,980 ft.). The overstory is dominated by Pacific madrone (90% cover) with less than 1% coast redwood (*Sequoia sempervirens*) and big-leaf maple (*Acer macrophyllum*). Trees in the lower and medium strata include Douglas-fir and tanoak. Reproduction is dominated by madrone and tanoak. Bracken fern (5% cover) and poison oak (3% cover) were minor components in the understory. This stand is threatened by encroachment of Douglas-fir which appears to be threatening to overtop Pacific madrone trees within the stand.

Pseudotsuga menziesii-Lithocarpus densiflorus Forest Alliance (Douglas-fir – Tanoak forest)

The Douglas-fir – tanoak alliance is the second most dominant vegetation type within HRSP, occurring primarily in the western portions of the park where historic logging was prevalent. This vegetation type occurs on steep upper slopes in old-growth and cut-over stands. Douglas-fir dominates the canopy with a mix of tanoak, California bay, California black oak, canyon live oak, and Pacific madrone in the subcanopy. A weakly developed shrub layer is typically composed of California huckleberry (*Vaccinium ovatum*) and salal. A herbaceous layer is generally absent. Tree heights are generally less than 75 m. (246 ft.) with a continuous canopy. Old-growth Douglas-fir – tanoak alliance are comprised of a two tiered canopy differentiating this series from the single tiered Douglas-fir Alliance.

Pseudotsuga menziesii Forest Alliance (Douglas-fir forest)

Trees in this alliance are generally single tiered and < 75 m. (246 ft.) tall, though they can reach 100 m. (328 ft.). Douglas-fir is the sole or dominant species developing continuous and intermittent canopies. Shrubs and ground cover can be sparse or abundant. Canyon live oak, white fir (*Abies concolor*), and chinquapin (*Chrysolepis chrysophylla*) may be present. Mature Douglas-fir stands may develop two-tiered characteristics with age. Tanoak will often make up this second tier at which point the stand may evolve into the Douglas-fir – tanoak alliance.

Sequoia sempervirens Forest Alliance (Redwood forest)

The Redwood forest alliance is by far the most extensive in the park, comprising greater than 55% of the total acreage. This alliance is defined by the presence of coast redwood as the sole, dominant, or important tree in the canopy; although California bay, Douglas-fir, Pacific madrone, tanoak, and/or western hemlock (*Tsuga heterophylla*) may be present. The trees are generally less than 120 m. (390 ft.) tall, the canopy may be either continuous or intermittent, and may be two-tiered. Shrubs in the Redwood forest alliance may be infrequent or common and a ground layer can be absent or abundant. In HRSP, the canopy in the Redwood forest alliance is often continuous especially in old-growth stands where the overstory canopy frequently exceeds 80%. Typical understory species associated with this alliance in HRSP include redwood sorrel (*Oxalis oregana*), California huckleberry, western sword fern (*Polystichum munitum*), deer fern (*Blechnum spicant*), chain fern (*Woodwardia fimbriata*), trillium (*Trillium ovatum*), salal, Oregon-grape (*Berberis nervosa*), and Douglas iris.

Common associations within HRSP include *Sequoia sempervirens*/*Oxalis oregana* (Redwood/redwood sorrel) association, *Sequoia sempervirens*/*Pseudotsuga menziesii*/*Vaccinium ovatum* (Redwood/Douglas-fir/California huckleberry) association, *Sequoia sempervirens*/*Pseudotsuga menziesii*/*Arbutus menziesii* (Redwood/Douglas-fir/madrone) association, and *Sequoia sempervirens*/*Pseudotsuga menziesii*/*Gaultheria shallon* (Redwood/Douglas-fir/salal) association. The Redwood/redwood sorrel association occurs in association with alluvial terraces whereas the other associations are more commonly found in upland redwood forests.

Wildlife

Wildlife habitat classifications are based on the California Wildlife Habitat Relationship System (CWHR) (Mayer and Laudenslayer 1988). The CWHR is an information system that describes the management status, distribution, life history, and habitat requirements of California's wildlife species.

The CWHR provides a broad habitat-based system that attempts to classify vegetation based on its value to vertebrate animals. The CWHR describes 59 different habitat types in California that are largely based on vegetation type, however the California Department of Fish and Wildlife points out that the CWHR habitat types are "not a vegetation classification system per se" (Woodward 2002).

Douglas-fir (DFR)

This habitat forms a complex mosaic of forest assemblages due to the geologic, topographic, and successional variation typical within its range (Sawyer 1980 in Mayer

and Laudenslayer 1988). Diversity of tree size typically increases with stand age along with tree spacing (Franklin et al. 1981 in Mayer and Laudenslayer 1988). Young stands have closely spaced and uniformly distributed trees, whereas older stands show a patchier stem distribution. Older age stands have higher densities and volume of snags and downed logs, an important wildlife component of this habitat.

The DFR habitat type corresponds primarily to the Douglas-fir and Douglas-fir – Tanoak alliances (Sawyer et al. 2009). This habitat type is primarily situated in the more xeric upper elevations and the western portions of HRSP, much of which has experienced historic timber harvesting. A high abundance of wildlife species is supported by this habitat. Bird species typical of this habitat include the northern spotted owl (*Strix occidentalis caurina*), Pacific-slope flycatcher (*Empidonax difficilis*), chestnut-backed chickadee (*Poecile rufescens*), golden-crowned kinglet (*Regulus satrapa*), Hutton's vireo (*Vireo huttoni*), hermit warbler (*Dendroica occidentalis*) and varied thrush (*Ixoreus naevius*). Typical mammals include Douglas squirrel (*Tamiasciurus douglasii*), Columbian black-tailed deer (*Odocoileus hemionus columbianus*), black bear (*Ursus americanus*), mountain lion (*Puma concolor*), Pacific fisher (*Pekania pacifica*), deer mouse (*Peromyscus maniculatus*), dusky-footed woodrat (*Neotoma fuscipes*), Sonoma tree vole (*Arborimus pomo*), northern flying squirrel (*Glaucomys sabrinus*), Douglas' squirrel (*Tamiasciurus douglasii*), and shrew-mole (*Neurotrichus gibbsii*). Amphibians and reptiles that are largely coincident with the distribution of Douglas-fir habitat include southern torrent salamander (*Rhyacotriton variegatus*), northwestern salamander (*Ambystoma gracile*), coastal giant salamander (*Dicamptodon tenebrosus*), clouded salamander (*Aneides ferreus*), tailed frog (*Ascaphus truei*), and northwestern garter snake (*Thamnophis ordinoides*). The ensatina (*Ensatina eschscholtzii*) is the most abundant amphibian; although similar to the other herpetofauna it is not restricted to this habitat.

Redwood (RDW)

The redwood habitat is a composite name for a variety or mix of conifer species that grow within the coastal influence zone 30 miles (< 50 km) from the coast. Often occurring on alluvial flats or on lower slope mesic sites, old growth stages of this habitat are characterized by tall 230 to < 375 ft. (70 to < 112 m) dominant and codominant trees often with a dense understory of 10 to 13 ft. (3-4 m) tall shrubs. Young-growth redwood habitats are characterized by even-aged structure with an open appearance and shrubby vegetation with overlapping canopies.

In HRSP, this habitat type often consists of redwood and Douglas-fir with tanoak and Pacific madrone as the major associates. Redwood habitats provide food, cover, or special habitat elements for 193 wildlife species (Marcot 1979 in Mayer and Laudenslayer, 1988). Bird species often occurring in this habitat include the brown creeper (*Certhia americana*), winter wren (*Troglodytes troglodytes*), golden-crowned kinglet, MacGillivray's warbler (*Oporornis tolmiei*), olive-sided flycatcher (*Contopus cooperi*), Swainson's thrush (*Catharus ustulatus*), pileated woodpecker (*Dryocopus pileatus*), red-breasted nuthatch (*Sitta canadensis*), Steller's jay (*Cyanocitta stelleri*), Vaux's swift (*Chaetura vauxi*), western tanager (*Piranga ludoviciana*), northern spotted owl, and osprey (*Pandion haliaetus*). Typical mammals include black-tailed deer, ringtail (*Bassariscus astutus*), mountain lion, Pacific fisher, dusky-footed woodrat,

western redbacked vole (*Clethrionomys californicus*), northern flying squirrel, Douglas' squirrel, and shrew-mole. The Humboldt marten (*Martes americana humboldtensis*), which has been extirpated from much of its historic range, was reported to have occurred in redwood habitats within the area of HRSP; however, survey efforts have yet to detect this species (NCRD databases). Typical amphibians and reptiles occurring in this habitat include the northern red-legged frog (*Rana aurora aurora*), ensatina, coastal giant salamander, and clouded salamander.

HRSP is recognized as a critical area to the survival and recovery of the state and federally listed marbled murrelet (*Brachyramphus marmoratus*). Old-growth RDW forests within the park are highly used by marbled murrelets. Protection and enhancement of habitat within the park is considered vital to assure conservation of this species.

Montane Hardwood Conifer (MHC)

As its name implies, this habitat type includes both conifers (at least one-third) and hardwoods (at least one-third), often as a closed forest. Occurring in mosaic-like patterns, this diverse habitat consists of a broad spectrum of mixed, vigorously growing conifer and hardwood species. Typically, conifers up to 200 ft. (65 m) in height form the upper canopy and broad-leaved trees (often sclerophyllous evergreen) 30 to 100 ft. (10 to 30 m) in height comprise the lower canopy. In HRSP, a combination of Oregon white oak, California black oak, tanoak, Pacific madrone, red alder, and Douglas-fir commonly make up this habitat type.

Mature MHC provides habitat for a variety of species including many of the more generalist species that also occur in DFR and RWD habitat types. Canopy cover and understory vegetation are variable which makes the habitat suitable for numerous species. Mature Montane Hardwood Conifer habitats are valuable to cavity nesting birds such as the pileated woodpecker, western screech-owl (*Otus kennicottii*), chestnut-backed chickadee, and red-breasted nuthatch. The mast crops (e.g., acorns and other tree nuts) produced within this habitat are an important food source for many species of wildlife such as the dusky-footed woodrat, mule deer, and band-tailed pigeon (*Columba fasciata*).

Montane Hardwood (MHW)

This habitat type is composed of a pronounced hardwood tree (canyon live oak) element, with an infrequent and poorly developed shrub (manzanita, mountain-mahogany, poison oak) stratum and a sparse herbaceous layer. Middle elevation associates are Douglas-fir, tanoak, Pacific madrone, California-laurel, and California black oak. Oregon white oak and coast live oak are abundant at lower elevations.

Bird and mammal species characteristic of the Montane Hardwood habitat include disseminators of acorns such as the Steller's jay, acorn woodpecker (*Melanerpes formicivorus*), and western gray squirrel (*Sciurus griseus*); as well as those that utilize acorns as a major food source such as the mountain quail (*Oreortyx pictus*), band-tailed pigeon, dusky-footed woodrat, black bear, mule deer, and the non-native wild turkey (*Meleagris gallopavo*). Amphibians and reptiles found in this habitat include ensatina salamander, western fence lizard (*Sceloporus occidentalis*), rubber boa (*Charina*

bottae), western rattlesnake (*Crotalus viridis*), and California mountain kingsnake (*Lampropeltis zonata*).

Montane Riparian (MRI)

The vegetation of Montane Riparian habitat is quite variable and structurally diverse (Marcot 1979 in Mayer and Laudenslayer, 1988). Often this habitat is composed of dense broad-leaved, winter deciduous trees up to 100 ft. (30 m) tall with a sparse understory. At higher elevations, this habitat is usually less than 50 ft. (15 m) high with more shrubs in the understory, sometimes climaxing at the shrub stage only. At HRSP, black cottonwood, big-leaf maple, white alder, red alder, and willow species are a few representatives of this habitat.

Riparian habitats are well noted for having an exceptionally high value for many wildlife species (Mayer and Laudenslayer 1988). This habitat type provides water, thermal cover, migration corridors and diverse nesting and feeding opportunities. Because riparian habitats are often linear in nature, edge structure is maximized which is highly productive for wildlife (Thomas 1979 in Mayer and Laudenslayer 1988). Riparian habitats also serve as wildlife linkages for species such as the mountain lion and black bear. A diverse range of birds, reptiles, amphibians, and mammals use this habitat. Avian species found in MRI include red-tailed hawk (*Buteo jamaicensis*), great horned owl (*Strix virginianus*), black phoebe (*Sayornis nigricans*), Bewick's wren (*Thryomanes bewickii*), and yellow-breasted chat (*Icteria virens*). Common amphibian species associated with MRI include the northern red-legged frog, coastal giant salamander, and Western terrestrial garter snake (*Thamnophis elegans*). In addition to the aforementioned mammals, the brush rabbit (*Sylvilagus bachmani*), dusky-footed woodrat, ringtail, raccoon (*Procyon lotor*), river otter (*Lontra canadensis*), and long-tailed weasel (*Mustela frenata*) are often found in MRI habitat.

Mixed Chaparral (MCH)

This nearly impenetrable brushland habitat is structurally homogenous, dominated by shrubs with thick, stiff heavily cutinized evergreen leaves. Shrub height and cover vary considerably with age since last burn, precipitation regime, aspect and soil type (Hanes 1977). Considerable organic debris may accumulate in stands that have not burned for several decades.

No wildlife species are restricted to Mixed Chaparral, most species occurring in this habitat also occur in other shrub-dominated habitats including Montane Chaparral, Coastal Scrub, or the shrubs beneath woodland and forest types. Wildlife management consideration for this habitat often focuses on selecting fire management treatments, as long-term fire suppression can lead to stand senescence and declines in wildlife species.

Coastal Scrub (CSC)

Both structure and species composition changes markedly in this habitat with progressively more xeric conditions from north to south along the coast. At HRSP, coyote brush dominates the overstory and occurs with other species such as blue blossom (*Ceanothus thyrsiflorus*), coffeeberry, salal, bush monkeyflower (*Mimulus aurantiacus*), California blackberry, and poison-oak.

CWHR reports that little is known about the importance of Coastal Scrub habitat to wildlife. Productivity values are lower in Coastal Scrub than in adjacent chaparral habitats; however, Coastal Scrub appears to support similar numbers of vertebrate species to those in surrounding habitats.

Coastal Oak Woodland (COW)

Both the composition and structure of this habitat varies over latitudinal, longitudinal, and elevational gradients. The overstory consists of deciduous and evergreen hardwoods, comprised mostly of oaks 15 to 70 ft. (4.5-21 m) tall sometimes with scattered conifers. In mesic sites, the trees are dense and form a closed canopy compared to drier sites where trees are more widely spaced, forming an open woodland or savannah. The understory is quite variable depending on the slope, soil, precipitation, moisture availability, and air temperature. Along the North Coast Range, under favorable moisture conditions, California black oak, canyon live oak, California bay, tanoak, Pacific madrone, and interior live oak (*Quercus wislizeni*) are often found mixed with Oregon white oak. Typically, the understory is made up of grassland and shrubby vegetation.

Coastal Oak Woodlands are utilized by a variety of wildlife species, including at least 60 species of mammals and 110 species of birds. Species occurring in this habitat are similar to those occurring in DF and MHW that are dependent upon mast. Significant declines in wildlife populations have been documented as a result of poor acorn years (Mayer and Laudenslayer, 1988). The loss of Coastal Oak Woodlands remains an important issue with wildlife managers.

Annual Grassland (AGS)

Composed primarily of annual plant species this open grassland also occurs as understory vegetation in Coastal Oak Woodland and other habitats. Introduced annual grasses are the dominant plant species with forbs a secondary species. Perennial grasses are found interspersed in moist, lightly grazed, or relic prairie areas.

Many wildlife species use Annual Grasslands for foraging, but often require additional habitat features for breeding, resting, and escape cover. Avian species known to breed in this habitat include the short-eared owl (*Asio flammeus*), horned lark (*Eremophila alpestris*), and western meadowlark (*Sturnella neglecta*). In addition, this habitat provides important foraging habitat for the turkey vulture (*Cathartes aura*), northern harrier (*Circus cyaneus*), and American kestrel (*Falco sparverius*). Mammals typically found in this habitat include the black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), western harvest mouse (*Reithrodontomys megalotis*), California vole (*Microtus californicus*), black-tailed deer, and coyote (*Canis latrans*). Characteristic reptiles that breed in this habitat include the western fence lizard and western rattlesnake (*Crotalus atrox*).

Orchard-Vineyard (OVN)

Typically orchards in California are open single species, tree dominated habitats. Depending on the tree species and pruning methods, they are usually low, bushy trees with an open understory to facilitate harvest.

During the Euroamerican settlement period numerous orchards were planted within HRSP. Over time, most of these orchards have disappeared although remnants can be located in a number of locations including the Cuneo Creek area, Bull Creek flats, and Burlington. Wildlife such as black bear, coyote, black-tailed deer, rabbits, squirrels and numerous birds (northern flicker (*Colaptes auratus*), American crow (*Corvus brachyrhynchos*), plain titmouse (*Parus inornatus*), band-tailed pigeon, western bluebird (*Sialia mexicana*), yellow-rumped warbler (*Dendroica coronata*), black-headed grosbeak (*Pheucticus melanocephalus*)) feed on fruit and nuts from this habitat. California quail (*Callipepla californica*) use this habitat for cover and nesting.

Urban (URB)

The structure of urban vegetation varies, with five types of vegetative structure defined: tree grove, street strip, shade tree/lawn, lawn, and shrub cover.

Three urban categories relevant to wildlife are distinguished: downtown, urban residential, and suburbia. HRSP urban areas are most representative of the suburban areas, which closely approximate the natural environment. Relatively large tracts of adjacent natural vegetation such as chaparral, grasslands, and oak woodland abound. Bird species include American robins (*Turdus migratorius*), wrentits (*Chamaea fasciata*), chestnut-backed chickadee, and California quail. Common mammals include black-tailed deer, black-tailed jackrabbit, striped skunk (*Mephitis mephitis*), and raccoons. Gopher snake (*Pituophis melanoleucus*) and western fence lizard also occur in this zone.

Riverine (RIV)

Intermittent or continually running water distinguishes this habitat type. A stream originates at some elevated source, and flows downward at a rate relative to slope or gradient and volume of discharge.

The open water zones of large rivers provide resting and escape cover for many species of waterfowl. Osprey and bald eagle hunt in open water. Near-shore waters provide food for waterfowl, herons, shorebirds, belted kingfisher (*Ceryle alcyon*) and American dipper (*Cinclus mexicanus*). Many species of insectivorous birds (swallows, swifts, flycatchers) hawk their prey over water. Some of the more common mammals found in riverine habitats include river otter and mink (*Mustela vison*). Fish species found within HRSP include the coho salmon and chinook salmon.

Special-Status Species

Sensitive biological resources that occur or potentially occur in or near the proposed project site are discussed in this section. Special-status species (aka sensitive species) are defined as plants and animals that are legally protected or that are considered sensitive by federal, state, or local resource conservation agencies and organizations. Specifically, this includes species listed as State or federally Threatened or Endangered, those considered as candidates for listing as Threatened or Endangered, species identified by the CDFW as Species of Special Concern (SSC), animals identified by CDFW as Fully Protected or Protected (FP, P), and bat species identified by the Western Bat Working Group (WBWG).

Special-status plant species include those 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 California Endangered Species Act (CESA); 3) considered by CDFW 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 CDFW or CNPS; or 6) otherwise meets the definition of rare or endangered under CEQA Guidelines §15380(b) and (d).. Also included are habitats that are considered critical for the survival of a listed species or have special value for wildlife species and plant communities that are unique or of limited distribution.

Special-status plant and wildlife species are afforded legal protection through various state and federal laws and regulations.

Federal laws and regulations pertaining to plants and wildlife:

- Federal Endangered Species Act
- National Environmental Policy Act
- Migratory Bird Treaty Act
- Bald and Golden Eagle Protection Act

State laws and regulations pertaining to plants and wildlife include the following:

- California Environmental Quality Act
- California Endangered Species Act
- Native Plant Protection Act
- Sections 1601 to 1603 of the Fish and Game Code
- Sections 1900 to 1913 of the Fish and Game Code
- Sections 4150 and 4152 of the Fish and Game Code
- Section 3503.5 of the Fish and Game Code

Federal Endangered Species Act (FESA)

The primary federal law protecting threatened and endangered species is the FESA (16 United States Code Section 1531, et seq. and 50 CFR Part 402). The FESA and its amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. The USFWS has regulatory authority over projects that may result in take of a federally listed species. Section 3 of the FESA defines take as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct.” Under federal regulation, take is further defined to include habitat modification or degradation where it results in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. If incidental take is a possibility and there is a federal nexus, then a Biological Opinion is prepared for take of listed species under Section 7 of the FESA. If there is no federal nexus then a Habitat Conservation Plan would have to be issued under Section 10. An incidental take permit can be authorized by the USFWS under either section.

Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act

The Migratory Bird Treaty Act (MBTA) establishes a Federal prohibition to pursue, capture, kill, possess, sell or purchase, transport, or export any migratory bird or any part, nest, or egg of any such bird (16 U.S. Code § 703). The Migratory Bird Treaty Act reads in part: "...it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, offer for sale, sell, offer to barter, offer to purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export, any migratory bird, any part, nest, or eggs of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or part, of any such bird or any part, nest, or egg thereof..."

This Act was established in 1918 to try to end the commercial trade in birds and their feathers that were severely impacting populations of many native bird species. A list of migratory birds protected under this Act is provided in Title 50 of the Code of Federal Regulations, Section 10.13. The Bald and Golden Eagle Protection Act prohibits any form of take, possession, or commerce in bald or golden eagles, including disturbance.

California Endangered Species Act

The California Endangered Species Act (CESA) emphasized early consultation to avoid potential impacts to rare, threatened, and endangered species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats (California Fish and Game Code, Section 2050, et seq.). The CDFW is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code prohibits take of any species determined to be an endangered or threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." It does not include "harm" or "harass" as provided under the FESA. CESA allows for take incidental to otherwise lawful activities; for these actions an incidental take permit is issued by CDFW. For projects requiring a Biological Opinion under Sections 7 or 10 of the FESA, CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

Native Plant Protection Act

The NPPA 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 CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations (see Fish and Game Code section 1900 et seq. for more information).

Special-status plant and animal species are described below along with their potential to occur within the project area. Potential impacts to biological resources (including special-status species) from implementation of this project are addressed in the Discussion section.

Plant Species

Systematic botanical surveys of the park have not been conducted. Sensitive plant occurrences in the park are based on historical records in the CNDDDB and project specific surveys as part of the environmental review process for other projects. Thirty special-status plants are known to or have the potential to occur in the park (CDFW 2017a), (CNPS 2017) and are presented in Appendix 8.5, Table 1. Sensitive plants documented in the park are the Humboldt County fuchsia (*Epilopium septentrionale*) (Rank 4.3), streamside daisy (*Erigeron bioletti*) (Rank 3), coast fawn lily (*Erythronium revolutum*) (Rank 2B.2), Pacific gilia (*Gillia capitata* spp. *pacifica*) (Rank 1B.2), sticky pea (*Lathyrus glandulosus*) (Rank 4.3), marsh pea (*Lathyrus palustris*) (Rank 2B.2), redwood lily (*Lilium rubescens*) (Rank 4.2), heart-leaved twayblade (*Listera cordata*) (Rank 4.2), northern bugleweed (*Lycopus uniflorus*) (Rank 4.3), Howell's montia (*Montia howellii*) (Rank 2B.2), white-flowered rein orchid (*Piperia candida*) (Rank 1B.2), California Pinefoot (*Pityopus californicus*) (Rank 4.2), nodding semaphore grass (*Pleuropogon refractus*) (Rank 4.2), hoary gooseberry (*Ribes roezlii* var. *amictum*) (Rank 4.3), and Methuselah's beard lichen (*Usnea longissimi*) (Rank 4.2). In addition, there is a historic record of leafy reed grass (*Calamagrostis foliosa*) (State Rare, Rank 4.2) that appears to have been extirpated and a questionable record of three-ranked hump moss (*Meesia triquetra*) (Rank 4.2); all other records of this species occur east of Bridgeville and in the Sierra Nevada and Cascade ranges. Most recorded sensitive plants in the park occur in the broad categories of North Coast Coniferous Forest, Broadleaved Upland Forest, Montane Coniferous Forest, or mesic areas associated with these types. These types constitute the majority of the lands within HRSP. Many of the sensitive plant occurrences are along roads and trails. This is primarily due to the majority of the botanical surveys having been done in connection with road or trail environmental reviews. It may also be associated to a lesser extent with the habitat conditions associated with roads and trails. For example, Howell's montia is often found in association with vernal mesic areas associated with roadsides, although it is also associated with other mesic areas such as meadows and seeps.

Based on proximity of reported occurrences and habitat preferences, seven of the other species identified in Appendix 8.5, Table 1, have a moderate to high probability of occurrence in the park. The remaining 5 species currently have a low probability of occurrence in the park.

Wildlife Species

The park is currently inhabited by several listed and sensitive wildlife species (a complete list of known or potential sensitive wildlife species can be found in Appendix 8.5, Table 3). Associated with the old-growth redwood alluvial forests along the South Fork and main stem of the Eel River, and lower Bull Creek, is the federally threatened, State endangered marbled murrelet (*Brachyramphus marmoratus*). Although survey data for the park is not complete, it is assumed that murrelets occupy all areas of old-growth forest, which the murrelet uses for breeding. The birds are also known to visit the stands during the non-breeding season. Less restricted in its habitat preference is the federally threatened and State threatened northern spotted owl (NSO) (*Strix occidentalis caurina*) which occurs in both the Redwood and Douglas-fir habitat types. This species is now rare in the park due to past management practices of former land owners and the influx of barred owls (*Strix varia*). In the past 3 years, NSO activity

centers (AC) have been documented along Peavine Ridge, in residual old-growth near Tanbark Road and in the Cuneo and Panther Creek watersheds; however, breeding has not been documented during this time period. An activity center is defined as a site identified through surveys conducted to protocol resulting in either the presence of nesting, pair status, or resident single status as defined in the northern spotted owl protocol (USFWS 2011). The final determination of an AC is at the discretion of USFWS and CDFW. It should be noted that park-wide surveys for northern spotted owls have never been completed and that existing efforts have primarily focused on survey needs for project specific areas.

There is one known state endangered bald eagle nest (*Haliaeetus leucocephalus*) in the park near the High Rock area and bald eagles are known to forage along the main stem and South Fork of the Eel River and Bull Creek. The California fully protected golden eagle (*Aquila chrysaetos*) has been observed flying over the park but is not known to breed in the park.

Potential, but low quality habitat for the little willow flycatcher (*Emidonax trailii brewsteri*), a State endangered species, does occur in the park along the South Fork Eel River, main stem Eel River, and Bull Creek. The Bull Creek habitat has been surveyed several times in association with restoration planning efforts but no little willow flycatchers have been detected (NCRD database). There is only one confirmed nesting site in Humboldt County, which occurred in a clearcut that is atypical habitat. The SSC Vaux's swift (*Chaetura vauxia*) has been documented nesting in HRSP. This species requires large diameter trees with large basal cavities for nests. Nesting habitat is primarily restricted to areas of old growth habitat or suitable residual trees in second growth.

Sensitive mammal species that are known or whose range historically included HRSP include the Pacific fisher (*Martes pennanti pacifica*), Humboldt marten (*Martes americana humboldtensis*), and the Sonoma tree vole (*Arborimus pomo*). The Pacific fisher is a State Candidate Threatened species. The Humboldt marten is State Candidate Endangered. The Sonoma tree vole is a SSC. Survey efforts in 2013 (NCRD database) documented the Pacific fisher in the Bull Creek watershed and it is assumed that it is present in areas of old-growth and advanced second growth throughout the park. The Humboldt marten, which was presumed extinct until 1997 when a small population was detected in the northern Humboldt-southern Del Norte county area; historically occurred in the park but is currently presumed to be extirpated. It was not detected during the carnivore survey efforts in 2013. The Sonoma tree vole, formally known as the red-tree vole, is known to occur within the park. This species lives primarily in the canopy of Douglas-fir trees and normally requires a contiguous or interlacing canopy of Douglas-fir trees which they feed upon and build their nests in.

The Townsend's big-eared bat (*Corynorhinus townsendii*), a SSC, has been reported to occur in the park (T. Weller, U.S. Forest Service Pacific Southwest Research Station, pers. comm.). It is assumed that they breed in the park although no sites have been identified. This species uses large basal cavities for natal, maternal, and roosting sites. They are reported to be very susceptible to disturbance at their roosts, especially at natal and maternal roosts.

There are four SSC amphibians and one reptile that have been documented in HRSP. The southern torrent salamander (*Rhyacotriton variegatus*), which is one of the most aquatically dependent salamanders in North America, is found primarily in clean headwater streams, seeps, and springs. It has been documented in the Bull Creek watershed. All three of the sensitive frogs that occur at HRSP are partially dependent on aquatic environments during the summer months, but can be found farther afield during the winter. The egg and tadpole stages of these frogs are dependent on aquatic environments. The tailed frog (*Ascaphus truei*) tadpole is found in swift-moving boulder strewn streams. The foothill yellow-legged frog (*Rana boylei*) occurs primarily along streams with cobbles (e.g., the Eel River, South Fork Eel River, Bull Creek, and Cuneo Creek). The northern red-legged frog (*Rana aurora aurora*) breeds in slow moving streams or wetlands with emergent aquatic vegetation to which it can attach its eggs. The only sensitive reptile known in the Park is the SSC northwestern pond turtle (*Clemmys marmorata marmorata*). This species occurs in ponds and deep pools within slow moving rivers and streams and has been documented in both Bull Creek and the South Fork Eel River. The red-bellied newt (*Taricha rivularis*) has been documented in areas of Southern Humboldt County (CNDDDB); however, HRSP may be outside of the species range based on range description (www.californiaherps.com) and records. References (www.californiaherps.com) describe its range as occurring as far north as Honeydew, which is west of the southern boundary of HRSP. All northern records are restricted to the Mattole watershed (CNDDDB) and the species may not occur outside of that watershed. It has not been documented in HRSP.

There are three listed species of fish that occur within HRSP: the federally threatened chinook salmon (*Oncorhynchus tshawytscha*), the federally threatened, State threatened coho salmon (*Oncorhynchus kisutch*) and the federally threatened, SSC steelhead (*Oncorhynchus mykiss*). All of these species occur within the Eel River, South Fork Eel River and Bull Creek watersheds. The federally threatened Pacific lamprey (*Entosphenus tridentatus*) and SSC river lamprey (*Lampetra ayeyii*) are both known to occur in the main stem and South Fork of the Eel River. As with the salmon listed above these species are anadromous.

There are no specifically identified wildlife linkages within the park, although certain wider ranging species have tendencies to concentrate their movements along either riparian zones or ridge tops. HRSP occurs within an area that is surrounded primarily by commercial timberlands with a few small communities occurring along the South Fork and main stem of the Eel, and scattered rural residences to the south and west. As such, the matrix of habitats that surround HRSP are primarily composed of timberlands in various stages of development. This allows most forest adapted species to move and, if appropriate structural components (e.g. snags or late successional forests) are retained, survive throughout the matrix. HRSP provides a refugium for species that are dependent on late seral or old-growth forest characteristics, such as the marbled murrelet. Some sensitive species, such as the murrelet, are not dependent upon wildlife linkages, but require large contiguous stands of old-growth forests.

Sensitive Natural Communities

Sensitive plant communities are those that are regionally uncommon or unique, unusually diverse, or of special concern to local, state, and federal agencies. Removal or substantial degradation of these plant communities constitutes a significant adverse impact under CEQA. The California Department of Fish and Wildlife's California Natural Diversity Database maintains a list of the state's plant communities (also known as alliances) and identifies those of high inventory priority due to their rarity and threat. These are considered sensitive natural communities by regulatory agencies.

Nine Alliances documented within HRSP are considered as sensitive (Appendix 8.5, Table 2). Six of these Alliances, Tanoak forest, Black cottonwood forest, Oregon white oak woodland, Redwood forest, California oat grass prairie, and blue wild rye meadows have a state rank of S3, which are considered to be highly imperiled. Impacts to these plant communities must be addressed through the CEQA process. More effort on the documentation and mapping of sensitive alliances in the Park is needed.

Sudden Oak Death and other pathogens

Sudden oak death was first observed in California in the mid-1990s and was subsequently identified in Humboldt County near Redway in 2002. Sudden oak death is a forest and nursery disease caused by the plant pathogen *Phytophthora ramorum*. This disease has been detected in 176 nurseries in 21 states and continues to spread into new wildlands and watersheds throughout California. It also continues to spread into new counties; in 2016, San Luis Obispo County was added to the list of infested counties, bringing the total number of infested counties in California to 16. In southern Humboldt County, *P. ramorum* has been confirmed along Jay Smith Road, along the Avenue of the Giants from Phillipsville north to Weott, in the Burlington area of HRSP, at John B. Dewitt Redwoods State Park, and the Salmon Creek watershed immediately south of HRSP. Water samples from Bull Creek have also tested positive, although as of January 2017 no ground sources have been detected (pers. comm. Y. Valachovic, Forest Advisor, and D. Stark, North Coast Outreach Coordinator, California Oak Mortality Task Force). The pathogen has been confirmed in at least 15 state parks and is suspected in at least seven more parks.

The pathogen produces inoculum (spores) that can be spread through wind-driven rain, infected plant material, or human activity. Spores have been detected in soil and in watercourses, but infection from these sources has not been confirmed. Transmission of the disease to new areas often can occur via wind or when plants infected with the disease are moved and release spores in new areas or to new hosts. Extensive die offs of species of red oaks have been observed in some areas of the State. The disease has different effects on different plant species, killing some, and causing symptoms on others. Susceptible plant hosts include the following common species found in HRSP (infections in those marked with a * are frequently fatal): tanoak*, black oak, California huckleberry, California bay laurel, Pacific madrone, California buckeye (*Aesculus californica*), bigleaf maple, California rhododendron (*Rhododendron macrophyllum*), California coffeeberry, toyon (*Heteromeles arbutifolia*), California honeysuckle (*Lonicera hispidula*), coast redwood, Douglas-fir, canyon live oak, western star flower (*Lysimachia latifolia*), salmon berry (*Rubus spectabilis*), cascara (*Frangula purshiana*), poison oak,

and California hazelnut (*Corylus cornuta*). It has the potential to make major changes in the stand structure of forests with numerous hardwood trees and could result in creating unstable areas throughout the Upper Bull Creek Watershed. Current information based on the best available science can be found at www.suddenoakdeath.org.

Waters of the United States, Wetlands, and Riparian Zones

The Federal Clean Water Act (CWA) is a 1977 amendment to the Federal Water Pollution Control Act of 1972, which set the basic structure for regulating discharges of pollutants to waters of the United States. The intent was to maintain the chemical, physical, and biological integrity of the nation's waters [Federal Water Pollution Control Act/Clean Water Act, 33 U.S.C. 1251, §101(a), 2002]. It was also intended to provide a mechanism for regulating discharges of pollutants into the waters of the U.S and gave the USEPA authority to implement pollution control programs, such as setting wastewater standards for industry and water quality standards for all contaminants in surface waters.

Section 404 of the CWA establishes programs to regulate the discharge of dredged and fill material into waters of the United States, including wetlands. The term "waters of the U.S." applies to the jurisdictional limits of the authority of USACE to regulate navigable waters under Section 404 of the CWA. Navigable waters are defined in Section 502(7) of the Act as "waters of the United States, including the territorial seas." By definition, navigable waters include all wetlands and tributaries to "waters of the United States." Under Section 404 of the Act, the USACE has authority to regulate the discharge of dredged or fill material into navigable waters. The authority for the USACE to regulate navigable waters is also provided under Section 10 of the Federal Rivers and Harbors Act of 1899. Under this statute, the USACE regulates excavation or filling operations or the alteration or modification of the course, location, condition, or capacity of any navigable water of the United States.

The CWA and USACE define wetlands as areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. The majority of USACE-jurisdictional wetlands meet three wetland delineation criteria: (1) hydrophytic vegetation, (2) hydric soil types, and (3) wetland hydrology. Small USACE-jurisdictional wetlands occur in scattered locations of the park, including areas that are adjacent to the park's roads and trails.

For purposes of Section 404 of the Clean Water Act, the lateral limits of USACE-jurisdiction over non-tidal water bodies (e.g. streams) extend to the ordinary high water mark (OWM), in the absence of wetlands (USACE 2005). The RTMP could include construction activities within the OWM of perennial streams and intermittent streams; hence these streams are subject to Section 404 regulation by the USACE.

The State Water Resources Control Board regulates the alteration of any federal water body, including the streams identified above, through Section 401 of the Clean Water Act. The appropriate Regional Water Quality Control Board(s) certify that water quality of the affected water body is not subject to unacceptable environmental impacts through provisions of the 401 certification program (SWRCB 2017).

Pursuant to Section 1600 of the Fish and Game Code the CDFW regulates any work undertaken in or near a lake or a river/stream that flows at least intermittently through a bed or channel. The RTMP identifies construction activities that could be subject to the jurisdictional authority of the CDFW.

Regional Conservation Plans & Policy

Humboldt Redwoods State Park is a significant component of a regional planning effort known as Redwoods to the Sea. The goal of this effort is to connect HRSP with the Bureau of Land Management Kings Range Conservation Area through a combination of land purchases, conservation easements, and enhanced land stewardship efforts in the Mattole River watershed. Other regional planning efforts include linking HRSP and the lower Eel River watershed through similar methods.

There are no Natural Community Conservation Planning efforts in Humboldt County. There are several Habitat Conservation Plans (HCP) in Humboldt County, including the Humboldt Redwood Companies (formally Pacific Lumber Company) Multiple Species Habitat Conservation Plan. Humboldt Redwoods State Park is not part of any HCP.

California State Parks provides policy for the management of natural resources in Section 300 of its Department Operations Manual (DOM) (CDPR 2004). The DOM provides policy for the protection, restoration, and maintenance of natural resources within the state park system.

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
WOULD THE PROJECT:				
a) Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a sensitive, candidate, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands, as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

DISCUSSION

Project activities identified in the RTMP, which are covered by this initial study, include road or trail closure, decommissioning, and restoration to natural conditions including removal and rehabilitation of non-system trails, rebuilding/re-engineering of existing roads and trails including minor reroutes where needed, road-to-trail conversion, and construction of new, appurtenant facilities such as trailheads and parking improvements. The Plan also provides management recommendations for change-in-use requests, new trail connections, and maintenance priorities with the goal of minimizing impacts to natural and cultural resources.

HRSP supports a diverse assemblage of plant communities and habitats that in turn provide a suitable environment for numerous special-status plant and wildlife species. Project activities have the potential to impact sensitive biological resources both directly (e.g. removal, injury or death) or indirectly (e.g. habitat modification). Negative impacts produced by each activity or project needs to be assessed on a case by case basis in order to develop the appropriate CEQA compliance determination. Measures and/or requirements to avoid, minimize or eliminate impacts are described below.

a) **(i) Special status plant species.**

As described above in the Environmental Setting and Appendix 8.5, suitable habitat occurs within HRSP for 30 special-status plant species, 16 of which have been reported to occur in the park. Road and trail projects have the potential to impact special-status plant species through direct removal, soil disturbance, mechanical disturbance (e.g. brushing, mowing...), or changes in hydrology or solar radiation. Without knowing the distribution of sensitive plants, project activities along roads and trails have the potential of resulting in significant adverse effects. As sensitive plant populations can pioneer new areas these sensitive plant surveys must be kept current. The CDFW recommends that botanical surveys be conducted every 5 years in forested habitats (CDFW, 2009). Integration of SPRs GEN-4, BIO-3 through BIO-5, BIO-13, BIO-14, and BIO-19 through BIO-21 would ensure that impacts from project activities would remain at a less than significant level.

(ii) Marbled Murrelet.

As described above in the Environmental Setting, the federally threatened State endangered marbled murrelet is known to occur in the park and all old growth habitat is considered occupied. Impacts to this species would primarily arise through noise disturbance during the breeding season, March 24 through

September 15, and increases in corvid populations associated with human waste. Noise related impacts are based on the actions ability to increase the ambient noise level of the site and are based on the USFWS (2006) guidance document on *Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California*. Facilities in proximity to areas of high ambient noise, such as along US HWY101 would be able to tolerate louder noises whereas those in the backcountry which have a “natural ambient” to “low” level would be less tolerant of increases in the ambient noise level. Compliance with Project Requirement BIO-11 and GEN-11 will reduce potential impacts to the marbled murrelet to a less than significant level.

(iii) Northern Spotted Owl

This proposed action has the potential to adversely impact the federally and State threatened northern spotted through direct habitat removal and to a greater extent through disturbance at activity centers (AC). The USFWS (2006) document on *Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California* provides guidance on the necessary buffers needed around NSO AC's. This document will be followed where the District has current data on the distribution of NSO. Technical assistance with the USFWS and consultation with the CDFW will be required where the District does not have current or sufficient data. Project Requirement BIO-12 should assure that disturbance to NSO AC's does not result in significant adverse effects. As NSO have been documented nesting in trees as small as 12” DBH there is a potential for the plan to result in the removal of a NSO nest tree. Project Requirements BIO-22 and BIO-32, which require the retention of all trees with nests should assure that this will not occur thereby resulting in a less than significant impact.

(iv) Bald Eagle

There are no trails near the one known bald eagle nest in the park. Less than significant impact.

(v) Little willow flycatcher.

As discussed above in the Environmental Setting, the park does contain some suitable habitat for the little willow flycatcher (WIFL) although surveys to date in the Bull Creek watershed have yet to detect the State endangered bird. Since there is only 1 confirmed breeding record for WIFL in Humboldt County in recent times, since this detection was observed in atypical habitat (clearcut), and since (in general) WIFL are being detected at higher elevations, the potential for impact to WIFL is unlikely. Less than significant impact to little willow flycatcher.

(vi) Purple marten and yellow-breasted chat

Both of these species are considered sensitive at their breeding sites. Non-breeding individuals of both species have been detected in the park. Riparian bird surveys in the Bull Creek watershed have failed to detect the yellow-breasted chat. Breeding by either of these species is not expected in HRSP. In the unlikely event that this were to occur, Project Requirements BIO-30 and BIO-31 would reduce the impact to less than significant.

(vii) **Vaux's swift**

As previously discussed, Vaux's swift are known to occur within HRSP where they nest in large basal cavities and cavities that create chimney like structures in the upper portions of the trees. As the cavities that they utilize are normally higher in the tree they are not expected to be as susceptible to disturbance. Project Requirements BIO-22, BIO-27, and BIO-32 should reduce impacts to a less than significant level.

(viii) **Nesting raptors and migratory birds.**

As described above in the Environmental Setting, suitable habitat occurs within HRSP for numerous species of raptors and migratory birds. Nesting raptors and migratory birds are protected by the federal Migratory Bird Treaty Act (16 U.S.C. 703-712), and by the state Department of Fish and Wildlife Fish and Game Code (Sections §3503, §3503.5, and §3513). Under these laws, all raptors and migratory birds and their nests are protected. Road and trail projects have the potential to impact special-status avian species. Compliance with Standard Project Requirements BIO-31 and BIO-32 would ensure that impacts from project activities would remain at a less than significant level.

(ix) **Sensitive bat species.**

Only one sensitive bat species, the Townsend's big-eared bat, is known to occur in HRSP and is expected to breed in basal hollows. This species can be very susceptible to disturbance at its natal and maternal roost sites. The occurrence of basal hollows adjacent to or visible from trails can encourage visitors to go off trail and explore the basal hollow. When this occurs during the natal and maternal season, May and June, it can displace females from these roosts. Currently there are numerous trails that are situated adjacent to large basal hollows and unless that trail segment is to be realigned there is little that can be done for these existing potential impacts. However, with the implementation of BIO-33 the impacts associated with minor rerouting should be less than significant.

(x) **Pacific fisher**

As discussed above in the Environmental Setting section, Pacific fisher are known to occur within HRSP. Impacts to fisher would primarily arise through disturbance of female fishers at natal and maternal dens and through habitat removal. It is unlikely that a female fisher would select a natal or maternal den adjacent to a trail or road due to existing levels of disturbance. Realignment of trails could result in the removal of fisher den locations. However, BIO-32, BIO-33, and BIO-36 should assure that significant impacts associated with the removal of habitat will not occur. Project Requirement BIO-30 should assure that projects do not disturb fisher at natal and maternal den sites. Less than significant impact.

(xi) **Humboldt marten**

The Humboldt marten is believed to be extirpated from all historical areas in Southern Humboldt County, including HRSP. In the unlikely event that martens were to be detected in HRSP the Project Requirements for the Pacific fisher would apply. Less than significant impact.

(xii) **White-footed vole.**

Road and/or trail projects within riparian areas would only have a minimal and non-significant impact on white-footed voles. SPRs BIO-17 and BIO-35 should assure that any minor reroutes will have less than significant impact on the white-footed vole.

(xiii) **Sonoma tree vole**

Impacts to the SSC Sonoma tree vole would primarily arise from the removal of nest trees as part of the construction activities associated with either minor reroutes, road decommissioning, or road-to-trail removal, which may remove nest sites. Implementation of Project Requirements BIO-22 and BIO-32 should assure that any impacts to this species are less than significant.

(xiv) **Anadromous salmonids and lampreys**

Roads and trails have the potential to adversely affect anadromous salmonids and lampreys through the delivery of sediment to streams and by the direct impacts to individuals and redds at ford crossings. They can also impact these species by increased solar radiation associated with the removal of riparian vegetation. Project Requirements BIO-8 through BIO-10, BIO-16, BIO-17, BIO-37 through BIO-40, BIO-42 through BIO-44, HYDRO-3 through HYDRO-6, HYDRO-8, HYDRO-16, and HYDRO-17 will reduce this to a less than significant level.

(xv) **Western Pond Turtle.**

Other than the potential to increase sedimentation, this plan should not affect western pond turtles. All Project Requirements that reduce sediment inputs into waters should reduce potential impacts associated with the Plan to less than significant.

(xvi) **Southern Torrent Salamander & Tailed Frog**

Both species require cold water and are sensitive to increases in sedimentation. The southern torrent salamander occurs in springs and streams with clean gravel substrates. The tailed frog occurs in swifter moving streams where the tadpole clings to cobble and boulders. The adult tailed frogs are terrestrial although they can often be found near streams. The primary impacts to these two species would be from increased sedimentation, increased solar radiation on streams due to vegetation removal, and by the creation of barriers. Project Requirements BIO-16, BIO-42 through BIO-45, and BIO-49 should reduce impacts to these species to less than significant.

(xvii) **Foothill yellow-legged frog.**

Foothill yellow-legged frogs are susceptible to increases in sedimentation and trampling of adults and eggs. The adults are almost always found in association with slow moving water along streams and rivers with gravel bars. Project Requirements BIO-16, BIO-38 through BIO-44, BIO-46, and BIO-49 should reduce impacts to these species to less than significant.

(xviii) **Northern red-legged frog.**

Impacts to northern red-legged frogs would primarily be associated with increases of sedimentation to their aquatic habitat used for breeding or

entrapment in ditches or excavations made in association with road or trail improvements. Project Requirements BIO-16, BIO-37 through BIO-41, BIO-43, BIO-48, and BIO-49 should reduce this impact to a level of less than significant.

(xix) **Red-bellied newt**

HRSP maybe outside of this species range. If it does occur in HRSP, then Project Requirements BIO-16, BIO-37 through BIO-41, BIO-43, BIO-48, and BIO-49 should reduce any potential adverse effects to less than significant.

- b) As described above in the Environmental Setting and Appendix 8.5, there are currently nine known vegetation types in HRSP that are recognized by CDFW as special-status natural communities. It is anticipated that with additional surveys that other alliances may be detected. These nine alliances, are:

- *Lithocarpus densiflorus* (Tanoak Forest) Alliance
- *Populus trichocarpa* (Black cottonwood forest) Alliance
- *Pseudotsuga menziesii* (Douglas fir forest) Alliance
- *Pseudotsuga menziesii* – *Lithocarpus densiflorus* (Douglas-fir – tanoak) Alliance
- *Quercus garryana* (Oregon white oak woodland) Alliance
- *Sequoia sempervirens* (Redwood forest) Alliance
- *Baccharis pilularis* (Coyote brush scrub) Alliance
- *Danthonia californica* (California oat grass prairie) Alliance
- *Elymus glaucus* (Blue wild rye meadows) Alliance

Although project activities identified in the RTMP would unlikely cause significant impacts to special-status natural communities, compliance with Project Requirements BIO-13 through BIO-18 would ensure that impacts on natural communities from project activities would remain at a less than significant level.

Sensitive riparian areas exist within the park and project activities could create impacts. Compliance with Project Requirements BIO-13 through BIO-19 and BIO-2 should reduce these impacts to a level of less than significant.

Implementation of measures to address impacts would also be identified in a CDFW 1602 Lake or Streambed Alteration Agreement as described in Section c) below.

- c) Numerous permanent and intermittent streams and USACE-jurisdictional wetlands occur within HRSP. As described in the Environmental Setting above, the RTMP identifies activities that could be subject to the jurisdictional authority of the USACE, RWQCB, and CDFW requiring 401 and 404 permits and a CDFW 1602 Lake or Streambed Alteration Agreement prior to the start of work to address impacts.

In addition to Best Management Practices (BMP's) and Project Requirements identified in the Hydrology Section, all permits necessary to conduct the proposed project or activity would be obtained prior to the start of any work. All

permit/agreement conditions would be implemented, reducing any potential impacts to a less than significant level.

- d) It is not expected that any management recommendations or projects identified in the RTMP would interfere substantially with the movement of any native resident wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Although unlikely, depending on location, construction activities identified in the RTMP could temporarily affect fish passage. As there are listed fish and lamprey species in the park, any potential impact would be addressed by conditions identified in consultations with USFWS and CDFW and in a CDFW 1602 Lake or Streambed Alteration Agreement. Implementation of applicable SPRs and 1602 Agreement conditions would reduce any potential impacts to a less than significant level.

- e) DPR is not subject to local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; however, Department policy and its Mission Statement incorporate the protection of natural resources into the short-term and long-term management goals for its park units. No impact.
- f) As HRSP is not part of any Habitat Conservation Plan or Natural Community Conservation Plan, no impact will occur.

MITIGATION MEASURE BIO-

None Required.

V. Cultural Resources

This section provides a description of cultural resources known to exist in HRSP or, which have the potential to occur in the Park. A cultural resource is a resource that exists because of human activity. This term is commonly used to include prehistoric-era sites and artifacts as well as historic-era (post-European contact) sites, buildings, structures, objects, and districts.

The cultural resources encountered in HRSP are the result of human behaviors in, and adaptations to the environment. Settlement in the region both prehistorically and historical were directly influenced by the environmental conditions and the availability of resources. The topography, weather, and wide array of natural resources in the area encompassing the Park provided an ideal setting for human utilization and occupation. Present within the park is an array of cultural resources that contribute to the rich and diverse cultural resource heritage of California.

To develop a better understanding of the origins and meaning of these resources, both the environmental and cultural contexts (settings) need to be established. The following paragraphs briefly summarize cultural developments through the prehistoric, ethnographic, and historic past and are adapted from the following reports:

Archaeological Survey Report for the Bull Creek Floodplain Restoration Project, California State Parks, Humboldt County, California compiled by Allika Ruby, Jerry Rohde, and Naomi Scher (2015) and *A Cultural Resources Study of the Historic-Period Roads and Trails of the Bull Creek Watershed, Humboldt Redwoods State Park, Humboldt County, California* prepared by Michael Newland and Heidi Koenig (2001).

ENVIRONMENTAL SETTING

Northwest California is a mountainous region with elongated ranges and valleys that trend in a northwesterly direction. Annual rainfall is high and runoff creates numerous salmon-bearing streams that were of major economic importance to local Native American people. The combination of high rainfall and topographic diversity created a complex mosaic of vegetation consisting largely of coniferous forest, open prairies, and mixed hardwood forest. These habitats yield a variety of important subsistence resources, including Roosevelt elk (*Cervus canadensis roosevelti*) and black-tailed deer (*Odocoileus hemionus*), as well as tanbark oak (*Lithocarpus densiflora*) acorns which are the most nutritious of all acorn varieties in California (Baumhoff 1978).

Humboldt Redwoods State Park lies within the North Coast Ranges, which run north-south parallel to the coast and are narrow within Humboldt County (Meyer et al. 2011). While the North Coast Ranges are about 70 miles in width throughout most of California, they narrow markedly in Humboldt County. The majority of the ranges lie at elevations of about 2,000 feet above mean sea level, with at least two-dozen peaks or ridges that extend above 6,000 feet. The North Coast Ranges contain many rivers and streams that flow through relatively narrow canyons in channels that are usually incised into the underlying bedrock. This region is primarily underlain by a disorderly assemblage of upper Jurassic- and Cretaceous-age marine sedimentary and metamorphic rocks known as the Franciscan complex.

In addition to the South Fork of the Eel River, HRSP encompasses the entire watershed of Bull Creek. Bull Creek's headwaters lie about 14 miles southwest of its confluence with the river and its watershed encompasses some 42 square miles, all within the boundaries of Humboldt Redwoods State Park. Elevations extend from about 3,000 feet (914 meters) above mean sea level on the ridges surrounding the upper portion of the creek to about 500 feet (152 meters) above mean sea level at its confluence with the South Fork of the Eel River (Jager and laVen n.d.). The park averages about 88 inches (224 centimeters) of rain which mostly falls during the winter. In the summer, dense fog provides additional moisture and mitigates the heat. The Scotia, California meteorological station mean annual temperature was 54 degrees Fahrenheit (12.6 degrees Celsius). The park supports a fairly diverse mixed forest. Coast Redwoods form almost pure stands in some areas, especially on flat, silt-covered river and creek plains. Coast Redwoods are also found in mixed evergreen forest with Douglas fir, as well as western hemlock, grand fir, and Sitka spruce. On drier slopes tan oak, madrone, maple, and California bay laurel grow along with the evergreens. Rhododendrons and a variety of ferns are the most common under story plants. Other plants which flourish under the trees in the duff of fallen needles include poison oak, huckleberry, hazel, and many flowering herbs.

Cultural Resource Setting

Prehistoric Overview

The prehistory of the interior North Coast Range is one of the least-studied in California (Fredrickson 1984; Hildebrandt 2007). The excavation of sites in the Pilot Ridge-Trinity River area (Eidsness 1986; Hildebrandt and Hayes 1993; Sundahl and Henn 1993) has helped illuminate the cultural history and settlement patterns of humans in the North Coast Ranges. Beyond this, much of the cultural chronology is borrowed from areas where more extensive archaeological research has been completed, such as along the coast (e.g., Hildebrandt and Levulett 1997, 2002), the Clear Lake Basin (White et al., 2002), and Warm Springs (Basgall and Bouey 1991).

Four general time periods and adaptive modes are recognized in northwestern California prehistory (Fredrickson 1984; Hildebrandt 2007; Hildebrandt and Hayes 1993; Hildebrandt and Levulett 2002): the Post Pattern (pre-10,000 BP), the Borax Lake Pattern (10,000-5000 BP), the Mendocino Pattern (5000-1500 BP), and the Late Period (formerly called the Gunther Pattern; post-1500 BP). Although Native people were greatly affected and occasionally visited by outsiders prior to the Gold Rush of 1849, the Contact Period as a historical unit commences at 1850-1852, during the Gold Rush of the northwestern mines which marked the first large immigration of settlers into the regions.

Post Pattern (pre-10,000 BP)

The earliest archaeological materials in northwest California are ascribed to the Post Pattern. Diagnostic items that characterize the Post Pattern are distinctive fluted projectile points and stone crescents. Although these artifacts have been found in widely distributed locations across North America, very few have been located in northwestern California, and no securely dated associations via radiocarbon dating have been identified (Hildebrandt 2007). The best evidence for the Post Pattern comes

from the Borax Lake site near Clear Lake (CA-LAK-36), where fluted points and chipped stone crescents were recovered. Elsewhere in northwestern California, only a handful of such items have been identified, and all were in isolated contexts.

Borax Lake Pattern (10,000-5000 BP)

Initially defined by Fredrickson (1973, 1974, 1984), the Borax Lake Pattern represents a long, wide-ranging cultural tradition found at sites throughout the North Coast Ranges. Borax Lake sites likely reflect multi-activity base camps where people employed a relatively mobile approach to subsistence settlement organization, focusing on a wide range of both plant and animal resources but placing a minimal emphasis on storage. The temporal marker artifact associated with the Borax Lake Pattern is the Borax Lake Wide-stemmed projectile point. It is a large dart point with a wide, square stem that is often indented and basally thinned (Hildebrandt and Hayes 1983, 1993). A wide range of domestic tools is typically included in Borax Lake assemblages, consisting of serrated bifaces, ovoid flake tools, millingslabs, and handstones (Hildebrandt 2007; see Angeloff 2011 for additional discussion).

Most early evidence of occupation in northwestern California is represented by a series of Borax Lake Pattern sites located in upland areas on Pilot Ridge and South Fork Mountain and along terraces of the Trinity River (Hildebrandt and Hayes 1983, 1993; Sundahl and Henn 1993). The earliest domestic structure discovered in northwestern California was excavated on Pilot Ridge (CA-HUM-573) and yielded charcoal that was radiocarbon-dated to 7945 cal BP (Fitzgerald and Hildebrandt 2002). The structure's remains comprised three discrete rock clusters possibly representing post supports around the small remnant of a compact floor. The house was likely circular.

Borax Lake Pattern sites are rare in non-upland settings, although little work has been completed in non-coastal lowland areas. One exception is CA-HUM-513/H, located near the coast northwest of HRSP. Excavations revealed an artifact assemblage consisting of both flaked and ground stone tools, but no evidence for marine resource use. Site CA-HUM-459, located about 20 miles to the northeast along State Route 36 in Larabee Valley, was excavated by Roop in 1981 (see discussion in Douglas 1988). It contained diverse tools including large wide-stemmed projectile points, ground stone, hammerstones, and large bifaces recovered from sediments extending to a depth of 75 centimeters that are attributed to the Borax Lake Period (cited in Douglas 1988).

Mendocino Pattern (5000-1500 BP)

The ensuing Mendocino Pattern appears in a variety of places across northwest California and appears to signal several major subsistence-settlement pattern changes. In the uplands, Borax Lake multiactivity sites were replaced by specialized Mendocino Pattern hunting camps, while use of riverine sites appears to have increased (Hildebrandt 2007). Based on pollen data (West 1993), there is also evidence for the emergence of human fire management practices in upland prairies in the Pilot Ridge area (Hildebrandt 2007).

Hildebrandt (2007) notes that the transition from the Borax Lake Pattern to the later Mendocino Pattern is not well understood. There is almost no visible record dating between 7000 and 5000 BP, although it is unclear whether this represents a reduction in human population at the time, or simply a lack of well-dated archaeological remains

from the region corresponding with this time period. This may be due to increasingly xeric environmental conditions experienced across the region during the Middle Holocene (7000 to 4000 BP). Some sites along the coast with dateable material (shell) do provide evidence of occupation during this time period, leading Hildebrandt (2007) to speculate that additional evidence is present at interior sites but has not been recognized as belonging to this interval.

Time-sensitive artifacts associated with the Mendocino Pattern include corner- and side-notched darts of the Mendocino and Willits series. Common artifacts can include handstones, millingslabs, various types of flake tools, cobble tools, and in some instances, a limited number of cobble mortars and pestles (Hildebrandt 2007). The McKee Uniface, a thick leaf-shaped tool (Baumhoff 1958), appears to date between 5000 and 3000 BP, corresponding to the late end of the Borax Lake interval and continuing into early Mendocino Pattern assemblages.

Hildebrandt and Hayes (1993) hypothesized that Mendocino Pattern riverine settlements were supported by intensive use of salmon and acorns, an adaptive shift made possible by developing sophisticated extractive technologies (e.g., fish weirs) and using permanent storage facilities. However, more recent work by Tushingham (2009) suggests that widespread use of storage facilities and intensive salmon procurement occurred later, during the Late Period. Limited testing at two river sites in Humboldt County, McKee Flat on the Mattole River (CA-HUM-405; Hildebrandt and Levulett 2002) and Redwood Creek (CA-HUM-452; Hildebrandt and Hayes 1993), also suggests that while acorn use and occupation stability increased during Mendocino Pattern times, there is no “direct evidence for the exploitation of salmon or the extensive use of storage facilities” (Hildebrandt and Hayes 1993:103-104).

In contrast to the interior, archaeological data from coastal settings reveal only a few Mendocino Pattern occupations, including those at Point St. George (CA-DNO-11), Humboldt Bay (CA-HUM-3511), and the King Range (CA-HUM-277). These sites appear to represent temporary hunting camps or seasonal encampments (Hildebrandt 2007).

Late Period (1500-150 cal BP)

After 1500 BP, major changes to settlement and subsistence organization occurred as populations became more sedentary, particularly along the northern coast (Hildebrandt 2007). In coastal settlements north of Cape Mendocino, high frequencies of task-specific tools point to intensification of resources, particularly marine fish, mammals, and shellfish. Tools used to procure marine resources include Tulawat series barbed projectile points, composite harpoon tips, bone and antler spears, and notched net sinkers. Oceangoing canoes were used to access fishing grounds and rookeries off the coast. Ground and polished stone artifacts such as flanged pestles, mauls, zooform clubs, steatite bowls, and polished stone adze handles used for woodworking are also common at these sites. These sites are complex, with well-defined houses, cemeteries, artifact caches, and midden/refuse areas. Coastal sites located south of Cape Mendocino tend to have a more terrestrial adaptation, likely due to the paucity of off-shore rocks where marine resources were available (e.g., CA-HUM-175, -277, -182). At

these sites, the Tulawat series barbed points are still used but harpoons, woodworking tools, and ceremonial objects are more rarely encountered (Hildebrandt 2007).

Archaeofaunal remains reflect a terrestrial dietary emphasis (e.g., deer). Late Period sites in interior northwestern California have been the focus of fewer archaeological investigations and few details are known of these groups. Golla (2007) suggests that the Late Period archaeological signature likely relates to the migration of Algic and Athabaskan groups into the area between AD 100 and AD 800. These migrations likely pushed the Yuki out of portions of their more northern territory into something similar to the boundaries noted at European contact. This period also fits into the estimated time depth for the differentiation of southern Athabaskan dialects.

Ethnographic Overview

At the time of Euro-American contact, the area was inhabited by members of the Athabaskan language group referred to variously as either the Sinkyone (Nomland 1935), Lolankok Sinkyone (Elsasser 1978:190-191), or simply the Lolankok, the tribal name for Bull Creek (Merriam 1998:[9]138). The Northern Sinkyone resided along Bull Creek and the South Fork of Eel River from above Miranda to its confluence with the main Eel and along the Eel both above and below this confluence while the Southern Sinkyone extended along the South Fork of Eel River between Garberville and Phillipsville. A third group occupied the coast from north of Shelter Cover to Usal Creek, and fourth group may have lived along the upper reaches of South Fork between Garberville and Leggett (Golla 2011:79).

The Athabaskan family of languages is spread widely throughout North America, but is thought to have differentiated only in the past 2,000 years (Golla 2007). The Sinkyone spoke one of the “Eel River” dialects along with the Nongatl, Lassik, and Wailaki. The Sinkyone were neighbors to fellow Athabaskan groups to the west (Mattole-Bear River) and east (Nongatl, Lassik, Wailaki). The Northern Sinkyone maintained close relations with the neighboring Wiyot to the north and bilingualism and intermarriage was known between the two (Golla 2011:79). Baumhoff (1958) estimated that there were some 4,221 Sinkyone people at the time of contact with Euro-Americans.

George Burt (sometimes spelled Bert or Burtt), whose Indian name was Ah-da-dil-law (Rohde n.d.), was born at the Lolankok village of Kahs-cho-chin-net-tah, which Merriam describes as being “on Bull Creek at Schoolhouse Flat 7 miles from Dyerville,” (Merriam 1976:79). This spot corresponds with the 1921 location of the Bull Creek schoolhouse, which occupied the flat west of the creek near the corners of sections 25, 26, 35, and 36 in T1S, R1E (Belcher Abstract & Title Co. 1921-1922:4).

Burt was captured, probably about 1860, and taken to reservations in the north. Eventually he made his way homeward and returned to the South Fork Eel area, living at various locations until he and his wife, Susie, or Tu-ha-ka (Rohde n.d.), obtained a homestead in the upper reaches of Cuneo Creek, about two miles northwest of Bull Creek. For a time, their children hiked down the canyon to attend school near the site of George’s birthplace village (Rohde and Rohde 1992:235). The Burts sold their property, which was known locally as the “Indian Orchard” for its apple trees, in 1928 (Rohde and Rohde 1992:235; Humboldt County n.d.:372).

Both Merriam and the linguist Pliny E. Goddard interviewed George Burt on various occasions; he provided most of the ethnographic material related to the Bull Creek area. Alfred E. Kroeber, who conducted little primary research in southern Humboldt, did obtain information about one Indian in the area, a person who lived (probably before Euro-American contact) near the mouth of Bull Creek and thus would have been Lolahnkok. The individual was described as having never ventured more than about 20 miles from home (Kroeber 1976:145), an example of the confinement induced by the geographical barriers of the river and canyon topography and perhaps also by the danger inherent in trespassing on a neighboring tribe's land. It is unclear whether Kroeber contacted this Indian informant directly or obtained his information from one of his many second-hand sources. No mention of any interview with Bull Creek area Indians has been found in his field notes.

Kroeber also described the annual migrational cycle of the southern Humboldt Indians, which was motivated by the necessity of what might be called "following the food." The Lolahnkoks and other tribes would go to the rivers during the fall salmon runs. Then they would retreat to streamside villages for the long, rainy winter season. In summer and fall they would migrate to the oak woodlands and prairies that dotted the mountainsides, where they would hunt game and gather "vegetable food" (Kroeber, 1976:145-146).

Village site information for Indians of the general area comes chiefly from Merriam and Goddard. George Burt gave Merriam the location of only one village, *Kahs-cho-chin-net-tah*, in the canyon above the mouth of Bull Creek. Goddard obtained no village information for the Bull Creek area, but for the next drainage south, that of Salmon Creek, he provided names and locations for 16 villages in a drainage of somewhat similar size to that of Bull Creek (Ethnological Documents 2002:12(4):62-77). This may indicate that village locations in Bull Creek were not fully reported, so it should not be assumed that *Kahs-cho-chin-net-tah* was the only community in the drainage. In addition, the inhabitancy patterns of the southern Humboldt tribes indicate the probability that individual houses, if not entire villages, were moved from time to time, so that any habitation area might, over time, have proved quite extensive.

It is not known how many Indians, besides the Burts, occupied the Bull Creek drainage after the time of the massacres and the internment on the reservations had passed. An article from 1894 states that "Indian Mike, who has made his home about Bull creek for many years, died recently at the age of 102 years..." (Ferndale Enterprise 1894:1). The 1905-1906 census of non-reservation Indians found 16 living in the Dyerville area, which included Bull Creek and neighboring locations. Probably nine of these, George and Susie Burt and five children, along with their son, George Burt, Jr., and his wife Ida Burt, lived in the Bull Creek drainage (Kelsey 1971:29).

The following discussion of Sinkyone lifeways is adapted from a regional ethnographic overview compiled by Tiley and Tushingham (2011) for California Department of Transportation.

Subsistence, Settlement, and Social Organization

Aboriginal groups hunted, fished, and gathered. As with other ethnographic groups in the region, salmon was an important dietary staple along with acorns. Their diet was

supplemented by a wide variety of foods, many of them mass harvested and stored in substantial houses. They would seasonally burn off vegetation to increase seed crops, drive large and small game, and improve game browse (Driver 1939; Weigel 2007). Subsistence pursuits tended to be organized on the extended family household level. Communal, multifamily, or multi-village efforts were the exception rather than the rule.

Settlements were clustered along major water courses and the coastline. Population concentrations were highest along major salmon streams, a reflection of the importance of salmon in the native diet (Baumhoff 1963). Sinkyone villages were semi-permanent winter villages, with their populations dispersed at seasonal camps during the summers. The annual settlement cycle of the southern Humboldt Indians was motivated by the necessity of what might be called “following the food” (Kroeber 1976). Occupation

of the winter villages would be typically initiated at the start of the wet season to prepare for the coming acorn harvest and salmon runs and groups would bring with them dried foods such as berries and meat that had been collected and processed at the summer camps. The salmon runs provided a temporary abundance of food, allowing for population aggregation and increased social interactions at the winter villages. Games, dances, and ceremonies were held at this time (Driver 1939). The salmon was caught in weirs or speared and then processed for storage through smoking and grinding the bones into a paste for use in soup. The end of the wet season was marked by the spawning runs of salmon and lamprey eel. Following this, groups would start to disperse to the hills. The dry season settlements in the hills were occupied for shorter durations so that seasonally available resources could be acquired. As the weather became hotter, deer would move to higher elevations and hunters would follow them. Similarly, berries ripen at different times according to elevation, with lower-elevation plants ripening earlier than those in higher elevations. Camp movements ensured access to these resources.

Formal tribal organization or clan membership was absent in southern Athabaskan groups. Rather, the household was the fundamental social unit and typically consisted of a man, his wife or wives, children, and extended family members. Members of a household were related and lived together in close proximity to one another, and performed social and economic pursuits as a unit. Villages were comprised of several households, which were often related in some way. These households were extremely autonomous landholding units. Decisions were made by common consent. While rich men of high status were present in each village, their status was not something they inherited, but was based on wealth (e.g., possession of dentalium shell bead money and regalia including red-headed woodpecker headdresses and large obsidian bifaces). Individual (as opposed to group) ownership of property was characteristic of the region.

Material Culture and Trade

Similar to the Mattole, Nongatl, Lassik, and Wailaki, the Sinkyone lived in conical slab houses in permanent to semi-permanent winter villages. Houses were supported by a center ridgepole and were covered with bark or hewn slabs of redwood or fir. Multiple families would occupy these houses. Sweathouses were also circular and tended to be associated with the winter villages. These structures were disassembled each spring, when the tribes went to the mountains to gather and hunt. Upon their return in the fall, they would rebuild the houses, sometimes around the same fire pit, sometimes in a

different location. Thus southern Humboldt village sites often contain a multiplicity of house pits that indicate serial rather than simultaneous occupation (Goddard n.d.).

A wide variety of implements and facilities were used for fishing, from simple spears and poisons to basket traps, nets, and weirs. Weigel (1976) speculates that weir use was probably limited to larger groups, as they require a high investment of labor to build and maintain; smaller groups would be able to support themselves with spear-fishing instead. Hunting implements included the sinew-baked self-bow and arrow points made of locally obtained chert or of exotic obsidian.

Containers included steatite bowl grease catchers and a variety of baskets of different shapes and sizes used for gathering, cooking, and storing. Baskets were twined (rather than coiled) and included burden baskets, baby carriers, and conical basketry caps. Hopper baskets were used with hopper mortars for acorn processing. Tools and utensils included slab hopper mortars and bowl mortars, pestles, acorn wooden mush paddles or stirrers, elk horn spoons, mussel shell spoons, stone and deer bone knives, composite stone and wood shaft drills, and hand drills for fire-making. Steatite and manzanita wood tobacco pipes were widely used. Woodworking tools, similar to those employed in the Pacific Northwest, included ground and polished stone mauls and wedges.

There were both inland and coastal-oriented trade routes on which many items were transported to and from the region. Coastal resources such as fish, shellfish, and seaweed, as well as Olivella and clam shell beads, were desired by inland groups, who exchanged these for obsidian, redheaded woodpecker scalps, and tobacco to coastal groups. Aboriginal trail systems were often later used as historic wagon roads; some evolved into modern highways. Items also traveled via canoe up and down the coast and rivers (Davis 1961).

While most obsidian came from the closest obsidian sources in the Medicine Lake Highlands/Mount Shasta area, obsidian was also acquired from sources as distant as the Warner Mountains in northeastern California and the Klamath River Basin in Oregon. The more distant obsidian was highly desirable and was often fashioned into large obsidian wealth blades used for displays during ceremonial dances (Hughes 1978). Pine nut beads from Shasta, Karuk, and Wintu territory entered the area via overland trade routes (Farris 1992). Clam shell disc beads were likely obtained from the Coast Yuki; the Mattole were the source of Olivella shell for local interior groups.

Historic Overview

The first Euro-Americans to enter the area which is now Humboldt Redwoods State Park were the four members of the L. K. Wood Party, who struggled up the valleys of the South Fork Eel River in the winter of 1850. The men in the party were carrying news of the discovery of a large bay, a waterway that could provide easier access to the remote gold fields in the upper Trinity River. In April of the following year, a fleet of more than 40 ships departed San Francisco, their decks filled with shopkeepers, speculators, and soldiers of fortune – all bound for what would soon be named Humboldt Bay (Rohde and Rohde 1992).

The new settlers congregated near the coast, and within four years they had organized the County of Humboldt with its seat at the bayside seaport of Eureka. Meanwhile, other communities sprang up around the bay and along the lower Eel River Valley. However, not many settlers had located in the rugged country in the southern part of the county. By 1859, just one Euro-American settler was reported in residence on the South Fork Eel River. This individual was most likely Simon Phillips, who had married a Sinkyone woman from a village located near present day Phillipsville.

With the passing of the Homestead Act of 1862, and after a series of attacks by settlers against the local Native Americans either killed or removed most of the areas original inhabitants, Euro-Americans began to flood the area. The incoming Euro-Americans viewed the Native Americans as impediments to their "manifest destiny." This created a serious conflict between resident Native Americans and the land-hungry settlers. Much of rural Humboldt County was gradually developed by Euro-Americans as ranchland.

By 1870 there were almost 300 residents in the southeastern part of the county, a number that nearly tripled during the next decade. Early arrivals included the Myers family, who were farming a wide flat on a bend of the South Fork Eel River which later became Myers Flat; the Logan family had settled at what later became Miranda; and Tosaldo and Addie Johnson had moved onto a prairie above what would later become the town of Bull Creek (Irvine 1915:1032). Another early settler was James

Carothers, who was granted a homestead patent in the late 1870s near the current park headquarters.

Surges of settlement continued, spurred by the continued sale of 160-acre homestead for \$1.25 an acre. By the turn of the 20th century, ranches and farms dotted the prairies and riverside flats. Early farmers raised hogs, sheep, and cattle and harvested apples, pears, plums, and nuts from their orchards. They shipped their produce from Dyerville to the mouth of the Eel River and then down the coast to San Francisco. Today the landscape is peppered with old orchards and the occasional barn (Rohde and Rohde 1992:81).

Logging occurred in the South Fork and Bull Creek watersheds from the time of first settlement. Settlers cleared land for agriculture and cut trees for railroad ties, grape stakes, fence posts, and shingle bolts. They stripped tanbark oak trees of their bark to extract tannin for leather curing. However, logging did not become important to the region's economy until after improvements in transportation, such as the completion of the Northwest Pacific Railroad and the Redwood Highway during World War I. The Redwood Highway replaced an earlier wagon road along the South Fork around 1915 (DPR 2001:27).

The Redwood Highway made the region much more accessible to the motoring public, and therefore contributed to the preservation of ancient redwood trees by providing access for many tourists. In 1917, a group of biologists and businesspersons set out from San Francisco in search of an impressive grove of redwoods they had heard about. In the area of Bull Creek Flats, they saw widespread logging and discovered that not one tree was owned and protected by either state or federal laws. For the next two years, they worked to obtain state government protection for the Bull Creek area with little success. They enlisted the help of other well-known conservationists and, in 1918,

organized the Save-the-Redwoods League. In 1921 the State Legislature passed a \$300,000 appropriation to purchase lands with redwoods in Humboldt County. That same year, the Save-the-Redwoods League purchased 2000 acres of redwoods along the South Fork of the Eel River and thus began the redwood conservation movement and the infancy of Humboldt Redwoods State Park (DPR 2001:28).

The Civilian Conservation Corps (CCC) provided the muscle and expertise behind the early development of the park, with their first camp established at Dyerville in 1933. As they did in parks across the nation, the CCC constructed the initial infrastructure at the park such as buildings, campgrounds, picnic facilities, roads, trails, etc. In December of 1937, a flood washed out most of Dyerville and the camp subsequently moved to Burlington. The park headquarters remained at Dyerville until after the devastating flood of 1955 when it also relocated to Burlington.

Flooding had a major impact on the region in the mid-20th century. After the disastrous floods of 1937 and 1955, communities along the South Fork of the Eel River and Bull Creek began to rebuild. However, another catastrophic flood event occurred during the holiday season of 1964. The water rose 30 feet above ground level at the town of Weott. Most of the communities along the South Fork were virtually destroyed and have never fully recovered. The extensive commercial logging that had occurred in the upper Bull Creek watershed following World War II exacerbated the problems. Denuded slopes dumped sediments into both Bull Creek and the Eel River. Logs broke free from lumber millponds and created river logjams that raised water levels even higher. Now that the Bull Creek watershed is protected within the park, efforts to rehabilitate damage due to earlier erosion are in progress. Today, between federal and state ownership, over 250,000 acres of coast redwood land is protected in California (Rohde and Rohde, 1992; DPR, 2001).

Existing Cultural Resources in HRSP

Archaeological (Native American/ Historic), and Historic (Built Environment)

DPR conducted a record search of the Parks Cultural Resources Database and Department Unit Data File to review existing recorded historical and cultural resources within HRSP. The results of the record search determined that on intermittent bases since the 1970s, small-scale cultural resource investigations have occurred at the park. In the 1980s, DPR cultural resource staff conducted a comprehensive cultural resource inventory along the South Fork of the Eel River for prehistoric archaeological sites, artifacts, and features (Sampson 1983). Cultural resource investigations following the work of the 1980s has primarily been project driven for compliance with CEQA and California Public Resource Code (PRC) 5024 and PRC 5024.5. These projects include large major capital outlay projects, deferred maintenance, accessibility improvements, fuels reduction, road and trail repairs, facilities improvements, and maintenance work.

Though cultural resource surveys cover less than 10% of the park, these investigations resulted in the documentation of approximately 100 cultural resources within HRSP. These resources include less than 20 prehistoric sites and 17 historic archaeological sites, with the remaining number consisting of facilities, structures, and features associated with pre-park occupation, park development of the 1930s -1960s, and post war park improvements and other land use activities.

Native American resources consist of sites, features, and artifacts associated with resource procurement and processing, occupation, and areas for ceremonial or spiritual purposes. Historic resources include sites, structures, features, objects, and artifacts related to park development; ranching, farming, and homesteading; water conveyance systems and storage; and recreation. Historic resources related to transportation (roads and trails) include but are not limited to: the South Fork Eel River wagon road; the original Redwood Highway which incorporates the hand-hewn redwood bridge near Stephens Grove, the Dyerville bridge site, the Robert H. Madsen Memorial Bridge at Jordan Creek, Nelson Road redwood cribbing, guard rail remnants, and cement monuments (DPR 2001); the Addie Johnson Trail, due to its association with the gravesite of one of the earliest Euro-American settlers (Newland and Koenig 2001:21); the Indian Orchard Trail, due to its association with George Burt, the last known Lolangkok to live in the Bull Creek Watershed (Newland and Koenig 2001:21); the Bull Creek Flats Trail, which may contain portions of early Lolangkok travel routes (Newland and Koenig 2001:21); and the Mattole Road as one of the earliest main thoroughfares of the region (Newland and Koenig 2001:21).

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
WOULD THE PROJECT:				
a) Cause a substantial adverse change in the significance of a historical resource, as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource, pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Cause a substantial adverse change in the significance of a Tribal Cultural Resource as defined in §21074?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

- a) Management recommendations outlined in the Plan include road-to-trail conversion, removal and rehabilitation of non-system trails, rebuilding/re-engineering of existing roads and trails, new trail connections, minor reroutes of trail sections, changes in use, and various maintenance activities such as annual or emergency drainage repair, vegetation clearing, road/trail tread maintenance, and brushing performed on a re-occurring basis. Implementation of the various projects and activities associated with the Plan could result in substantial changes to significant identified historical resources, or those resources considered eligible for the National Register or the California Register listing.

According to CEQA Guidelines Section 15064.5(b)(1), a substantial adverse change in the significance of a historical resource involves the “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.” Data obtained from cultural resource files retained and maintained by State Parks, indicate cultural resource surveys are limited, making it probable that many cultural and historic sites found both on the surface and in subsurface context remain for discovery. Road and trail projects could cause substantial adverse changes to such significant historical resources. Causes of potential adverse changes include ground disturbance related to construction activities (i.e. excavation, grading, trenching), and by alterations to potentially historic buildings or structures that could impair the physical characteristics of a resource that convey its historical significance. Lands previously not surveyed could contain cultural and/or historical resources. Future road and trail management in these unsurveyed areas could unearth and possibly damage such resources. Changes in use could introduce more activity in sensitive resource areas.

Implementation of the Historian’s Specific Project Requirements CUL-6 and CUL-7, which would require cultural/historical surveys prior to work and identification of protective buffer zones, and the Historian’s Standard Project Requirements CUL-8 through CUL-10, which include complying with the Secretary of the Interior’s Standards and Guidelines and monitoring work when needed, would reduce any potential impacts to a less than significant level.

One management recommendation in the RTMP calls for determining the historic significance of the Jordan Creek Bridge and the potential to replace, relocate, or remove it. Adherence to Project Requirements CUL-6 through CUL-10 would ensure the bridge and its historical significance would not be materially impaired if it is determined to be eligible for listing.

- b) HRSP supports a diverse assemblage of archaeological resources that extend back hundreds of years. Identification of these resources occurred during previous cultural resource investigations in the park. These studies resulted in the documentation of over 35 archaeological sites. Archaeological resources include sites, features, and artifacts associated with prehistoric, ethnographic, and historic utilization of the area. The majority of these documented archaeological assemblages are located along roads and trails and in other developed areas of the park where prior investigations focused. It is probable that many more archaeological resources are located within the park, since only a fraction of the park has been inventoried for cultural resources.

The various project activities associated with the Plan have the potential to affect the archaeological resources in different ways, both directly or indirectly. Surface observations from terrestrial archaeological surveys and limited subsurface investigation generally determine the boundaries of archaeological sites. The reliability of these surveys depends on ground visibility and the extent of the surface manifestation associated with the archaeological deposits. Given the inherent nature of archaeological deposits, often located below the surface, a clear definition of these sites is unlikely at this time. Implementation of Specific Project

Requirements CUL-11 through CUL-16 and Standard Project Requirements CUL-17 through CUL-22 will help to insure that archaeological resources receive adequate consideration during the planning process and would reduce potential impacts to archaeological resources to a less than significant level.

- c) Native American groups used the area encompassing HRSP and the surrounding region for thousands of years. Given the extensive utilization of the area, it is not surprising that human remains associated with Native American burial practices have been located in areas outside of the park. Although such discoveries have not been located in the park, the potential to unearth such finds during ground disturbing activities associated with project work exists.

In the event of an inadvertent discovery of human remains during any project work, DPR and the Native American Heritage Commission (NAHC) have developed a protocol for the treatment of such finds to reduce impacts to a “less than significant level.” Standard Project Requirement CUL-23 identifies this protocol.

- d) DPR initiated consultation in 2010 with three tribes, two tribally affiliated non-profit groups and one individual regarding this project from a list provided by the Native American Heritage Commission. Contact included letters, emails, and follow-up phone calls and emails. Consultation was reinitiated in 2017 with three tribes and one tribally affiliated non-profit from a list provided by the Native American Heritage Commission. After numerous discussions, it was concluded that the Humboldt Redwoods Road and Trail Management Plan would not cause a substantial “Adverse” change in the significance of a Tribal Cultural Resource as defined in PRC §21074. However, per DPR policy, tribal consultation is ongoing and continuous. SPR CUL-15 requires DPR to conduct tribal consultations prior to implementing road and trail projects that would generate new ground disturbance or be located in area where archaeological sensitivity is high. Implementation of this requirement will ensure impacts remain less than significant.

MITIGATION MEASURE CULTURAL-
None Required

VI. Geology and Soils

ENVIRONMENTAL SETTING

Location and Conditions

HRSP is located within the coastal range of California. This range runs generally northwest and is primarily formed from remnants of the Pacific tectonic plate that are scraped off and uplifted as the plate collides with and moves below the North American plate. Over millions of years, the movement from this ongoing tectonic plate collision, along with periodic changes in ocean level, have left behind the coastal mountains. About ten miles west from the park, the much smaller Gorda tectonic plate collides with the North American and Pacific plates to form the Mendocino Triple Junction (MTJ), the most seismically active area in the continental United States.

The seismic activity and soil types resulting from the area's underlying marine sedimentary rocks have created slopes within the park that are steep and naturally unstable. These slopes were further destabilized by intensive land use practices in the upper Bull Creek and other watersheds within the park. Sediment and debris from these destabilized slopes have exacerbated flooding and impacted fisheries, ancient redwoods, riparian vegetation, and man-made structures. The park's watersheds are in varying stages of continued decay and recovery from this earlier intensive land use. Recovery within the Bull Creek watershed is currently being promoted by landform and forest rehabilitation efforts. This RTMP will improve road and trail designs, which will further enhance watershed recovery.

Topography

HRSP encompasses approximately 53,000 acres, with elevations ranging from about 80 feet along the South Fork of the Eel River (SFER) to 3,379 feet at Grasshopper Peak. Slopes vary from slight (0-8%) to greater than 100% and have variable aspects. Slopes proposed to receive new roads and trails are generally moderate to steep, except on floodplains or fluvial terraces.

All sites eventually drain to the SFER, which has been listed as impaired for temperature and sediment. The Total Maximum Daily Load (TMDL) for these parameters developed for the SFER relied heavily on data from the Bull Creek watershed (USEPA 1999). The proposed project is consistent with recommendations in the North Coast Regional Water Quality Control Board's (NCRWQCB) Work Plan to control excess sediment in sediment-impaired watersheds (2008).

Geologic Mapping

McLaughlin et al. (2000) mapped most of the park as underlain by sheared and highly folded mudstone, sandstone, and conglomeratic subunits of the Eocene to Pliocene (?[age uncertain]) Yager Terrane of the Coastal Belt of the Franciscan Complex. Subunits of the Yager Terrane are partially discriminated by irregular to sharp crested topography and the degree of incision of side hill drainages. They also mapped sandstone and mélange of the Franciscan Complex's Coastal Terrane along the northern and northwestern boundary of the Bull Creek watershed, the Eocene to Pleistocene Wildcat Formation (mostly fine-grained sandstone) near Redcrest, and Quaternary Fluvial terraces and stream deposits of varying elevation along Bull Creek,

its tributaries, and the SFER. Minor west or north to northwest-trending faults and folds are primarily mapped in the northwest side of the park and near Redcrest (the latter is part of the Russ Fault).

Spittler (1983a-e) mapped silt-shale, siltstone, mudstone, sandstone, and conglomerate of the Yager Formation underlying most of the park. Spittler mapped bedrock rather than terrane units; his mapping differs slightly from McLaughlin et al. in that he mapped Franciscan Formation (the semi-equivalent of the Coastal Terrane) farther south along the northern boundary of the Bull Creek watershed. His mapping of Quaternary terraces was also more extensive than that of McLaughlin et al. Spittler mapped numerous debris slides, larger rotational/translational slides, debris torrent tracks, small active slides, inner gorges, disrupted ground, earthflows, and steep slopes throughout the park and a portion of the Russ Fault near Redcrest.

Seismicity

HRSP is located within a region of high seismicity. In order to provide safe structures for human occupancy, the Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972. This state law was a direct result of the 1971 San Fernando Earthquake, which was associated with extensive surface fault ruptures that damaged numerous homes, commercial buildings, and other structures. Surface rupture is the most easily avoided seismic hazard. The law requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults and to issue appropriate maps.

The park and project area would be strongly affected by groundshaking generated by rupture of the Cascadia Subduction Zone, which terminates at the Mendocino Triple Junction, about 10 miles west from the park. This zone is capable of magnitude 9 earthquakes. Depending on site-specific characteristics, potential seismic hazards in the park include liquefaction, landsliding, and strong to violent (possibly amplified) ground shaking. Other active faults (movement within the last 11,000 years) that would produce strong groundshaking in the park include the northern segment of the San Andreas Fault, capable of magnitude 7.9 earthquakes; the Maacama Fault, capable of magnitude 7.1 earthquakes; and the Little Salmon Fault, capable of magnitude 7.3 earthquakes. Other potentially active faults, smaller active faults, or faults that are less clearly active in the immediate region include the Garberville Fault Zone, the Russ Fault, the Whale Gulch-Bear Harbor Fault Zone, and the Goose Lake Fault. The Garberville synform and antiform trend northwestward through the western and eastern sides of the park, respectively.

Ground accelerations during the 1992, magnitude 7 Petrolia Earthquake, about 10 miles west from the park, were the strongest recorded to that date in the United States, likely because of the thrust-faulting mechanism and perhaps because data recorders were very close to the epicenter. This earthquake produced extensive ground cracking along ridge margins and altered hydrology in the park (Tom Knopf, California State Parks Heavy Equipment Operator, pers comm). These ground cracks provided conduits to water and likely contributed to extensive slope failure during large storms in 1995 and especially on the early morning of January 1, 1997.

Table 6.1: Faults and Parameters Near Humboldt Redwoods State Park

Fault Name & Geometry	Slip Rate (mm/year)	Recurrence Interval (years)	Maximum Moment Magnitude	Last Known Fault Displacement
Little Salmon (onshore)(strike slip)	5	189-377	7.3	1700
Maacama-Garberville (strike slip)	9	No Data	7.5	No Data
San Andreas (North Coast)(strike slip)	24	280	7.9	1906
Cascadia Subduction Zone (thrust)	40	200-800	9.0	1700

References: Topozada, T., Borchardt, G., Haydon, W., Petersen, M., Olson, R., Lagorio, H., and Anvik, T., 1995, Planning scenario in Humboldt and Del Norte counties, California for a great earthquake on the Cascadia Subduction Zone, California Department of Conservation, Division of Mines and Geology, Special Publication 119, 157 pages; and

http://earthquake.usgs.gov/research/hazmaps/products_data/2002/faults2002.php

Slope Stability

The park generally has moderately steep to steep slopes. Ridgelines, the unit surfaces of dormant landslides, and a few stream side areas have gentle to moderate slopes. Except in wilderness areas, much of the mid-slope and lower slopes were clear-cut in the 1950s and 1960s but have been unmanaged since that time. Stand characteristics and brush density vary over the landscape.

The Bull Creek and Canoe Creek watersheds and portions of Mail Ridge were mapped in detail by Department staff for hydrological/stability modeling related to road removal and future project planning (SHALSTAB, Fiori et al. 2002; Canoe – data, Department’s unpublished data). The Department maps included the mapping by Spittler and McLaughlin et al. and provided more detailed information on recent, watershed-scale, shallow instability. About 40% of the abandoned logging roads requiring treatment have been addressed. Most abandoned logging road cuts are performing adequately.

Based on review of satellite imagery and the Department’s watershed mapping, only a few areas have had instability that dates to or post-dates the January 1, 1997 storm. These areas are noted in the following departmental GIS shape files: “2ls98prjNAD83” documents landslides associated with the January 1, 1997 storm; “ls2002_NAD83” captures failures that became apparent between 1997 and 2002; and “NAIP2005-16lsforthin” captures failures that occurred between 2002 and 2016. The two former layers were corroborated by detailed field work in the Bull Creek watershed.

Soils

Soil development occurs in response to the weathering of the parent material (rocks and alluvial deposits) and input from surface materials (vegetation), and varies depending on the topography (slope, aspect, and hydrologic conditions), climate, and time. The soils in the park are generally well developed because the mild wet climate has caused a high degree of weathering of the underlying permeable materials. Most of the soils have strongly developed surface horizons that are rich in organic matter and

nutrients, particularly in areas that have coniferous vegetation, moderately coarse texture, and high infiltration capacity. In some places, the top soil may be relatively thin owing to the steep slopes and past logging disturbance. The United States Department of Agriculture, Natural Resources Conservation Service (NRCS) has mapped the following major soils or soil complexes in the park (USDA-NRCS 2013).

Water and fluvents	Wirefence-Windynip-Devilshole complex
Weott	Yorknorth-Windynip complex
Shivelyflat	Dolason-Forhaux-Peaked complex
Parkland-Garberville complex	Peaked-Forhaux-Dolason complex
Eelriver and Cottoneva	
Grizzlycreek-Chaddcreek complex	
Battery	
Scoutcamp-Rootcreek-Redcrest complex	
Scoutcamp-Redcrest complex	
Rockyglen-Hollowtree-Rock outcrop complex	
Redwoodhouse-Yagercreek-Mailridge complex	
Redwoodhouse-Mailridge-Mountbaldy complex	
Crazycoyote-Sproulish-Caperidge complex	
Crazycoyote-Windynip-Caperidge complex	
Crazycoyote-Sproulish-Canoecreek complex	
Gschwend-Frenchman complex	
Pepperwood-Shivelyflat complex	
Sproulish-Canoecreek-Redwholy complex	
Canoecreek-Sproulish-Redwholy complex	
Canoecreek-Coyoterock-Sproulish complex	
Briceland-Tankridge complex	

These soils derive largely from residuum and colluvium of sedimentary rocks and sedimentary rock alluvium. Soils are slightly acidic near the surface and slightly to moderately acidic at depth.

Forested soils from Canocreek- and Redwoodhouse-related complexes are common and have formed in different types of parent materials, mostly colluvium and residuum from interbedded sandstone and mudstone. Eel River and Cottoneva soils and the Pepperwood-Shiveyflat complex commonly underlie fluvial terraces formed from sedimentary alluvium.

Soils at HRSP have been designated by the United State Department of Agriculture, Soil Conservation Service (SCS) for several land uses. Of the major soil complexes mapped in the park, many have one or more severe constraints, as determined by SCS that would affect facility development and recreational use. Principle limiting factors are slope, ponding, erodibility, low strength, landslides, flooding, and locally shrink/swell potential.

WOULD THE PROJECT	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic related ground failure including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in on or off-site	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

landslide, lateral spreading,
subsidence, liquefaction, or collapse?

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| d) Be located on expansive soil as defined in Table 18-1-B of the Uniform Building Code (1997) creating substantial risks to life or property? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Have soils incapable of adequately supporting disposal systems where sewers are not available for the disposal of waste water? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

DISCUSSION

- a) See below:
- i) There are no Alquist-Priolo designated faults mapped within HRSP, though there are faults within the park and significant active faults are located in the region. However, the project does not entail new habitable structures within the park; it is a tool to manage recreation on roads and trails within the park. Less than significant impact.
 - ii) Humboldt County is a region of high seismic activity and some element of seismic risk is assumed by every visitor to the park. Although additional park visitors could result from implementing projects under the RTMP, the increase would be negligible, as most of the trails already exist. Less than significant impact.
 - iii) The majority of HRSP is composed of bedrock and as such, is not generally susceptible to ground failure including liquefaction. Young fluvial terraces have a moderate to high potential for liquefaction. Failure of the ground at a road or trail alignment would not present a significant hazard to people as failure due to liquefaction is unlikely to temporarily coincide with its use; this type of ground failure could generally be repaired with respect to realignment or repair of the travelway. Routes would be closed until a qualified or licensed geologist can evaluate the site and make stabilization or other recommendations and the recommendations are implemented (per the criteria in event-related measure GEO-26). Therefore, impacts would be less than significant.
 - iv) Active landslides underlie or can develop along some of the existing travel ways but re-routing may be impractical due to a limited landbase or impacts to natural or cultural resources. Active landslides reported by staff or visitors are investigated and routes closed until a qualified or licensed geologist can evaluate the site and make stabilization or other recommendations and the recommendations are implemented (per the criteria in event related measures
-

GEO-26 and 27). As part of the initial design, newly proposed routes will be evaluated by a qualified or licensed geologist to help ensure they avoid areas of potential slope instability. Less than significant impact.

- b) One of the objectives of the RTMP will be to prioritize road and trail maintenance, reconstruction/re-engineering, removal, and reroute to achieve a more sustainable road and trail system. Adoption of the plan will facilitate procedures to evaluate eroding routes and implement improvements to reduce erosion.

Future actions that are considered in the RTMP include potential changes in use for several trail segments. Because work plans have not been developed for these trails, project level review for change-in-use to these is not considered in this document and as such, additional and subsequent evaluation under the change-in-use process will be necessary to assess potential impacts on soil erosion resulting from physical changes to the trails. Impacts will be assessed by evaluating the implementation of proposed changes in use in the context of the SPRs, which were incorporated as part of the Program Environmental Impact Report (PEIR) for the Trail Change-in-use Evaluation Process, adopted by DPR on May 2, 2013.

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, such as steps or retaining walls, as well as soil disturbance caused by use-related activities (type and intensity of use). Significant erosion impacts from projects implemented pursuant to the RTMP would be avoided through implementation of applicable GEO SPRs. This impact would be less than significant.

- c) See a) i-iv above. Less than significant impact.
- d) Some park soils have a low to moderate shrink-swell potential. SPR GEO-3 addresses the determination of this potential at specific sites. Bridge abutments, signage, or other constructed features in areas with unacceptable shrink-swell potential will be designed to accommodate the phenomenon or located to avoid this condition. Less than significant impacts would result.
- e) The project does not entail installation of septic or any other waste disposal systems. Therefore, no impacts would result.
- f) HRSP does contain geological formations with fossil resources (c.f. McLaughlin et al. 2000). Paleontological resources found in the state park system require protection from damage. As such, route improvements conducted because of the RTMP will be done in accordance with the Paleontological Resource Protection Policy as identified in Section 0309.2 of the Department Operations Manual. SPR GEO-3 will address design issues related to unique geological or paleontological resources. Less than significant impacts.

MITIGATION MEASURE GEOLOGY AND SOILS

None Required.

VII. Greenhouse Gas Emissions

ENVIRONMENTAL SETTING

Climate change refers to any significant change in measures of climate, such as average temperature, precipitation, or wind patterns over a period of time (Governor's Office of Planning and Research 2008). There is a general scientific consensus that global climate change is occurring, caused in whole or in part by increased emissions of greenhouse gases (GHGs) that keep the earth's surface warm by trapping heat in the atmosphere. Climate change may result from natural factors, natural processes, and human activities that change the composition of the atmosphere and alter the surface and features of the land (Governor's Office of Planning and Research 2008). GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively (Peters & Hertwich 2008). The major GHGs that are released from human activity include carbon dioxide (CO₂), methane (CH₄), and nitrous oxides (NO_x). The primary sources of GHGs are energy production (including the burning of fossil fuels), vehicles (including planes and trains), and industrial and agricultural activities (such as dairies) (USEPA 2017).

Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006, recognized that California is the source of substantial amounts of GHG emissions which poses a serious threat to the economic well-being, public health, natural resources, and the environment of California (Governor's Office of Planning and Research 2008). Potential adverse impacts of global warming include severe air quality problems, a reduction in the quality and supply of water from the Sierra snowpack, a rise in sea levels causing the displacement of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems (Health and Safety Code, section 38501) (Governor's Office of Planning and Research 2008). In order to avoid these consequences, AB 32 established a state goal of reducing GHG emissions to 1990 levels by the year 2020 (a reduction of approximately 25 percent from forecast emission levels) with further reductions to follow.

In order to address global climate change associated with air quality impacts, CEQA statutes were amended to require evaluation of greenhouse gas (GHG) emissions (global pollutants), which include criteria air pollutants (regional pollutants) and toxic air contaminants (local pollutants). Air Districts have traditionally provided guidance to lead agencies on evaluating and addressing air pollution impacts from projects subject to CEQA. The NCUAQMD does not have a published threshold of significance for measuring the impact of global climate change on or from a project. Instead, they recommend using California Air Pollution Control Officers Association's (CAPCOA) resource guide, *CEQA and Climate Change*, to address GHG emission from projects subject to CEQA (2008). In 2011, NCUAQMD adopted Rule 111 (Federal Permitting Requirements for Sources of GHGs) into the District rules to establish a threshold for federally enforceable limits on potential to emit greenhouse gases for stationary sources (NCUAQMD n.d).

DPR developed the “Cool Parks” initiative to address climate change within the state park system. Cool Parks proposes that DPR itself adapt to the environmental changes resulting from climate change. In order to fulfill the Cool Parks initiative, State Parks is dedicated to using alternative energy sources, low emission vehicles, recycling and reusing supplies and materials, and educating staff and visitors on climate change (DPR 2008).

WOULD THE PROJECT	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION

- a) The RTMP would not generate an increase of air pollutant concentrations. The purpose of the RTMP is to provide specific guidance and direction for implementing the goals and objectives of the park’s approved General Plan and provide a roadmap for future management including specific actions for individual roads and trails. Road and trail construction and maintenance would continue to occur with or without the RTMP. Therefore, while route maintenance and/or construction involving mechanical equipment would result in temporary and minor increases of greenhouse gas emissions that contribute to climate change, it would not change as a result of the adoption of the RTMP. Similarly, change-in-use projects could result in GHG emissions from construction-related equipment and an increase in operation-related vehicle trips and associated mobile-source GHG emissions. However, actions taken under this RTMP will incorporate appropriate SPRs to control emissions. 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 RTMP projects would not be cumulatively considerable. This impact would be less than significant.
- b) The State has not developed specific GHG thresholds of significance for use in preparing environmental analyses under CEQA, and the NCUAQMD has not adopted GHG thresholds to determine significance. The proposed RTMP would not violate the 1995 Particulate Matter (PM10) Attainment Plan prepared by NCUAQMD, The Cool Parks Initiative, or implementation of any other policy at the state or county level. No impact.

MITIGATION MEASURE GREENHOUSE GAS

None Required.

VIII. Hazards and Hazardous Materials

ENVIRONMENTAL SETTING

Hazardous Materials

The California Department of Environmental Protection (CALEPA) has the responsibility for compiling (pursuant to Government Code §65962.5) information on hazardous materials sites in California that together are known as the “Cortese” list. A review of this list found that there are no hazardous materials sites within the project area. The closest site is approximately 7 miles northwest of the park near the community of Rio Dell (Department of Toxics Substance Control 2017).

The initial 2,000 acres of HRSP was acquired in 1921 with the help of the newly established and preservation-minded Save-the-Redwoods League (DPR 2001). Not long after, the ancient forests in Dyerville and Bull Creek Flats were added to HRSP. However, it was not until after extensive logging that the upper watersheds, including Bull Creek, were added to the park. There is no evidence of industrial use within the park except as related to logging activities. Historical images show the location of a lumber mill on the Bee River Mill terrace, a short distance downstream from the confluence of Bull and Mill creeks. Historical imagery helps confirm the location of a logging pond on the terrace. The imagery also confirms the location of a teepee burner, used to burn lumber waste associated with the mill. Historical lumber mills may have heavy metals and hydrocarbons associated with their operations and these materials were poorly regulated at the time the mill was in operation, during the mid-20th century.

The park is located adjacent to US Highway 101, which can be used as a transportation route for hazardous materials. One recent truck accident in October 2016 resulted in the release of 4,100 gallons of diesel fuel near the Salmon Creek exit. Immediate remediation work was conducted to remove the contaminated soil and groundwater monitoring wells have been installed to determine the success of cleanup efforts (Apex Envirotech 2017).

The types of materials used and stored at HRSP that could be hazardous include fluids such as motor vehicle and mechanical equipment fuels, oils, and other lubricants. DPR maintains storage facilities for these fuels and lubricants within the park unit. No storage facilities, or other structures or industrial sites that could contain hazardous materials are located at the sites of the proposed project.

Airports

No airports are located within or adjacent to park property. The nearest public use airport is located in Garberville, approximately 7 miles from the southern end of the park. There are no private airstrips within the area.

Schools

The closest schools are Miranda Junior High, South Fork High school, and the Osprey Learning Center in Miranda, and Agnes J. Johnson Elementary in Weott. These schools are located in small rural communities along the Avenue of the Giants and some are within one-quarter mile of the park’s boundary.

Wildland Fire

The majority of HRSP is located in a high fire hazard area (Cal Fire 2007). There are some moderate fire hazard areas that occur along riparian corridors and communities near the Avenue of the Giants and Highway 101. 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. HRSP has experienced an increase in fuels and/or potential fire intensity due to residual fuels left from logging and forest stand shifts from conifers to hardwoods (frequently redwood and/or Douglas-fir to tanoak). These changes have the potential to increase the likelihood of a wildfire burning into the Park from adjacent private property and vice versa. Cal Fire has the primary responsibility for wildland fire response.

DPR has adopted the DOM that provides protocols for the various aspects of park unit operations, including Fire Management and Wildfire Management Planning. The Wildland Fire Management component (Section 0313.2.1.1) of the DOM's Natural Resources Section identifies the Wildland Fire Management Policy, which requires preparation of a Wildfire Management Plan for each Department-operated unit that may experience wildland fires (DPR 2004). The Wildfire Management Plan for each unit provides requisite information for managing wildfire events, such as the locations of sensitive park resources, facilities, water supplies, and existing roads. A Wildfire Management Plan was completed for HRSP in 1986 and updated in 1998.

Emergency Response Plans

The Humboldt County Emergency Operations Plan was prepared in an effort to ensure the efficient coordination with all political subdivisions of government and most effective use of all resources for maximum benefit and protection of the population in time of emergency. It provides a framework for the Humboldt Operational Area agencies to respond to any emergency requiring multiagency participation and/or activation of the County Emergency Operations Center. (Humboldt County Office of Emergency Services 2015).

WOULD THE PROJECT	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials,	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- substances, or waste into the environment?
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
- d) Be located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code §65962.5 and as a result create a significant hazard to the public or environment?
- e) Be 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? If so, would the project result in a safety hazard for people residing or working in the project area?
- f) Be located in the vicinity of a private airstrip? If so, would the project result in a safety hazard for people residing or working in the project area?
- g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- h) Expose people or structures to a significant risk of loss, injury, or death from wildland fires, including areas where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

DISCUSSION

- a) The user types addressed in the proposed RTMP include Other Power Driven Mobility Devices (OPDMDs) and non-motorized recreational uses. These users do not typically handle or transport hazardous materials. Therefore, projects implemented pursuant to the RTMP would not increase the use or transport of hazardous materials at HRSP. Typically, the only routine use and transport of hazardous materials is associated with maintenance, and requires common hazardous materials such as fuel and lubricants for equipment and vehicles and detergents and solvents for cleaning. These hazardous materials are used

consistent with EPA and OSHA standards and are stored in the park storage facilities consistent with EPA and OSHA standards. Approval of the Plan would not substantially change the operations and maintenance of the Unit and park staff would continue to use, transport, store, and dispose of these hazardous materials consistent with standard operations requirements, and EPA and OSHA 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-9 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, a Materials Management Plan, vehicle wash stations, and suitable staging areas. No substantial increased risk of accidental upset or emission of hazardous materials would occur. This impact is therefore less than significant.

- b) Existing trails may cross property where hazardous materials have been previously used or stored, including former logging and mill operation sites. Implementation of the proposed RTMP involves prioritization of maintenance, adding or removing user types on existing Unit trails, minor trail relocation to improve sustainability, and possible new trail connections to improve circulation routes. If a subsequent project under the RTMP requires route modification that must occur in areas where hazardous materials are thought 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 Environmental Site Assessment (ESA) by a qualified hazardous material 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. There are no known areas of the park that have serpentine soils containing naturally occurring asbestos (California Department of Conservation 2000). This impact is considered less than significant.
- c) Approval of the RTMP will not result in hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste. Although there are some schools close to the park unit boundary, they are miles away from the nearest known historical logging activities and over three-quarters a mile away from the most recent truck fuel spill. Implementation of SPRs noted above would prevent accidental leaks, spills, or other emission of hazardous materials into the environment. Less than significant impact.
- d) There are no hazardous materials sites located within the boundaries of HRSP included on the list compiled pursuant to Government Code §65962.5. Therefore, no impact would result.
- e,f) HRSP is not located within an airport land use plan nor within two miles of a public airport, public use airport, or private airstrip. Therefore, no impact would result.

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- g) Approval of the RTMP will have no effect on any adopted emergency response plan or emergency evacuation plan. Therefore, no impact would result.
 - h) Many roads and trails in HRSP are located in relatively remote areas and pass through areas with brush and trees. Most 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), or short connections to existing and nearby non-system routes, the proposed RTMP would not result in new areas of public access. Further, trail realignment typically occurs on small segments of trail adjacent to existing trail alignments. Finally, adding new user types to existing trails under the proposed Process would not expose visitors to higher risk of wildland fire than the user groups now having access.

Regarding potential ignition sources, existing State law (CCR Title 14, Division 3, Sections 4311 and 4314) prohibits use of fireworks within state park units and restricts smoking and campfires to designated areas. Internal combustion engines are prohibited 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 DPR road and trail facilities would not substantially change the potential for ignition of a wildland fire. Furthermore, trail operation would remain consistent with the DPR DOM requirements for visitor safety, including the unit-specific Wildfire Management Plan.

Construction activities could be required for new trail connections to improve circulation routes, road decommissioning, reengineering, or 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-10 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 Cal Fire, and providing water trucks. Implementation of these SPRs would minimize construction-related potential for risk of wildland fire. The impact associated with approval of the RTMP is considered less than significant.

MITIGATION MEASURE HAZARDS AND HAZARDOUS MATERIALS –

None Required

IX. Hydrology and Water Quality

ENVIRONMENTAL SETTING

HRSP is located in the Coast Ranges within the North Coast hydrologic region, as defined by the California Department of Water Resources (CDWR). The character of the watersheds in the park area is typical of the Coast Range, where steep ridges and deep canyons dominate.

Climate and Precipitation

HRSP has a moderate climate with hot, dry summers and cool, wet winters. The source of surface water runoff and groundwater is from precipitation, which comes mostly as rain between the months of October and May. Average annual rainfall ranges from 60 to 80 inches with up to 110 inches in the upper reaches of Bull Creek (CDWR 1964). In fact, Bull Creek has some the highest rainfall and erosion rates in North America due to its proximity to the seismically active Mendocino Triple Junction, and is tributary to one of the highest sediment producing rivers in the world (Brown and Ritter 1971). Winter snow is unusual but does occur at the higher elevations in the park, usually above 2,000 feet.

Creeks and streams in the area are mostly intermittent, reflecting the seasonal distribution of rainfall. Winter flows are higher and increase during and immediately following storms. Base flows generally decrease following the rainy season and disappear when groundwater table drops below stream channel elevations.

Watershed – Surface Water

HRSP contains part of the following five subwatersheds identified at the 12-digit Hydrologic Unit Code (HUC) level; Bear Creek, Bull Creek, Butte Creek, Canoe Creek, and Ohman Creek (CDWR 2013). Bear Creek at the north end of the park is tributary to the Eel River and the remaining watersheds flow to the Lower South Fork Eel River.

The Bull Creek watershed comprises a significant portion of the park, approximately 51%. Nearly the entire watershed is within the boundary of the park. This watershed is the major drainage system of the backcountry, and eventually discharges into the SFER. Major tributaries of Bull Creek include Panther, Preacher Gulch, Slide, Burns, Cuneo, Mill, Albee, Harper, Squaw, Miller, Connick, Tepee, Cow, and Calf creeks. The lower Bull Creek watershed contains the Rockefeller Forest, the largest contiguous, ancient coast redwood forest in the world. However, the upper and middle watershed were heavily logged from the late 19th to middle 20th centuries, first by settlers and then more aggressively by industrial timber owners. Sedimentation from severe logging-related erosion coupled with two major floods in 1955 and 1964 has had long lasting effects on the quality of riparian habitat and stream function.

Approximately 41% of the park area is in the Canoe Creek watershed unit. This watershed unit contains Canoe and its North Fork along with Decker, Corner, Mill, Cabin, Coon, and Kerr creeks. These watersheds, located on the west side of the SFER, are entirely within the park boundary and contain stands of old growth redwood forest covering a majority of their acreage. Portions of smaller subwatersheds on the east side of the river (Dry, Elk, Bridge, Truss, Mowry, Feese, and Robinson creeks) make up the remainder of the Canoe watershed unit.

The remaining northern portion of the park (about 7% of the total park area) is in the Bear watershed. This area skirts the Eel River along Avenue of the Giants and includes the lower portion and mouth of Chad Creek. The south end of the park, also along the Avenue of the Giants, includes less than 2% of the total park area with minor portions of the Butte and Ohman watersheds containing the mouths of Fish and Rocky Glenn creeks, respectively.

Groundwater

Groundwater in the park plays a major role in the hydrology of the area and the overall health of riparian areas and streamside forests. Groundwater recedes through most of the year and gains when precipitation increases during the winter. State Parks has been monitoring groundwater levels within the lower Bull Creek watershed over the past decade. Advancement of monitoring wells provided information for depth to bedrock, which generally was about 15 to 35 feet below the ground surface between mid-Bull Creek (Cuneo Creek confluence) and the mouth at SFER (DPR 2014). Through the Rockefeller forest in the lower valley, average summer 2013 (drought) groundwater elevations were about 9.5 feet (Tall Trees day use area), 13.5 feet (Cow Creek), and 32.5 feet (Rockefeller Loop) below ground surface (DPR 2014). There have been no surveys to determine the depth, quality, and quantity of the groundwater elsewhere in the park.

Flooding

HRSP has areas that are subject to flooding given its streamside (Bull Creek) and riverine (SFER) setting. Significant historical floods have affected the watersheds, more so in areas downstream of high intensity logging operations as in the 1964 flood and when coupled with antecedent conditions such as a recent fire (1955 flood) or earthquake (1997 flood). Flood-prone areas within Bull Creek have been mapped as part of ongoing watershed restoration planning efforts (DPR 2014). Humboldt County web-based GIS data provides the ability to view FEMA 100-year flood zones.

Water Quality Regulation

Humboldt County and HRSP itself lie within the jurisdiction of the North Coast Regional Water Quality Control Board. Per the requirements of the Clean Water Act (CWA), and the California Porter-Cologne Act, the regional board has prepared a Water Quality Control Plan (Basin Plan) for the watersheds under its jurisdiction. The Basin Plan is comprehensive in scope. It contains a brief description of the North Coast Region, and describes its water quality and quantity problems and the present and potential beneficial uses of the surface and ground waters within the Region. It also includes programs of implementation to achieve water quality objectives. Per the requirements of CWA Section 303(c), the Basin Plan is reviewed every three years and revised as necessary to address problems with the plan, and meet new legislative requirements.

Water Quality

The Lower South Fork Eel River Watershed is a 303(d) listed watershed due to impairment and/or threat of impairment to water quality by sediment and temperature (USEPA, 1999). The area produces high natural rates of disturbance; in addition, the area is also highly sensitive to human disturbance. Studies have concluded that certain timber harvest practices and road building activities exacerbate the natural condition.

State Parks, in partnership with the United States Forest Service Pacific Southwest Research Station Redwood Sciences Laboratory, has been monitoring turbidity levels in the Bull Creek watershed since 2004. This includes a turbidity monitoring station at the Bull Creek United States Geological Survey (USGS) stream gage. In addition, State Parks and the Department of Fish and Wildlife have also been monitoring stream channel and habitat conditions in the Bull Creek watershed. These investigations have indicated that suspended sediments in the Bull Creek watershed have decreased (unpublished data), stream habitat conditions have improved, and stream temperatures are trending lower, albeit still at elevated levels (unpublished data). It is believed that this is at least partially attributed to the road removal efforts of State Parks in the greater Bull Creek watershed.

WOULD THE PROJECT	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) 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 (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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) 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, which would result in substantial on or off-site erosion or siltation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) 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, which would result in substantial on or off-site flooding?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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- | | | | | | |
|----|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| e) | Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| f) | Substantially degrade water quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| g) | 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) | Place structures that would impede or redirect flood flows within a 100-year flood hazard area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) | 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| j) | Result in inundation by seiche, tsunami, or mudflow? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

DISCUSSION

a,c,d,e,f) Approval of the RTMP will not violate water quality standards, alter drainage patterns resulting in erosion or flooding, or degrade water quality. It includes provisions for a maintenance plan in which roads and trails are prioritized and will receive cyclical and prorated maintenance. Roads and trails will be designed, constructed, re-engineered, re-constructed, or rerouted to improve sustainability and drainage, and prevent erosion. On a project basis, all drainage crossings identified in the Drainage Structure Condition Index Assessment will be re-engineered and/or re-constructed, prioritizing the most significant affected structures first.

Future actions that are considered in the RTMP include potential changes-in-use for several trail segments. Because work plans have not been developed for these trails, project level review for change-in-use to these is not considered in this document and as such, additional and subsequent environmental review will be necessary to assess potential impacts on hydrology and water quality resulting from physical changes to the trails.

In general, disturbance to the roads and trails may result from construction, including decommissioning and restoration, re-engineering including slope stabilization and modification of roadbed or trail tread, and possible reroutes. SPRs GEO-1 through GEO-25 and HYDRO-1 through HYDRO-25 will ensure that erosion and soil loss will remain at a less than significant level.

Therefore, impacts to hydrology and water quality resulting from approval of the RTMP would be less than significant.

- b) Approval of the RTMP would have no effect on groundwater supplies or interfere with groundwater recharge. Therefore, no impact would result.
- g, h) Approval of the RTMP would not result in placing housing or other structures that would impede or redirect flood flows within a 100-year flood hazard area. Therefore, no impact would result.
- i) No levees or dams are located in the vicinity of HRSP. Therefore, approval of the RTMP would not 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. Therefore, no impact would result.
- j) HRSP is inland and does not contain any large bodies of water. Therefore, the project would not occur in an area subject to tsunami or seiche, respectively. Design-related measures HYDRO-16 through HYDRO-18, GEO-10, GEO-11, GEO-14 through GEO-16, and GEO-23 would reduce overall risk of resultant projects' potential to cause a mudflow. Therefore, less than significant impact would result.

MITIGATION MEASURE HYDROLOGY AND WATER QUALITY –

None Required

X. Land Use and Planning

ENVIRONMENTAL SETTING

Humboldt County consists of approximately 2.3 million acres (3,570 square miles), the fourteenth largest county in California, and is one of the more rural counties. Humboldt Redwoods SP is located in the southern end of the County about 20 miles from the Pacific Ocean. Land use zoning under the existing Humboldt County General Plan identifies HRSP as Public Lands/Public Resource (2017). Private industrial timberlands, a few small privately held parcels, and Gilham Butte (Bureau of Land Management) border the Park. The areas surrounding the Park are primarily zoned for timber production.

HRSP is wholly owned and operated by DPR. Its General Plan adopted in 2001 by the State Parks and Recreation Commission, directs the long-range management, development, and operation of the park. To facilitate land use and resource management, the General Plan identifies four management zones: 1) Primitive Zone, 2) Backcountry Zone (Non-mechanized), 3) Backcountry Zone (mechanized) and 4) Frontcountry Zone. The zones represent parts of the park that will be managed similarly.

- Primitive Zone – This zone encompasses the most unspoiled area of the park, including the northern part of Rockefeller Forest. This zone will be managed for maximum protection of the forest. No new development of park facilities will be permitted.
- Backcountry Non-mechanized Zone – This area includes old growth redwood and some formerly logged land in need of restoration. Facilities will be reserved for non-mechanized uses, such as hiking, backpacking, and horseback riding.
- Backcountry Mechanized – This zone contains the western portion of the park, much of which was logged and still suffers from landslides and stream sedimentation. Facilities in this zone will be balanced between the need for resource protection and recreational uses.
- Frontcountry Zone – Most of the Park’s facilities lie within this zone and occur adjacent to main roads. Future developments may be located on appropriate sites within this zone if they are consistent with natural and cultural resource protection.

Parts of the project area are within HRSP’s 10,450-acre State Wilderness and 3,520-acre Natural Preserve (designated by California State Park and Recreation Commission Resolutions 31-01 and 33-01, October 26, 2001), which contain portions of the Rockefeller Forest and some of the most pristine redwood forest habitat still in existence. The State Wilderness and Natural Preserve are within the backcountry non-mechanized and primitive zones, respectively. These areas were set aside with primary consideration for the protection and recognition of the outstanding and undeveloped natural resources of the park. Use in these areas is limited to that necessary for public enjoyment and education without negative impacts on the resources for which the special designation was made. Public use of these areas is primarily for observation by

and education of the public. Such use, when it can be properly managed, can raise public awareness of these resources and the need to protect them. Since there is a demand by the public to see these areas and make connection to existing or proposed trails, access needs to be designed with careful planning so any impacts on the resources will be less than significant. The California Code of Regulations provides guidance on allowable uses and minimum management actions and tools that can be used in these special designation areas within a park (14 CCR §4351 and 14 CCR §1460).

The Humboldt Redwoods Resource Company, which owns land adjacent and to the south of HRSP currently has in place Multiple Species Habitat Conservation Plans (MSHCP) for terrestrial and aquatic species.

WOULD THE PROJECT	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with the applicable land use plan, policy, or regulation of any agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION

- a) Approval of the RTMP would not result in any physical changes that would divide an established community. Therefore, no impact would result.
- b) The RTMP is consistent with all applicable state and local land use plans, policies, and regulations. Work proposed for this project is in compliance with the Humboldt Redwoods SP General Plan and, with adoption of this Negative Declaration and implementation of the project requirements herein, would be in compliance with CEQA. Therefore, impacts would be less than significant.

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- c) The project would not conflict with any applicable habitat conservation plan or natural community conservation plan because no such plans have been adopted for HRSP. Although the southern boundary of HRSP abuts the Conservation Plan area of Humboldt Redwoods Resource Company's MSHCP, the MSHCP is not applicable to DPR lands. Therefore, no impact would result.

MITIGATION MEASURE LAND USE AND PLANNING

None Required

XI. Mineral Resources

ENVIRONMENTAL SETTING

The California Geological Survey (CGS), formerly the California Division of Mines and Geology, classifies the regional significance of mineral resources in accordance with the California Surface Mining and Reclamation Act (SMARA) of 1975 and assists in the designation of lands containing significant aggregate resources. CSG's Mineral Land Classification (MLC) Project provides objective economic-geologic expertise to assist in the protection and development of mineral resources through the land-use planning process. Since its inception in 1978, the MLC Project has completed 97 classification studies covering about 34% of the state (CGS 2017). To date, no SMARA classification has occurred for Humboldt County (CGS 2013).

No minerals are currently mined within HRSP. Two former rock quarries occur within the Park, but there are no plans to reactivate the extraction sites. DPR policy does not permit the commercial extraction of mineral resources on DPR property in accordance with the Public Resources Code § 5001.65.

WOULD THE PROJECT	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that is or would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION

- a) Commercial exploitation of resources in units of the state park system is prohibited (California Public Resources Code Section 5001.65.) Nevertheless, approval of the RTMP would not result in the loss of or access to mineral resources. Therefore, no impact would result.
- b) HRSP has not been classified or nominated as a locally important mineral resource recovery site, according to the Humboldt County General Plan. Therefore, no impact would result.

MITIGATION MEASURE MINERAL RESOURCES –

None Required

XII. Noise

ENVIRONMENTAL SETTING

This project site consists of the 53,923-acre HRSP, situated in a rural area with rugged forested terrain, surrounded by steep mountains, bisected by a rushing river and a main transportation route (US Highway 101).

Potentially sensitive noise receptors in the area consist of several occupied park residences and multiple campgrounds. Camping areas include Burlington Campground with 57 campsites; Hidden Springs Campground with 155 campsites; Albee Creek Campground with 40 campsites; Cuneo Creek Horse Camp with 4 campsites and 2 group sites; Baxter and Hamilton Barn Environmental Camps; and Marin and Williams Grove Group Camps. Campgrounds are considered quasi-sensitive, and reduced noise levels should be observed during nights, weekends, and holidays. Businesses and recreational day use areas are generally not considered sensitive noise receptors. There are several picnic areas, park shop buildings, park office buildings, and a ranger station along the project route.

Sound is any detectable fluctuation in air pressure and generally is measured on a logarithmic scale in decibels (dB). When unwanted sound (i.e., noise) is measured, an electronic filter is used to de-emphasize extreme high and low frequencies to which human hearing has decreased sensitivity. Resulting noise measurements are expressed in weighting frequencies called A-weighted decibels (dBA). While zero dBA is the low threshold of human hearing, a sustained noise equal or greater than 90 dBA is painful and can cause hearing loss (Table 12.1: Typical Noise Levels).

Table 12.1: Typical Noise Levels

<i>Sound</i>	<i>Sound Level (dbA)</i>	<i>Relative Loudness (approximate)</i>	<i>Relative Sound Energy</i>
Jet aircraft, 100 feet	130	128	1000000
Rock music with amplifier	120	64	100000
Thunder, snowmobile (operator)	110	32	10000
Boiler shop, power mower	100	16	1000
Orchestral crescendo at 25 feet, noisy	90	8	100
Busy Street	80	4	100
Interior of department store	70	2	10
Ordinary conversation, 3 feet away	60	1	1
Quiet automobile at low speed	50	½	0.1
Average office	40	¼	0.01
City residence	30	1/8	0.001
Quiet country residence	20	1/16	0.0001
Rustle of leaves	10	1/32	0.00001
Threshold of hearing	0	1/64	0

Noise is further described according to how it varies over time and whether the source of noise is moving or stationary. Background noise in a particular location gradually varies over the course of a 24-hour period with the addition and elimination of individual sounds. Several terms are used to describe noise and its effects. The equivalent sound level (L_{eq}) describes the average noise exposure level for a specific location during a

specific time period, typically over the course of one hour. The Community Noise Equivalent Level (CNEL) is a twenty-four hour average of L_{eq} with an additional 5 dBA penalty for noise generated between the hours of 7:00 p.m. and 10:00 p.m. and a 10 dBA penalty during the hours of 10:00 p.m. and 7:00 a.m. The penalties account for how much more pronounced a noise is at night when other sounds have diminished. Federal, state, and local governments have defined noise and established standards to protect people from adverse health effects such as hearing loss and disruption of certain activities. Noise is defined in the California Noise Control Act, Health and Safety Code, California Code of Regulations (CCR) § 46,022) as excessive or undesirable sound made by people, motorized vehicles, boats, aircraft, industrial equipment, construction, and other objects. The Soundscape Protection Policy states that the Department will preserve, to the greatest extent possible, the natural soundscapes of parks from degradation due to noise (undesirable human-caused sound) and will restore degraded soundscapes to the natural condition wherever possible. The Department will take action to prevent or minimize all noise that, through frequency, magnitude, or duration, adversely affects the natural soundscape or natural resources (e.g. loud motorized equipment during critical mating and rearing periods) (DPR 2004).

The Humboldt County General Plan (2017) lists noise compatibility levels for various land use patterns using the CNEL. HRSP would be included in the land use category Extensive Natural Recreation Areas, which have compatibility levels that range from 50 to 60 dBA (clearly acceptable) to less than 90 dBA (clearly unacceptable). The Humboldt County General Plan regulates daytime short-term noise levels that exceeds 65 dBA measured at residential properties and at other sensitive land uses such as hospitals, schools, and libraries.

Trails within Humboldt Redwoods SP are intended to provide opportunities for visitors to enjoy the natural, historic, and cultural resources offered in the park. The park is surrounded by steep forested terrain and bisected by a heavily traveled highway so existing noise levels throughout the park may vary greatly depending on the individual route's location with respect to surrounding noise source, recreational opportunities offered, and local topography and ground cover (e.g., gravel bar, prairie, forested landscapes). Most routes 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. However, routes located close to the main transportation routes (US Highway 101, the Avenue of the Giants, and Mattole Road) have higher levels of noise from vehicle traffic.

In fact, the ambient noise environment at HRSP is primarily influenced by vehicle traffic. The level of vehicle-related traffic varies depending on the season of the year, the time day, and proximity to major transportation routes. Other, minor sources of noise may originate from activities taking place within the park, such as people talking on trails, campground activity, and occasional air traffic consisting of small private planes, Coast Guard helicopters, and/or Cal Fire firefighting aircraft.

HRSP contains special status wildlife species that can be adversely affected by excessive noise during their nesting and breeding seasons. The USFWS (2006) has developed guidelines for eliminating noise impacts to threatened and endangered wildlife species in this area. These guidelines include seasonal restrictions on the use

of noise-generating equipment in potential habitat and/or during periods of nesting or the early phase of rearing of young. These restrictions apply to any use of noise generating equipment throughout the region. Standard Project Requirements have been incorporated to assure that the proposed action will not result in adverse effects associated with noise to these sensitive wildlife species (refer to Section IV. Biological Resources).

WOULD THE PROJECT	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Generate or expose people to noise levels in excess of standards established in a local general plan or noise ordinance or in other applicable local, state, or federal standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generate or expose people to excessive groundbourne vibrations or groundbourne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Create a substantial permanent increase in ambient noise levels in the vicinity of the project (above levels without the project)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a substantial temporary or periodic increase in ambient noise levels in the vicinity of the project, in excess of noise levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Be 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? If so, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be in the vicinity of a private airstrip? If so, would the project expose people residing or working	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

in the project area to excessive noise levels?

DISCUSSION

a,c,d) Construction activities associated with future projects identified in the RTMP could involve the use of heavy-duty construction equipment that would generate substantial noise levels. These activities include site preparation (e.g. excavation, grading, and vegetation clearing), road or trail reconstruction, slope recontouring to reduce erosion and runoff, drainage structure upgrades, adding or removing aggregate material, and the construction of new trail and/or trail structures such as bridges and boardwalks. To perform these activities, a combination of heavy equipment, small trail construction equipment (e.g. compactors, rock drills, chainsaws), 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. Graders and rollers may be used to outslope and reshape road surfaces. Dump trucks are used to import aggregate for surface hardening. Heavy equipment machines may be used separately or simultaneously to complete the work. Hand held tools may include shovels, grub hoes, bow saws, loppers, and drawknives.

A significant portion of the construction work related to projects under the RTMP would be performed using hand-held tools. However, the loudest noise-generating equipment that would be used for construction on any individual road or trail project within HRSP would include a dozer and excavator or grader and roller. The noise levels generated by these pieces of equipment reach up to 85 dBA Lmax each at a distance of 50 feet (FHWA 2006: p. 3). It is conservatively assumed that noise-generating equipment may be operated simultaneously, in which case the combined noise level would be approximately 88.0 dBA Lmax at a distance of 50 feet.

Construction activities associated with projects included under this RTMP 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 equipment and staging areas be 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 applicable 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. Less than significant impact.

- b) Groundborne vibration and groundborne noise results from the use of heavy construction equipment and may vary depending on the specific construction equipment used and activities involved. Operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. The effects of ground-borne vibration include feelable movement of building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. However, ground vibrations from construction activities do not often reach the levels that can cause damage to structures, but they can achieve the audible and feelable ranges in buildings that are very close to a work site. A conservative estimate for the highest level of ground vibration that could be produced by a large bulldozer is 0.089 in/sec PPV at a distance of 25 feet. This level is less than the level at which structural damage may occur to normal buildings (0.2 in/sec PPV at a distance of 25 feet) or to old or historically significant buildings (0.1 in/sec PPV at a distance of 25 feet) (Federal Transit Administration 2006). SPR N-8 excludes heavy equipment operation within 50 feet of vibration-sensitive land uses, such as residential buildings, schools, hospitals, and places of worship, and within 30 feet of historically significant structures or known archaeological sites. High levels of ground vibration can be generated by pile driving, blasting, and drilling; however, these activities would be prohibited by SPR N-6. Less than significant impact.
- e,f) HRSP is not located within an airport land use plan, within two miles of a public airport, or in the vicinity of a private air strip. Therefore, no impact would occur as a result of these project activities.

MITIGATION MEASURE NOISE –

None Required

XIII. Population and Housing

ENVIRONMENTAL SETTING

HRSP is one of California’s more rural and remote park and recreation areas, serving Eureka and Humboldt County. The park is located approximately 45 miles south of Eureka and 220 miles north of San Francisco. HRSP neighbors several small communities along the Avenue of the Giants, which parallels Highway 101, from Pepperwood in the north to Phillipsville in the south. Other communities along the main route in southern Humboldt County include Holmes, Redcrest, Weott, Myers Flat, and Miranda. Housing within the park boundaries is limited and restricted to campgrounds and park staff residences. As a recreational facility, the development of permanent housing is not a planned use of the park. The permanent population of the park is relatively static, based on DPR staffing requirements, and no significant growth is anticipated in the foreseeable future. The park is both a local recreational resource and a destination park, used by locals and out of town visitors alike, but does not offer business or residential opportunities within its boundaries.

WOULD THE PROJECT	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a) 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION

a,b,c) The RTMP does not have a housing component, and includes no additions or changes to the existing local infrastructure. It would neither modify nor displace any existing housing and would displace no one, either temporarily or permanently. Any

jobs generated as a result of the project would be short-term, with no permanent connection to the park location. Therefore, no impact would result on population growth or housing.

MITIGATION MEASURE POPULATION AND HOUSING –

None Required

XIV. Public Services

ENVIRONMENTAL SETTING

HRSP is located in a remote portion of Humboldt County approximately 45 miles south of Eureka and 220 miles north of San Francisco. The Park encompasses several small rural communities along the Highway 101 corridor through the park.

Fire Protection

Cal Fire has the primary responsibility for wildland fire response. Their nearest fire stations are located in Weott and Miranda. The closest Cal Fire air attack base is located in Rohnerville to the north, approximately 30 air miles from HRSP. The small communities near HRSP are outside any special district area and therefore receive services from Volunteer Fire Companies and/or Cal Fire. The Southern Humboldt County Technical Rescue Team, which is made up of volunteer firefighters from various fire departments, are available to respond to calls for water rescue and search and rescue. Members of the North Coast Emergency Medical Services respond to medical incidents, traffic collisions, and emergency rescues. The park also has one Type 6 fire engine.

Police Protection

Police protection for the unit consists of a staff of three DPR Rangers, with backup provided by the Humboldt County Sheriff's Department.

Schools

The closest schools are Miranda Junior High, South Fork High school, and the Osprey Learning Center in Miranda, and Agnes J. Johnson Elementary in Weott. These schools are located in small rural communities along the Avenue of the Giants and some are within one-quarter mile of the park's boundary. However, no schools exist within the unit.

Parks and Other Public Facilities

Humboldt County has a wealth of outdoor recreational opportunities and areas of unsurpassed natural resources protected as public land. More than twenty percent of the County's 2.3 million acres are protected open space, forests, and recreation areas. Within the County boundaries, there are 4 federal parks and beaches, 10 state parks, 16 county parks and beaches, recreational areas and reserves, and National Parkland and National Forest land. These areas contribute to the quality of life in Humboldt County and provide needed recreation opportunities for local residents and for visitors from around the world as well. The King Range National Conservation Area, Benbow State Recreation Area, Van Duzen County Park, and Grizzly Creek State Park are all located in the vicinity of HRSP.

WOULD THE PROJECT	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Result in significant environmental impacts from construction associated with the provision of new or physically altered governmental facilities or the need for new or physically altered governmental facilities to maintain acceptable service ratios, response times, or other performance objectives for any of the public service:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION

a) Fire Protection: The RTMP is intended to provide focus for management of paved and non-paved roads and trails. It will be a management tool that will be used to assess and prioritize maintenance needs and to maximize route sustainability. No components of the proposed RTMP would contribute to a significant increase of visitation and the level of required public services is expected to remain relatively static. However, use of construction equipment in the vicinity of flammable vegetation at the project sites could present an increased risk of fire that could result in additional demands on Cal Fire and local fire response teams. Any impact on services would be temporary and nothing in the project scope would contribute to the need for an increase in the level of fire protection after construction is complete. Integration of SPR HAZ-10 would reduce the potential impact to fire protection services to a less than significant level.

Police Protection: As noted in the Environmental Setting section, DPR Rangers with law enforcement authority patrol HRSP with emphasis on public use areas. DPR Rangers have full law enforcement authority and only require assistance from local police as backup for unusual situations. No additional demands on Rangers or local police are expected as a result of this project. No impact.

Schools: No schools exist within the project area. No changes would occur that would affect existing schools or require additional schools or school personnel. No impact.

Parks and Other Public Facilities: The proposed RTMP includes provisions for trail connectivity to trails located in outside agency parks and open space districts. However, these connections are considered to be beneficial. As such, there would be no impacts to other parks, nor would the project affect other public facilities. No impact.

MITIGATION MEASURE PUBLIC SERVICES –

None Required

XV. Recreation

ENVIRONMENTAL SETTING

HRSP is located in rural Humboldt County, about a 45-minute drive south from Eureka. It was one of few state parks that came into existence before the state parks system was established in the late 1920's (State Park and Recreation Commission 2001). The Park encompasses over 53,000 acres, which consists of over 17,000 acres of old growth coast redwoods. Created in 1921 as a small old growth grove, the park has grown over the years to include diverse ecosystems including the entire Bull Creek watershed and the Rockefeller Forest, one of the largest remaining old growth redwood forests in the world. HRSP is the third largest California State Park and protects an environment unique to anywhere else on earth.

A wide variety of activities and facilities are available. There are over 250 family campsites in three different campgrounds, plus environmental camps, group camps, trail camps, and a horse camp. Over 140 miles of trail invite exploration by hikers, bikers, and horse riders. The South Fork Eel River provides fishing, boating, and swimming opportunities, and there are many day use areas for picnicking, family activities, or for simply enjoying the pristine environment. DPR offers interpretive talks and guided hikes on a seasonal basis. The park receives an average of 460,000 visitors each year. HRSP is open all year for day use and generally has camping available from May 1 to September 30, with the exception of the Burlington Campground, which is open year-round. Please refer to Section 3, Page 10 of the RTMP for additional information on park attendance.

WOULD THE PROJECT	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

- a) Trail users would be displaced during construction and/or upgrades to individual roads or trails. However, during closure, park visitors would be able to use most of the other 140 miles of trails at HRSP. Park staff would inform visitors about the temporary closure of these trails. Area closure signs would be posted at all trail access points, campgrounds, and information kiosks during trail construction work (SPR GEN-9).

In addition to HRSP trails, there are hundreds of miles of recreational trails in Humboldt County available for public use. As noted in Section 3.3 of the RTMP, the vast majority of land directly surrounding the park is privately owned and offers limited recreational opportunities. However a short drive, which is customary in such a remote and rural area, will take people to the King Range National Conservation Area, Benbow State Recreation Area, Van Duzen County Park, and Grizzly Creek State Park, all of which offer trail recreation.

One of the purposes of the RTMP is to maximize visitor use and experience, which is consistent with the HRSP General Plan goal of developing new opportunities and facilities for optimizing public enjoyment of the park's natural, cultural, and recreational values. Furthermore, an increase in park (and trail) visitors is balanced by the RTMP's purpose of providing an appropriate range of recreational opportunities and associated infrastructure and planning for access to connect to local communities and the rail-trail on the North Coast Railroad Authority right-of-way if that vision is ever implemented (See section XVI. Transportation/Traffic Environmental Setting for more information).

The RTMP does, however, recommend that several trails be considered for a change-in-use that, if implemented would permit mountain bike and/or equestrian access. Many concerns have been raised to DPR in the past by certain stakeholder groups about conversion of trails to multiuse (i.e. pedestrian, equestrian, and bicycle), generally related to concerns about use incompatibility, and suggesting that traditional users become displaced as a result.

These trails were identified as suitable candidates for a change-in-use in part because they could potentially be constructed and used sustainably. Furthermore, approval of the RTMP will not in itself result in the conversion of the trails to multiuse. Each trail conditionally approved for a change-in-use project will require a subsequent environmental document before it could move forward to construction. As such, none of the project elements would contribute substantially to increases in use such that substantial physical deterioration of HRSP would occur or be accelerated, because the document itself prescribes a methodology for more efficiently managing the trails.

- b) The proposed project is intended to provide focus for management of paved and non-paved roads and trails and will be a tool that will be used to assess and prioritize maintenance needs to maximize their sustainability. Although recreational facilities (roads and trails) would be affected by the project, part of the intent is to improve the sustainability of said trails. As is indicated throughout this document,

approval and implementation of the RTMP will not result in adverse physical effects on the environment with incorporation of applicable project requirements as identified in Chapter 2.

MITIGATION MEASURE RECREATION –

None Required

XVI. Transportation/Traffic

ENVIRONMENTAL SETTING

U.S. Highway 101 runs north to south through the eastern portion of HRSP. The Highway offers easy 4-lane access through and/or to portions of the park. In addition to the highway, circulation in the Park is accomplished primarily by two, two-lane paved roads, the Avenue of the Giants (State Route 254) and the Mattole Road. The Avenue of the Giants (The Avenue) runs about 32 miles through the eastern portion of HRSP, and serves as an alternate route paralleling U.S. Highway 101. The Mattole Road extends 65 miles trending east/west from Highway 101, near the Dyerville Overlook, in the northern portion of HRSP through the Rockefeller forest, backcountry area of the Bull Creek watershed, and out to the Lost Coast. Usage levels of these roads are not directly tied to park visitation, though, because each one provides connections and/or commuter routes for the residential and community areas that are interspersed along the highway and out towards the coast.

Humboldt County General Plan

The Humboldt County General Plan establishes transportation goals and policies and establishes specific implementation measures to assure the County transportation system is adequate over the 20-year General Plan period. The Circulation Element (adopted October 23, 2017) of the General Plan provides a plan and implementation measure for an integrated, multi-modal transportation system that will safely and efficiently meet the transportation needs of all economic and social segments of the County as well as the transportation of goods and services throughout the County. Humboldt County's General Plan (2017) makes it a high priority to coordinate between Caltrans, Native American Tribes, and the regional Humboldt County Association of Government's (HCOAG) to achieve transportation planning goals.

Roadways

The roadway network in Humboldt County includes 1,400 miles of County maintained roads and city streets, 378 miles of state highways (including U.S. Highway 101), and numerous roadways on federal lands. These roadways provide for the movement of goods and people on California's north coast. The Humboldt County-maintained roadway system is primarily made up of two-lane roads that traverse varying degrees of flat, rolling, and mountainous terrain (Humboldt County 2017).

Roadway Capacity and Level of Service

Level of Service describes the operating conditions experienced by drivers and is based on several factors: traffic volume; intersection land configuration; design and type of intersection control; speed and travel time; traffic interruptions; freedom to maneuver; and driving comfort and convenience. LOS is generally expressed qualitatively with letters A through F, covering the range of traffic conditions that may occur (Table 16.1).

Table 16.1 Level of Service Description

Level of Service	Description	Average Freeway Speed
A	Represents free flow conditions. Individual users are virtually unaffected by the presence of other traffic on the roadway.	60 mph
B	Stable flow, but the presence of other vehicles in the traffic stream begins to be noticeable.	57 mph
C	Stable flow, but marks beginning of the range of flow in which the operation of individual users becomes affected by interaction with other vehicles in the traffic stream.	54 mph
D	Represents high density, but stable flow.	46 mph
E	Represents operating conditions at or near the capacity of a roadway.	30 mph
F	Represents forced or breakdown flow.	< 30 mph

Source: Highway Capacity Manual – Special Report 209, Transportation Research Board, 1994.

A model was used to evaluate traffic conditions in the County and four main routes within Eureka and Fortuna were projected to fall below LOS C due to cumulative growth over the next 20 years. In several cases, roadways in Eureka are already operating at or above capacity during peak hours (Humboldt County 2017). Roadway capacity is generally less of an issue for rural areas due to the lower population densities. Rural roadway capacity is usually limited by right-of-way width, lack of secondary roadway alternatives, roadway conditions, debris slides, and a lack of facilities for other transportation modes, including public transit, bicycles, and walking (Humboldt County 2017).

Rail

Rail service on the North Coast has a long history. Railroads were introduced to Humboldt County in the late 1800s by timber companies to carry logs from the forest to the mills. Eureka and San Francisco were connected by rail in 1914. Private carriers offered varying degrees of passenger and freight service along the line until the bankruptcy of Eureka Southern in 1986. In 1989 the California Legislature created the North Coast Railroad Authority (NCRA) in an effort to maintain rail service. In 1997, the rail line effectively ceased operation.

Future rail transportation in the County depends on demand for rail service relative to trucking and marine transportation and the availability of capital to rebuild the line and fund the operation. Several feasibility studies have been conducted in the interim to look at the future of railroad transportation in terms of freight service, tourism, and/or use of the easement for a pedestrian and bike trail. Although NCRA would like to re-establish rail service along the line, should the effort to resume the rail use fail, the existence of

an unused rail corridor presents trail opportunities that have the support of communities along The Avenue (Redwood Community Action Agency, 2002).

Bus System

Public transportation services are provided largely in the urban areas of Eureka and Arcata with less interval times for the U.S. Highway 101 corridor between Trinidad and Scotia, which is north of the project area. One fixed route service, Southern Humboldt Local, operated by Redwood Transit, runs Monday through Friday. The Local service runs between the communities of South Fork, Phillipsville, Redway, Garberville and Benbow south of the project area. However, their intercity service extends north to the communities of Myers Flat, Weott, Redcrest, Fortuna, and Eureka, including the College of the Redwoods campus.

Bicycle and Pedestrian

HCAOG's 2008 Humboldt County Regional Pedestrian Plan and their 2012 Regional Bicycle Transportation Plan Update are the latest assessments of pedestrian and bicycle conditions and needs in the County. Most facilities dedicated to bicycles and pedestrians are located in urban areas of the County, for example, the Hammond Trail in McKinleyville. In rural areas, pedestrians and bicyclists typically use County roads that lack sidewalks and bicycle lanes. Cyclists also use Caltrans-maintained state routes. Major new trails are in the planning stages and under construction for the urban areas of the County, however, the County is seeking funds to develop more regional trail systems that would link together major areas including Southern Humboldt (Humboldt County 2017).

Access conditions for students walking and bicycling to and from schools is a major concern to the County, especially at the elementary school level. Development of safe student access routes wherever children walk or bicycle to school is a goal. Caltrans administers a "Safe Routes to Schools" funding program, which has helped construct bicycle and pedestrian facilities in Humboldt County. The Humboldt County Regional Pedestrian Plan proposes two improvement projects for routes to school in the communities of Miranda and Weott (HCAOG 2008, p.5-74). The 2012 Regional Bicycle Transportation Plan Update identifies a proposed bike route connecting the communities from Shively to Phillipsville along the Avenue of the Giants. This project is within Caltrans jurisdiction (HCAOG 2012, p.4-78). However, Caltrans has indicated that there are no major road improvements planned for the Avenue itself (HCAOG 2008, p. 5-74).

Air Traffic

The Arcata-Eureka Airport located in McKinleyville, 50 miles north of HRSP, is the County's sole commercial airport. The airport nearest to the project area is located in Garberville, 20 miles to the south. It is a public airport that covers 44 acres and has one 3,050-foot runway. An Airport Compatibility Plan has been prepared for the airports that include maps displaying "Land Use Compatibility Zones". These zones restrict the allowed uses and residential densities in areas that would affect aircraft operations.

Scenic Highways

Many state highways are located in areas of outstanding natural beauty. California's Scenic Highway Program was created by the Legislature in 1963. Its purpose is to

preserve and protect scenic highway corridors from change, which would diminish the aesthetic value of lands adjacent to highways. The entire route of U.S. Highway 101 through Humboldt County is an eligible State Scenic Highway (Caltrans 2011). The status of a State Scenic Highway changes from eligible to officially designated, when the local jurisdiction adopts a Scenic Corridor Protection Program, applies to the Caltrans for scenic highway approval, and receives notification from Caltrans that the highway has been designated as a Scenic Highway (Caltrans 2008).

WOULD THE PROJECT	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Cause a substantial increase in traffic in relation to existing traffic and the capacity of the street system (i.e. a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exceed, individually or cumulatively, the level of service standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Cause a change in air traffic patterns including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Contain a design feature (e.g. sharp curves or a dangerous intersection) or incompatible uses (e.g. farm equipment) that would substantially increase hazards?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

alternative transportation (e.g. bus turnouts, bicycle racks)?

DISCUSSION

- a) This policy and management plan for roads and trails within HRSP is not designed to expand facilities for increased use, but to address management and resource protection objectives for existing and future uses. It will also provide a broader range of opportunities for non-motorized travel (multi-use), improve circulation patterns within the park, and provide access to future circulation system improvements (regional trails and connections to local communities) made outside the park. Implementation of the plan will not conflict with any applicable plan, ordinance or policy with respect to the performance of the circulation system, including all modes of transportation. Therefore, no impact will result.
- b) The RTMP addresses policies for road and trail management within HRSP only. The plan does not include development of facilities that would increase traffic or vehicle miles traveled (VMT). As noted in the environmental setting, roadway capacity is generally less of an issue for rural areas due to the lower population density, which is the case with the project area. If construction of an approved project has the potential to significantly or permanently disrupt traffic flow on a public road, SPR TRAN-4 would reduce any impacts to less than significant. The project would not conflict with congestion management programs, level of service standards, travel demand measures, or other standards established by the county congestion management. Less than significant impact.
- c) HRSP is not located within an airport land use plan, within two miles of a public airport, in the vicinity of a private air strip, and does not serve as a normal reporting point for air traffic in the area. Nothing in the proposed project would in any way affect or change existing air traffic patterns in the area. Therefore, no impact would occur as a result of this project.
- d) The RTMP would address policy and management of roads and trails, including resource protection and sustainability. There are no transportation-related design changes associated with this project and no incompatible uses. Where an approved change-in-use project adds a user group that may intersect a publicly-accessed roadway, SPRs TRAN-1 and TRAN-2 would reduce hazards for non-motorized trail users when interfacing with roadways that are open to vehicles. Less than significant impact.
- e) The RTMP addresses those areas within the boundaries of HRSP; roads affected by the project serve as access roads within the park and are not primary commute or thoroughfare access. No areas within the park would be closed as a result of this project. Therefore, no impact would result.
- f) Future projects covered under this RTMP may include the development of trailheads or parking improvements where no additional natural landscape

disturbance or substantial increase in capacity would occur. Specifically, the RTMP recommends that additional trailheads to groves along The Avenue of the Giants be investigated and developed where large parking pullouts already exist. Further, parking capacity will be assessed prior to implementing a change-in-use project (SPR TRAN-3). After implementation of a change-in-use project, parking levels will be monitored and adaptive management actions taken to address any exceedances in parking capacity. Less than significant impact.

- g) The RTMP is in alignment with existing local plans to enhance performance and safety of circulation for bicycle and pedestrian facilities. The project would not conflict with any policies, plans, or programs for public transit. No impact.

MITIGATION MEASURE TRANSPORTATION AND TRAFFIC –

None Required

XVII. Utilities and Service Systems

ENVIRONMENTAL SETTING

Humboldt Redwoods SP is a 53,000-acre park in Humboldt County encompassing steep forested terrain. Most of the project area does not contain any utilities or service systems. Water for the majority of the park's camping and day use facilities is provided by DPR-owned and operated water storage and distribution systems, with the exception of Marin Garden Club Group Camp where the water is provided by Weott Community Services. There are two ground water wells in operation at the park. One at Burlington Campground, with a 70,000-gallon water storage capacity and one at Hidden Springs Campground with a 55,000-gallon storage capacity. The other main campgrounds, Albee Creek and Cuneo Horse Camp, both have a 10,000-gallon water storage capacity and utilize surface water and natural spring sources, respectively. Williams Grove Group Camp has a surface water source with 35,000 gallons of water storage. Day use areas, Founders Grove and Women's Federation, utilize surface water (7,000-gallon) and natural spring (2,500-gallon) sources, respectively.

Wastewater management is provided by individual septic systems with leach fields at the facilities throughout the park.

Energy service for the park is provided by Pacific Gas and Electric and telephone service is provided by AT&T.

Park staff collect garbage from cans and transport to the nearest dumpster where the refuse is collected and transported to a landfill by a local refuse disposal company.

WOULD THE PROJECT	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment restriction or standards of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		

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- d) Would the construction of these facilities cause significant environmental effects?
 - e) Have sufficient water supplies available to serve the project from existing entitlements and resources or are new or expanded entitlements needed?
 - f) Result in a determination by the wastewater treatment provider that serves or may serve the project, that it has adequate capacity to service the project's anticipated demand in addition to the provider's existing commitments?
 - g) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
 - h) Comply with federal, state, and local statutes and regulations as they relate to solid waste?

DISCUSSION

- a) Humboldt Redwoods SP is within the jurisdiction of the NCRWQCB. This project has no wastewater component and would result in a negligible increase in demand on existing systems. All aspects of the project would be in compliance with RWQCB regulations and standards. No impact would result.
- b) The proposed project would not result in the expansion of the existing wastewater treatment facilities or the construction of new facilities. No impact would result.
- c) Some alterations of existing drainage patterns could occur as part of subsequent projects to improve road or trail sustainability consistent with the RTMP. However, alteration to overall drainage patterns would be minimal, with little if any changes in total stormwater runoff. Approval of the RTMP would not result in the expansion of the existing stormwater facilities or the construction of new facilities. No significant impact.
- d) The water supply for the majority of the project area is provided by park's internally supported water distribution system; no new entitlements for water would be required by the project. Current supplies are adequate for existing demands, the minimal additional demands associated with approval of the RTMP, and projected future use. Therefore, no impact would result.

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- e) The proposed project has no wastewater component or effect on existing wastewater treatment systems. No impact would result.
 - f) The RTMP is a policy and management document, the approval of which would not result in the generation of any additional solid wastes. Therefore, no impact would result.
 - g) This project will comply with all federal, state, and local statutes and regulations as they relate to solid waste. Therefore, no impact would result.

MITIGATION MEASURE UTILITIES AND SERVICE SYSTEMS –

None Required

Chapter 4 - Mandatory Findings of Significance

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
WOULD THE PROJECT:				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have the potential to eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means the incremental effects of a project are considerable when viewed in connection with the effects of past projects, other current projects, and probably future projects?)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have environmental effects that will cause substantial adverse effects on humans, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

- a) With implementation of all applicable SPRs, the RTMP will not degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of any rare or endangered plants or animals. Less than significant impact.
- b) The proposed project has been evaluated for potential significant impacts to cultural resources of the park. It has been determined that with implementation of all applicable SPRs, impacts from the project to examples of major periods of California history or prehistory will be less than significant.
- c) The North Coast Redwoods District conducts road, trail, and other routine maintenance on an ongoing basis. The RTMP will be a tool used to assess and prioritize maintenance needs and to maximize their sustainability. The implementation of subsequent maintenance projects are evaluated to assure that they will not result in significant adverse cumulative effects on the environment. The incremental effects of the project are insignificant when viewed in connection with the effects of past projects, other current projects, and probable future projects. Impacts from environmental issues addressed in this evaluation do not overlap with

additional planned projects in such a way as to result in cumulative adverse impacts that are greater than the sum of the parts. This project will result in a less than significant impact.

- d) As indicated in the impact analyses section discussions in Chapter 3, all of the environmental effects have been determined to pose a less than significant impact on humans. Potential impacts from subsequent road and trail projects implemented under the RTMP would be reduced to a less than significant level if all applicable project requirements are fully integrated into those projects.

Chapter 5 – Final IS/ND (with edits incorporated)

**FINAL Initial Study /
Negative Declaration
(with edits incorporated)**

**Humboldt Redwoods State Park
Road and Trail Management Plan (SCH# 2019012055)**



April 2019

State of California
Department of Parks and Recreation
North Coast Redwoods District

FINAL NEGATIVE DECLARATION

PROJECT: Humboldt Redwoods State Park Road and Trail Management Plan

LEAD AGENCY: Department of Parks and Recreation (DPR)

AVAILABILITY OF DOCUMENTS:

The Initial Study for this Programmatic Negative Declaration (ND) was made available throughout a 30-day public review period at the reference desk of two Humboldt County Library branches in Eureka and Fortuna. It was also available at the public information desks of DPR's Northern Service Center, North Coast Redwoods District Headquarters office, Humboldt Redwoods State Park visitor center, and available on DPR's website (www.parks.ca.gov). The Final ND and all supporting materials will be available, by request, at DPR's Northern Service Center.

PROJECT DESCRIPTION:

The Department of Parks and Recreation intends to adopt a Road and Trail Management Plan (RTMP) describing the existing roads and trails of Humboldt Redwoods State Park (HRSP) and providing specific direction for management and operations in the future. HRSP is located in southern Humboldt County, adjacent to the Avenue of the Giants (Hwy 254) and the South Fork of the Eel River. Management recommendations include: Designation of types of permissible uses (hike, bike, horse); perform annual and cyclical road and trail maintenance; re-engineer, reconstruct, and/or reroute identified sections of road or trail; decommission and restore to natural conditions obsolete, harmful, dangerous or user-created roads and trails; re-engineer identified drainage structures; construct new trail within identified corridors; develop additional access trails to groves where large parking pullouts exist and remove non-system trails along the Avenue of the Giants; explore potential linkages to public land within adjacent communities; implement change-in-use designations after necessary design and/or management modifications; install a permanent pedestrian bridge at Bull Creek near Big Trees Day Use Area to provide year-round trail connection between trails north and south of Bull Creek; determine the historic significance and potential to replace, relocate, or remove the Jordan Creek Bridge; and construct up to three new backcountry trail camps. Specific actions covered by the Programmatic ND are outlined in Section 2.7, along with RTMP actions that may require additional environmental review.

FINDINGS:

A Programmatic ND has been prepared to assess the proposed project's potential impacts on the environment and the significance of those impacts and is incorporated in the Draft ND. Based on this Initial Study, it has been determined that future projects undertaken pursuant to the RTMP would not have any significant impacts on the environment, provided all applicable project requirements have been incorporated. This conclusion is supported by the following findings:

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- There was no potential for adverse impacts on Agricultural & Forest Resources, Mineral Resources, Population & Housing, Public Services, and Utilities & Service Systems associated with the proposed project.
 - Potential adverse impacts resulting from the proposed project were found to be less than significant on Land Use & Planning and Recreation.
 - Full implementation of applicable Standard Project Requirements and Project Specific Requirements included in the ND would ensure that project related adverse impact on Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology, Greenhouse Gas Emissions, Hazards & Hazardous Materials, Hydrology & Water Quality, Noise, and Transportation & Traffic would remain at less than significant level.

PROJECT REQUIREMENTS

The following project requirements have been incorporated into the Humboldt Redwoods Road and Trail Management Plan and will be fully implemented as/where appropriate by DPR to avoid or minimize adverse environmental impacts identified in this ND. These project requirements will be included in instructions to DPR personnel involved in implementing projects pursuant to the Plan.

GENERAL STANDARD PROJECT REQUIREMENTS

- GEN-1:** Prior to the start of on-site construction work, a **[insert who]** will consult with the contractor and/or 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 DPR-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 activities, the project manager will determine the minimum area required to complete the work and define the boundaries of the work area on the project drawings and/or with flagging or fencing on the ground, as appropriate.
- GEN-5:** 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 or otherwise demarcate all **[insert discipline or resource]** with a buffer of **[insert distance]** for avoidance during on-site construction activities. The **[insert who]** will remove the demarcation from around the Environmentally Sensitive Area after project completion.

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- GEN-6:** Prior to any earthmoving activities, a DPR-qualified **[insert who]** will approve all subsurface work, including the operation of heavy equipment within **[insert distance]** of the identified Environmentally Sensitive Area.
- GEN-7:** 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-8:** A DPR-qualified **[insert who]** will monitor all ground-disturbing phases of this project at his/her discretion.
- GEN-9:** The **[insert who]** will post information signs near project areas with restricted access or closures lasting longer than three months. The signs will include an explanation for and description of the project, and the anticipated completion date.
- GEN-10:** District staff will employ “Adaptive Use Management” for change-in-use projects 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/trail. 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.
- GEN-11:** To eliminate an attraction to predators, all food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in closed containers; these containers will be removed at least once every day from the entire project site.
- GEN-12:** No pets of any kind are permitted on construction sites by contractors or other personnel.

AESTHETICS AND VIEWS STANDARD PROJECT REQUIREMENTS

- AES-1:** Projects will be designed to incorporate appropriate scenic and aesthetic values of HRSP, 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 park’s 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].

AGRICULTURAL AND FOREST RESOURCES STANDARD PROJECT REQUIREMENTS

The SPRs do not include a category of provisions specifically related to agriculture and forest resources.

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 if existing ground moisture is insufficient.
- 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 if existing ground moisture is insufficient to minimize fugitive dust emissions. 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 (consistent with DPR's Genetic Integrity Policy for revegetation), except for areas intended to be used as roads/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: 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.

AQ-9: Excavation, grading, land clearing, other mechanical ground disturbance, and demolition activities will be suspended when sustained winds exceed 25 mph and/or instantaneous gusts exceed 35 mph or when dust from construction might obscure driver visibility on public roads.

EXHAUST EMISSIONS CONTROL MEASURES

AQ-10: Operation of large diesel- or gasoline-powered construction equipment (i.e., greater than 50 horsepower) will not exceed 60 equipment-hours per day, where an equipment-hour is defined as one piece of equipment operating for one hour.

AQ-11: 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.

AQ-12: Whenever possible, removed vegetative material will be either left in place (e.g. for use as mulch) or chipped on site. If approved, an air curtain burner may be used. When pile burning is deemed necessary, a burn permit would be obtained from the local air quality management district and burn piles would be no larger than 10x10x5 feet and ignited on approved burn days only.

MOBILE-SOURCE EMISSIONS RELATED MEASURES

TRAN-3: **[insert who]** will assess parking capacity prior to implementing a proposed change in use. After implementation of the proposed change in use, DPR 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. DPR District personnel will determine which actions are feasible at the park unit.

TRAN-4: Prior to initiating any construction activities with the potential to significantly or permanently disrupt traffic flows, 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 the project. Measures included in the CTMP could include (but are not limited to) construction signage, flaggers for lane closures, construction schedule and/or delivery schedule restrictions, etc. The CTMP will be submitted to the local agency having jurisdiction over the affected traffic facilities.

TERRESTRIAL BIOLOGICAL RESOURCES STANDARD PROJECT REQUIREMENTS

GENERAL BIOLOGICAL RESOURCE STANDARD PROJECT REQUIREMENTS

- BIO-1:** All construction, improvement, modification, or decommissioning of road/trails, and conversion of roads-to-trails, will be consistent with DPR BMPs, Departmental Operations Manuals (DOMs), Vegetation Management Guidelines, and Trail Handbook guidelines.
- BIO-2:** Construction activities that could spread invasive plants/animals noxious weeds, or pathogens, such as sudden oak death, 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, invertebrates, noxious weeds, or pathogens. 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 inspected to certify that material is weed free, to the extent feasible.
- BIO-3:** Prior to the start of on-site construction activities, a DPR-approved biologist will hold a pre-construction training with 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-4:** At the discretion of **[insert who]**, project activities will be monitored to ensure that impacts to sensitive biological resources are avoided or minimized.

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- BIO-5:** No trees, brush, soil, or other material shall be felled, placed, or deposited into an identified Environmentally Sensitive Area without pre-construction approval of a DPR-qualified biologist.
- BIO-6:** All project-related vehicle traffic will be restricted to established roads and other designated areas. Designated areas would be included in pre-construction surveys and, to the maximum extent possible, would be established in locations disturbed by previous activities.
- BIO-7:** To prevent inadvertent entrapment of wildlife during construction, all excavated, steep-walled holes, or trenches will be covered at the close of each working day with plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wood planks. Before such holes or trenches are filled, the on-site biologist will thoroughly inspect the opening for trapped animals. If at any time a trapped listed animal is discovered, the on-site biologist will immediately place escape ramps or other appropriate structures to allow the animal to escape from the opening.

PROJECTS WITH POTENTIAL IMPACTS TO LISTED SPECIES

- BIO-8:** For projects that have potential for impacts to federally listed species and that have a federal nexus, the lead federal permitting or funding agency will be required to consult with the U.S. Fish and Wildlife Service (USFWS) as specified under Section 7 of the federal Endangered Species Act (FESA). Authorization for proceeding with the project or activity would then be subject to conditions identified in consultation with the USFWS.
- BIO-9:** For projects that have potential for impacts to federally listed species and that do not have a federal nexus, a DPR-approved biologist will initiate Technical Assistance with USFWS as specified under Section 7 FESA. Authorization for proceeding with the project or activity would then be subject to conditions identified in a letter of Technical Assistance.
- BIO-10:** For projects that have a potential for impacts to state listed species, a DPR-approved biologist will initiate consultation with California Department of Fish and Wildlife (CDFW) in order to obtain a Section 2081 Incidental Take Permit (or equivalent) or a Consistency Determination for state-listed species when all species are State and federally listed.
- BIO-11:** Construction activities occurring in marbled murrelet habitat during the breeding season, March 24 through September 15, and that generate noise above the ambient level, shall not occur without obtaining technical assistance from the USFWS and consultation with the CDFW. For activities occurring within a quarter mile of marbled murrelet habitat, buffer areas shall be established around activities that may result in an increase above ambient noise. Buffer distances shall be determined by referencing the USFWS (2006) guidance document on Estimating the Effects of

Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California.

- BIO-12:** Protocol northern spotted owl surveys (USFWS 2011) will be conducted for activities occurring in or within a quarter mile of suitable NSO nesting/roosting habitat during the breeding season, February 1 through August 31. For activities that have the potential to affect NSO, USFWS/CDFW will be consulted using the most current NSO survey data to establish avoidance buffers.

NATURAL COMMUNITY STANDARD PROJECT REQUIREMENTS

- BIO-13:** During the design and/or review of project activities, a DPR-approved biologist will evaluate the project area for sensitive natural communities.
- BIO-14:** Projects will be designed to avoid direct or indirect effects on all sensitive natural communities to the maximum extent practicable.
- BIO-15:** Projects will avoid or minimize impacts to federally protected wetlands to the extent practicable.
- BIO-16:** Natural wetland habitat such as marsh, riparian, and vernal pools will not be filled by stream-crossing construction projects unless approved by the regulatory agencies. Equipment will remain on existing road or trail alignments to the maximum extent practicable.
- BIO-17:** 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-18:** 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.

VEGETATION STANDARD PROJECT REQUIREMENTS

- BIO-19:** A DPR-approved biologist will conduct focused pre-construction surveys for special-status plant species and sensitive natural communities with potential to be affected by a project. Surveys will be conducted in accordance with the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFG 2009). 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.

- BIO-20:** If special-status plant species are located within the project area, they will be avoided to the extent feasible with a plant protection buffer delineated with high visibility flagging. Plant protection buffers will be 25 feet in size unless otherwise agreed upon by regulatory agencies. A DPR-approved biologist will periodically inspect the fenced or flagged areas to ensure impacts are being avoided. CNPS Rank 3 and 4 plants will be avoided when feasible; however, avoidance is not required.
- BIO-21:** No special-status plant species will be removed, transplanted, damaged in any way, cut, pruned, or pulled back without prior approval from a DPR-approved biologist in consultation with USFWS and/or CDFW. Recommended transplanting and/or seed collection will occur in nearby suitable habitat during the dormant season.
- BIO-22:** All projects will be designed to minimize the removal of 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-23:** Within the root health zone (5 times DBH) of any native tree with a DBH of 12 inches or greater, no roots with a diameter of 2 inches or greater will be severed by project activities, unless authorized in advance by a DPR-approved biologist.
- BIO-24:** No ground disturbance or staging will be allowed within the root health zone (5 times the DBH) of retention trees, unless approved in advance by a DPR-approved biologist, forester, or certified arborist. Staging areas within existing compacted road or trail surfaces are exempted as they are already well compacted from use.
- BIO-25:** A [insert who] will be present during all ground-disturbing activities within the root health zone (5 times the DBH) of retained trees when requested by a DPR-approved biologist.
- BIO-26:** To maintain genetic integrity, only plant stock collected consistent with the DPR's Genetic Integrity Policy will be used for re-vegetation in the project area.
- BIO-27:** The design of road and trail improvements will consider desired snag retention needs for wildlife. All snags will be retained unless they are determined to be a safety hazard through consultation with a DPR-approved biologist. Where this occurs, a minor reroute of the road and/or trail alignment will be considered.
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BIO-28: Install signage at key trailheads and other locations, as applicable and relevant, that informs the public about protecting natural resources (e.g., protecting sensitive vegetation, identification of noxious weeds, how invasive plant species are spread, reduce erosion and sediment delivery) by staying on trail.

TERRESTRIAL WILDLIFE STANDARD PROJECT REQUIREMENTS

BIO-29: All Projects will be designed to avoid 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. If take of listed species cannot be avoided, a Incidental Take Permit (ITP), or equivalent, will be obtained. For other special-status wildlife species (e.g., species of special concern), project impacts will be avoided to the maximum extent practicable.

BIO-30: Project activities that could affect a special-status wildlife species, bats, migratory birds, or raptors will be scheduled to avoid the breeding season and/or other sensitive life-history periods of the species (e.g., breeding, hibernation, denning, etc.) to the extent feasible as determined by a DPR-approved biologist.

BIO-31: 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 DPR-approved 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 DPR-approved biologist confirms that the nest, den, or other activity center is no longer active/occupied during the critical life-history period.

BIO-32: Trees with nests or cavities that may provide nesting or denning opportunities will not be felled without the pre-construction review and approval of a DPR-approved biologist. If such trees are located during operations, then operations within 50 feet of the tree will cease until reviewed by a DPR-approved biologist.

BIO-33: Minor reroutes will be established away from basal hollows or so that basal hollows cannot be seen from trail.

BIO-34: If special-status species are known to occur in the project area, immediately prior to the start of work each day, a DPR-approved biologist will conduct a visual inspection of the construction zone and adjacent areas, as appropriate.

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- BIO-35:** 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 DPR-approved biologist. A DPR-approved biologist, or other staff trained by a DPR-approved biologist will inspect work area 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 distance]** from the project area.
- BIO-36:** Project activities will not remove any trees equal to or greater than 24 inches DBH unless first inspected by a DPR-approved biologist and determined to be non-essential breeding habitat for special-status bird or other species.

AQUATIC BIOLOGICAL RESOURCES STANDARD PROJECT REQUIREMENTS

- BIO-37:** Construction activities in close proximity to potential special-status aquatic species' habitat will be limited to the dry season to the extent feasible to avoid specific periods of animal activity (e.g., breeding, larval/juvenile development, etc.).
- BIO-38:** For project activities that could affect special-status aquatic species, a DPR-approved biologist will conduct a survey to determine if the special-status species occurs within **[insert distance]** of the project area.
- BIO-39:** If special-status aquatic species are known to occur in the vicinity of the project area, a DPR-approved biologist, will conduct surveys for those aquatic species within the project area, and surrounding area as deemed appropriate, immediately prior to the start of project-related activities each day.
- BIO-40:** If a special-status aquatic 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 accord, or is temporarily relocated by a DPR-approved biologist.
- BIO-41:** 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 DPR-approved biologist, or other staff trained by a DPR-approved 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 DPR-approved biologist) in suitable habitat at an appropriate distance from the project area as determined by a DPR-approved biologist.

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- BIO-42:** All new stream crossings will be designed to convey the flow and associated debris of a 100-year, 24-hour storm event. All stream crossings that are part of the project will be designed to maintain both upstream and downstream fish passage when located on fish-bearing streams. Pedestrian bridges across stream habitats will be designed in a manner that does not impede stream flow and ensures year-round passage of anadromous and other aquatic species through the area.
- BIO-43:** 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 that create low entry velocity will be used for water drafting pumps to minimize removal of aquatic species, including juvenile fish, amphibian egg masses and tadpoles from aquatic habitats.
- BIO-44:** Avoid vegetation removal that could reduce shaded areas and increase stream temperatures. Minor reroutes, where needed, will not be designed to travel adjacent to streams to the maximum extent practicable.
- BIO-45:** Minor reroutes, where needed, will be designed to avoid crossing springs and seeps and where feasible will traverse upslope of these features. Fill will not be placed in springs or seeps that provide habitat for the Southern Torrent Salamander.
- BIO-46:** For any project requiring a permit from USACE, RWQCB, CDFW, National Marine Fisheries Service (NMFS), USFWS, 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-47:** Staging areas will be located outside of sensitive habitats at an appropriate distance as determined by a DPR-approved biologist, from vernal pools, seasonal wetlands, ponds, streams, riparian habitat, and other aquatic habitats.
- BIO-48:** When determined necessary by a DPR-approved biologist, exclusionary fencing, flagging, staking, or signage will be installed around all Environmentally Sensitive Areas as an initial construction task. The Environmentally Sensitive Areas will be delineated to limit encroachment by construction personnel and equipment into sensitive aquatic habitats without affecting public access routes.
- BIO-49:** 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, 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.
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BIO-50: Construction activities near water courses and riparian areas will be monitored daily. Monitoring will include checking silt fences, erosion and sediment control BMPs, and Environmentally Sensitive Area fencing to make sure they are functioning properly to avoid project impacts.

GENERAL PROJECT REQUIREMENT FOR THE TREATMENT OF CULTURAL RESOURCES

- CUL-1:** Prior to the start of on-site construction work, the **[insert who]** will notify the Supervisor of the District Cultural Resources Program, 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-2:** 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 if the DPR-qualified historian or archaeologist deems necessary.
- CUL-3:** 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 for the Treatment of Historic Properties.
- CUL-4:** 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 DPR 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.
- CUL-5:** Increase public awareness of local history and archaeology, and the need to protect cultural resources. Ways to accomplish this awareness include highlighting certain cultural resources along the road or trail with interpretive signs and information kiosks, and/or by placement of a historical marker along a segment of a road or trail, which provides information to the user about the importance of the site and/or the event.

HISTORIAN'S SPECIFIC PROJECT REQUIREMENTS

- CUL-6:** When there is potential to impact historic resources, A DPR-qualified historian will survey roads and/or trails prior to the start of any proposed improvements or changes in use to identify potentially significant historic resources. To determine the historic significance of road and trail

alignments, a DPR-qualified historian will conduct comparisons of current road and trail alignments with historic documentation of historic alignments.

- CUL-7:** A DPR-qualified historian shall use flags, protective fencing, or other methods to identify and provide a buffer zone for any resources discovered during trail survey. The historian shall establish a specific buffer zone around the features based on the type of resources and the proposed scope of work.

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.

- CUL-9:** 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."

- CUL-10:** 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.

ARCHAEOLOGIST'S SPECIFIC PROJECT REQUIREMENTS

- CUL-11:** To prevent disturbance to high value archaeological resource areas, redirect visitors away from the resources employing appropriate placement of trails, creating barriers, or other suitable methods to discourage access.

- CUL-12:** Decommission and/or reroute roads and trails away from high value archaeological resources whenever possible and/or feasible.

- CUL-13:** Prior to implementing any project that would involve ground disturbance, cultural resource staff will determine if the project area is located in an area of high archaeological value. If the area is determined sensitive, the area will require field survey by a DPR-qualified archaeologist who will make recommendations and develop proposals for procedures deemed appropriate to further investigate and/or avoid adverse impacts to those resources.

- CUL-14:** Prior to implementing any project that would involve ground disturbance, cultural resource staff will consult DPR cultural resource data files, and if deemed necessary, contact the appropriate Information Center of the California Historical Resources Information System to request a record
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search of known cultural resources located within and adjacent to the proposed project area.

CUL-15: DPR will conduct the tribal consultations prior to any new ground disturbances related to road and trail construction; in previously disturbed soil where archaeological sensitivity is high and trail work is proposed; or for projects which require CEQA review. The consultation protocol will follow the steps identified in the Department Operations Manual 0400 Cultural Resources. Prior to initiation of tribal consultation, a search of the Native American Heritage Commission's Sacred Lands File database will be conducted.

CUL-16: Where road and trail activities cannot avoid sensitive archaeological resources, the project actions will require modifications to incorporate the resources into the RTMP and provide a resource protection plan for its maintenance and future protection.

ARCHAEOLOGICAL RESOURCES – STANDARD PROJECT REQUIREMENTS

CUL-17: Prior to the start of any ground-disturbing activities, a qualified archaeologist will complete preconstruction investigations 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.

CUL-18: 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 DPR-qualified archaeologist.

CUL-19: In an archaeologically sensitive area, **[insert who]** will manually remove or flush cut vegetation to avoid ground-disturbing activities; removal of roots will not be allowed.

CUL-20: 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 DPR-qualified Cultural Resources Specialist of any subsurface disturbance, including but not limited to grading, excavation or trenching.

CUL-21: **[Insert who]** will review and approve monitoring of subsurface disturbance by a Native American monitor.

CUL-22: 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 DPR 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 Supervisor of the District Cultural Resources Program immediately and **[insert who]** will temporarily halt or divert work within the immediate vicinity of the find until a qualified Cultural Resources Specialist 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-23: 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 DPR 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 DPR 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 DPR representative 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.

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 one acre or more, DPR will direct the preparation of a Stormwater Pollution Prevention Plan (SWPPP) by a Qualified Stormwater Pollution Plan Developer (QSD) for DPR 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, etc.) and permanent BMPs (e.g., structural containment, preserving or planting of vegetation, etc.) 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 road/trails, and conversion of roads-to-trails, will be consistent with DPR BMPs, Departmental Operations Manuals (DOMs), Vegetation Management Guidelines, and Trail Handbook guidelines.

GEO-3: A qualified or California licensed geologist will review road decommissioning, new routes, road-to-trail conversion sites, and landslide repairs during project planning to determine if any geologic or soil conditions exist that require additional assessment or alteration of prescriptions. If unique features do exist or conditions so require, a California licensed geologist or their designee will conduct a geologic assessment/investigation and make appropriate design recommendations, and, if needed, define the boundaries of the work area on project drawings.

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. Qualified inspectors will continually evaluate slope geometry and earth materials and caution operators if unstable conditions are indicated.

GEO-5: No high ground pressure vehicles will be driven through project areas during the rainy season or when soils are wet and saturated to avoid compaction and/or damage to soil structure. Undisturbed areas will be avoided by vehicles to the extent practicable during all seasons. If vehicles must be driven through previously undisturbed areas during moist conditions, then the path of travel will be distributed and/or the travel way will be decompacted upon project completion. Existing compacted road or trail surfaces are exempted as they are already well compacted from use.

GEO-6 Topsoil excavated during initial construction will be segregated and used as a finishing surface over other fill to help conserve topsoil and promote revegetation.

GEO-7: 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 or concentrated overland flow will not be allowed to discharge onto spoil areas, regardless of discharge rate.

GEO-8: Bare ground will be mulched with native vegetation removed during the work, or with other non-exotic plant-bearing mulch materials, to the maximum extent practicable to minimize surface erosion. Sufficient openings will be left in the mulch to allow revegetation.

GEO-9: Immediately following reconstruction, roads and 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 route opens to the public. Routine maintenance will also be performed on the road or 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-10: Road and trail stream crossings will have any new drainage structures designed for the 100-year storm flow event or be capable of passing the 100-year peak flow, debris, and sediment loads without significant damage.

GEO-11: Road and trail stream crossings will be designed and constructed without the potential for stream diversion.

GEO-12: DPR staff will install appropriate energy dissipaters and employ other erosion control measures at water discharge points, as appropriate.

GEO-13: 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-14: All drainages (including micro drainages) will not be captured, diverted or coupled with other drainages by the road or trail.

GEO-15: Water will not be accumulated on a road or trail and drained off onto landforms where natural drainages do not exist.

GEO-16: Road and trail fillslopes will be designed with stable slope gradients as defined in DPR trail construction manuals, guidelines, and handbooks, or as recommended by a qualified professional reviewing site-specific conditions. Unstable fillslopes will be stabilized or removed.

GEO-17: Road and trail surfaces and ditches will be hydrologically disconnected from wetlands, streams and stream crossings to the extent feasible.

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- GEO-18:** Provide outslope to the road bed or trail tread and remove any outer edge berm to facilitate sheet flow off the road or trail where the dispersed flow can be filtered by vegetation and organic litter.
- GEO-19:** When outsloping road or trail surfaces is not feasible, such as steep linear grades, construct rolling dips to direct runoff safely off the route 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 routes receiving minimal use. Water bars will be constructed to divert water to controlled points along the route and with rock armor at the downslope end for energy dissipation.
- GEO-20:** If soils and parent material geologic capability are not sustainable, overly steep grades will be mitigated with surface hardening techniques. Hardening techniques (such as compacted aggregate or trail structures such as steps or retaining walls) will keep the surface sustainable, firm and stable.
- GEO-21:** DPR staff will develop a rehabilitation plan for decommissioned routes that includes using brush and trees removed from the new or existing route alignment for bio-mechanical erosion control (bundling slash and keying it in to fall line of the route, filling damaged sections with soil and duff removed from the new or existing alignment, constructing water bars if necessary, and replanting native trees and shrubs).
- GEO-22:** Both ends of a decommissioned road or trail, road-to-trail conversion or abandoned trail segment will be clearly blocked, and scatter its length with vegetative debris from new route construction to discourage continued use and degradation of the decommissioned portion of the road or trail.
- GEO-23:** Seasonally close roads and trails to all users when soils are saturated and softened.
- GEO-24:** Install “pinch points” to reduce downhill bicycle speed and increase the line of sight at curves.
- GEO-25:** Construct or repair barriers at switchbacks to discourage shortcuts and user-created trails.

EVENT-RELATED MEASURES

- GEO-26:** After a large earthquake event in the region (i.e., magnitude 5.0 or greater centered within 75 miles of the project site or Cascadia subduction zone event in excess of magnitude 7.5 that ruptures south from Brookings, Oregon), DPR 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 by a qualified or licensed professional and/or repaired.

Seismically generated ground cracks along ridgecrests or other landforms removed from, but potentially affecting, the infrastructure will be evaluated as part of the investigation.

GEO-27: After or during a large storm or rainfall event (i.e., equal to or more than: six inches in 24 hours; 12 inches in 72 hours; or 15 inches in 120 hours, as measured at the Cuneo Campground weather station, or peak stream flows measured at the Bull Creek stream gage in excess of 6500 cubic feet per second), DPR staff will inspect all project structures and features for damage, as soon as is safely possible after or during 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 by a qualified or licensed professional and/or repaired.

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

CONSTRUCTION-RELATED EMISSION CONTROL MEASURES

- AQ-1:** No more than one acre of ground disturbance (e.g., earth moving, grading, excavating, land clearing) will occur in any single day.
- AQ-10:** Operation of large diesel- or gasoline-powered construction equipment (i.e., greater than 50 horsepower [hp]) will not exceed 60 equipment-hours per day, where an equipment-hour is defined as one piece of equipment operating for one hour.
- AQ-11:** 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
- AQ-12:** Whenever possible, removed vegetative material will be either left in place (e.g. for use as mulch) or chipped on site. If approved, an air curtain burner may be used. When pile burning is deemed necessary, a burn permit would be obtained from the local air quality management district. Burn piles would be no larger than 10x10x5 feet and ignited on approved burn days only.
- AQ-13:** Haul truck trips to and from the site will be limited to 40 one-way trips per day. This includes trips for hauling gravel, materials, and equipment to and from the site.
- AQ-14:** The maximum number of construction worker-related commute trips for any project at a park will not exceed 60 one-way worker commute trips per day.

AQ-15 All motorized construction equipment will be shut down when not in use. Idling of equipment and haul trucks will be limited to five minutes.

MEASURES PERTINENT TO CARBON SEQUESTRATION

BIO-16: Natural wetland habitat such as marsh, riparian, and vernal pools will not be filled by stream-crossing construction projects unless approved by the regulatory agencies. Equipment will remain on existing road or trail alignments to the maximum extent practicable.

BIO-22: All projects will be designed to minimize the removal of 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-23: Within the root health zone (5 times DBH) of any native tree with a DBH of 12 inches or greater, no roots with a diameter of 2 inches or greater will be severed by project activities, unless authorized in advance by a DPR-approved biologist.

BIO-24: No ground disturbance or staging will be allowed within the root health zone (5 times the DBH) of retention trees, unless approved in advance by a DPR-approved biologist, forester, or certified arborist. Staging areas within existing compacted road or trail surfaces are exempted as they are already well compacted from use.

BIO-25: A **[insert who]** will be present during all ground-disturbing activities within the root health zone (5 times the DBH) of retained trees when requested by a DPR-approved biologist.

MEASURES PERTINENT TO RESILIENCY TO CLIMATE CHANGE

HAZ-10: 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 (Cal Fire) and local fire department(s).

HAZ-11: All heavy equipment will be required to include spark arrestors or turbochargers that eliminate sparks in exhaust and have fire extinguishers on-site.

HAZ-12: 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.

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- HAZ-13:** DPR personnel will have a DPR 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-14:** 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-27:** After or during a large storm or rainfall event (i.e., equal to or more than: six inches in 24 hours; 12 inches in 72 hours; or 15 inches in 120 hours, as measured at the Cuneo Campground weather station, or peak stream flows measured at the Bull Creek stream gage in excess of 6500 cubic feet per second), DPR staff will inspect all project structures and features for damage, as soon as is safely possible after or during 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 by a qualified or licensed professional and/or repaired.
- HYDRO-4:** All construction activities will be suspended during heavy precipitation events (i.e., more than one 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 (e.g. 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.

HAZARDS AND HAZARDOUS MATERIALS STANDARD PROJECT REQUIREMENTS

- HAZ-1:** Avoid locating route 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 U.S. Environmental Protection Agency, Occupational Safety and Health Administration, and Department of Toxic Substances Control 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 construction 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 construction activities that cause disturbances to the native soil and/or mine and mill materials causing 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;

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- Storm water controls;
 - Record-keeping; and,
 - Emergency response plan.

HAZ-7: **[Insert who]** will set up decontamination areas for vehicles and equipment at DPR 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 on-site construction activities, **[insert who]** will clean and repair (other than emergency repairs) all equipment outside the project site boundaries.

HAZ-9: **[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.]**.

HAZ-10: 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 (Cal Fire) and local fire department(s).

HAZ-11: 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-12: 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-13: DPR personnel will have a DPR 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-14: Under dry conditions, a filled water truck and/or fire engine will be onsite during activities with the potential to start a fire.

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 one acre or more, **[insert who]** will prepare and submit a Storm Water Pollution Prevention Plan (SWPPP) for DPR 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 BMPs (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, 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 North Coast Regional Water Quality Control Board Basin Plan.

CONSTRUCTION-RELATED MEASURES

HYDRO-3: All construction, improvement, modification, or decommissioning of road/trails, and conversion of roads-to-trails, will be consistent with DPR BMPs, Departmental Operations Manuals (DOMs), Vegetation Management Guidelines, and Trail Handbook guidelines.

HYDRO-4: All construction activities will be suspended during heavy precipitation events (i.e., more than one 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 (e.g. 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-5: For construction activities extending into or occurring during the rainy season, or if an un-seasonal storm is anticipated, DPR staff will properly winterize the site by covering (e.g. 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-6: Treat rehabilitated, reengineered, or rerouted road or 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. Filter windrows (structures made of slash, forest debris, and logs to protect forest streams from sediment) shall be added to the toe of fill slopes for any treated alignment where the vegetated or mulched buffer is located closer to a watercourse than is recommended for the steepness of the hillslope, as described in the table below:

Recommended minimum distance between the vegetated or mulched buffer of wildland roads/trails and streams	
Slope of land between road/trail and stream (%)	Minimum distance of vegetated/mulched buffer (ft)
0	50
10	90
20	130
30	170
40	210
50	250
60	290
70	330

These setbacks or windrow designs may be modified based on concurrence from a qualified geologist after reviewing vegetation and soil conditions on the slope between the alignment and the watercourse. The windrows shall not provide structural support to the fills.

HYDRO-7: Salvage trees and brush removed prior to excavation for mulching bare soil areas after construction.

HYDRO-8: 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 State Water Resources Control Board. 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 from the SWPPP options, if applicable, or based on soil, traffic, and other site-specific conditions.

HYDRO-9: Excavation and grading activities will be suspended when sustained winds exceed 25 miles per hour (mph), instantaneous gusts exceed 35 mph, or when dust occurs from remediation related activities where visible emissions (dust) cannot be controlled by watering or conventional dust abatement controls.

HYDRO-10: 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-11: Staging and stockpile areas will be designated and/or located, and suitable barriers installed, 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 water bodies.

HYDRO-12: Decontamination of heavy equipment shall occur prior to delivery onto state park lands. Heavy equipment shall be thoroughly power washed prior to delivery to the job site. Equipment shall be free of woody and organic debris, soil, grease, and other foreign matter. The engine compartment, cab, and other enclosed spaces shall also be free of the aforementioned debris. Equipment shall be thoroughly inspected by DPR's State Representative upon delivery and may be rejected if in the opinion of the DPR representative the equipment does not meet decontamination standards. If a piece of equipment is removed from the park for unrelated work or work not identified as part of the project, it will be re-inspected upon re-entry to the park. Upon demobilization decontamination shall take place off-site.

HYDRO-13: All heavy equipment parking, refueling, and service will be conducted within designated areas with suitable barriers outside of the 100-year floodplain to avoid watercourse contamination.

PROJECT DESIGN-RELATED MEASURES

HYDRO-14: 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 modifications will be developed.

HYDRO-15: DPR staff will install appropriate energy dissipaters and employ other erosion control measures at water discharge points, as appropriate.

HYDRO-16: Routes will be designed and constructed so that they do not significantly disrupt or alter the natural hydraulic flow patterns of the landform.

HYDRO-17: Routes 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-18: For decommissioning and restoration projects, 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-19: Install armored rock crossings at ephemeral drainages, micro drainages and swales to harden the tread in areas of potential interface between trail users and natural topographic drainage features.

HYDRO-20: Provide outslope to the road bed or trail tread and remove any outer edge berm to facilitate sheet flow off the road or trail where the dispersed flow can be filtered by vegetation and organic litter.

HYDRO-21: When outsloping road or trail surfaces is not feasible, such as steep linear grades, construct rolling dips to direct runoff safely off the route 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 routes receiving no use. Water bars will be constructed to divert water to controlled points along the route and with rock armor at the downslope end for energy dissipation, where needed.

HYDRO-22: Install gravel surfacing on routes in areas with saturated or unstable soils, and on bridge or ford approaches to provide a stable tread surface.

HYDRO-23: Seasonally close multi-use trails to all users when soils are saturated and softened.

HYDRO-24: Install “pinch points” on multi-use trails where necessary to reduce downhill bicycle speed and increase the line of sight at curves.

HYDRO-25: Construct or repair barriers at switchbacks on multi-use trails to discourage shortcuts and the creation of user-created trails.

LAND USE AND PLANNING STANDARD PROJECT REQUIREMENTS

The SPRs do not include a category of provisions specifically related to land use and planning.

MINERAL RESOURCES STANDARD PROJECT REQUIREMENTS

The SPRs do not include a category of provisions specifically related to mineral resources use.

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 Humboldt County or surrounding communities. 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 7:00 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 five 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.

POPULATION AND HOUSING STANDARD PROJECT REQUIREMENTS

AQ-14: The maximum number of construction worker-related commute trips for any project at a park will not exceed 60 one-way worker commute trips per day.

PUBLIC SERVICES AND UTILITIES STANDARD PROJECT REQUIREMENTS

The SPRs do not include a category of provisions specifically related to public services and utilities management.

RECREATION STANDARD PROJECT REQUIREMENTS

The SPRs do not include a category of provisions specifically related to recreation use management.

TRANSPORTATION AND TRAFFIC STANDARD PROJECT REQUIREMENTS

TRAN-1: 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-2: 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 standards.

TRAN-3: **[insert who]** will assess parking capacity prior to implementing a proposed change in use. After implementation of the proposed change in use, DPR 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. DPR District personnel will determine which actions are feasible at the park unit.

TRAN-4: Prior to initiating any construction activities with the potential to significantly or permanently disrupt traffic flows, 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 the project. Measures included in the CTMP could include (but are not limited to) construction signage, flaggers for lane closures, construction schedule and/or delivery schedule restrictions, etc. The CTMP will be submitted to the local agency having jurisdiction over the affected traffic facilities.

UTILITIES AND SERVICE SYSTEMS STANDARD PROJECT REQUIREMENTS

The SPRs do not include a category of provisions specifically related to utilities and service systems.

The following corrections, additions, and deletions have been made to the Humboldt Redwoods Road and Trail Management Plan Draft IS/ND. Additions and corrections are underlined; strikeout indicates a deletion. Minor punctuation, spelling, and grammatical corrections that contribute to ease of understanding, but have no significant impact on the content, have not been noted.

Chapter 2, Section 2.9, the following text was added to Project Specific Requirement CUL-15 in response to comment letter received from the Native American Heritage Commission:

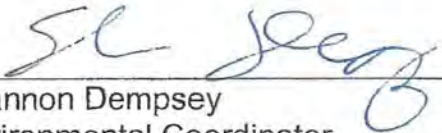
CUL-15: DPR will conduct the tribal consultations prior to any new ground disturbances related to road and trail construction; in previously disturbed soil where archaeological sensitivity is high and trail work is proposed; or for projects which require CEQA review. The consultation protocol will follow the steps identified in the Department Operations Manual 0400 Cultural Resources. Prior to initiation of tribal consultation, a search of the Native American Heritage Commission's Sacred Lands File database will be conducted.

In response to comment letter received from the California Department of Transportation, the following maps within the RTMP have been updated to remove the State Route shield from roads that are not a part of the State Route System:

- Overview of Planning Recommendations
- Vicinity Map
- Existing Roads and Trails at State Park
- Bull Creek – Northwest Area - Existing Roads and Trails
- Albee Creek Campground Detail - Existing Roads and Trails
- Bull Creek – Northwest Area - Maintenance Recommendations
- Bull Creek – Northwest Area - Planning Recommendations
- Albee Creek Campground Detail - Planning Recommendations
- Bull Creek – Northeast Area - Existing Roads and Trails
- Bull Creek – Northeast Area - Maintenance Recommendations
- Bull Creek – Northeast Area - Planning Recommendations
- Overview Map of New Trails and Change-in-Use Recommendations
- Bull Creek – Northwest Area - Potential Significance to Water Resources and Drainage Structure Condition Index
- Bull Creek – Northwest Area - Erosion Severity
- Bull Creek – Northeast Area - Potential Significance to Water Resources and Drainage Structure Condition Index
- Bull Creek – Northeast Area - Erosion Severity

This document, along with the Draft Programmatic Initial Study/ Negative Declaration (SCH# 2019012055), corrected as noted above; Comments and Response to Comments; Project Requirements; and the Notice of Determination, constitute the Final Mitigated Negative Declaration for the Humboldt Redwoods State Park Road and Trail Management Plan.

Pursuant to Section 21082.1 of the California Environmental Quality Act, the California Department of Parks and Recreation (DPR) has independently reviewed and analyzed the Initial Study and Negative Declaration for the proposed project and finds that these documents reflect the independent judgment of DPR. DPR, as lead agency, also confirms that the project requirements detailed in these documents are feasible and will be implemented as stated in the Negative Declaration.


Shannon Dempsey
Environmental Coordinator
North Coast Redwoods District

4-29-19
Date


Victor Bjelajac
District Superintendent
North Coast Redwoods District

4/29/2019
Date

Notice of Determination

Appendix D

To:
 Office of Planning and Research
 U.S. Mail: _____ Street Address: _____
 P.O. Box 3044 1400 Tenth St., Rm 113
 Sacramento, CA 95812-3044 Sacramento, CA 95814

County Clerk
 County of: _____
 Address: _____

From:
 Public Agency: CA Dept. of Parks and Recreation
 Address: P.O. Box 2001-2006
 Eureka, CA 95502-2006
 Contact: Shannon Dempsey
 Phone: (707) 445-5344

Lead Agency (if different from above): _____
 Address: _____
 Contact: _____
 Phone: _____

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

State Clearinghouse Number (if submitted to State Clearinghouse): 2019012055
 Project Title: Humboldt Redwoods State Park Road and Trail Management Plan
 Project Applicant: California Department of Parks and Recreation
 Project Location (include county): Humboldt Redwoods State Park, Humboldt County

Project Description:
 California Department of Parks and Recreation proposes to adopt a Road and Trail Management Plan describing the existing roads and trails of Humboldt Redwoods State Park and providing specific direction for management and operations in the future, located in southern Humboldt County; adjacent to the Avenue of the Giants (Hwy 254), and the South Fork of the Eel River.

This is to advise that the California Department of Parks and Recreation has approved the above
 Lead Agency or Responsible Agency

described project on April 30, 2019 and has made the following determinations regarding the above
 (date)
 described project.

1. The project will will not] have a significant effect on the environment.
2. An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
 A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures were were not] made a condition of the approval of the project.
4. A mitigation reporting or monitoring plan was was not] adopted for this project.
5. A statement of Overriding Considerations was was not] adopted for this project.
6. Findings were were not] made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval, or the negative Declaration, is available to the General Public at:

North Coast Redwoods District, California State Parks, 3431 Fort Ave., Eureka, CA 95503

Signature (Public Agency): [Signature] Title: District Superintendent

Date: 4/29/2019 Date Received for filing at OPR: _____

Authority cited: Sections 21083, Public Resources Code.
 Reference Section 21000-21174, Public Resources Code.

Governor's Office of Planning & Research
 MAY 02 2019
 STATE CLEARINGHOUSE

Introduction

This attachment provides responses to comments received during the Draft Programmatic Initial Study and Negative Declaration (IS/ND) for the Humboldt Redwoods Road and Trail Management Plan public review period, which began on January 31, 2019, and ended on March 4, 2019. Response letters are provided below, which follow copies of comment letters received on the Draft IS/MND.

Comment Letters Received

Table 1 provides an index of all comment letters received. Comment letters are organized in the order the letter was received. Each letter is assigned a number designation. Changes to the IS/ND, where deemed appropriate, are summarized in the response letter and refer to the applicable section in the IS/ND. Text changes are also provided in the Final ND.

Document Letter Designation	Agency/Respondent and Date of Letter
A-1	State of California, Native American Heritage Commission – 02/07/2019
A-2	California Department of Transportation, District 1 - 03/01/2019
A-3	Sarah Balster – 03/01/2019
A-4	State Clearinghouse - 03/04/2019

Comment Letter A-1 Attachment (3 pages)

The California Environmental Quality Act (CEQA)¹, specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment.² If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared.³ In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources with the area of project effect (APE).

CEQA was amended in 2014 by Assembly Bill 52. (AB 52).⁴ **AB 52 applies to any project for which a notice of preparation or a notice of negative declaration or mitigated negative declaration is filed on or after July 1, 2015.** AB 52 created a separate category for "tribal cultural resources"⁵, that now includes "a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment."⁶ Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.⁷ Your project may also be subject to **Senate Bill 18 (SB 18)** (Burton, Chapter 905, Statutes of 2004), Government Code §65352.3, if it also involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space. **Both SB 18 and AB 52 have tribal consultation requirements.** Additionally, if your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966⁸ may also apply.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws

Pertinent Statutory Information:

Under AB 52:

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a **lead agency** shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice.

A **lead agency** shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.⁹ and **prior to the release of a negative declaration, mitigated negative declaration or environmental impact report.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18)."¹⁰

The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- a. Alternatives to the project.
 - b. Recommended mitigation measures.
 - c. Significant effects.¹¹
1. The following topics are discretionary topics of consultation:
- a. Type of environmental review necessary.
 - b. Significance of the tribal cultural resources.
 - c. Significance of the project's impacts on tribal cultural resources.

If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency.¹²

With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process **shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10.** Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.¹³

If a project may have a significant impact on a tribal cultural resource, **the lead agency's environmental document shall discuss** both of the following:

- a. Whether the proposed project has a significant impact on an identified tribal cultural resource.

¹ Pub. Resources Code § 21000 et seq.

² Pub. Resources Code § 21084.1; Cal. Code Regs., tit. 14, § 15064.5 (b); CEQA Guidelines Section 15064.5 (b)

³ Pub. Resources Code § 21080 (d); Cal. Code Regs., tit. 14, § 15064 subd.(a)(1); CEQA Guidelines § 15064 (a)(1)

⁴ Government Code 65352.3

⁵ Pub. Resources Code § 21074

⁶ Pub. Resources Code § 21084.2

⁷ Pub. Resources Code § 21084.3 (a)

⁸ 154 U.S.C. 300101, 36 C.F.R. § 800 et seq.

⁹ Pub. Resources Code § 21080.3.1, subds. (d) and (e)

¹⁰ Pub. Resources Code § 21080.3.1 (b)

¹¹ Pub. Resources Code § 21080.3.2 (a)

¹² Pub. Resources Code § 21080.3.2 (a)

¹³ Pub. Resources Code § 21082.3 (c)(1)

- b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource.¹⁴

Consultation with a tribe shall be considered concluded when either of the following occurs:

- a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
- b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached.¹⁵

Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 **shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program**, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable.¹⁶

If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, **the lead agency shall consider feasible mitigation** pursuant to Public Resources Code §21084.3 (b).¹⁷

An environmental impact report **may not be certified**, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

- a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
- b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
- c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days.¹⁸

This process should be documented in the Tribal Cultural Resources section of your environmental document.

Under SB 18:

Government Code §65352.3 (a) (1) requires consultation with Native Americans on general plan proposals for the purposes of "preserving or mitigating impacts to places, features, and objects described §5097.9 and §5091.993 of the Public Resources Code that are located within the city or county's jurisdiction. Government Code §65560 (a), (b), and (c) provides for consultation with Native American tribes on the open-space element of a county or city general plan for the purposes of protecting places, features, and objects described in Public Resources Code §5097.9 and §5097.993.

- SB 18 applies to **local governments** and requires them to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf
- **Tribal Consultation:** If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.**¹⁹
- **There is no Statutory Time Limit on Tribal Consultation under the law.**
- **Confidentiality:** Consistent with the guidelines developed and adopted by the Office of Planning and Research,²⁰ the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction.²¹
- **Conclusion Tribal Consultation:** Consultation should be concluded at the point in which:
 - The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
 - Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation.²²

NAHC Recommendations for Cultural Resources Assessments:

- Contact the NAHC for:

¹⁴ Pub. Resources Code § 21082.3 (b)

¹⁵ Pub. Resources Code § 21080.3.2 (b)

¹⁶ Pub. Resources Code § 21082.3 (a)

¹⁷ Pub. Resources Code § 21082.3 (e)

¹⁸ Pub. Resources Code § 21082.3 (d)

¹⁹ (Gov. Code § 65352.3 (a)(2)).

²⁰ pursuant to Gov. Code section 65040.2,

²¹ (Gov. Code § 65352.3 (b)).

²² (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

- A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
- A Native American Tribal Contact List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.
 - The request form can be found at <http://nahc.ca.gov/resources/forms/>.
- Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
 - If part or the entire APE has been previously surveyed for cultural resources.
 - If any known cultural resources have been already recorded on or adjacent to the APE.
 - If the probability is low, moderate, or high that cultural resources are located in the APE.
 - If a survey is required to determine whether previously unrecorded cultural resources are present.
- If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
 - The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
 - The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

Examples of Mitigation Measures That May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

- Avoidance and preservation of the resources in place, including, but not limited to:
 - Planning and construction to avoid the resources and protect the cultural and natural context.
 - Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
- Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
 - Protecting the cultural character and integrity of the resource.
 - Protecting the traditional use of the resource.
 - Protecting the confidentiality of the resource.
- Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
- Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed.²³
- Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated.²⁴

The lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

- Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources.²⁵ In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
- Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
- Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code section 7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

²³ (Civ. Code § 815.3 (c)).

²⁴ (Pub. Resources Code § 5097.991).

²⁵ per Cal. Code Regs., tit. 14, section 15064.5(f) (CEQA Guidelines section 15064.5(f)).

Comment Letter A-2

DEPARTMENT OF TRANSPORTATION

DISTRICT 1, P.O. BOX 3700
EUREKA, CA 95502-3700
PHONE (707) 441-4693
FAX (707) 445-6314
TTY 711
www.dot.ca.gov



*Making Conservation
a California Way of Life.*

March 1, 2019

1-HUM-254/101-Various
Humboldt Redwoods State Park
Road & Trail Management Plan
SCH# 2019012055

Shannon Dempsey
California Dept. of Parks & Recreation
P.O. Box 2006
Eureka, CA 95502-2006

Dear Shannon Dempsey:

Thank you for giving Caltrans the opportunity to review and comment on the proposed Humboldt Redwoods State Park Road and Trail Management Plan. The project proposes to adopt a road and trail management plan describing the existing roads and trails of Humboldt Redwoods State Park, which will provide specific direction for management and operations in the future. The project is located within the Humboldt Redwoods State Park jurisdiction in Humboldt County, adjacent to sections of State Route 254 (the "Avenue of the Giants") and US Route 101. We offer the following comments:

- The State legislature has designated the section of US Route 101 through Humboldt Redwoods State Park as the Pacific Coast Bike Route (PCBR), with State Route 254, the Avenue of the Giants, designated as an alternate route for cyclists choosing to take a more leisurely route. National bicycling interests are working with the American Association of State Highway and Transportation Officials (AASHTO) to develop a nationwide system of bicycle Routes, which have identified a bicycle route alignment roughly parallel to the PCBR alignment. This proposed alignment has been designated "US Bike Route 95" and has designated State Route 254 as the preferred alignment. We request to meet with State Parks to discuss options for improving interregional bicycle routes through Humboldt Redwoods State Park to ensure that this increasingly popular form of recreation can access and enjoy the amenities provided by California State Parks.
- We offer to collaborate with State Parks in selecting locations along State Route 254 best suited to developing additional access trails, which in turn will create parking demand. There may be existing parking pullouts that have less than desirable features, like limited sight distance, where visitor usage should be discouraged unless it is possible to improve or relocate parking for trail access.
- A State Route shield with the number "211" inscribed is shown on either the main map and/or the inset map on pages 36-40, 43, 44, 46, 54, 55, 59, 62, 230-241. The indicated road "211" is not part of the State Highway System (SHS), and Caltrans is not the

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Comment Letter A-2, continued

Shannon Dempsey
3/1/19
Page 2

responsible owner or operator of this road. State Route 211 begins at Ocean Avenue in Ferndale and terminates at US Route 101 in Fernbridge. To avoid confusion, please refrain from using a State Route shield for roads that are not officially part of the SHS.

- A number of map legends use subtle variations in color shading to indicate sections of Paved Park Roads to distinguish from State Highways and Humboldt County roads. We recommend using more highly contrasted colors to clearly distinguish between the different roadway jurisdictions.
- In addition to making corrections to the maps, we encourage State Parks to coordinate with Humboldt County Public Works for projects along Mattole Road if these activities are not already occurring.
- Any proposals to install signs within the right of way of US or State highways will need to obtain an encroachment permit from Caltrans. Please obtain concurrence from the District 1 Traffic Safety Sign Coordinator, prior to submitting an encroachment permit application for new signs.
- A no-fee Caltrans Encroachment Permit will be required for any work on, or from, the SHS, including the development or improvement of parking pullouts. To streamline the permit application and review process, we encourage the applicant to consult with our Permit staff prior to submitting an application. Requests for permit applications can be sent to: Caltrans District 1 Permits Office, P.O. Box 3700, Eureka, CA 95502-3700, or requested by phone at (707) 445-6389. For additional information, the Caltrans Permit Manual is available online at:
<<http://www.dot.ca.gov/hq/traffops/developserv/permits/>>.

Please contact me with questions or for further assistance at (707) 441-4693 or by email at: <jesse.robertson@dot.ca.gov>.

Sincerely,



JESSE ROBERTSON
District 1 Transportation Planning

*"Provide a safe, sustainable, integrated and efficient transportation system
to enhance California's economy and livability"*

Comment Letter A-3

March 1, 2019

RE: Humboldt Redwoods State Park Road and Trail Management Plan

After briefly reviewing the Humboldt Redwoods State Park Road and Trail Management Plan I have a few comments.. The report well presented I especially like the map series; they really helped convey the large scope and focus of this plan. Good job as it made review easier. I am submitting these comments before the March 4 deadline but hope to have opportunities in the future to provide input. While I'd love to comment on some of the Applicable Standards Project Requirements outlined in Section 7 Chapter 2.9 and flesh out some Geology and Soils in Chapter 3 of the environmental document; I will only address the following 3 comments....

1. Backcountry signage and some published trail maps are incorrectly labeled. And there's a typo on pg 41 BCNE #4. Mattole rather than Matolle.
2. Appendix 8.11 refers to the General plan classification of the Bull Creek Wilderness. The Johnson Camp road to trail project and the Burlington Weott water services access road created the division in the southern and northern zones. Section 6.1 recommends "Roads and trails shall not fragment large areas of open space or viewsheds. The overall aesthetic quality of the park, including human sounds carried from one road or trail to another, should be a primary consideration of road and trail design and management." Pg 22. The proposed new Decker Trail bisects the Wilderness area. Decker Creek is an amazing watershed that I would like to spend more time in. So I like the trail idea. But perhaps objective BCNE #3 to "connect the Avenue of the Giants to Bull Creek backcountry" maybe more appropriately achieved by utilizing the Weott Water System Road. Considering that the planning recommendation for this road is to resurface with gravel (BCSW #4); the ascetics may not be desirable for the wilderness trail user. There is great need for a hike only trail but perhaps is could be built outside the wilderness area.
3. Redwoods to the Sea Corridor project was awarded 1.3 million dollars to Save the Redwoods League from the State for fuel load reduction and restoration this year. Approximately 4000 acres of timber company land was acquired in the early 2000's. The Bureau of Land management included the property into its Late seral reserve special management area as part of the Kings Range national recreation area. We are well on our way of protecting and conserving a wildlife corridor from the 'Redwoods to the Sea'- that is the largest contiguous groves of ancient redwood forests, and the longest stretch of unroaded coastline on the west coast of the continental United States. AGN#2 recommends to "explore potential linkages to public land within adjacent communities along the Avenue of the Giants." I would comment that we could continue to explore linkages west toward adjacent public lands as well. BCSW #8 states its intention to "provide a layover camp for those wishing to venture further into the upper Bull Creek Watershed, the proposed Upper Gould Barn Camp, and the Bull Creek Trail Camp. To Provide additional remote overnight camping in the Bull Creek Watershed. It provides a destination for those seeking to explore the deepest backcountry areas of the park. It provides an ideal destination for those seeking to extend their trip beyond the camps around Grasshopper Peak". In this regard perhaps there is potential for a camp at the Grieg Road Perimeter road intersection.

Thank you all so much for this report

Comment Letter A-4



Gavin Newsom
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit



Kate Gordon
Director

March 4, 2019

Shannon Dempsey
California Department of Parks and Recreation
PO Box 2006
Eureka, CA 95502-2006

Subject: Humboldt Redwoods State Park Road and Trail Management Plan
SCH#: 2019012055

Dear Shannon Dempsey:

The State Clearinghouse submitted the above named Negative Declaration to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on March 1, 2019, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures

cc: Resources Agency

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL 1-916-445-0613 state.clearinghouse@opr.ca.gov www.opr.ca.gov

Comment Letter A-4, continued

Document Details Report State Clearinghouse Data Base

SCH# 2019012055
Project Title Humboldt Redwoods State Park Road and Trail Management Plan
Lead Agency Parks and Recreation, Department of

Type **Neg** Negative Declaration
Description California Department of Parks and Recreation proposes to adopt a Road and Trail Management Plan describing the existing roads and trails of Humboldt Redwoods State Park and providing specific direction for management and operations in the future, located in southern Humboldt County; adjacent to the Avenue of the Giants (Hwy 254), and the South Fork of the Eel River.

Lead Agency Contact

Name Shannon Dempsey
Agency California Department of Parks and Recreation
Phone 707-445-5344 **Fax**
email
Address PO Box 2006
City Eureka **State** CA **Zip** 95502-2006

Project Location

County Humboldt
City
Region
Lat / Long 40° 18' 27.1" N / 123° 54' 26.9" W
Cross Streets Mattole Rd and Hwy 101
Parcel No. multiple
Township 1,2S **Range** 1,2E **Section** Multi **Base** HBM

Proximity to:

Highways 101
Airports
Railways
Waterways South Fork Eel River, Bull Creek
Schools
Land Use public lands/public resource

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Public Services; Recreation/Parks; Soil Erosion/Compaction/Grading; Traffic/Circulation; Vegetation; Water Quality

Reviewing Agencies Resources Agency; Department of Fish and Wildlife, Region 1E; Department of Water Resources; California Highway Patrol; Caltrans, District 1; Native American Heritage Commission; Regional Water Quality Control Board, Region 1; State Water Resources Control Board, Division of Water Quality; Air Resources Board, Transportation Projects

Date Received 01/31/2019 **Start of Review** 01/31/2019 **End of Review** 03/01/2019

Note: Blanks in data fields result from insufficient information provided by lead agency.

**Response to Comment Letter A-1
State of California, Native American Heritage Commission
February 7, 2019**



State of California • Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Gavin Newsom, *Governor*
Lisa Ann L. Mangat, *Director*

April 29, 2019

Gayle Totton
Native American Heritage Commission
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691

Subject: SCH# 2019012055, Humboldt Redwoods State Park Road and Trail Management Plan (RTMP), Programmatic Initial Study and Negative Declaration (IS/ND) response to comment letter.

Dear Ms. Totton,

Thank you for your time and consideration in reviewing sections of the subject project. California State Parks' North Coast Redwoods District (NCRD) would like to provide responses to address the Native American Heritage Commission's (NAHC) concerns as follows:

1. NAHC Concern - There is no Tribal Cultural Resources section or subsection in the Initial Study / Environmental Checklist as per California Natural Resources Agency (2016) "Final Text for tribal cultural resources update to Appendix G: Environmental Checklist Form," <http://resources.ca.gov/ceqa/docs/ab52/Clean-final-AB-52-App-G-text-Submitted.pdf>

NCRD Response - NCRD is aware CEQA was amended in 2014 by Assembly Bill 52, and subsequently, the CEQA Guidelines Appendix G Environmental Checklist was updated to include a separate section for Tribal Cultural Resources. NCRD would like to point out the initial study checklist used for review of the RTMP does include a subsection to evaluate impacts to tribal cultural resources, however, it was included under Section V. Cultural Resources. The following excerpt is from the IS/ND, page 154:

Would the project:

- d) Cause a substantial adverse change in the significance of a Tribal Cultural Resource as defined in §21074?

Response to Comment Letter A-1, continued
State of California, Native American Heritage Commission
February 7, 2019

SCH# 2019012055, Humboldt Redwoods State Park Road and Trail Management Plan
California State Parks Response Letter
Page 2

Discussion:

d) DPR initiated consultation in 2010 with three tribes, two tribally affiliated non-profit groups and one individual regarding this project from a list provided by the Native American Heritage Commission. Contact included letters, emails, and follow-up phone calls and emails. Consultation was reinitiated in 2017 with three tribes and one tribally affiliated non-profit from a list provided by the Native American Heritage Commission. After numerous discussions, it was concluded that the Humboldt Redwoods Road and Trail Management Plan would not cause a substantial "Adverse" change in the significance of a Tribal Cultural Resource as defined in PRC §21074. However, per DPR policy, tribal consultation is ongoing and continuous. SPR CUL-15 requires DPR to conduct tribal consultations prior to implementing road and trail projects that would generate new ground disturbance or be located in area where archaeological sensitivity is high. Implementation of this requirement will ensure impacts remain less than significant.

NCRD is in the process of updating their initial study format to include new sections as outlined in CEQA Guidelines Appendix G, specifically to include a separate section for Tribal Cultural Resources.

2. NAHC Concern - Tribal Cultural Resources assessments are out of date (2001). These should adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources.

NCRD Response - NCRD conducted a review of all known cultural resources databases including the Sacred Lands File (SLF) in 2010 (not 2001) coinciding with the initiation of planning for the RTMP. Tribal consultation has been ongoing and continuous. Letters were again sent in 2017 when the initial study for the RTMP was being prepared. A more recent record search of the SLF was conducted park wide in 2017 for a separate project in the same area. Standard Project Requirement CUL-15 requires tribal consultation prior to new projects being undertaken, and will be updated to include a record search of the SLF (see number 3 below).

3. NAHC Concern - Standard Project Requirement CUL-14 does not include requesting a search from the NAHC's Sacred Lands File. The SLF contains information about sites that may not be listed in other databases.

Response to Comment Letter A-1, continued
State of California, Native American Heritage Commission
February 7, 2019

SCH# 2019012055, Humboldt Redwoods State Park Road and Trail Management Plan
California State Parks Response Letter
Page 3

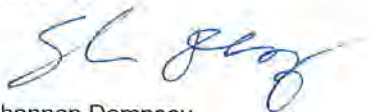
NCRD Response - Standard Project Requirement CUL-15 will be updated as follows:

DPR will conduct the tribal consultations prior to any new ground disturbances related to road and trail construction; in previously disturbed soil where archaeological sensitivity is high and trail work is proposed; or for projects which require CEQA review. The consultation protocol will follow the steps identified in the Department Operations Manual 0400 Cultural Resources. Prior to initiation of tribal consultation, a search of the Native American Heritage Commission's Sacred Lands File database will be conducted.

It has been a long-standing policy of State Parks to have, and NCRD strives for, open communication and ongoing consultation with local Native American tribes on matters relating to their heritage, sacred sites, and cultural traditions. Prior to implementing projects or policies that may have impacts to tribal cultural resources, NCRD will actively consult with local Native American tribes regarding the protection, preservation, and/or mitigation of cultural sites and sacred sites in the State Park System.

Thank you for your comments to improve the project requirements and initial study format for the RTMP as they pertain to tribal cultural resources.

Sincerely,



Shannon Dempsey
District Environmental Coordinator
North Coast Redwoods District

cc: Gayle.Totton@nahc.ca.gov

Greg Collins
Supervisor, Cultural Resources Program
North Coast Redwoods District
Greg.Collins@parks.ca.gov

**Response to Comment Letter A-2
State of California, Department of Transportation, District 1
March 1, 2019**



State of California • Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Gavin Newsom, Governor

Lisa Ann L. Mangat, Director

April 29, 2019

Jesse Robertson
Department of Transportation
District 1
PO Box 3700
Eureka, CA 95502-3700

Subject: SCH# 2019012055, Humboldt Redwoods State Park Road and Trail Management Plan (RTMP), Programmatic Initial Study and Negative Declaration response to comment letter.

Dear Jesse Robertson,

Thank you for your time and consideration in reviewing the subject project and providing a comment letter. State Parks' North Coast Redwoods District (NCRD) would like to offer the following responses below in the same order as the comment letter you submitted:

- NCRD remains committed to providing a wide range of recreational opportunities for visitors to Humboldt Redwoods State Park including hiking, bicycling, and equestrian access. NCRD will work with Caltrans to explore opportunities for recreation and access along State Route 254. Coordination efforts for the Pacific Coast Bike Route and US Bike Route 95 may be directed to NCRD's Road and Trail Program Manager, Brian Merrill, who's contact information is listed below.
- NCRD will work closely with Caltrans as linkages from State Route 254 to trails within Humboldt Redwoods are explored and improved. Many short-stay opportunities exist along the Avenue of the Giants, and Caltrans' involvement in identifying existing areas for improvement and/or areas where access and parking may be less than desirable will be essential.
- Thank you for clarifying the extent of State Route 211, and that it does not extend into Humboldt Redwoods State Park. The State Route shield will be removed from all applicable maps to avoid confusion.
- NCRD has reviewed the RTMP maps for legibility. This comment has been forwarded to the Statewide Roads and Trail Program Manager for consideration in RTMPs developed for other park units in the future.

Response to Comment Letter A-2, continued
State of California, Department of Transportation, District 1
March 1, 2019

SCH# 2019012055, Humboldt Redwoods State Park Road and Trail Management Plan
California State Parks Response Letter
Page 2

- NCRD works closely with Humboldt County on projects along the Mattole Road that could adversely affect State Park resources and/or on projects that have the potential to impact or encroach on the Mattole Road.
- NCRD will seek encroachment permits from Caltrans for any work within the right-of-way of State Route 254 or US Route 101 including, but not limited to, installation of signage. Thank you for providing the appropriate contact for such requests.
- NCRD will seek encroachment permits from Caltrans for any work within the right-of-way of State Route 254 or US Route 101 including, but not limited to, improvement of pullouts and parking areas. NCRD appreciates the proactive information resources.

Your comments have been forwarded to NCRD Road and Trail Program Manager listed below. Thank you again for helping to improve the RTMP maps and future coordination related to transportation and traffic resources.

Sincerely,



Shannon Dempsey
District Environmental Coordinator
North Coast Redwoods District

ec: jesse.robertson@dot.ca.gov

Brian Merrill
Senior Engineering Geologist CEG #2285
Roads and Trails Program Manager
North Coast Redwoods District
Brian.Merrill@parks.ca.gov

Response to Comment Letter A-3
Sarah Balster
March 1, 2019



State of California • Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Gavin Newsom, *Governor*

Lisa Ann L. Mangat, *Director*

April 29, 2019

Subject: SCH# 2019012055, Humboldt Redwoods State Park Road and Trail Management Plan (RTMP), Programmatic Initial Study and Negative Declaration response to comment letter.

Dear Sarah Balster,

Thank you for your time and consideration in reviewing the subject project and providing a comment letter. State Parks' North Coast Redwoods District (NCRD) would like to offer the following responses below in the same order as the comment letter you submitted:

1. Backcountry signage is inventoried and updated as staff time allows. Published trail maps and brochures are updated on a regular basis, and future publications will reflect changes associated with this RTMP. The typo for Mattole Road will be corrected.
2. The Weott Water System Road extends through chronically unstable terrain and is not suitable for a trail connection or further road development to satisfy recommendation BCNE #3, "Develop new Decker Creek Trail to connect the Avenue of the Giants to Bull Creek backcountry". Although the Weott Water System Road is problematic due to the poor stability in the area, it cannot be relocated or removed due to its function of accessing the water system facilities. Additionally, a link from the River Trail to the Weott Water System Road would route hikers onto Grasshopper Road, which would require a long hike on roads to access Bull Creek backcountry trails. The proposed Decker Creek trail segment was added in response to public comments requesting more backcountry trail loop options. One parkwide recommendation is to give preference to loops and connections to regional trail systems to give users more choices for the length and duration, as well as a greater diversity of terrain and experiences. As you noted in your comment, a graveled road surface may not be desirable for the wilderness trail user.

The California Wilderness Act allows for trail construction within wilderness boundaries. The proposed Decker Creek Trail follows a curvilinear alignment over stable terrain and connects the River Trail to the Johnson Camp Trail allowing access to the Bull Creek Backcountry including the proposed Johnson Camp Crossover Trail, and the proposed Grasshopper Saddle Trail. The

Response to Comment Letter A-3, continued
Sarah Balster
March 1, 2019

SCH# 2019012055, Humboldt Redwoods State Park Road and Trail Management Plan
California State Parks Response Letter
Page 2

proposed Decker Creek trail would be a single-track, 3 feet wide, hike only trail and would not be visible from other locations within the park.

3. Trail linkages to public land west of Humboldt Redwoods State Park were deemed unachievable in the time span covered by this Plan due to the widespread private ownership in that region and the sensitivity of private landowners involved in the legal and illegal cannabis industry. However, if public agencies are able to secure contiguous public lands across this region in the future, the existing and proposed road and trail system within the park would accommodate linkages with routes to the west. As noted above, a parkwide recommendation is to give preference to loops and connections to regional trail systems, and a Redwoods to the Sea Corridor to connect to the Kings Range National Conservation Area would be in line with this recommendation.

Your comments have been forwarded to NCRD Road and Trail Program Manager listed below. Thank you again for helping to improve the recreational trail opportunities at Humboldt Redwoods State Park.

Sincerely,



Shannon Dempsey
District Environmental Coordinator
North Coast Redwoods District

ec: sarahbstar@gmail.com

Brian Merrill
Senior Engineering Geologist CEG #2285
Roads and Trails Program Manager
North Coast Redwoods District
Brian.Merrill@parks.ca.gov

Response to Comment Letter A-4
California State Clearinghouse
March 4, 2019

This comment letter acknowledges receipt of the IS/ND for review by the State Clearinghouse and included copies of comment letters received by the Clearinghouse from two State Agencies, the Native American Heritage Commission and the Department of Transportation, which have been included in this attachment to the ND as comment letters A-1 and A-2, respectively.

Chapter 6 - References

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Chapter 7 - Report Preparation

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Section 8 APPENDICES

8.1 Glossary

ADA

An acronym for the Americans with Disabilities Act of 1990, which is a federal law prohibiting discrimination against people with disabilities and requiring that public facilities be accessible to people with disabilities. For the purposes of this plan, it refers to the standards established for accessibility by the U.S. Access under the Architectural Barriers Act.

CEQA

An acronym for the California Environmental Quality Act, which was established shortly after the federal National Environmental Policy Act in 1969. CEQA requires public involvement in and review of projects that would result in an impact on California's natural and cultural resources.

CLASSIFICATION

The designation indicating the intended use of and maintenance specifications for a particular trail.

EQUESTRIAN TRAILS

Trails that are primarily designated for use by equestrians. Hikers may also use these trails but are not the intended primary user. These trails are designed to meet the requirements of horses and their riders, protect resources, and achieve sustainability. They are not intended to be multi-use or accessible trails. The planning, layout, and design processes included herein apply to these trails, however, there are additional design criteria related to equestrian trails.

HYDROLOGY

The physical properties, distribution, and circulation of water on the surface of the land, in the soil, in underlying rocks, and in the atmosphere.

MITIGATE

Actions that are undertaken to avoid, minimize, reduce, eliminate, or rectify the adverse impacts of a management practice or trail use.

MOUNTAIN BIKE TRAIL (Bicycle Trail)

Trails that have been designated for use by non-motorized bicycles equipped for off-road use. Hikers may also use these trails but they are not the intended primary user. These trails are designed to meet the requirements of mountain bikes and their riders, protect resources, and achieve sustainability. They are not intended to be equestrian, multi-use, or accessible trails.

MULTI-USE TRAILS

For the Department, multi-use trails are designed to accommodate at least two user groups in addition to pedestrians – usually bike and horse riders. Multi-use trails can create linkages between critical access or interest points within a trail network. They are not intended to be the

solution to all trail user dispersion issues. Multi-use trails require fewer resources to construct and maintain and often minimize impacts to cultural and natural resources.

NON-SYSTEM TRAILS

Trails not recognized, designated, nor maintained by the park.

REHABILITATION

Includes all the work that is necessary to bring a trail or trail system up to classification standards, including returning a work site or a damaged area back to its original state. Trail rehabilitation, otherwise known as site restoration, is required to mitigate or correct damage or disturbance to wildlife, cultural resources, vegetation, soils, or water courses created by trail construction, maintenance, or visitor use.

SIGHT DISTANCE

Consists of the visible, unobstructed, forward and rear view as seen by a trail user from any given point on a trail.

SPECIFICATIONS

Standards to which trails and trail structures are built and maintained as determined by the trail's classification.

SUSTAINABLE TRAILS

A sustainable trail has been designed, constructed, or re-constructed to a standard that does not adversely impact natural and cultural resources and can withstand the impacts of the intended user group while receiving only routine cyclical maintenance. A sustainable trail must meet the needs of the intended user group to a degree that they do not deviate from the established trail alignment.

SYSTEM TRAILS

Trails recognized, designated, and maintained by the park.

TRAILHEAD

An access point to a trail often accompanied by various public facilities, such as a parking area, drinking water, restrooms, informational signs, and staging areas.

TRAIL LOG

An inventory of the physical features and conditions of a trail by trail footage.

WATERSHED

A region or area that is joined peripherally by a water parting formation, such as a ridge, hill, or mountain range, and that drains into the same water course or body.

WORK LOG

A detailed listing of existing trail elements and/or specific modifications (re-engineering, reconstruction, etc.) by location designed to improve trail conditions.

8.2 Visitor Survey and Responses

Visitor surveys were conducted during four periods over the course of a year in May, August, and November 2010 and February 2011. A total of 465 responses were collected. Visitors were surveyed at two locations: one in the front-country and one in the backcountry. Each survey period was conducted over two days: one weekday and one weekend.

Humboldt Redwoods State Park Road and Trail Planning Survey

Zip code of home residence: _____

If you want to be on a mailing list, print your name and address. _____

How many people typically accompany you when you make use of HRSP trails and roads?

1-2 5+
 3-5

In the past year, how many times have you used the roads and trails at HRSP:

0-5 11-20
 6-10 21+

What is your primary mode of transportation in HRSP:

Street Legal Vehicle
 Hiking
 Mountain (off-road) Bike
 Touring (on-road) Bike
 Equestrian/Stock

Your primary use of HRSP is:

Access private property
 Recreation (hiking/biking etc.)
 Scenic views
 Geocaching
 Wildlife viewing
 Historical interests

Are there enough road and trail opportunities for:

	Yes	No
Hiking	<input type="checkbox"/>	<input type="checkbox"/>
Mountain Bike	<input type="checkbox"/>	<input type="checkbox"/>
Equestrian/Stock	<input type="checkbox"/>	<input type="checkbox"/>
Street Legal Vehicle	<input type="checkbox"/>	<input type="checkbox"/>

Which areas of HRSP do you visit the most? (see map on back)

Section 1
 Section 2
 Section 3
 Section 4
 Section 5

What type of trails do you use at HRSP?

Hiking Trails
 M.U.T's
 Hiking/Equestrian

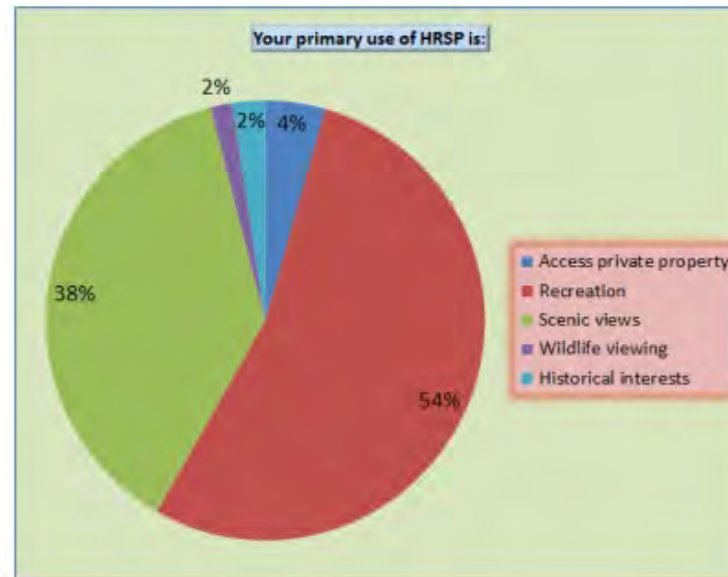
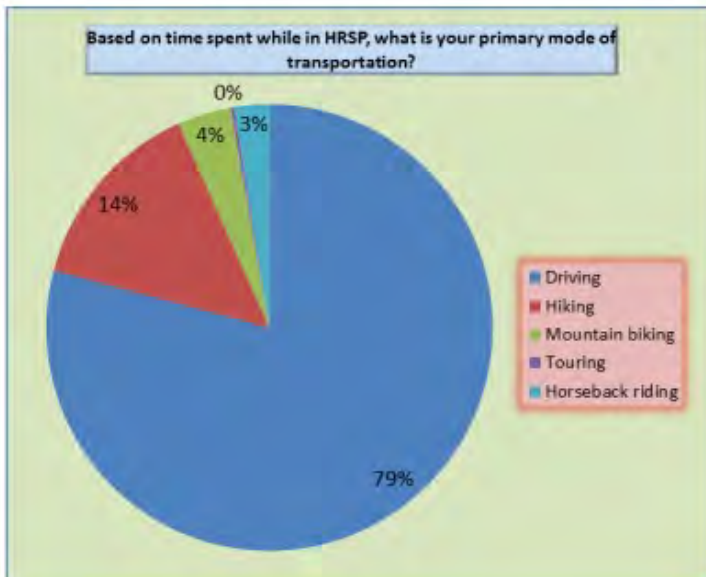
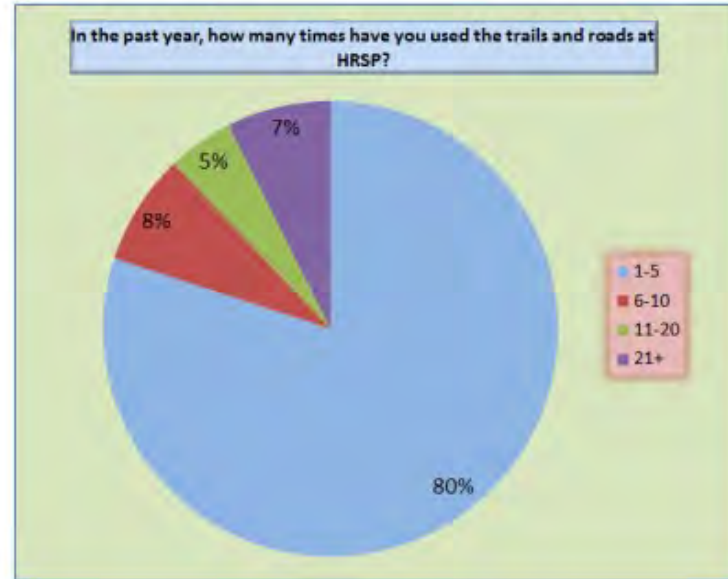
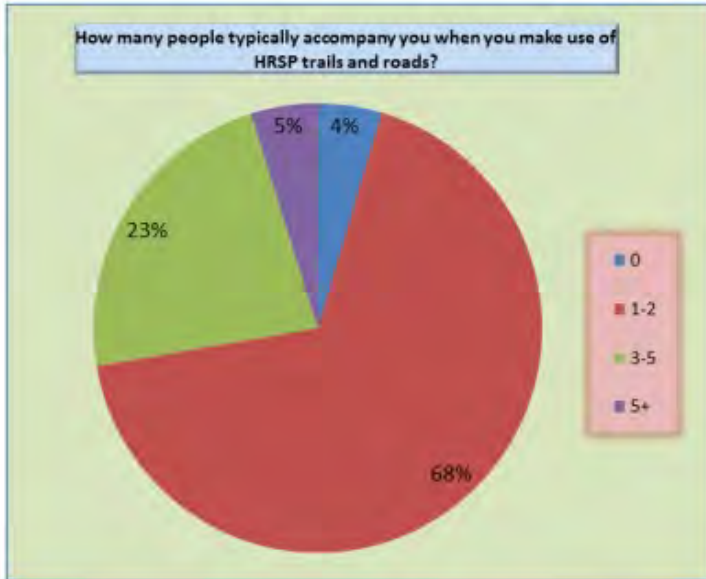
Where 1 is undesirable and 5 is extremely desirable, please indicate the degree of importance for improving/creating trails and roads in HRSP:

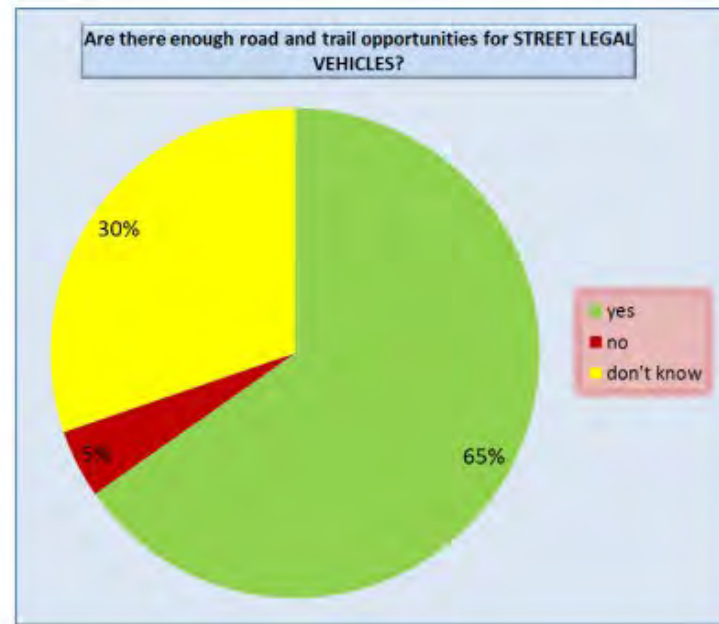
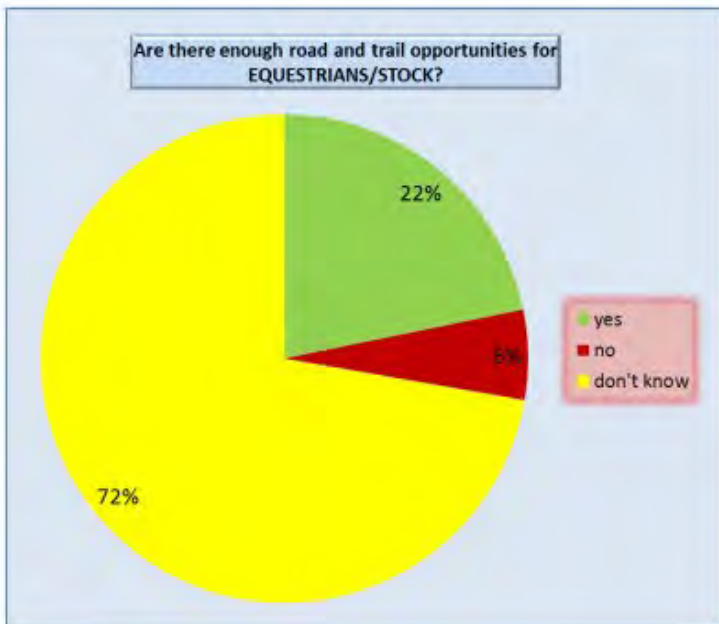
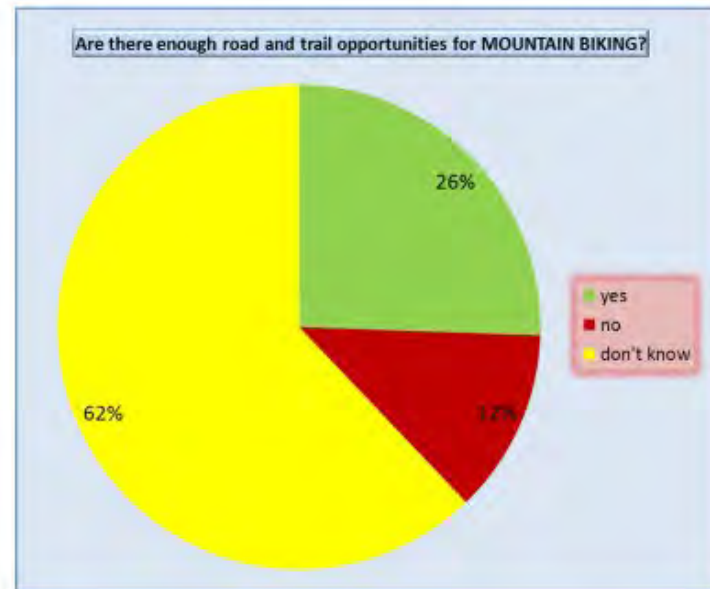
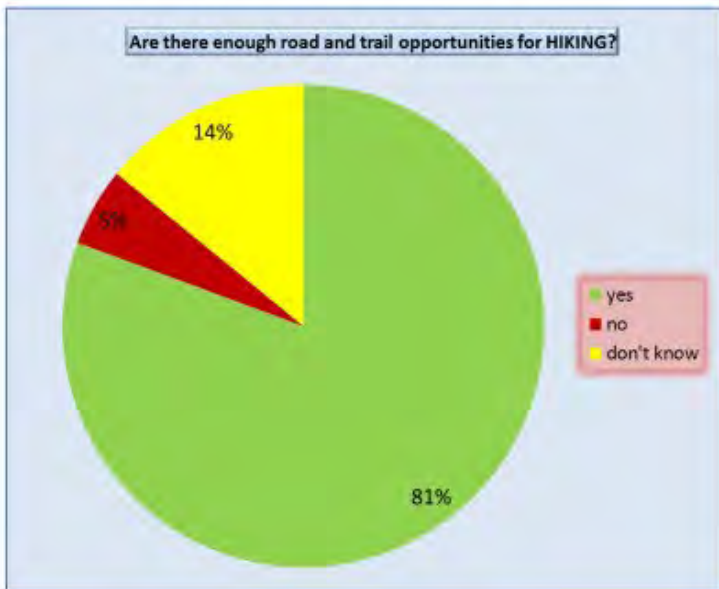
	1	2	3	4	5
Hiking trails					
Mountain bike trails					
Equestrian trails					
Accessible trails					
Access to adjacent private lands					
Trail heads/staging for equestrians					
Trail heads for hiking & mountain biking					
Solitude					
Maps and signs					
Access to views					
Street legal vehicle access					

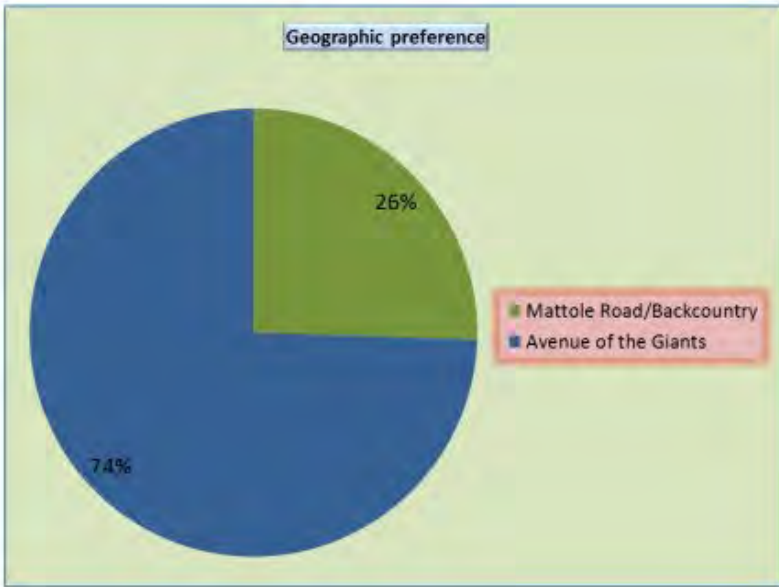
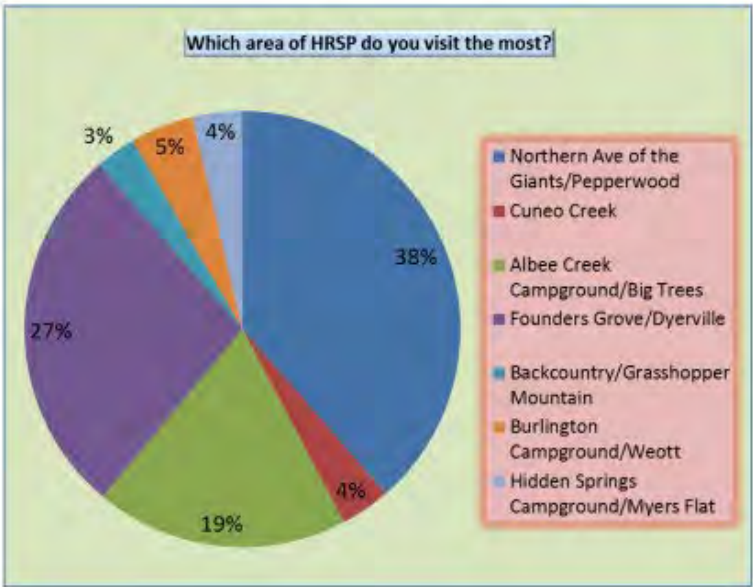
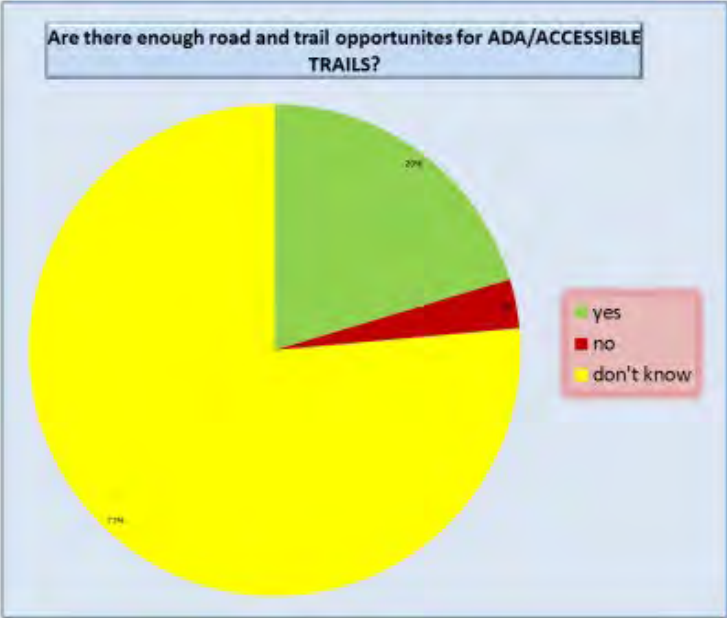
What is your favorite trail in HRSP? _____

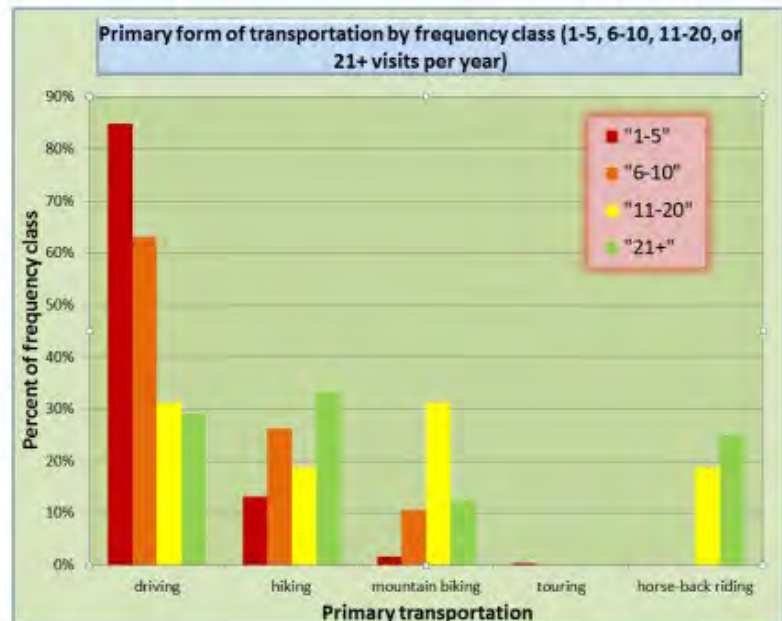
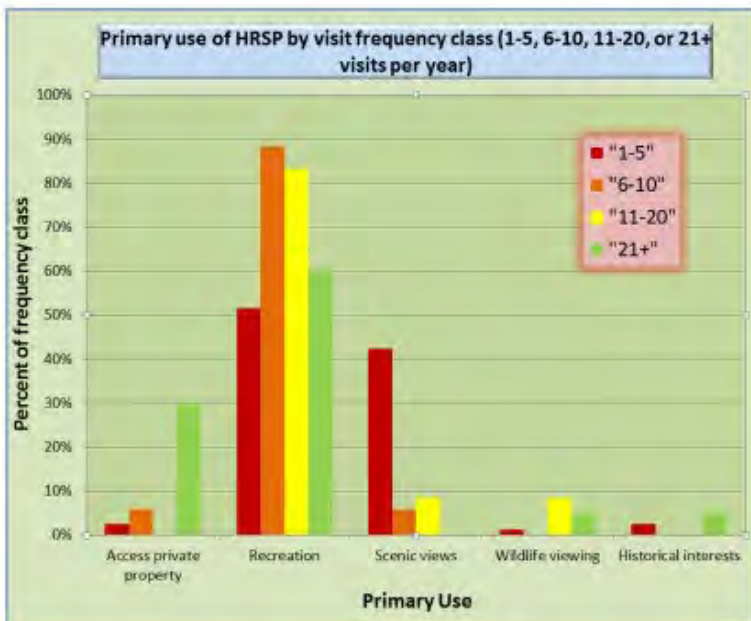
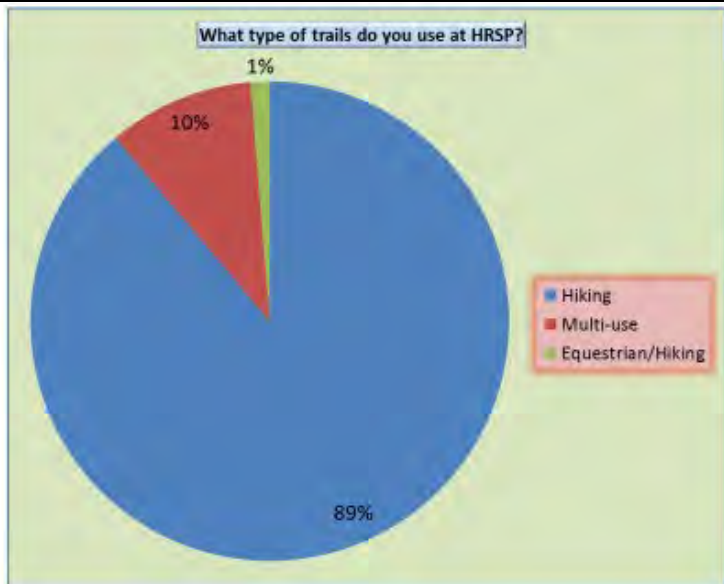
Comments?

Humboldt Redwoods SP RTMP Data Summary Charts

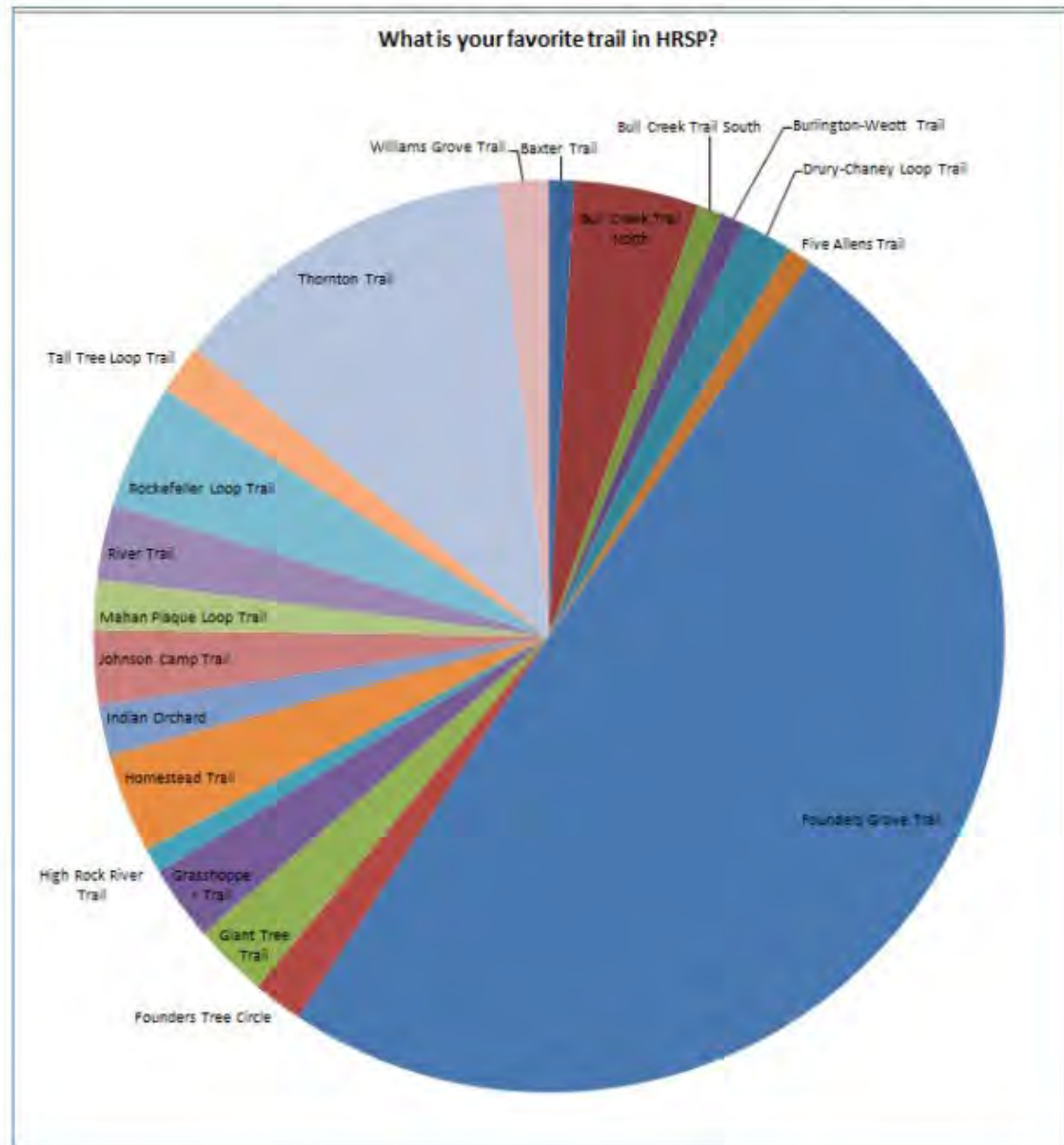


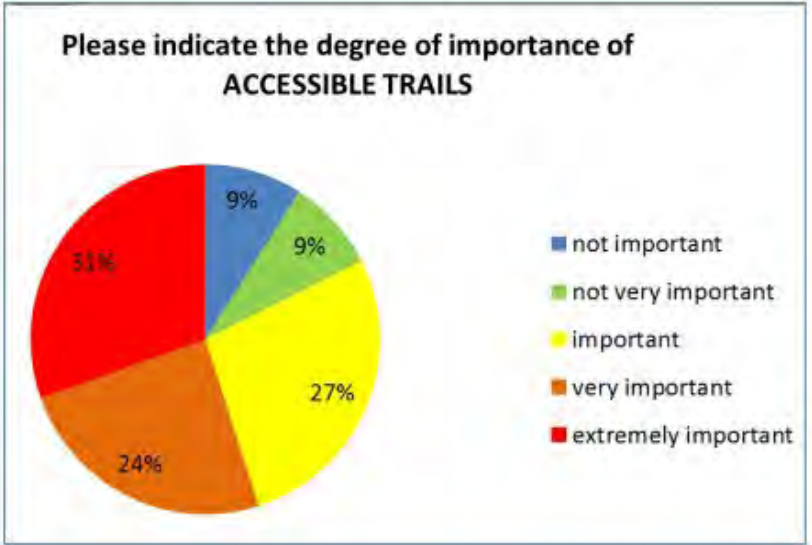
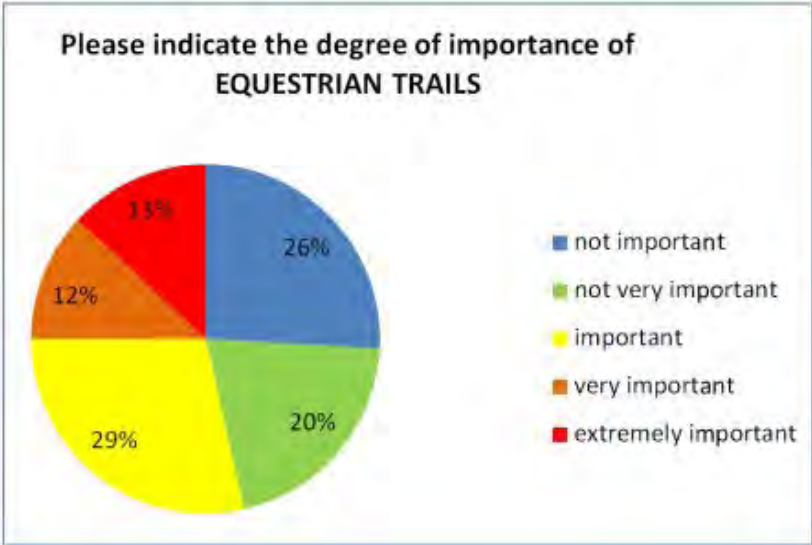
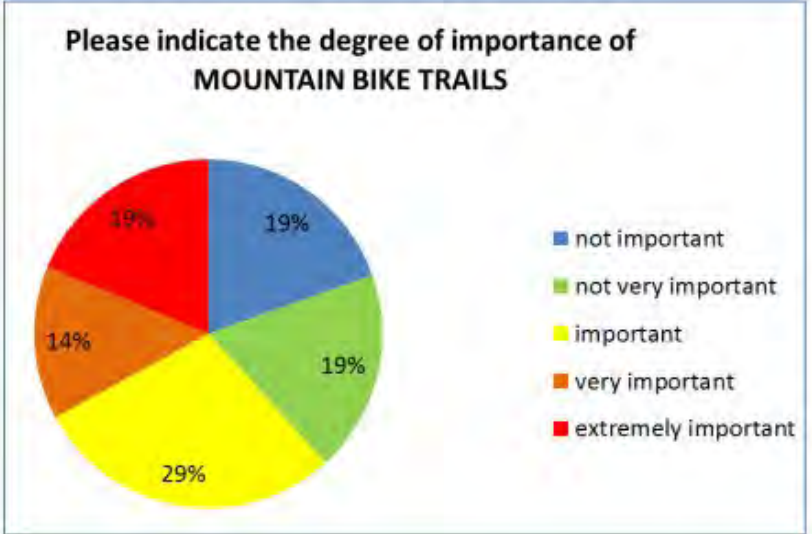




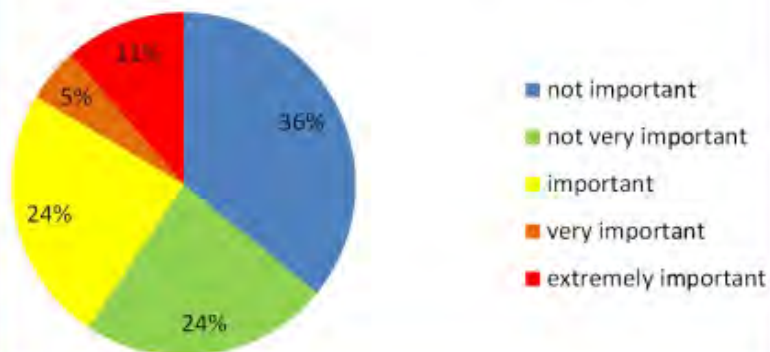


	Frequency	Percent
Baxter Trail	1	0.2%
Bull Creek Trail North	5	1.1%
Bull Creek Trail South	1	0.2%
Burlington-Weott Trail	1	0.2%
Drury-Chaney Loop Trail	2	0.4%
Five Allens Trail	1	0.2%
Founders Grove Trail	56	12.0%
Founders Tree Circle	2	0.4%
Giant Tree Trail	3	0.6%
Grasshopper Trail	3	0.6%
High Rock River Trail	1	0.2%
Homestead Trail	4	0.9%
Indian Orchard	2	0.4%
Johnson Camp Trail	3	0.6%
Mahan Plaque Loop Trail	2	0.4%
River Trail	3	0.6%
Rockefeller Loop Trail	5	1.1%
Tall Tree Loop Trail	2	0.4%
Thornton Trail	14	3.0%
Williams Grove Trail	2	0.4%
(no answer)	352	75.7%
Total	465	

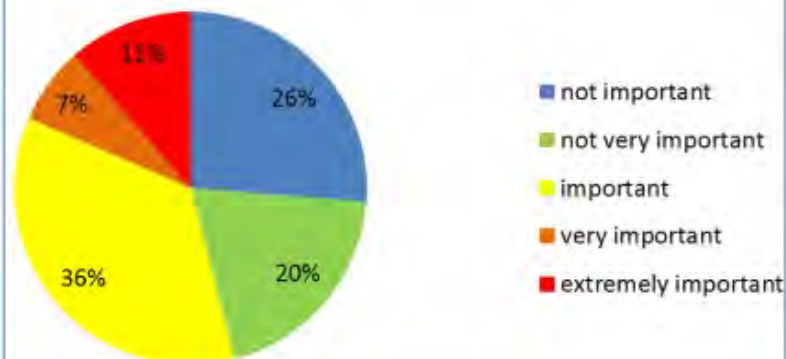




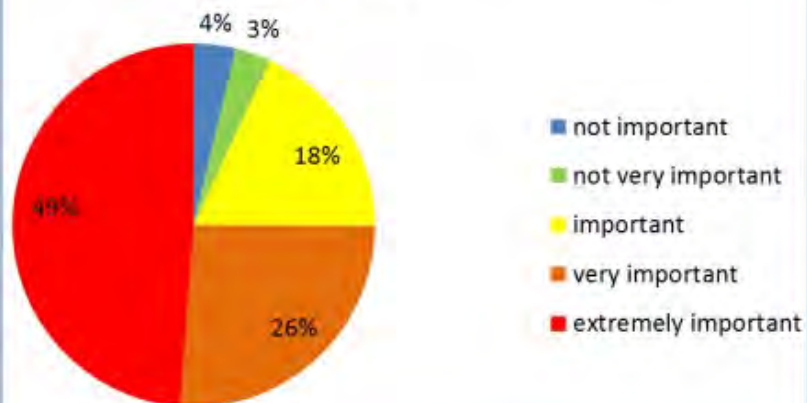
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ACCESS TO ADJACENT PRIVATE LANDS**



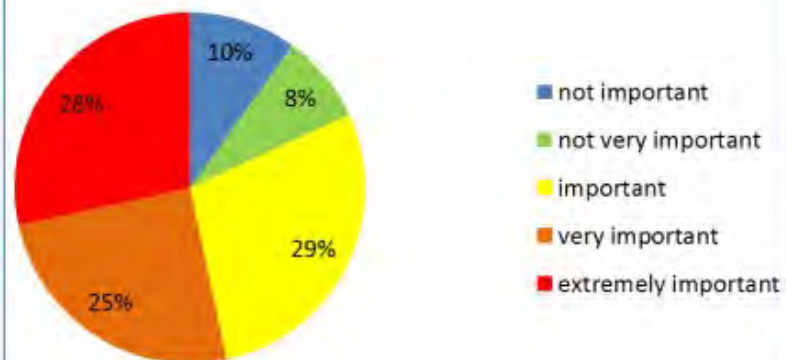
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TRAIL HEADS/STAGING FOR EQUESTRIANS**

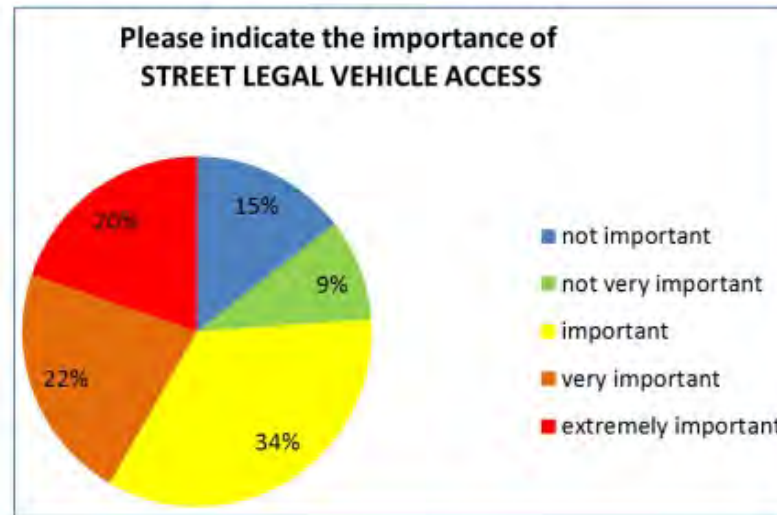
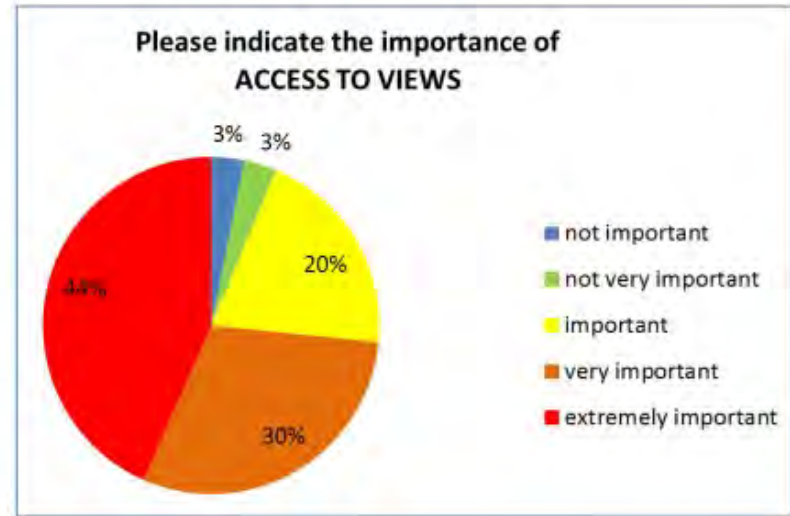
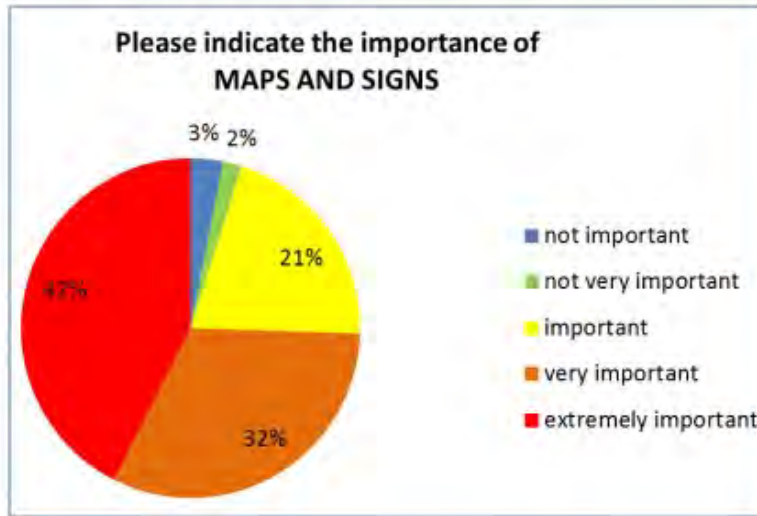


**Please indicate the degree of importance of
SOLITUDE**



**Please indicate the degree of importance of
TRAIL HEADS FOR HIKING & MOUNTAIN BIKING**





Summary of Respondent Comments

The following is a summary of comments received during the trail user survey and stakeholder meetings. Staff has reviewed each comment and incorporated recommendations where feasible.

- Safe bike trail on Avenue of the Giants
- A hike/bike trail along the Avenue of the Giants would allow a safe alternative to driving within the park, especially from campgrounds to towns and trailheads. Might also reduce the temptation to walk in/near the road to take photos, etc. (increase safety)
- Would like to see upper reaches of Bull Creek opened up again to hikers and bikers after Bull Creek Rd closure. No flat areas to ride off road/on trail and difficult for older people to ride up Look Prairie or Squaw Ridge.
- Equestrian trails that come out to and across the Eel River coming towards visitor center
- Bike legal redwoods-to-sea trail connecting HRSP to BLM trails in King Range
- Trails linking Cuneo and Kings Range (from equestrian survey)
- Connect Cuneo Creek to Headwaters
- Trail from Cuneo Creek horse camp to Bull Creek campground
- Trail from the graveyard at Cuneo to Lower Kemp Rd., maybe to the west of Bull Creek Canyon
- Connection (loop) from Fox Creek to Cuneo Creek
- Lower Bull Creek to Baxter or Fox Camp
- Trail to avoid Albee C reek
- Cross the Mattole Rd. from Upper Bull Creek to Homestead or Look Prairie
- Open Bull Creek South Trail to equestrians so you could ride a loop across Mattole Rd. to Homestead
- Bypass for Pole Line that goes down to the Homestead Trail
- Side trails to avoid Pole Line traffic and slippery road
- Trail from Hamilton Barn to Lower Thornton
- More scenic alternative to the little section of Homestead near Mattole Rd. (logging deck)
- Realign Grasshopper trail to avoid wilderness areas for bicycle loop
- Fox Camp, Squaw Creek Ridge, Grieg, Tanbark, Camp M.U.T, Perimeter and Look Prairie all good candidates for conversion to trails
- Develop mountain bike trail system around Williford M.U.T with Hidden Springs Campground as its base
- Williams Grove Trail, River Trail, Dry Creek Horse Trail, South Prairie Trail, Baxter Trail, Homestead Trail and Addie Johnson Trail all candidates to allow bikes with low user conflict.
 - Williams Grove provides moderate climbing
 - River Trail provides mild climbing, good beginner trail
 - Dry Creek Trail is near high school, providing healthy activity alternative
 - South Prairie Trail used to be bike legal and should be again
 - Baxter Trail is a nice route to Squaw Creek Ridge
 - Homestead Trail would make a complete loop connecting Look Prairie MUT, Peavine Ridge MUT, Thornton MUT, and the Homestead Trail
 - Addie Johnson Trail is a short little spur through the redwoods to a historic grave site

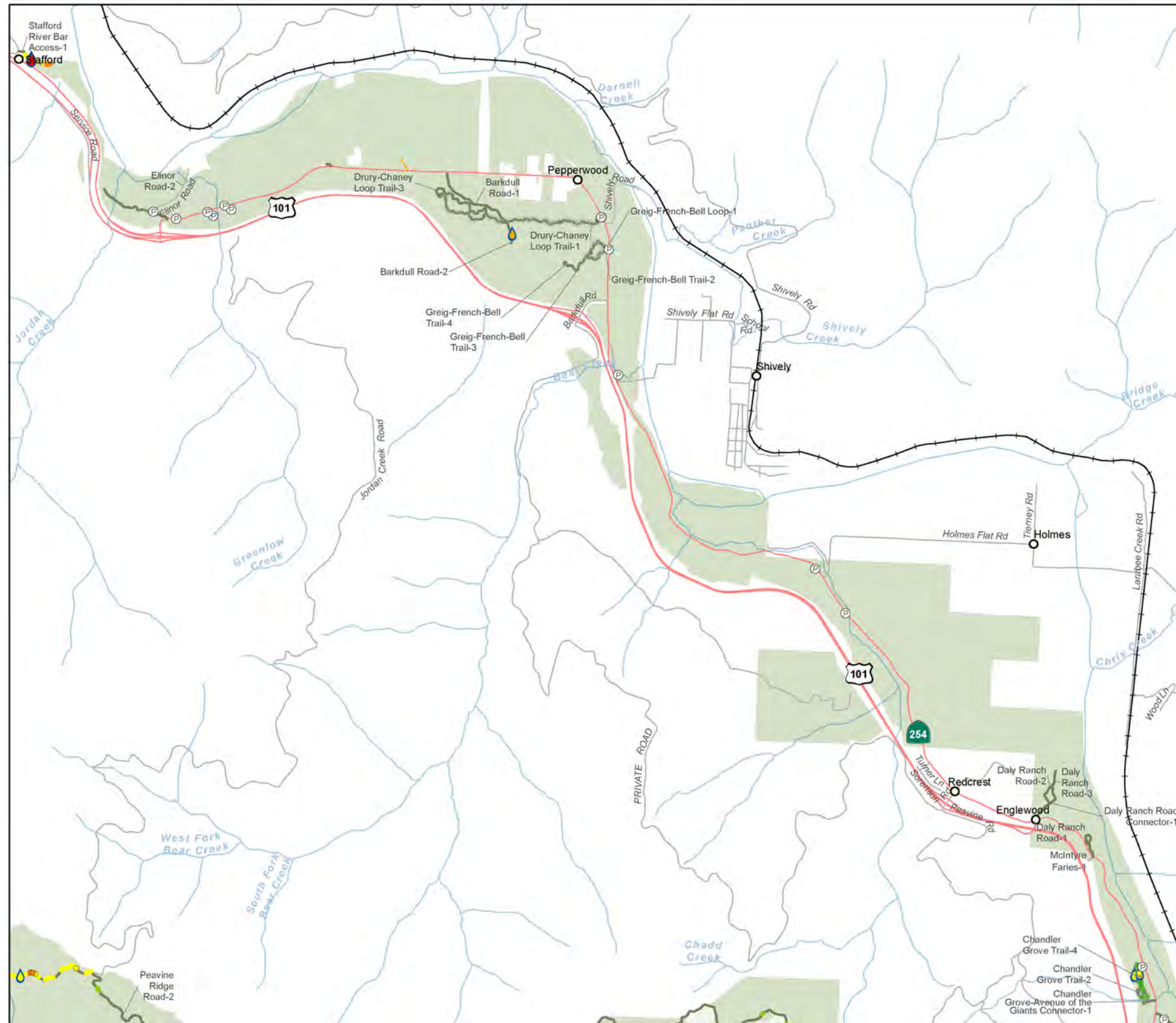
-
- Homestead (new section) to Look Prairie gets really muddy
 - Off-sloping and loose gravel on roads (Grasshopper Peak MUT, Squaw Creek Ridge MUT, etc.) creates dangerous conditions for bicyclists.

8.3 Maps: Potential Significance to Water Resources, Drainage Structure Condition Index, and Erosion Severity

The Potential Significance to Water Resources (PSWR) and Drainage Structure Condition Index (DSCI) maps show the potential for roads and trails to impact water resources through eroding sediment discharge and the condition of drainage structures, respectively. The PSWR is based on erosion severity, proximity/connectivity to water resources, and road or trail width. The higher the PSWR number, the greater the potential of the road or trail to impact water resources. The DSCI is an assessment of conditions observed in the water course or at a drainage structure. A high index indicates poor drainage condition. The Erosion Severity maps show locations of erosion along roads and trails and rates those erosional events as critical, high, moderate and slight.

Avenue of the Giants - North Area

Map: Potential Significance to Water Resources and Drainage Structure Condition Index



Potential Significance to Water Resources and Drainage Structure Condition

AVENUE OF THE GIANTS - NORTH

Potential Significance to Water Resources, and Drainage Structure Condition

Potential Significance to Water Resources (Point Features)

- 1 - 5 (least significant)
- 6 - 9 (less significant)
- 10 - 12 (moderate significance)
- 13 - 20 (higher significance)
- 21 - 64 (most significant)

Potential Significance to Water Resources (Line Features)

- 1 - 5 (least significant)
- 6 - 9 (less significance)
- 10 - 12 (moderate significance)
- 13 - 20 (higher significance)
- 21 - 64 (most significant)

Drainage Structure Problem Severity (Point Features)

- critical
- high
- moderate

Reference Features:

- Park Property
- SubUnits - Wilderness, Preserves
- Local Road
- Non-system Route
- Park Routes
- Highways
- Parking
- Railroads


Map Area Location

Scale: 1:33,960
1 inch = 2,830 feet

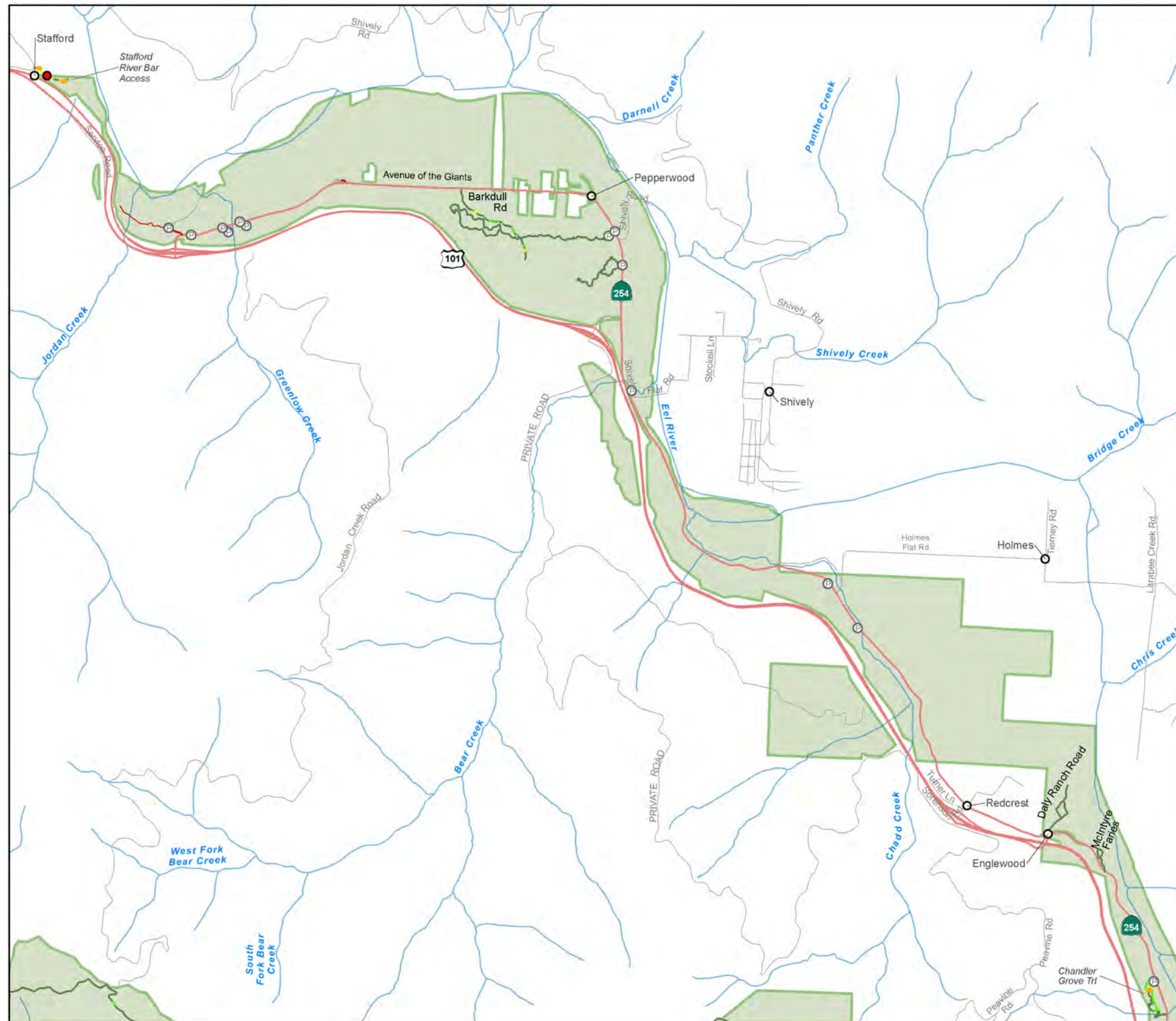
0 0.1 0.2 Miles

Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

<p>CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/22/2019</p> <p>Sources: Calif. Dept. of Parks & Recreation Other Public Lands GreenInfo, Inc.</p>	
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Map: Erosion Severity



Erosion Severity

AVENUE OF THE GIANTS - NORTH

Erosional Severity - Lines

- high
- moderate
- slight or undesignated
- No Erosional Problems Observed

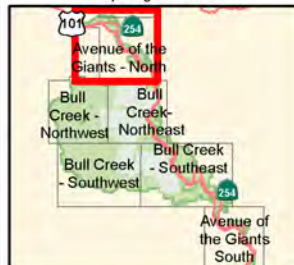
Erosional Severity - Points

- critical
- moderate

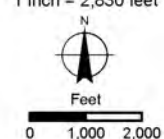
Legend

- Humboldt Redwoods State Park
- SubUnits - Wilderness, Preserves
- Streams
- Paved Park Trails
- Paved Park Roads
- Highways
- Local Road
- Parking

Map Page Location




Scale
1:33,960
1 inch = 2,830 feet



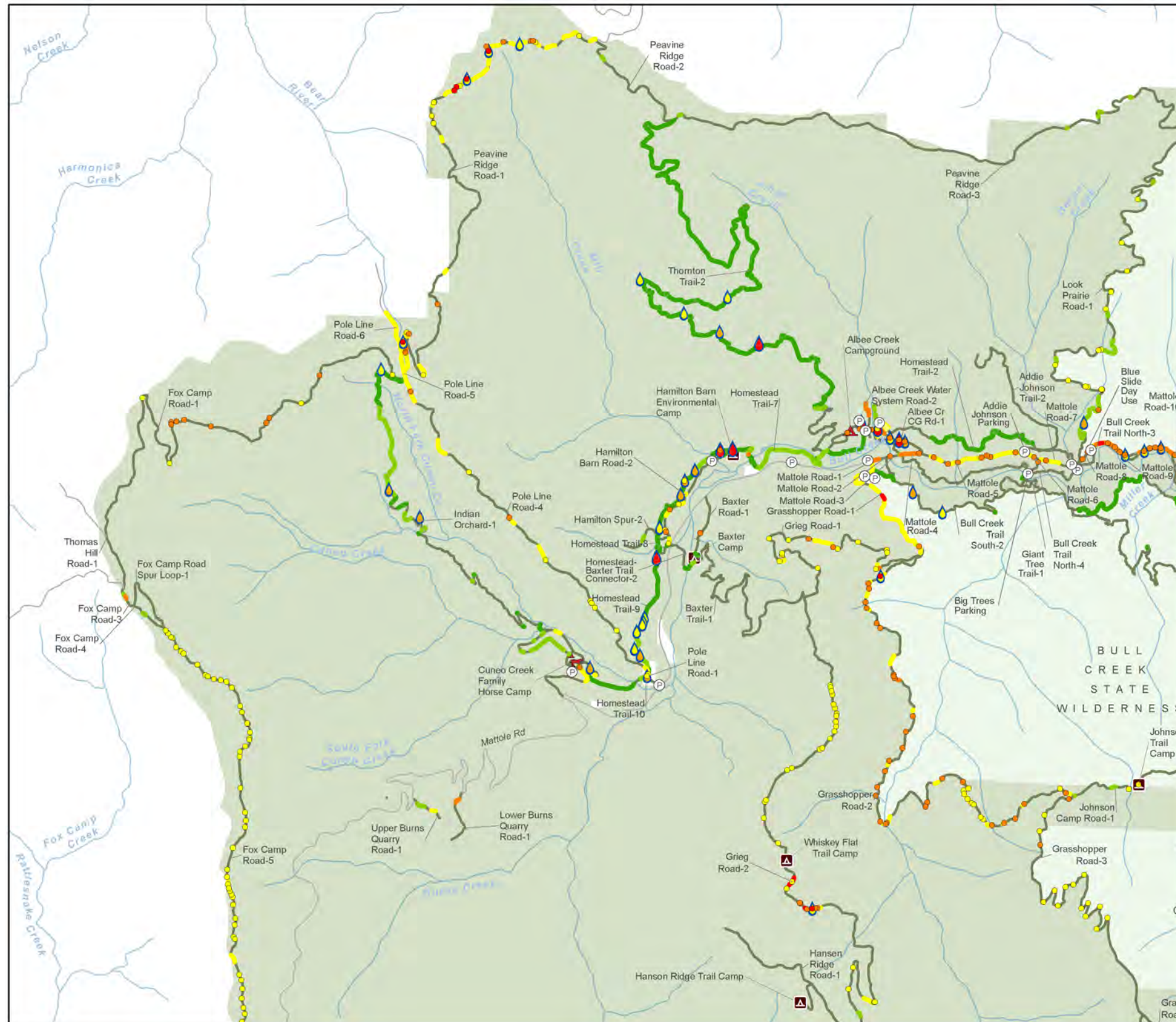
Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
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<p>CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/20/2019</p> <p>Sources: Calif. Dept. of Parks & Recreation Other Public Lands GreenInfo, Inc.</p>	
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Bull Creek - Northwest Area

Map: Potential Significance to Water Resources and Drainage Structure Condition Index



Potential Significance to Water Resources and Drainage Structure Condition

BULL CREEK - NORTHWEST

Potential Significance to Water Resources, and Drainage Structure Condition

Potential Significance to Water Resources (Point Features)

- 1 - 5 (least significant)
- 6 - 9 (less significant)
- 10 - 12 (moderate significance)
- 13 - 20 (higher significance)
- 21 - 64 (most significant)

Potential Significance to Water Resources (Line Features)

- 1 - 5 (least significant)
- 6 - 9 (less significance)
- 10 - 12 (moderate significance)
- 13 - 20 (higher significance)
- 21 - 64 (most significant)

Drainage Structure Problem Severity (Point Features)

- critical
- high
- moderate

Drainage Structure Problem Severity (Line Features)

- moderate

Reference Features:

- Park Property
- Subunits - Wilderness, Preserves
- Campground-Other category
- Campground
- Horse Camp
- Local Road
- Park Routes
- Highways
- Parking

Map Area Location

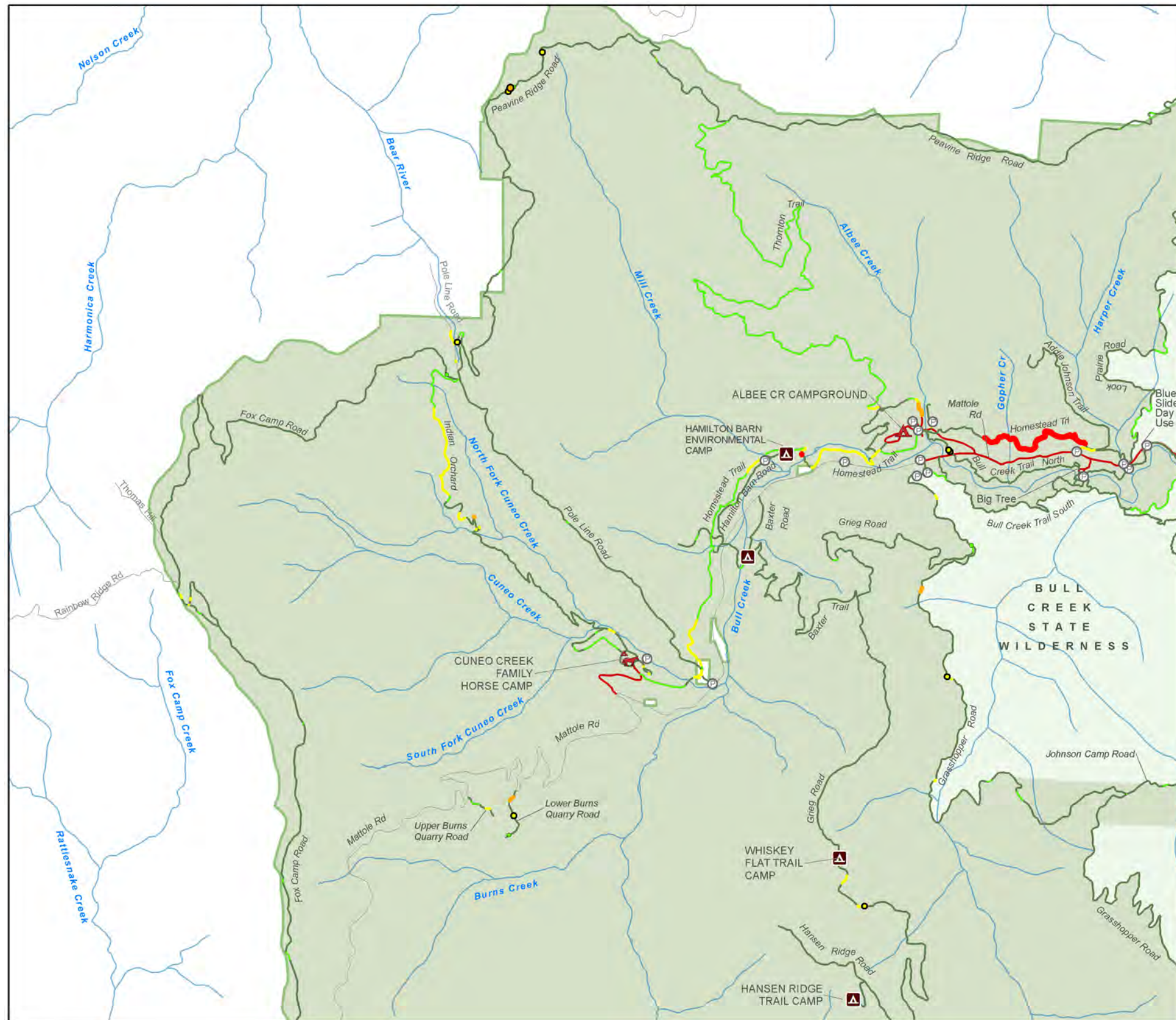
Scale: 1:31,740
1 inch = 2,645 feet

Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
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<p>CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/21/2019 Sources: Calif. Dept. of Parks & Recreation Other Public Lands GreenInfo, Inc.</p>	
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Map: Erosion Severity



Erosion Severity

BULL CREEK - NORTHWEST

Erosional Severity - Lines

- critical
- high
- moderate
- slight or undesignated
- No Erosional Problems Observed

Erosional Severity - Points

- high
- moderate
- slight or undesignated

Legend:

- Humboldt Redwoods State Park
- Subunits - Wilderness, Preserves
- ▲ Campground-Other category
- ▲ Campground
- ▲ Horse Camp
- Streams
- Paved Park Roads
- Local Road
- P Parking

Map Page Location

Scale
1:31,790
1 inch = 2,649 feet

Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
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<p>CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/21/2019</p> <p>Sources: Calif. Dept. of Parks & Recreation Other Public Lands GreenInfo, Inc.</p>	
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Bull Creek - Northeast Area

Map: Potential Significance to Water Resources and Drainage Structure Condition Index



Potential Significance to Water Resources and Drainage Structure Condition

BULL CREEK - NORTHEAST

Potential Significance to Water Resources, and Drainage Structure Condition

Potential Significance to Water Resources (Point Features)

- 1 - 5 (least significant)
- 6 - 9 (less significant)
- 10 - 12 (moderate significance)
- 13 - 20 (higher significance)
- 21 - 64 (most significant)

Potential Significance to Water Resources (Line Features)

- 1 - 5 (least significant)
- 6 - 9 (less significance)
- 10 - 12 (moderate significance)
- 13 - 20 (higher significance)
- 21 - 64 (most significant)

Drainage Structure Problem Severity (Point Features)

- critical
- high
- moderate

Drainage Structure Problem Severity (Line Features)

- high
- moderate

Reference Features:


- Park Property
- Subunits - Wilderness, Preserves
- Campground-Other category
- Local Road
- Non-system Route
- Park Routes
- Highways
- Parking
- Railroads

Map Area Location

Scale: 1:29,980
1 inch = 2,498 feet

Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
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<p>CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/22/2019 Sources: Calif. Dept. of Parks & Recreation Other Public Lands GreenInfo, Inc.</p>	
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Map: Erosion Severity



Erosion Severity

BULL CREEK - NORTHEAST

Erosional Severity - Lines

- critical
- high
- moderate
- slight or undesignated
- No Erosional Problems Observed

Erosional Severity - Points

- moderate
- slight or undesignated

Legend:

- Humboldt Redwoods State Park
- Subunits - Wilderness, Preserves
- A Campground-Other category
- Streams
- Paved Park Roads
- Highways
- Local Road
- P Parking

Map Page Location

Scale
1:30,030
1 inch = 2,502 feet

Humboldt Redwoods State Park Road and Trail Management Plan

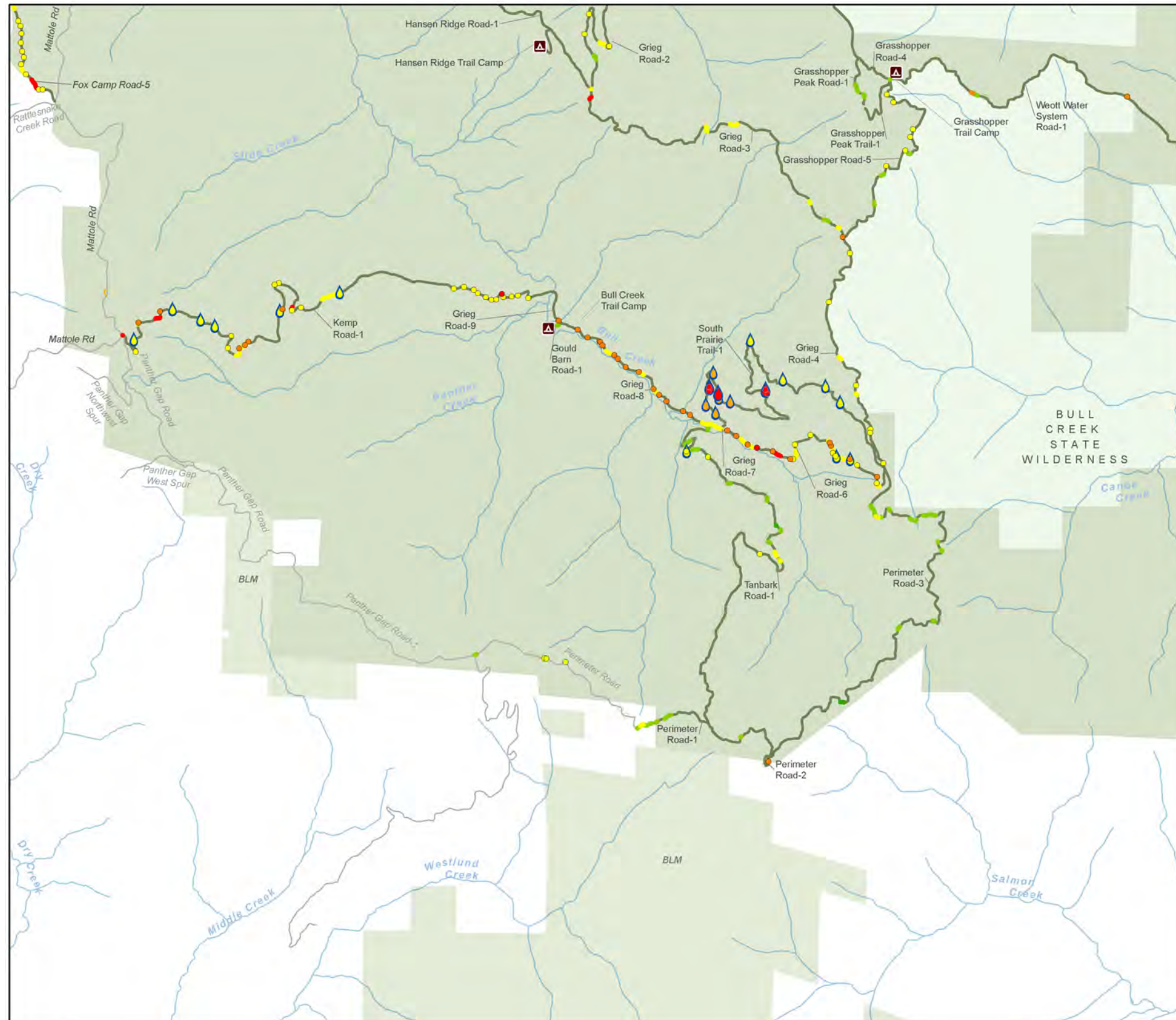
NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION

Date: 3/20/2019
Sources:
Calif. Dept. of Parks & Recreation
Other Public Lands
GreenInfo, Inc.

Bull Creek - Southwest Area

Map: Potential Significance to Water Resources and Drainage Structure Condition Index



Potential Significance to Water Resources and Drainage Structure Condition

BULL CREEK - SOUTHWEST

Potential Significance to Water Resources, and Drainage Structure Condition

Potential Significance to Water Resources (PointFeatures)

- 1 - 5 (least significant)
- 6 - 9 (less significant)
- 10 - 12 (moderate significance)
- 13 - 20 (higher significance)
- 21 - 64 (most significant)

Potential Significance to Water Resources (Line Features)

- 1 - 5 (least significant)
- 6 - 9 (less significance)
- 10 - 12 (moderate significance)
- 13 - 20 (higher significance)
- 21 - 64 (most significant)

Drainage Structure Problem Severity (Point Features)

- critical
- high
- moderate

Reference Features:

- Park Property
- Subunits - Wilderness, Preserves
- Campground-Other category
- Other Public Lands
- Local Road
- Non-system Route
- Park Routes
- Parking

Map Area Location

Scale
1:34,140
1 inch = 2,845 feet

Humboldt Redwoods State Park Road and Trail Management Plan

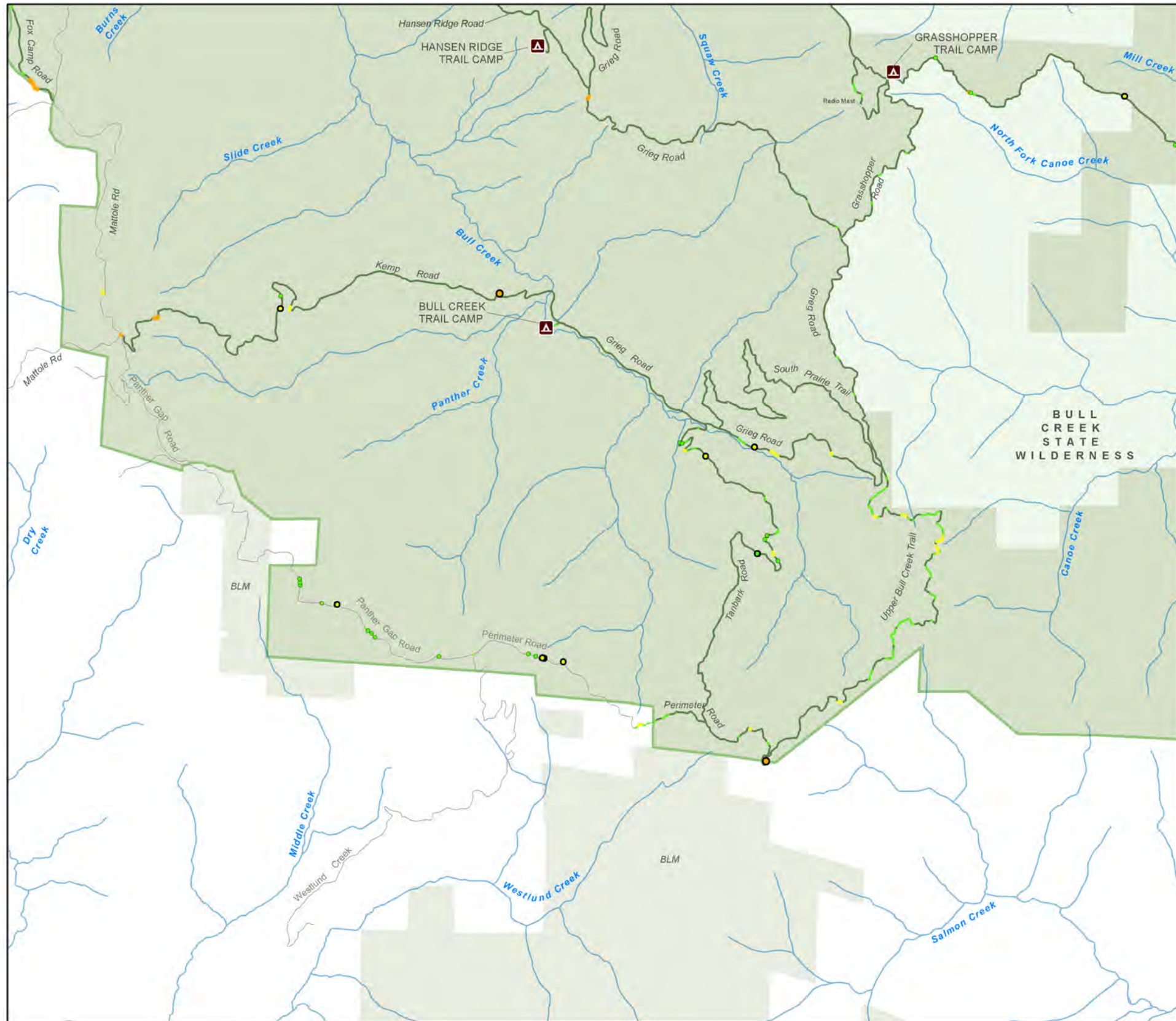
NOTES:
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CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION

Date: 3/22/2019

Sources:
Calif. Dept. of Parks & Recreation
Other Public Lands
GreenInfo, Inc.

Map: Erosion Severity



Erosion Severity

BULL CREEK - SOUTHWEST

Erosional Severity - Lines

- high
- moderate
- slight or undesignated
- No Erosional Problems Observed

Erosional Severity - Points

- high
- moderate
- slight or undesignated

Legend:

- Humboldt Redwoods State Park
- Subunits - Wilderness, Preserves
- ▲ Campground-Other category
- Streams
- Local Road
- Parking

Map Page Location

Scale

1:34,140

1 inch = 2,845 feet

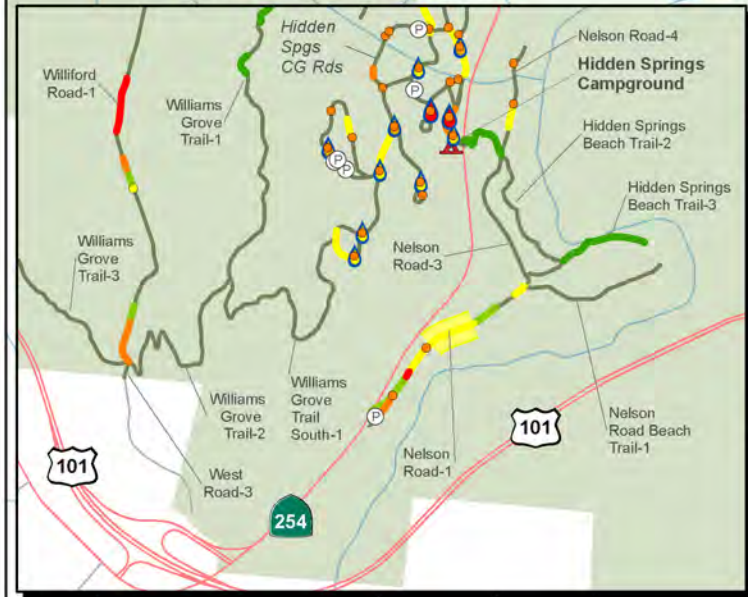
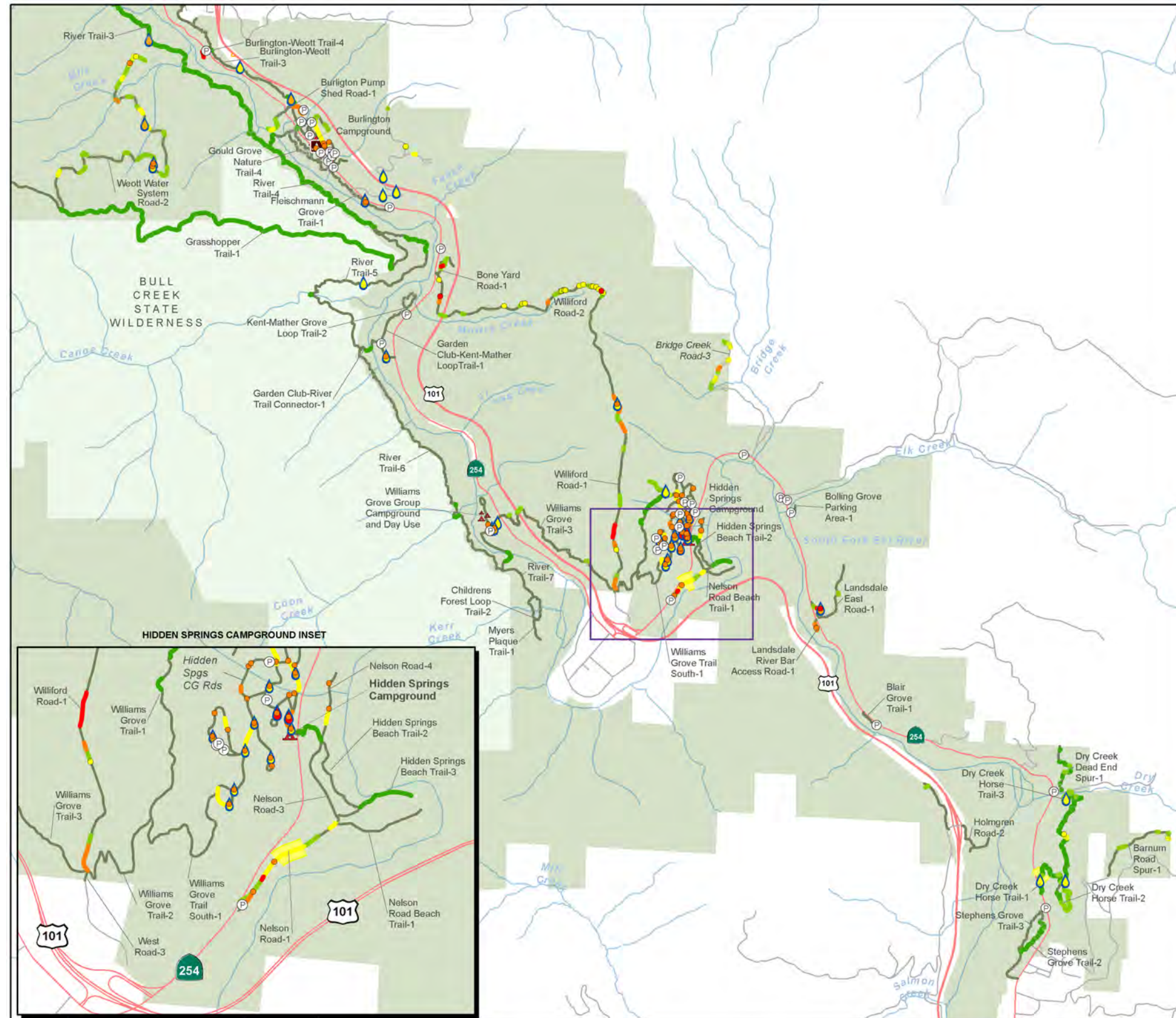
Humboldt Redwoods State Park
Road and Trail Management Plan

NOTES:
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<p>CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/21/2019</p> <p>Sources: Calif. Dept. of Parks & Recreation Other Public Lands GreenInfo, Inc.</p>	
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Bull Creek - Southeast Area

Map: Potential Significance to Water Resources and Drainage Structure Condition Index



Potential Significance to Water Resources and Drainage Structure Condition

BULL CREEK - SOUTHEAST

Potential Significance to Water Resources, and Drainage Structure Condition

Potential Significance to Water Resources (Point Features)

- 1 - 5 (least significant)
- 6 - 9 (less significant)
- 10 - 12 (moderate significance)
- 13 - 20 (higher significance)
- 21 - 64 (most significant)

Potential Significance to Water Resources (Line Features)

- 1 - 5 (least significant)
- 6 - 9 (less significance)
- 10 - 12 (moderate significance)
- 13 - 20 (higher significance)
- 21 - 64 (most significant)

Drainage Structure Problem Severity (Point Features)

- critical
- high
- moderate

Drainage Structure Problem Severity (Line Features)

- moderate

Reference Features:

- Park Property
- SubUnits - Wilderness, Preserves
- Campground-Other category
- Campground
- Group Camp
- Local Road
- Non-system Route
- Park Routes
- Highways
- Parking

Map Area Location

Scale
1:37,670
1 inch = 3,139 feet

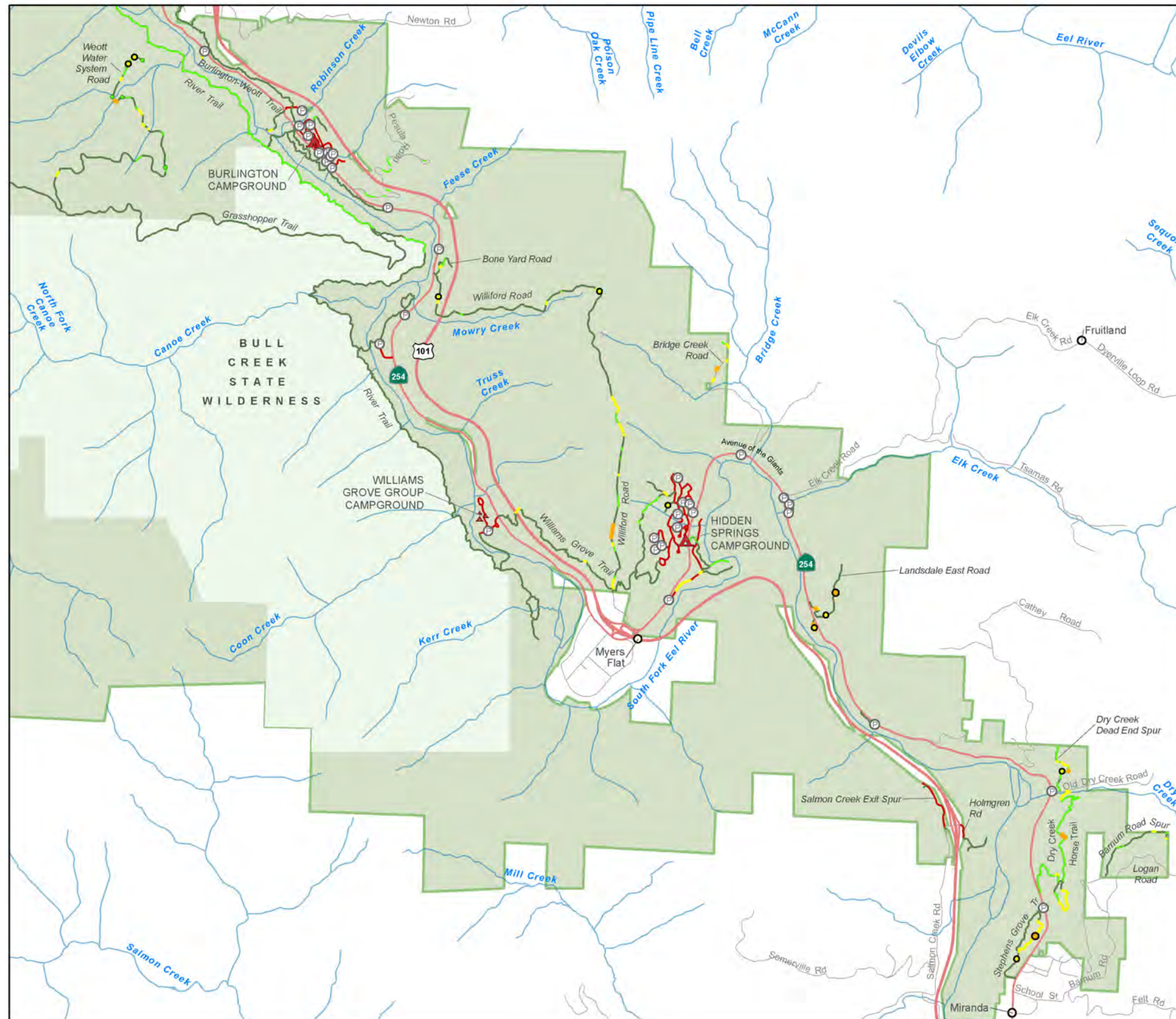
Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION

Date: 3/22/2019
Sources:
Calif. Dept. of Parks & Recreation
Other Public Lands
GreenInfo, Inc.

Map: Erosion Severity



Erosion Severity

BULL CREEK - SOUTHEAST

Erosional Severity - Lines

- high
- moderate
- slight or undesignated
- No Erosional Problems Observed

Erosional Severity - Points

- high
- moderate
- slight or undesignated

Legend:

- ▭ Humboldt Redwoods State Park
- ▭ Subunits - Wilderness, Preserves
- ▲ Campground
- ▲ Group Camp
- Streams
- Paved Park Roads
- Highways
- Local Road
- P Parking

Map Page Location

Scale
1:37,670
1 inch = 3,139 feet

Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

<p>CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/21/2019</p> <p>Sources: Calif. Dept. of Parks & Recreation Other Public Lands GreenInfo, Inc.</p>	
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Avenue of the Giants - South Area

Map: Potential Significance to Water Resources and Drainage Structure Condition Index



Potential Significance to Water Resources and Drainage Structure Condition

AVENUE OF THE GIANTS - SOUTH

Potential Significance to Water Resources, and Drainage Structure Condition

Potential Significance to Water Resources (Point Features)

- 1 - 5 (least significant)
- 6 - 9 (less significant)
- 10 - 12 (moderate significance)
- 13 - 20 (higher significance)
- 21 - 64 (most significant)

Potential Significance to Water Resources (Line Features)

- 1 - 5 (least significant)
- 6 - 9 (less significance)
- 10 - 12 (moderate significance)
- 13 - 20 (higher significance)
- 21 - 64 (most significant)

Drainage Structure Problem Severity (Point Features)

- critical
- high
- moderate

Reference Features:

- Park Property
- Local Road
- Park Routes
- Highways
- Other Public Lands
- Restricted Access
- Parking

Map Area Location

Scale
1:30,000
1 inch = 2,500 feet

0 0.1 0.2 Miles

Humboldt Redwoods State Park Road and Trail Management Plan

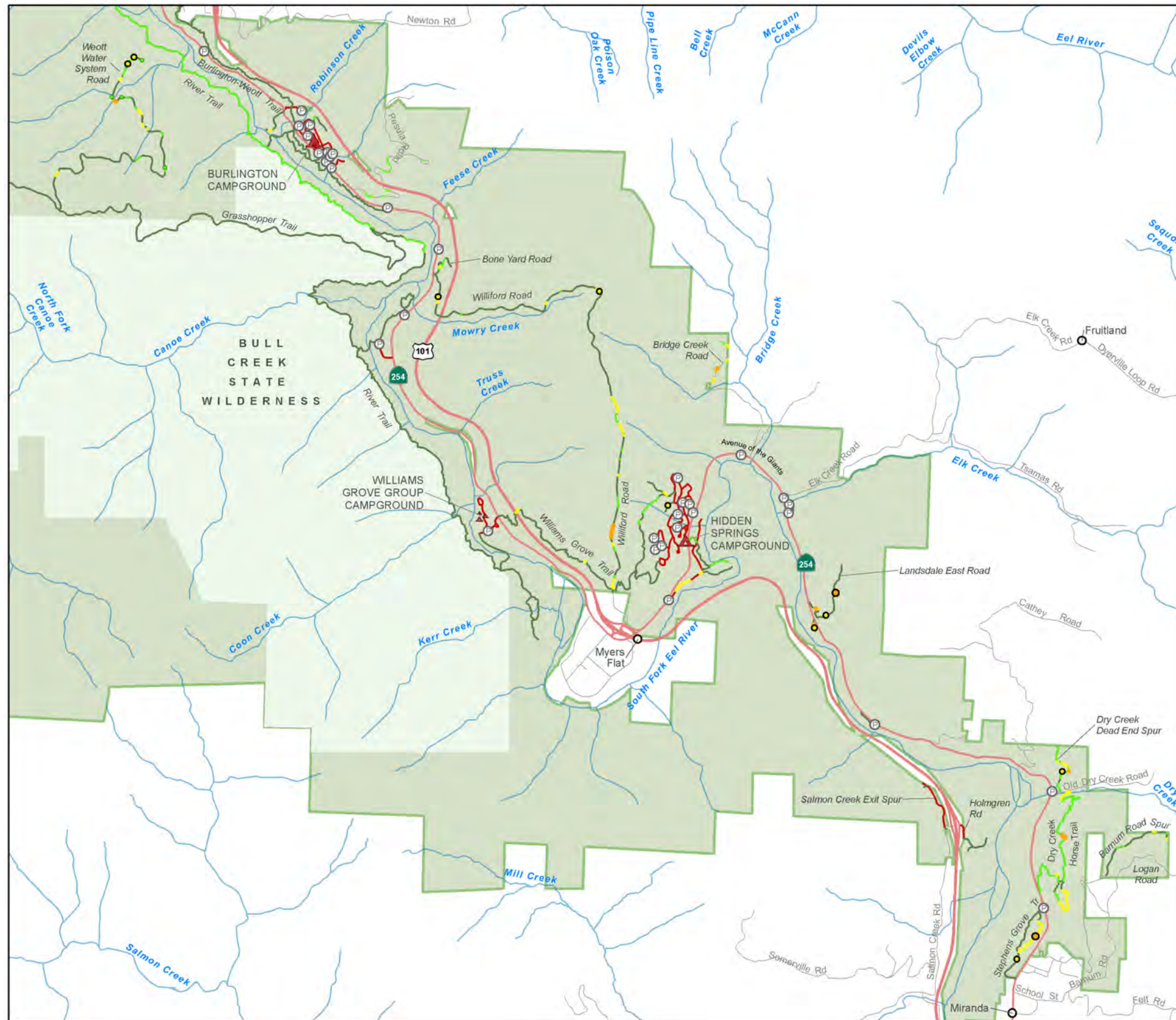
NOTES:
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CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION

Date: 3/21/2019

Sources:
Calif. Dept. of Parks & Recreation
Other Public Lands
GreenInfo, Inc.

Map: Erosion Severity



Erosion Severity

BULL CREEK - SOUTHEAST

Erosional Severity - Lines

- high
- moderate
- slight or undesignated
- No Erosional Problems Observed

Erosional Severity - Points

- high
- moderate
- slight or undesignated

Legend:

- Humboldt Redwoods State Park
- Subunits - Wilderness, Preserves
- ▲ Campground
- ▲ Group Camp
- Streams
- Paved Park Roads
- Highways
- Local Road
- P Parking

Map Page Location

Scale
1:37,670
1 inch = 3,139 feet

Humboldt Redwoods State Park Road and Trail Management Plan

NOTES:
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<p>CALIFORNIA STATE PARKS NORTH COAST REDWOODS DISTRICT & FACILITIES MANAGEMENT DIVISION</p>	<p>Date: 3/21/2019</p> <p>Sources: Calif. Dept. of Parks & Recreation Other Public Lands GreenInfo, Inc.</p>	
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8.4 Maintenance Recommendations Matrix

The Maintenance Recommendations Matrix shows individual road and trail segments, length, and associated recommendation. Those segments not identified below for “Reconstruct/Re-engineer” or “Remove” (checked boxes) will be maintained per departmental standards. Recommendations are made by road or trail segment and may apply to only a portion of the segment (e.g. a road with a “reroute” recommendation may only require reroute(s) in specific location(s) and not the whole road segment).

Humboldt Redwoods State Park Road and Trail Management Plan Maintenance Recommendations by Segment ID

Segment ID	Sement Length (ft)	Sustainable with Reconstruction / Re-engineering	Unsustainable. Reroute / Reconstruct /	Remove
119-Addie Johnson Trail-1	521	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Addie Johnson Trail-2	5,415	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Agnes Johnson School Spur-1-1	110	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Agnes Johnson School Spur-2-1	229	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Albee Campground-Homestead Connector-1	289	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Albee Campground-Bull Creek Trail North Connector-1	1,260	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Albee Campground-Bull Creek Trail South Connector-1	712	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Albee Creek Campground East Loop-1	489	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Albee Creek Campground Overflow Road Loop-1	242	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Albee Creek Campground Overflow Road-1	486	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Albee Creek Campground Road-1	1,237	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Albee Creek Campground Road-2	206	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Albee Creek Campground Road-3	138	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Albee Creek Campground Road-4	158	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Albee Creek Campground Road-5	48	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Albee Creek Campground Road-6		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Albee Creek Campground South Spur-1	182	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Albee Creek Campground West Loop-1	322	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Albee Creek Campground West Loop-2	528	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Albee Creek Water System Road-1	414	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Albee Creek Water System Road-2	443	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Albee Wood Shed Road-1	254	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Alexander Bar Access Road-1	230	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Alexander Bar Access Road-2	407	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Avenue Pull Out-1	229	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Barkdull Road-1	2,520	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Barkdull Road-2	659	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Barnum Road Spur-1	2,935	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Baxter Camp 2 Trail-1	384	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Baxter Road-1	1,268	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Baxter Trail-1	10,539	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Baxter Trail-2	207	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Baxter Trail-3	414	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Segment ID	Sement Length (ft)	Sustainable with Reconstruction / Re-engineering	Unsustainable. Reroute / Reconstruct /	Remove
119-Big Cut Trail-1	151	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Big Cut Trail-2	940	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Big Cut Trail-3	3,861	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Big Tree Entrance Road-1	361	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Big Tree Loop Road-1	153	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Blair Grove Trail-1	615	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Bolling Grove Parking Area-0		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Bolling Grove Parking Area-1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Bone Yard Road Connector-1	101	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Bone Yard Road-1	1,220	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Bridge Creek Road-3	2,480	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Bull Creek Trail North-1	111	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Bull Creek Trail North-2	17,565	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Bull Creek Trail North-3	717	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Bull Creek Trail North-4	1,776	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Bull Creek Trail North-6	97	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Bull Creek Trail North-7	96	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Bull Creek Trail North-8	4,200	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Bull Creek Trail North-South Connector-1	843	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Bull Creek Trail South-1	701	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Bull Creek Trail South-2	4,948	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Bull Creek Trail South-3	1,043	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Bull Creek Trail South-4	1,280	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Bull Creek Trail South-5	17,883	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Bull Creek Trail South-Giant Tree Connector-1	374	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Bull Creek Trail South-Giant Tree Connector-2	1,084	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Pump Shed Road-1	1,180	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Campground Campsite Loop-1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Campground Entrance Connector-1	236	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Campground Entrance Loop-1	151	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Campground River Access Trail-1	372	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Campground Road North Loop-1	433	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Campground Road North Loop-2	766	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Campground Road North Loop-3	266	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Campground Road South Loop-1	323	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Campground Road South Loop-2	226	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Campground Road South Loop-3	164	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Campground Road South Loop-4	396	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Segment ID	Sement Length (ft)	Sustainable with Reconstruction / Re-engineering	Unsustainable. Reroute / Reconstruct /	Remove
119-Burlington Campground Road South Loop-5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Headquarters Loop-1	170	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Headquarters Loop-2	304	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Headquarters Loop-3		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Headquarters Loop-4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Headquarters Loop-5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Headquarters Parking Loop-1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Residence Loop-1	408	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Residence Road-1	106	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Residence Road-2	202	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Residence Road-3	107	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Residence Road-4	216	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Residence Road-5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington Shop Parking Road-1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington-River Trail Connector-1	1,090	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington-Weott Gould Bar Connector Link-1	57	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington-Weott Gould Bar Connector-1	220	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington-Weott Gould Bar Connector-2	67	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington-Weott Trail River Access Trail Link-1	186	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington-Weott Trail River Access Trail Link-2	98	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington-Weott Trail-1	211	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington-Weott Trail-2	562	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington-Weott Trail-3	3,711	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington-Weott Trail-4	120	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington-Weott Trail-5	1,071	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington-Weott Trail-6	973	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Burlington-Weott Trail-7	1,046	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Chandler Grove Cutoff-1	159	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
119-Chandler Grove Trail-1	219	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Chandler Grove Trail-2	648	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Chandler Grove Trail-3	1,028	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Chandler Grove Trail-4	533	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Chandler Grove-Avenue of the Giants Connector-1	741	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Childrens Forest Loop Trail-1	1,015	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Childrens Forest Loop Trail-2	870	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Cuneo Horse Camp Inner Site Access-1	434	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Cuneo Horse Camp Loop Road-1	1,413	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Cuneo Horse Camp Road-1	2,017	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Segment ID	Sement Length (ft)	Sustainable with Reconstruction / Re-engineering	Unsustainable. Reroute / Reconstruct /	Remove
119-Cuneo Horse Camp South Loop-1	962	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Cuneo Horse Camp-Indian Orchard Connector-1	3,684	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Daly Ranch Road Connector-1	625	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Daly Ranch Road-1	665	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Daly Ranch Road-2	615	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Daly Ranch Road-3	530	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Drury-Chaney Loop Trail-1	3,270	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Drury-Chaney Loop Trail-2	725	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Drury-Chaney Loop Trail-3	4,791	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Dry Creek Dead End Spur-1	2,081	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
119-Dry Creek Horse Trail Cutoff-1	167	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Dry Creek Horse Trail-1	2,112	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Dry Creek Horse Trail-2	2,411	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Dry Creek Horse Trail-3	5,056	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Dyerville Bar Access Road-1	671	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Dyerville Giant Root Spur-1	53	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Dyerville Loop Road-1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Elinor Road-1	474	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Elinor Road-2	1,598	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Elizabeth Achelis Grove Trail-1	791	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Five Allens Trail-1	5,860	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Five Allens Trail-2	193	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Flat Iron Tree Trail-1	169	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Fleischmann Grove Trail-1	3,325	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Founders Grove Parking Lot-1	185	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Founders Grove Trail Interpretive Spur-1	92	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Founders Grove Trail-1	116	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Founders Grove Trail-2	157	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Founders Grove Trail-3	100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Founders Grove Trail-4	480	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Founders Grove Trail-5	531	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Founders Grove Trail-6	53	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Founders Grove Trail-7	1,195	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Founders Grove Trail-8	67	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Founders Grove Trail-Parking Link-1	121	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Founders Grove Trail-Parking Link-2	86	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Founders Grove-Mahan Plaque Trail Connector Link-2-1	26	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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119-Founders Grove-Mahan Plaque Trail Connector-1	958	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Founders Grove-Mahan Plaque Trail Connector-2	30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Founders Tree Circle-1	156	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Fox Camp Road Spur Loop-1	2,197	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Fox Camp Road-1	16,470	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Fox Camp Road-2	1,499	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Fox Camp Road-3	634	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Fox Camp Road-4	1,081	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Fox Camp Road-5	13,935	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Franklin K Lane Inner Loop Trail-1	456	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Franklin K Lane Loop Trail-1	668	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Franklin K Lane Loop Trail-2	965	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Franklin K Lane Loop Trail-3	103	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Franklin K Lane Parking Lot-1	187	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Franklin K Lane Trail-1	405	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Garden Club Road-1	669	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Garden Club Road-2	167	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Garden Club-Kent-Mather LoopTrail-1	1,466	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Garden Club-River Trail Connector-1	1,207	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Giant Tree Trail-1	520	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Giant Tree Trail-2	200	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Giant Tree Trail-3	276	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Goosepen Loop Cutoff Trail-1	104	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Goosepen Loop Trail-1	185	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Goosepen Loop Trail-2	201	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Goosepen Loop Trail-3	430	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Goosepen Loop Trail-4	714	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Goosepen Loop Trail-5	761	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Goosepen Loop Trail-Avenue of Giants Link-1	125	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Gould Bar Road-1	329	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Gould Barn Road-1	196	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Gould Grove Nature Trail Access-1	180	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Gould Grove Nature Trail-1	214	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Gould Grove Nature Trail-2	1,333	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Gould Grove Nature Trail-3	189	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Gould Grove Nature Trail-4	1,369	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Grasshopper Peak Road-1	1,906	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Grasshopper Peak Trail-1	2,250	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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119-Grasshopper Road-1	3,862	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Grasshopper Road-2	18,304	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
119-Grasshopper Road-3	12,174	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
119-Grasshopper Road-4	1,206	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Grasshopper Road-5	7,547	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Grasshopper Trail-1	16,904	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
119-Greig-French-Bell Loop-1	1,100	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
119-Greig-French-Bell Trail-1	68	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Greig-French-Bell Trail-2	782	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Greig-French-Bell Trail-3	1,015	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Greig-French-Bell Trail-4	278	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Grieg Road-1	9,510	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Grieg Road-2	18,828	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Grieg Road-3	11,806	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
119-Grieg Road-4	8,066	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Grieg Road-6	6,942	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Grieg Road-7	494	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Grieg Road-8	5,500	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Grieg Road-9	988	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hamilton Barn Road-1	225	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hamilton Barn Road-2	2,778	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hamilton E-Camp Access Trail-1	550	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hamilton Spur-1	395	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hamilton Spur-2	1,258	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hansen Ridge Road-1	5,460	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Beach Trail-1	442	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Beach Trail-2	1,172	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Beach Trail-3	646	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Entrance Road-1	348	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Entrance Road-2	147	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Entrance Road-3	67	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Kiosk Exit Road-1	132	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Entrance Link-1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 1-22-1	778	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 122-141-1	503	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 122-141-2	253	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 122-141-3	390	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 1-22-2	694	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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119-Hidden Springs Campground Road Sites 142-148-1	206	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 142-148-2	443	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 142-148-3		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 149-153-1	266	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 149-153-2	131	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 149-153-3	238	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 23-38-1	729	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 39-78-1	115	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 39-78-2	134	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 39-78-3	403	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 39-78-4	491	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 39-78-5	1,212	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 39-78-6	354	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 39-78-7	117	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 79-97-1	778	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 79-97-2	315	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 79-97-3	518	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 79-97-4	235	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 98-121-1	375	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 98-121-2	72	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites 98-121-3	1,432	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites154-155-1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Campground Road Sites154-155-2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Service Road-1	460	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Water System Road-1	265	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Water System Road-2	580	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Hidden Springs Water System Road-3	270	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-High Rock River Access Road-1	320	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-High Rock River Access Road-2	265	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-High Rock River Access Trail-1	561	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-High Rock River OverlookTrail-1	385	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-High Rock River Trail-1	2,383	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-High Rock River Trail-2	310	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-High Rock River Trail-3	350	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-High Rock River Trail-4	2,347	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-High Rock River Trail-5	929	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-High Rock River-Avenue Connector South-1	147	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-High Rock River-Avenue Connector-1	137	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Segment ID	Sement Length (ft)	Sustainable with Reconstruction / Re-engineering	Unsustainable. Reroute / Reconstruct /	Remove
119-Holmgren Road Spur-1	247	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Holmgren Road-1	520	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Holmgren Road-2	460	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Holmgren Road-3	700	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Homestead Trail Mill Creek Bridge-1	164	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Homestead Trail Mill Creek Bridge-2	210	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Homestead Trail Mill Creek Bridge-3	111	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Homestead Trail-1	1,037	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Homestead Trail-10	2,272	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Homestead Trail-2	5,431	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Homestead Trail-3	329	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Homestead Trail-5	1,474	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Homestead Trail-6	119	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Homestead Trail-7	7,437	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
119-Homestead Trail-8	515	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Homestead Trail-9	3,939	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Homestead Trail-Bull Creek Trail North Connector-1	84	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Homestead Trail-Bull Creek Trail North Connector-2	96	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Homestead-Baxter Trail Connector-1	420	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Homestead-Baxter Trail Connector-2	1,139	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Homestead-Baxter Trail Connector-3	565	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Indian Orchard-1	14,603	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Johnson Camp Road-1	2,104	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Johnson Camp Trail-1	26,653	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Kemp Road-1	19,572	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
119-Kent-Mather Grove Loop Trail-1	72	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Kent-Mather Grove Loop Trail-2	186	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Kent-Mather Grove Loop Trail-3	1,328	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Landsdale East Road-1	2,929	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Landsdale River Bar Access Road-1	370	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Leatherwood Bar Access Road-1	700	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Look Prairie Road-1	18,881	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Lower Burns Quarry Road-1	1,577	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Mahan Plaque Loop Trail-1	417	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Mahan Plaque Loop Trail-2	157	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Mahan Plaque Loop Trail-3	2,277	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Mahan Plaque Loop Trail-4	195	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Mahan Plaque Loop Trail-5	50	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Segment ID	Sement Length (ft)	Sustainable with Reconstruction / Re-engineering	Unsustainable. Reroute / Reconstruct /	Remove
119-Mahan Plaque Loop Trail-6	378	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Mahan Plaque-Avenue of Giants Connector Link-1	60	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Mahan Plaque-Avenue of Giants Connector-1	130	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Mahan Plaque-Avenue of Giants Connector-2	86	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Marin Garden Club Group Camping Road-1	470	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-McIntyre Faries-1	380	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-McIntyre Faries-2	693	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Miranda River Bar Access Road-1	300	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Myers Plaque Trail-1	810	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Nelson Road Beach Trail-1	1,100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Nelson Road-1	1,405	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Nelson Road-2	118	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Nelson Road-3	988	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Nelson Road-4	812	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Nelson Road-Hidden Springs Beach Trail Connector-1	291	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Old Newton Road-1	525	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Peavine Ridge Road-1	17,448	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Peavine Ridge Road-2	4,049	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Peavine Ridge Road-3	18,046	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Peavine Ridge Road-4	9,241	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Perimeter Road-1	8,828	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Perimeter Road-2	7,820	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Perimeter Road-3	12,635	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Pole Line Road-1	415	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Pole Line Road-2	135	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Pole Line Road-3	1,112	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Pole Line Road-4	10,099	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Pole Line Road-5	244	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Pole Line Road-6	1,710	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Rainbow Ridge-1	304	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Residence 12 Road-1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Rim Spur-1	61	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Rim Spur-2	168	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-River Bar Access-1	244	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-River Trail-1	1,951	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-River Trail-2	3,641	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-River Trail-3	13,983	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Segment ID	Sement Length (ft)	Sustainable with Reconstruction / Re-engineering	Unsustainable. Reroute / Reconstruct /	Remove
119-River Trail-4	5,095	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-River Trail-5	10,555	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-River Trail-6	10,611	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-River Trail-7	1,603	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Road-Trail Connector Link-Addie Johnson Trail-1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Road-Trail Connector Link-Blair Grove Trail-1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Road-Trail Connector Link-Drury-Chaney Loop Trail-1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Road-Trail Connector Link-Fleischmann Grove Trail-1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Road-Trail Connector Link-Franklin K Lane Trail-1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Road-Trail Connector Link-Goosepen Loop Trail-1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Road-Trail Connector Link-High Rock River Trail South-1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Road-Trail Connector Link-High Rock River Trail-1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Road-Trail Connector Link-Rockefeller Loop Trail-1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Rockefeller Loop Entrance Road-2	185	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Rockefeller Loop Parking-1	205	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Rockefeller Loop River Bar Connector-1	334	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Rockefeller Loop Trail-1	156	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Rockefeller Loop Trail-2	756	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Rockefeller Loop Trail-3	1,186	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Rockefeller Loop Trail-4	1,177	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Rockefeller Parking Lot River Access Trail-1	272	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-RTR Shop Road-1	260	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-RTR Shop Road-2	763	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Salmon Creek Exit Spur West-1	100	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
119-Salmon Creek Exit Spur-1	1,601	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
119-Salmon Creek Exit Spur-2	170	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
119-Sector Headquarters Parking Road-		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Shack Road-1	290	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-South Prairie Trail-1	17,101	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Stephens Grove Trail-1	52	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Stephens Grove Trail-2	1,907	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Stephens Grove Trail-3	1,757	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Stream Gage Road-1	152	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Symmes Grove Trail-1	1,629	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Tall Tree Loop Trail-1	287	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Tanbark Road-1	16,079	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Segment ID	Sement Length (ft)	Sustainable with Reconstruction / Re-engineering	Unsustainable. Reroute / Reconstruct /	Remove
119-Thomas Hill Road-1	349	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Thornton Trail - Reroute-1	1,052	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Thornton Trail-2	26,216	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Weott Water System Road-1	13,921	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Weott Water System Road-2	12,534	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Weott Wood Shed Road-1	306	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Williams Grove Day Use Road-1	211	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Williams Grove Day Use Road-2	165	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Williams Grove Entrance Road-1	237	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Williams Grove Group Camp Loop-1	605	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Williams Grove Group Camp Road-1	833	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Williams Grove Trail South-1	2,172	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Williams Grove Trail-1	3,458	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Williams Grove Trail-2	1,886	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Williams Grove Trail-3	6,866	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Williams Grove-River Trail Connector-1	2,161	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Williford Road-1	7,713	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Williford Road-2	10,785	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Williford Road-3	161	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Womens Federation Day Use Road-1	1,458	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Womens Federation Day Use Road-2	836	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Womens Federation Parking Access Trail-1	451	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Womens Federation Parking Loop-1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Womens Federation Parking Lot-1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119-Womens Federation River Access Trail-1	232	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8.5 Special Status Species

The California Native Plant Society (CNPS) and DFW databases are the primary sources of information regarding sensitive plant species and habitats. The CNPS Inventory of Rare and Endangered Plants of California categorize species based upon their presumed rarity. The most current California Rare Plant Ranking System includes the following six categories or ranks of sensitive plants:

- 1A Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
- 1B Plants Rare, Threatened, or Endangered in California and Elsewhere
- 2A Plants Presumed Extirpated in California, But More Common Elsewhere
- 2B Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
- 3 Plants about which we need more information – a review list
- 4 Plants of limited distribution – a watch list

The CNPS Threat Rank is an extension added onto the California Rare Plant Rank and designates the level of threats by a 1 to 3 ranking with 1 being the most threatened and 3 being the least threatened:

- 0.1- Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- 0.2- Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
- 0.3- Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

The CDFW Natural Diversity Database (CNDDDB) also publishes a list of sensitive plants that includes the CNPS Inventory as well as plant species considered sensitive by other governmental agencies (CDFW, 2017a). The current version of the list is accessible through the RareFind 5 internet application.

In addition, the Department of Fish and Wildlife's Vegetation Classification and Mapping Program (VegCAMP) maintains a List of Vegetation Alliances and Associations (or Natural Communities List) which is based on A Manual of California Vegetation (Second Edition) and represents the California expression of the National Vegetation Classification (CDFW, 2017b). Vegetation classification is an essential element in determining the level of rarity and imperilment of vegetation types.

Natural communities are classified in various ways depending upon the scale or hierarchy of the classification. Alliances are broad or coarse scale classifications of vegetation which can be more precisely defined at smaller scales using floristically-based lower units such as series or associations. Alliances, series, and associations are ranked according to their degree of imperilment (as measured by rarity, trends, and threats) and the Natural Communities List follows NatureServe's Heritage Methodology in which all alliances are listed with a G (global)

and S (state) rank. Alliances and all associations within them with State ranks of S1-S3 are considered to be highly imperiled. Associations currently designated as being of S3 or rarer are indicated with an asterisk (*) located to the left of their CaCode. A question mark (?) denotes an inexact numeric rank due to insufficient samples over the full expected range of the type, but existing information points to this rank.

Based on the NatureServe methodology, the CDFW ranking system for both sensitive plants and natural communities is divided on both global and state levels into five categories. For sensitive plants, the state rank is further divided into three subcategories that indicate the level of threat to the known occurrences: 1 = very threatened, 2=threatened, 3=not threatened.

The CDFW ranking system is as follows:

Global Ranking

G1 = Critically Imperiled—At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.

G2 = Imperiled—At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.

G3 = Vulnerable—At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.

G4 = Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors.

G5 = Demonstrably Secure—Common; widespread and abundant.

State Ranking

S1 = Critically Imperiled—Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.

S2 = Imperiled—Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.

S3 = Vulnerable—Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

S4 = Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors.

S5 = Secure—Common, widespread, and abundant in the state.

All categories of sensitive plants were included in the scoping list for potential occurrences.

Table 1. Sensitive Plants

Species Name	Common Name	Family	CNPS Rank	State Rank	Global Rank	CESA	FESA	Ecological Information	Species or Habitat present?/If yes, Quality Level
<i>Astragalus agnicidus</i>	Humboldt milk-vetch	Fabaceae	1B.1	S2	G2	Endangered	None	Disturbed openings in partially timbered forest openings in broadleaved upland and North Coast coniferous forests; elev. 160-670m.	Potential/Low
<i>Calamagrostis foliosa</i>	leafy reed grass	Poaceae	4.2	S3.2	G3	Rare	None	Coastal bluff scrub, North Coast coniferous forest; elev. 0-1,220m; blooms May-Sep.	Historic occurrence in Panther Gap Area/Low
<i>Carex arcta</i>	northern clustered sedge	Cyperaceae	2B.2	S1	G5	None	None	Bogs and fens, meadows and seeps (mesic), marshes and swamps; elev. 0-700m; blooms Mar-Jul.	Potential/Low
<i>Clarkia amoena</i> ssp. <i>whitneyi</i>	Whitney's farewell-to-spring	Onagraceae	1B.1	S1	G5T1	None	None	Coastal bluff and coastal scrub often with shallow rocky soils, frequently with a southern or western exposure; elev. 10-100m; blooms Jun-Aug.	Potential/Low
<i>Epilobium septentrionale</i>	Humboldt County fuchsia	Onagraceae	4.3	S4	G4	None	None	Sandy or rocky. Broadleaved upland forest, North Coast	Several known occurrences

Species Name	Common Name	Family	CNPS Rank	State Rank	Global Rank	CESA	FESA	Ecological Information	Species or Habitat present?/If yes, Quality Level
								Coniferous forest; elev. 45-1,800 m; blooms Jul. – Sept.	along SF Eel R./ High
<i>Erigeron biolettii</i>	streamside daisy	Asteraceae	3	S3?	G3?	None	None	Broadleaved upland forest, cismontane woodland, North Coast coniferous forest/rocky, mesic; elev. 30-1100m; blooms Jun-Oct.	Several locations Eel River near Dyerville/High
<i>Erythronium oregonum</i>	giant fawn lily	Liliaceae	2B.2	S2	G4G5	None	None	Cismontane woodland, meadows and seeps, sometimes rocky serpentinite openings; elev. 100-1,150m; blooms Mar-Jun (Jul).	Potential habitat/ Moderate
<i>Erythronium revolutum</i>	coast fawn lily	Liliaceae	2B.2	S3	G4G5	None	None	Bogs and fens, Broadleaved upland forest, North Coast coniferous forest/mesic, streambanks; elev. 0-1,600m; blooms Mar-Jul (Aug).	Multiple occurrences in Bull Cr. watershed/ High
<i>Fissidens pauperculus</i>	Minute pocket moss	Fissidentaceae	1B.2	S2	G3?	None	None	Grows on damp soil along the coast in dry streambeds and on streambanks. 10-1,024m.	Potential habitat/Moderate

Species Name	Common Name	Family	CNPS Rank	State Rank	Global Rank	CESA	FESA	Ecological Information	Species or Habitat present?/If yes, Quality Level
<i>Gilia capitata</i> <i>spp. pacifica</i>	Pacific gilia	Polemoniaceae	1B.2	S2	G5T3	None	None	Steep slopes, ravines, open flats, or coastal bluffs, coastal prairie, valley and foothill grasslands, coastal bluff scrub	Historic record in prairie in Bull Creek watershed/High
<i>Kopsiopsis hookeri</i>	small groundcone	Orobanchaceae	2B.3	S1S2	G4?	None	None	North Coast coniferous forest, open woodland, mixed conifer forest, generally on <i>Gaultheria shallon</i> , occasionally on <i>Arbutus menziesii</i> , <i>Arctostaphylos uva-ursi</i> ; elev. 90-885m; blooms Apr-Aug.	Potential habitat/Moderate
<i>Lathyrus glandulosus</i>	sticky pea	Fabaceae	4.3	S3	G3	None	None	Cismontane woodland; elev. 300-800m; blooms Apr-Jun	Multiple occurrences in Bull Cr. watershed/High
<i>Lathyrus palustris</i>	marsh pea	Fabaceae	2B.2	S2	G5	None	None	Bogs and fens, Coastal prairie, Coastal scrub, Lower montane coniferous forest, Marshes and swamps, North Coast coniferous	One occurrence in Bull Cr. watershed/Moderate

Species Name	Common Name	Family	CNPS Rank	State Rank	Global Rank	CESA	FESA	Ecological Information	Species or Habitat present?/If yes, Quality Level
								forest/mesic; elev. 1-100m; blooms Mar-Aug.	
<i>Lilium rubescens</i>	redwood lily	Liliaceae	4.2	S3	G3	None	None	Sometimes serpentinite, sometimes roadsides, Broadleaved upland forest, Chaparral, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest; elev. 30-1910 m.; Apr.-Sept.	Multiple occurrences in Bull Cr. watershed/ High
<i>Listera cordata</i>	heart-leaved twayblade	Orchidaceae	4.2	S3.2	G5	None	None	Bogs and fens, lower montane coniferous forest, North Coast coniferous forest; elev. 5-1,370m; blooms Feb-Jul.	Multiple occurrences in Bull Cr. watershed/ High
<i>Lycopodium clavatum</i>	running-pine	Lycopodiaceae	4.1	S3	G5	None	None	Marshes and swamps, mesic North Coast coniferous forest, lower montane coniferous forests, shady and semi-exposed forest floors, swamps, rarely on trees, forming dense mats; elev. 45-1,225m;	Potential habitat/ Moderate

Species Name	Common Name	Family	CNPS Rank	State Rank	Global Rank	CESA	FESA	Ecological Information	Species or Habitat present?/If yes, Quality Level
								produces spores Jun-Aug(Sep).	
<i>Lycopus uniflorus</i>	northern bugleweed	Lamiaceae	4.3	S4	G5	None	None	Freshwater Wetlands, wetland-riparian, bogs, marshes, and swamps; elev. 0-2,000m; blooms Jul. – Sept.	Several occurrences along SF Eel River/High
<i>Meesia triquetra</i>	three-ranked hump moss	Meesiaceae	4.2	S4	G5	None	None	Bogs and fens, Meadows and seeps, subalpine coniferous forest, Upper montane coniferous forest (mesic); elev. 1300-2953 m.; blooms Jul.	Questionable, 1 undated occurrence east of Bridgeville, all other occurrences in Sierra/Cascade
<i>Montia howellii</i>	Howell's montia	Montiaceae	2B.2	S2	G3G4	None	None	Vernally mesic, sometimes roadsides, meadows and seeps, North Coast Coniferous forest, vernal pools; 0-730 m; blooms Feb-May	Two occurrences one along HWY 254, the other Bull Cr. watershed/moderate
<i>Packera bolanderi</i> var. <i>bolanderi</i>	seacoast ragwort	Asteraceae	2B.2	S2S3	G4T4	None	None	Coastal scrub, North Coast coniferous forest/Sometimes roadsides; elev. 30-	Potential habitat/Moderate

Species Name	Common Name	Family	CNPS Rank	State Rank	Global Rank	CESA	FESA	Ecological Information	Species or Habitat present?/If yes, Quality Level
								650m; wet cliffs, open forest, >200m; blooms Jan.-Aug.	
<i>Piperia candida</i>	white-flowered rein orchid	Orchidaceae	1B.2	S3	G3	None	None	Broadleaved upland forest, Lower montane coniferous forest, North Coast coniferous forest/sometimes serpentinite; elev. 30-1,310m; blooms May-Sept.	Multiple occurrences/ High
<i>Pityopus californicus</i>	California pinefoot	Ericaceae	4.2	S3.2	G4G5	None	None	Broadleaved upland forest, lower montane coniferous forests, North Coast coniferous forest, upper montane coniferous forest/mesic; elev. 15-2,225m; blooms (Apr)May-Aug.	Four occurrences in Bull Creek watershed/ High
<i>Pleuropogon refractus</i>	Nodding semaphore grass	Poaceae	4.2	S4	G4	None	None	Lower montane coniferous, meadows and seeps, North Coast coniferous forest, and riparian forests/mesic; Elev. 0-1600m; (Mar), Apr-Aug	One occurrence in Bull Cr. watershed/ High

Species Name	Common Name	Family	CNPS Rank	State Rank	Global Rank	CESA	FESA	Ecological Information	Species or Habitat present?/If yes, Quality Level
<i>Polemonium carneum</i>	Oregon polemonium	Polemoniaceae	2B.2	S2	G3G4	None	None	Coastal prairie, Coastal scrub, Lower montane coniferous forest; Elev. 0-1830 m.; blooms Apr-Sept.	Potential habitat/ Moderate
<i>Ribes roezlii var. amictum</i>	Hoary gooseberry	Grossulariaceae	4.3	S4	G5T4	None	None	Broadleaved upland forests, cismontane woodland, lower and upper montane coniferous forest; Elev. 120-2300m; blooms Mar-Apr.	Multiple locations in Bull Cr. watershed/ High
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom	Malvaceae	4.2	S3	G3	None	None	Broadleaved upland forest, coastal prairie, coastal scrub, North Coast coniferous forest, riparian woodland, often in disturbed areas; elev. 2-730m; blooms (Mar) Apr-Aug.	Potential habitat/ Moderate
<i>Sidalcea malviflora ssp. patula</i>	Siskiyou checkerbloom	Malvaceae	1B.2	S2	G5T2	None	None	Coastal bluff scrub, Coastal prairie, North Coast coniferous forest/ often roadcuts; elev. 15-878m; blooms May-Aug.	Potential habitat/ Low

Species Name	Common Name	Family	CNPS Rank	State Rank	Global Rank	CESA	FESA	Ecological Information	Species or Habitat present?/If yes, Quality Level
<i>Sidalcea oregana</i> spp. <i>exigua</i>	coast checkerbloom	Malvaceae	1B.2	S1	G521	None	None	Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest; elev. 5-1340 m; blooms June – Aug.	Potential habitat/ Low
<i>Tracyina rostrata</i>	Beaked tracyina	Asteraceae	1B.2	S1	G1	None	None	Cismontane woodland, Valley and foothill grassland; Elev. 90-790 m; blooms May-Jun.	Potential habitat but northwest of reported occurrences/ Low
<i>Usnea longissima</i>	Methuselah's beard lichen	Parmeliaceae	4.2	S4	G4	None	None	Broadleaved upland forest, North coast coniferous forest, Old growth, Redwood; frequently on riparian coniferous/hardwood trees, low elevations.	Numerous occurrences/ High

List compiled from a 22-quad search of the CNDDDB RareFind 5 databases for special status plants occurring within the USGS 7.5' quadrangles searched include: Bull Creek, Weott, Myers Flat, Miranda, Scotia, Redcrest, Fortuna, Hydesville, Owl Creek, Yager Junction, Taylor Peak, Bridgeville, Larabee Valley, Buckeye Mountain, Blocksburg, Shubrick Peak, Honeydew, Ettersburg, Fort Seward, Briceland, Garberville, and Harris, CA. Run Date 12/05/17.

CDFG/Heritage Ranking Codes

G: Global ranks 1-5; 1=most threatened (less than 6 viable occ.) or less than 1,000 individuals or less than 2.000 acres.

5=demonstrably secure or uncommon.

S: State ranks, 1-5; 1= most threatened (as with G1), 5=no threat.

Threat ranks: 0.1=very threatened, 0.2=threatened, 0.3=no threats known.

Habitat quality levels listed above are ranked on the basis of the amount of habitat present, presence of common plant associates in these habitats, distance to nearest occurrences of the sensitive species, and overall potential for the species to occur. Low quality=less than 5-10% of project area meets the above conditions; Moderate quality=approximately 10-50% of project area meets the above conditions; High quality= greater than 50% of project area meets the above conditions.

CNPS Rarity Codes

1A. Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere

1B. Plants Rare, Threatened, or Endangered in California and Elsewhere.

2A. Plants Presumed Extirpated in California, But More Common Elsewhere

2B. Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

3. Plants About Which More Information is Needed – A Review List

4. Plants of limited distribution – a watch list.

CNPS Threat rank

1 – Seriously threatened in CA (high degree/immediacy of threat).

2 – Moderately threatened in CA (moderate degree/immediacy of threat).

3 – Not very threatened in CA (low degree/immediacy of threat).

Table 2. Sensitive Natural Communities

CA Codes	Alliance	State Rank	Global Rank
*73.100.00	<i>Lithocarpus densiflorus</i> (Tanoak forest) Alliance	S3	G4
*61.120.00 ¹	<i>Populus trichocarpa</i> (Black cottonwood forest) Alliance	S3	G5
82.200.00	<i>Pseudotsuga menziesii</i> (Douglas fir forest) Alliance	S4 ¹	G5
82.500.00	<i>Pseudotsuga menziesii</i> - <i>Lithocarpus densiflorus</i> (Douglas fir - tanoak forest) Alliance	S4	G4
*71.030.00 ¹	<i>Quercus garryana</i> (Oregon white oak woodland) Alliance	S3	G4
*86.100.00	<i>Sequoia sempervirens</i> (Redwood forest) Alliance	S3	G3
32.060.00	<i>Baccharis pilularis</i> (Coyote brush scrub) Alliance	S5 ¹	G5
*41.050.00 ¹	<i>Danthonia californica</i> (California oat grass prairie) Provisional Alliance	S3	G4
*41.640.00 ¹	<i>Elymus glaucus</i> (Blue wild rye meadows) Alliance	S3?	G3?
* associations currently designated as being of S3 or rarer			
¹ association with high priority for inventory in the Park			

Table 3. Special Status Wildlife

Species	Status	Habitat	Comments
REPTILES AND AMPHIBIANS			
Western pond turtle <i>Emys marmorata</i>	CSC	Ponds and slow moving sections of rivers and streams.	Known to occur within HRSP
Red-bellied Newt <i>Taricha rivularis</i>	CSC	Terrestrial habitats, juveniles generally underground, adults active at surface in moist environments. Breeds in streams with moderate flow and clean, rocky substrate.	HRSP is at the extreme northern extent of this species range and may be outside of its range.
Southern torrent Salamander <i>Rhacotriton variegatus</i>	CSC	Springs, seeps, and streams in coastal redwood, Douglas-fir, mixed conifer, montane riparian and montane hardwood-conifer habitats, old growth forest.	Known to occur within HRSP
Pacific Tailed frog <i>Ascaphus truei</i>	CSC	Montane hardwood-conifer, redwood, Douglas-fir and ponderosa pine habitats.	Known to occur within HRSP
Northern red-legged frog <i>Rana aurora aurora</i>	CSC	Humid forests, woodlands, grasslands, and streamside in northwestern California	Known to occur within HRSP
Foothill yellow-legged frog <i>Rana boylei</i>	CSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	Known to occur within HRSP
BIRDS			
Northern goshawk <i>Accipiter gentilis</i>	CSC	Open coniferous forests	Not known to occur in HRSP but reported from the region.
Golden eagle <i>Aquila chrysaetos</i>	CFP	Nesting and wintering – rolling foothill mountainous areas, sage-juniper flats, desert.	Known to occur within HRSP; no known nesting
Bald eagle <i>Haliaeetus leucocephalus</i>	CE, CFP	Nesting and wintering – ocean shores, lake margins and rivers.	Known to occur and nest within HRSP

Species	Status	Habitat	Comments
Peregrine falcon <i>Falco peregrinus</i>	CE, CFP	Nesting – near wetlands, lakes, rivers; on cliffs, banks, mounds and human-made structures.	Known to occur with HRSP
Marbled murrelet <i>Brachyramphus marmoratus</i>	FT, CE	Old-growth redwood dominated forests, up to six miles inland.	Known to occur within HRSP
Northern spotted owl <i>Stix occidentalis caurina</i>	FT, CE	Old-growth forest or mixed stands of old-growth and mature trees. Occasionally in younger forests with patched of big trees.	Known to occur within HRSP
Vaux's swift <i>Chaetura vauxia</i>	CSC	Nesting – Redwood, Douglas-fir and other coniferous forests. Nest in large hollow trees and snags often nests in flocks.	Known to occur within HRSP
Purple martin <i>Progne subis</i>	CSC	Nesting – low elevation coniferous forest and woodlands.	No known nesting; non-breeding individuals have been detected.
Little willow flycatcher <i>Emidonax traillii brewsteri</i>	CE	Nesting – willow riparian thickets 2000-8000 elevation.	No known nesting; non-breeding individuals have been detected. Surveys in Bull Creek have not detected species. Low probability of nesting individuals.
Yellow-breasted chat <i>Icteria virens</i>	CSC	Nesting – summer resident, riparian vegetation.	No known nesting; non-breeding individuals have been detected
MAMMALS			
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	CSC	Roosts in the open often in limestone caves, lava tubes, mines, buildings, basal hollows, etc.	Known to occur in HRSP

Species	Status	Habitat	Comments
Pallid bat <i>Antrozus pallidus</i>	CSC	Grasslands, shrublands, woodlands and forests. Common in open, dry habitats with rocky areas for roosting.	Not known to occur in HRSP
White-footed vole <i>Arborimus albipes</i>	CSC	Coniferous forests and riparian areas.	Potential habitat but has not been documented.
Sonoma tree vole <i>Arborimus pomo</i>	CSC	Douglas-fir, Redwood, and Montane Hardwood Coniferous Forests, primarily in the North Coast fog belt	Known to occur in HRSP
Humboldt marten <i>Martes americana humboldtensis</i>	CE	Mature coastal forests, prefers small, clear streams with dense alder and shrub vegetation.	Potential habitat but has not been documented. Presumed extirpated.
Pacific fisher <i>Martes pennanti pacifica</i>	CSC	Redwood, Douglas-fir, coniferous forest.	Survey efforts have not detected them in HRSP; presumed extirpated.
FISH			
Coho salmon <i>Oncorhynchus kisutch</i>	FT, CT	Coastal waters and anadromous streams.	Known to occur within HRSP
Steelhead <i>Oncorhynchus mykiss</i>	FT, CSC	Coastal waters and anadromous streams.	Known to occur within HRSP
Chinook Salmon <i>Oncorhynchus tshawytscha</i>	FT	Coastal waters and anadromous streams.	Known to occur within HRSP
Pacific lamprey <i>Entosphenus tridentatus</i>	FT	Coastal waters and anadromous streams.	Known to occur within HRSP
River lamprey <i>Lampetra ayresii</i>	CSC	Anadromous rivers and streams	Known to occur within HRSP

List compiled from a 22-quad search of the CNDDDB RareFind 5 databases for special status animals occurring within the USGS quadrangles searched include: Bull Creek, Weott, Myers Flat, Miranda, Scotia, Redcrest, Fortuna, Hydesville, Owl Creek, Yager Junction, Taylor Peak, Bridgeville, Larabee Valley, Buckeye Mountain, Blocksburg, Shubrick Peak, Honeydew, Ettersburg, Fort Seward, Briceland, Garberville, and Harris, CA. Run Date 12/05/17.

FE – Federally Endangered, **FT** – Federally Threatened, **FPT** – Federally Proposed Threatened; **SE** – State Endangered, **ST** – State Threatened, **CCT** – California Candidate Threatened, **CSC** – California species of Special Concern, **CFP** – California Fully Protected

12/05/17

8.6 Parkwide Summary of Trails

PARKWIDE SUMMARY OF EXISTING TRAILS BY USE AND ROUTE DESIGNATIONS		
Use Designation	Mileage of Road	Mileage of Trail
Hike	0	41.86
Hike and Horse	0	21.14
Hike, Bike and Horse	71.95	5.51

PARKWIDE SUMMARY OF ROADS AND TRAILS

Route Name	Route Type	Use Designation	Miles
Addie Johnson Trail	Trail	Hike	1.10
Agnes Johnson School Spur-1	Trail	Hike	0.05
Agnes Johnson School Spur-2	Trail	Hike	0.05
Albee Campground-Homestead Connector	Trail	Hike	0.05
Albee Campground-Bull Creek Trail North Connector	Trail	Hike and Horse	0.21
Albee Campground-Bull Creek Trail South Connector	Trail	Hike and Horse	0.14
Albee Creek Campground Overflow Loop	Road	Hike, Bike and Horse	0.05
Albee Creek Campground Overflow Road	Road	Hike, Bike and Horse	0.09
Albee Creek Water System Road	Road	Hike, Bike and Horse	0.08
Alexander Bar Access Road	Road	Hike, Bike and Horse	0.12
Barkdull Road	Road	Hike, Bike and Horse	0.59
Barnum Road Spur	Road	Hike, Bike and Horse	0.56
Baxter Camp 2 Trail	Trail	Hike and Horse	0.06
Baxter Road	Road	Hike, Bike and Horse	0.24
Baxter Trail	Trail	Hike and Horse	1.92
Big Cut Trail	Trail	Hike	0.97
Blair Grove Trail	Trail	Hike	0.11
Bolling Grove Parking Area	Road	Hike, Bike and Horse	0.08
Bull Creek Trail North	Trail	Hike	4.63
Bull Creek Trail North-South Connector	Trail	Hike	0.16
Bull Creek Trail South	Trail	Hike	3.47
Bull Creek Trail South	Trail	Hike and Horse	1.49
Bull Creek Trail South-Giant Tree Connector	Trail	Hike	0.27
Burlington-River Trail Connector	Trail	Hike	0.21
Burlington-Weott Gould Bar Connector	Trail	Hike	0.05
Burlington-Weott Gould Bar Connector Link	Trail	Hike	0.01
Burlington-Weott Trail	Trail	Hike	1.44
Burlington-Weott Trail River Access Trail Link	Trail	Hike	0.05

Burlington Campground River Access Trail	Trail	Hike	0.07
Burlington Pump Shed Road	Road	Hike, Bike and Horse	0.21
Burlington Residence Road	Road	None	0.16
Chandler Grove-Avenue of the Giants Connector	Trail	Hike	0.15
Chandler Grove Cutoff	Trail	Hike	0.03
Chandler Grove Trail	Trail	Hike	0.48
Childrens Forest Loop Trail	Trail	Hike	0.36
Cuneo Horse Camp-Indian Orchard Connector	Road	Hike, Bike and Horse	0.69
Cuneo Horse Camp Loop Road	Road	Hike, Bike and Horse	0.27
Cuneo Horse Camp South Loop	Road	Hike, Bike and Horse	0.18
Daly Ranch Road	Road	Hike, Bike and Horse	0.34
Daly Ranch Road Connector	Road	Hike, Bike and Horse	0.12
Drury-Chaney Loop Trail	Trail	Hike	1.64
Dry Creek Dead End Spur	Road	Hike, Bike and Horse	0.37
Dry Creek Horse Trail	Trail	Hike and Horse	1.76
Dry Creek Horse Trail Cutoff	Trail	Hike and Horse	0.03
Dyerville Bar Access Road	Road	Hike, Bike and Horse	0.13
Dyerville Giant Root Spur	Trail	Hike	0.01
Elinor Road	Road	Hike, Bike and Horse	0.30
Elizabeth Achelis Grove Trail	Trail	Hike	0.17
Five Allens Trail	Trail	Hike	1.26
Flat Iron Tree Trail	Trail	Hike	0.03
Fleischmann Grove Trail	Trail	Hike	0.68
Founders Grove-Mahan Plaque Trail Connector	Trail	Hike	0.19
Founders Grove-Mahan Plaque Trail Connector Link	Trail	Hike	0.01
Founders Grove Trail	Trail	Hike	0.51
Founders Grove Trail-Parking Link	Trail	Hike	0.04
Founders Grove Trail Interpretive Spur	Trail	Hike	0.02
Founders Tree Circle	Trail	Hike	0.03
Fox Camp Road	Road	Hike, Bike and Horse	6.39
Fox Camp Road Spur Loop	Road	Hike, Bike and Horse	0.41
Franklin K Lane Inner Loop Trail	Trail	Hike	0.09
Franklin K Lane Loop Trail	Trail	Hike	0.32
Franklin K Lane Trail	Trail	Hike	0.07
Garden Club-Kent-Mather LoopTrail	Trail	Hike	0.27
Garden Club-River Trail Connector	Trail	Hike	0.20
Giant Tree Trail	Trail	Hike	0.18
Goosepen Loop Cutoff Trail	Trail	Hike	0.02
Goosepen Loop Trail	Trail	Hike	0.46
Goosepen Loop Trail-Avenue of Giants Link	Trail	Hike	0.03
Gould Bar Road	Road	Hike, Bike and Horse	0.06
Gould Barn Road	Road	Hike, Bike and Horse	0.04
Gould Grove Nature Trail	Trail	Hike	0.60
Gould Grove Nature Trail Access	Trail	Hike	0.04

Grasshopper Peak Road	Road	Hike, Bike and Horse	0.30
Grasshopper Peak Trail	Trail	Hike	0.40
Grasshopper Road	Road	Hike, Bike and Horse	8.24
Grasshopper Trail	Trail	Hike	3.07
Greig-French-Bell Loop	Trail	Hike	0.21
Greig-French-Bell Trail	Trail	Hike	0.38
Grieg Road	Road	Hike, Bike and Horse	11.84
Hamilton Barn Road	Road	Hike, Bike and Horse	0.56
Hamilton E-Camp Access Trail	Trail	Hike	0.10
Hamilton Spur	Road	Hike, Bike and Horse	0.32
Hansen Ridge Road	Road	Hike, Bike and Horse	1.02
Hidden Springs Beach Trail	Trail	Hike	0.40
Hidden Springs Service Road	Road	Hike, Bike and Horse	0.08
Hidden Springs Water System Road	Road	Hike, Bike and Horse	0.21
High Rock River-Avenue Connector	Trail	Hike	0.03
High Rock River-Avenue Connector South	Trail	Hike	0.03
High Rock River Access Road	Road	Hike, Bike and Horse	0.05
High Rock River Access Trail	Trail	Hike	0.11
High Rock River Overlook Trail	Trail	Hike	0.07
High Rock River Trail	Trail	Hike	1.24
Holmgren Road	Road	Hike, Bike and Horse	0.21
Holmgren Road Spur	Road	Hike, Bike and Horse	0.04
Homestead-Baxter Trail Connector	Trail	Hike and Horse	0.38
Homestead Trail	Trail	Hike and Horse	4.32
Homestead Trail-Bull Creek Trail North Connector	Trail	Hike and Horse	0.03
Homestead Trail Mill Creek Bridge	Trail	Hike and Horse	0.09
Indian Orchard	Trail	Hike and Horse	2.60
Johnson Camp Road	Road	Hike, Bike and Horse	0.39
Johnson Camp Trail	Trail	Hike and Horse	5.09
Kemp Road	Road	Hike, Bike and Horse	3.69
Kent-Mather Grove Loop Trail	Trail	Hike	0.32
Landsdale East Road	Road	Hike, Bike and Horse	0.57
Landsdale River Bar Access Road	Road	Hike, Bike and Horse	0.07
Leatherwood Bar Access Road	Road	Hike, Bike and Horse	0.14
Look Prairie Road	Road	Hike, Bike and Horse	3.53
Lower Burns Quarry Road	Road	Hike, Bike and Horse	0.30
Mahan Plaque-Avenue of Giants Connector	Trail	Hike	0.04
Mahan Plaque-Avenue of Giants Connector Link	Trail	Hike	0.01
Mahan Plaque Loop Trail	Trail	Hike	0.66
Marin Garden Club Group Camping Road	Road	Hike, Bike and Horse	0.09
McIntyre Faries	Trail	Hike	0.21
Miranda River Bar Access Road	Road	Hike, Bike and Horse	0.06
Myers Plaque Trail	Trail	Hike	0.15
Nelson Road	Road	Hike, Bike and Horse	0.27

Nelson Road-Hidden Springs Beach Trail Connector	Trail	Hike	0.06
Nelson Road Beach Trail	Trail	Hike	0.20
Old Newton Road	Road	Hike, Bike and Horse	0.10
Peavine Ridge Road	Road	Hike, Bike and Horse	9.26
Perimeter Road	Road	Hike, Bike and Horse	4.26
Pole Line Road	Road	Hike, Bike and Horse	2.65
Rainbow Ridge	Road	Hike, Bike and Horse	0.06
River Bar Access	Trail	Hike	0.05
River Trail	Trail	Hike	8.87
Road-Trail Connector Link-Addie Johnson Trail	Road	Hike, Bike and Horse	0.01
Road-Trail Connector Link-Franklin K Lane Trail	Road	Hike, Bike and Horse	0.03
Rockefeller Loop-River Trail Lower Connector	Trail	Hike	0.13
Rockefeller Loop River Bar Connector	Trail	Hike	0.07
Rockefeller Loop Trail	Trail	Hike	0.64
Rockefeller Parking Lot River Access Trail	Trail	Hike	0.05
Salmon Creek Exit Spur	Road	None	0.01
Salmon Creek Exit Spur West	Road	None	0.02
Shack Road	Road	Hike, Bike and Horse	0.06
South Prairie Trail	Trail	Hike and Horse	3.00
Stafford River Bar Access	Road	Hike, Bike and Horse	0.21
Stephens Grove - Miranda Connector	Road	Hike, Bike and Horse	0.24
Stephens Grove Trail	Trail	Hike	0.68
Stream Gage Road	Road	Hike, Bike and Horse	0.03
Tall Tree Loop Trail	Trail	Hike	0.05
Tanbark Road	Road	Hike, Bike and Horse	3.09
Thomas Hill Road	Road	Hike, Bike and Horse	0.07
Thornton Trail	Trail	Hike, Bike and Horse	4.88
Thornton Trail - Reroute	Trail	Hike, Bike and Horse	0.63
Upper Burns Quarry Road	Road	Hike, Bike and Horse	0.18
Weott Water System Road	Road	Hike, Bike and Horse	5.00
Williams Grove-River Trail Connector	Trail	Hike	0.36
Williams Grove Trail	Trail	Hike	2.18
Williams Grove Trail South	Trail	Hike	0.40
Williford Road	Road	Hike, Bike and Horse	3.40
Womens Federation Parking Access Trail	Trail	Hike	0.08
Womens Federation River Access Trail	Trail	Hike	0.04

8.7 Change-in-Use Evaluations Summary

Recommendations Report

Change-in-Use Requests

Humboldt Redwoods State Park

Prepared By:
Roads, Trails, and Resources Maintenance Program
North Coast Redwoods District

August 2016

Introduction

California State Parks has developed a process to facilitate and make consistent the review of change-in-use proposals resulting from individual requests or road and trail planning efforts across the state. As part of the Humboldt Redwoods State Park Road and Trail Management planning effort, the Change-in-Use process is used to evaluate and approve, or disapprove, additional uses on existing recreational roads and trails in the unit. This process is intended to identify those changes that best accommodate accessibility and recreational activities appropriate for each road or trail. Specifically, the process is intended to achieve the following objectives:

- Implement the DPR Trail Policy, including consideration of multi-use trails and trail connectivity;
- Ensure that projects can be implemented in a manner that avoids or mitigates significant impacts to the environment;
- Inform decision-making to include the diversity of resources and users of the unit;
- Ensure that changes are considered in a transparent process; and
- Implement a process for decision making with objective criteria for evaluating proposed changes to trails.

The Change-in-Use Evaluation (see appendix) can provide the planning team with critical information, including:

- Existing conditions
- Compatibility with the park's classification and other trail uses
- Effects to trail circulation patterns
- Effects to trail safety
- Effects to trail sustainability
- Effects or impacts to natural and cultural resources
- Effects or impacts to facility maintenance and operational costs

Recommendations based on survey results typically fall into one of the following categories:

- Conditional approval that includes design modifications or repairs
- Conditional approval that includes management options
- Approval
- Rejected
- Put on hold

When a change-in-use is conditionally approved, all proposed conditions need to be implemented, project specific environmental compliance completed, and funding secured prior to the change taking affect.

A process flow chart has been developed to assist staff in the evaluation process (see appendix). The principle steps are outlined below. The first four steps are completed as part of this RTMP process. The second half is conducted for each individual project.

1. Request for change-in-use submitted to district by a user group, Departmental staff, neighboring agency, or other stakeholder.
2. Inventory of Existing Conditions
3. Change-in-Use Evaluation completed
4. Recommendation by evaluation team
5. Input gathered from the public and stakeholders
6. Final Change-in-Use decision
7. Prepare project plans and designs
8. CEQA and permitting compliance
9. Construction cost estimate prepared
10. Work plan developed
11. Project Implementation

Evaluation Team

Between November 2014 and April 2015, a team met to evaluate each change-in-use request against the criteria established by the Department. The review team consisted of:

- Brian R. Merrill (Senior Engineering Geologist)
- Greg Collins (Associate State Archeologist)
- Michelle Forsys (Environmental Scientist)
- Thomas Valterria (State Parks Peace Officer)
- Tarah Balden (Environmental Services Intern)

Recommendations Summary

The following trails were proposed for a Trail Change-in-Use evaluation under the Humboldt Redwoods Road and Trail Management Plan process. The requests originated from public input received during stakeholder meetings and surveys conducted during development of the park's Road and Trail Management Plan.

Add Bicycles

Addie Johnson Trail (2 segments)
Albee Creek Campground-Bull Creek North Connector (1 segment)
Albee Campground-Homestead Connector (1 segment)
Baxter Trail (3 segments)
Baxter Camp 2 Trail (1 segment)
Bull Creek Trail North (7 segments)
Bull Creek Trail South (5 segments)
Dry Creek Horse Trail (3 segments)
Grasshopper Trail (1 segment)
Hidden Springs Beach Trail (3 segments)
Homestead Trail (9 segments)
Homestead-Baxter Trail Connector (3 segments)

Homestead Trail-Bull Creek Trail North Connector (2 segments)
Indian Orchard (1 segment)
Johnson Camp Trail (1 segment)
River Trail (7 segments)
South Prairie Trail (1 segment)
Williams Grove Trail (3 segments)

Add Equestrian

Bull Creek North Trail (7 segments)
Bull Creek South Trail (1 segments)
Drury-Chaney Loop Trail (3 segments)
Founder's Grove Trail (8 segments)
Grasshopper Trail (1 segment)
High Rock River Trail (5 segments)
Mahan Plaque Loop Trail (6 segments)
River Trail (7 segments)
Rockefeller Loop Trail (4 segments)

Management Zone Restrictions

Some of the trails for which a change in use was requested are within the Back Country Non-mechanized Zone as identified in the Humboldt Redwoods General Plan, 2002. Because mechanical devices cannot be used in the non-mechanized zone, the following trails were not considered for a change in use (add bicycles):

- Bull Creek Trail South
- Johnson Camp Trail
- River Trail

Trail Segmentation

Roads and trails are segmented at each intersection and designated with unique segment identification numbers. In most cases trails were evaluated as a whole for a proposed change in use. Three trails however, while not entirely suitable for a change in use, had segments that could support a change in use. Surveys were conducted for groups of segments to evaluate its suitability to add a new use. The 3 trails that were evaluated by segment groups were:

- Addie Johnson Trail – 2 segments
- Bull Creek Trail North – 7 segments
- Homestead Trail – 9 segments

Of the 18 trails (54 segments) evaluated for adding bicycle use, 6 segments are approved for change in use without modification, 23 segments were approved for the new use conditional on completion of needed modifications, and 25 segments were not approved for a change in use allowing bicycles.

Of the 9 trails (42 segments) evaluated for adding equestrian use, one segment was conditionally approved and 41 segments were not approved for a change in use allowing equestrian use.

Recommendations by Trail

Addie Johnson Trail – Homestead Trail to Mattole Road

Bicycles conditionally approved (Segment 1)

The Addie Johnson Trail segment from the Homestead Trail to the Mattole Road is conditionally approved for a change in use as it provides improved circulation for bicycles with the Bull Creek Trail North, the Homestead Trail, and the Albee Creek Campground. This trail would eventually tie together with a proposed segment of trail from the Mattole Road to the Bull Creek Trail – North to complete a loop from the Albee Creek Campground. The trail segment descends from the Homestead Trail and would require speed calming devices such as durable pinch points, textured surfaces and signage to limit potential safety issues with other users before a change in use could be approved. Trail surface hardening to protect tree roots would also be required before a change in use could be approved.

Addie Johnson Trail – Homestead Trail to trail end

Bicycles not approved (Segment 2)

The Addie Johnson Trail segment from the Homestead Trail to the end of the trail is not approved for a change in use. The segment is a dead-end and does not enhance circulation in the area. The trail alignment has steep fall-line grades making it difficult to maintain drainage, and overall trail sustainability, with the additional mechanical wear associated with strenuous uphill climbing and downhill braking. The narrow corridor limits the ability to add sinuosity or pinch points for speed calming.

Albee Creek Campground-Bull Creek Trail North Connector

Bicycles conditionally approved (Segment 1)

This short segment provides connectivity from the Albee Creek Campground to the Bull Creek Trail North which then completes a loop via the Homestead Trail. The trail is relatively flat; meandering through a redwood grove then runs along the left bank of Bull Creek atop a rock levy. The trail will require aggregate trail surface hardening in the redwood grove to protect tree roots and prevent trail entrenchment before a change in use could be approved. The trail is relatively flat and should not enable high speeds so speed calming devices will not be required.

Albee Campground – Homestead Connector

Bicycles conditionally approved (Segment 1)

This short segment of trail extends from the western edge of the Albee Creek Campground, southwest to the Homestead Trail. This segment allows campground visitors a direct route to the Homestead Trail and the nearby Thornton Trail. Adding bicycles would add connectivity to the Thornton Trail which is currently a multi-user trail. The trail is entrenched through the soft

prairie soils so trail hardening would be required to reduce further entrenchment and poor drainage.

Baxter Trail

Bicycles conditionally approved (Segments 1, 2, 3)

The Baxter Trail connects Grieg Road with the Mattole Road in the vicinity of Hamilton Barn, providing further connectivity to Pole Line Road, Peavine Ridge Road, and Fox Camp Road. Baxter Camp Trail is the most upstream route linking the northern and southern road and trail networks in the upper Bull Creek watershed. The trail is wide, well outsloped and the surface is firm and stable year-around. Due to limited sight distances and long downhill grades, speed calming devices such as durable pinch points, textured surfaces and signage will be required to limit potential safety issues with other users before a change in use could be approved.

Baxter Camp 2 Trail

Bicycles approved (Segment 1)

The Baxter Camp 2 Trail is a 365-foot segment of trail running through the Baxter Camp Environmental Camp connecting the Baxter Trail to the Baxter Homestead Connector Trail. The Baxter Camp 2 Trail is approved for bicycles because cyclists may use the campground to access trails approved for bicycles such as Baxter Trail (see above).

Bull Creek Trail North – East of Blue Slide

Bicycles not approved, Equestrians not approved (Segments 1, 2)

Bicycles

The Bull Creek Trail North east of Blue Slide is a narrow, perched trail constructed between the Mattole Road and Bull Creek. In many locations the trail is situated along steep slopes or rip-rap bank protection and offers little opportunity for widening. Passing between hikers and either bicyclists or equestrians could not be accommodated along many sections of trail. Steep terrain in many locations will not allow pedestrians to retreat off of the trail bed to allow passing. The Bull Creek Trail North east of Blue Slide does not connect with any trails authorized for use by bicycles or equestrians so would not improve circulation but would encourage unauthorized use of the non-approved trails at the Rockefeller Forest Loop.

Equestrians

Humboldt Redwoods State Park contains hundreds of acres of pristine wildland where there are currently no invasive non-native plants. The Bull Creek Trail North currently does not allow equestrian use and is generally free of invasive, non-native plant species. The potential negative impacts associated with equestrian use include the introduction of invasive, non-native plants from horse manure, feed, and hooves, and nitrogen loading into the soil from horse manure. Horse manure is high in nitrogen and can carry invasive non-native plants seeds. It is common to observe non-native plants growing out of horse manure. In addition, seeds from invasive non-native plants can be carried on the horse's hooves and in their feed. Over loading the soil with nitrogen may enable both non-native and native plants that are not normally found along this trail to colonize the area. By allowing horses on this trail there is a high potential that

invasive non-native plants will be introduced into pristine native habitat. Introduction of manure and urine along the riparian corridor of Bull Creek will also increase nutrient loading in the creek and will result in algal blooms during periods of low flow and warm temperatures. Algal blooms are known to have fatal consequences for young salmonids and other aquatic species.

**Bull Creek Trail North – Blue Slide to Homestead Trail-Bull Creek Trail North Connector
Bicycles approved, Equestrians conditionally approved (Segment 3)**

This short segment of the Bull Creek Trail North provides access to the Blue Slide parking area from the Homestead Trail-Bull Creek Trail North Connector. Currently this segment is authorized for hikers only. Adding connectivity for cyclists and equestrians to the Blue Slide parking area will provide another trailhead for those user groups wishing to access either the Homestead Trail or the Bull Creek Trail North from the east. Due to the location and confined design of the current trail segment, it will require a minor reroute away from Bull Creek to provide safe passing width prior to use by equestrians.

**Bull Creek Trail North – West of Homestead Trail-Bull Creek Trail North Connector
Bicycles approved, Equestrians not approved (Segments 4, 6, 7, 8)**

Bicycles

The Bull Creek Trail North provides an opportunity for a loop from the Albee Creek Campground along the Homestead Trail to a short connector trail across the Mattole Road and then return via the Bull Creek Trail North. A loop can also be traversed using the Blue Slide, or the Tall Trees trailheads as starting points. The trail is wide and well armored and along flat terrain. Visibility is good along the trail route and speed calming devices are not required.

Equestrians

The Bull Creek Trail North traverses the Tall Trees day use area, a small, congested parking facility and trailhead. The introduction of equestrian users into that area via the trail will create safety hazards to pedestrians, motorists and riders by putting vehicles, pedestrians, and horses into close contact in the congested area. In addition, there are no parking facilities for trailers at the Tall Trees day use area.

Humboldt Redwoods State Park contains hundreds of acres of pristine wildland where there are currently no invasive non-native plants. The Bull Creek Trail North currently does not allow equestrian use and is generally free of invasive, non-native plant species. The potential negative impacts associated with equestrian use include the introduction of invasive, non-native plants from horse manure, feed, and hooves, and nitrogen loading into the soil from horse manure. Horse manure is high in nitrogen and can carry invasive non-native plants seeds. It is common to observe non-native plants growing out of horse manure. In addition, seeds from invasive non-native plants can be carried on the horse's hooves and in their feed. Over loading the soil with nitrogen may enable both non-native and native plants that are not normally found along this trail to colonize the area. By allowing horses on this trail there is a high potential that invasive non-native plants will be introduced into pristine native habitat. Introduction of manure and urine along the riparian corridor of Bull Creek will also increase

nutrient loading in the creek and will result in algal blooms during periods of low flow and warm temperatures. Algal blooms are known to have fatal consequences for young salmonids and other aquatic species.

Bull Creek Trail South – Grieg Road to River Trail

Bicycles not approved (Segments 1, 2, 3, 4, 5)

Bicycles are not approved due to this trail's location in a backcountry non-mechanized zone.

Bull Creek Trail South – Johnson Camp Trail intersection to River Trail

Equestrians not approved (Segment 5)

The Bull Creek Trail South is a narrow, undulating trail constructed along the southern edge of Bull Creek. In many locations the trail is situated along steep slopes or rip-rap bank protection and offers little opportunity for widening. Safe passing between hikers and equestrians could not be accommodated along many sections of trail. Steep terrain in many locations will not allow pedestrians to retreat off of the trail bed to allow passing. The Bull Creek Trail South does not connect with any trails authorized for use by equestrians so would not improve circulation but would encourage unauthorized use of the non-approved trails at the River Trail and Rockefeller Forest Loop.

Humboldt Redwoods State Park contains hundreds of acres of pristine wildland where there are currently no invasive non-native plants. The Bull Creek Trail South currently does not allow equestrian use and is generally free of invasive, non-native plant species. The potential negative impacts associated with equestrian use include the introduction of invasive, non-native plants from horse manure, feed, and hooves, and nitrogen loading into the soil from horse manure. Horse manure is high in nitrogen and can carry invasive non-native plants seeds. It is common to observe non-native plants growing out of horse manure. In addition, seeds from invasive non-native plants can be carried on the horse's hooves and in their feed. Over loading the soil with nitrogen may enable both non-native and native plants that are not normally found along this trail to colonize the area. By allowing horses on this trail there is a high potential that invasive non-native plants will be introduced into pristine native habitat. Introduction of manure and urine along the riparian corridor of Bull Creek will also increase nutrient loading in the creek and will result in algal blooms during periods of low flow and warm temperatures. Algal blooms are known to have fatal consequences for young salmonids and other aquatic species.

Drury-Chaney Loop Trail

Equestrians not approved (Segments 1, 2, 3)

The Drury Chaney Loop Trail is a designated accessible trail. The trail is designed and maintained according to the standards set forth in the California State Parks Accessibility Guidelines – 2015 Edition. The guidelines require accessible trails to maintain a firm and stable surface and trail surface cross-slopes of less than 5%. The introduction of equestrian use on the Drury-Chaney Loop Trail would cause accelerated mechanical wear on the trail surface. Maintaining a firm and stable surface and the required cross-slopes would not be possible with periodic cyclic maintenance.

Humboldt Redwoods State Park contains hundreds of acres of pristine wildland where there are currently no invasive non-native plants. The Drury-Chaney Loop Trail currently does not allow equestrian use and is generally free of invasive, non-native plant species. The potential negative impacts associated with equestrian use include the introduction of invasive, non-native plants from horse manure, feed, and hooves, and nitrogen loading into the soil from horse manure. Horse manure is high in nitrogen and can carry invasive non-native plants seeds. It is common to observe non-native plants growing out of horse manure. In addition, seeds from invasive non-native plants can be carried on the horse's hooves and in their feed. Over loading the soil with nitrogen may enable both non-native and native plants that are not normally found along this trail to colonize the area. By allowing horses on this trail there is a high potential that invasive non-native plants will be introduced into pristine native habitat.

Dry Creek Horse Trail

Bicycles conditionally approved (Segments 1, 2, 3)

The Dry Creek Horse Trail segment is approved for a change in use as it provides an opportunity for bicycles to access the park from nearby town of Miranda. This trail also provides connectivity with adjacent local roads. The trail has long downhill sections with limited visibility and would require speed calming devices such as durable pinch points, textured surfaces and signage to limit potential safety issues with other users before a change in use could be approved. Brushing low visibility corners to improve sight-lines, and trail surface hardening to protect tree roots would also be required before a change in use could be approved.

Founder's Grove Trail

Equestrians not approved (Segments 1, 2, 3, 4, 5, 6, 7, 8)

The Founder's Grove Trail is a designated accessible trail. The trail is designed and maintained according to the standards set forth in the California State Parks Accessibility Guidelines – 2015 Edition. The guidelines require accessible trails to maintain a firm and stable surface and trail surface cross-slopes of less than 5%. The introduction of equestrian use on the Founder's Grove Trail would cause accelerated mechanical wear on the trail surface. Maintaining a firm and stable surface and the required cross-slopes would not be possible with periodic cyclic maintenance.

The Founder's Grove Trail is one of the busiest trails in the park year-around, with short-stay visitors as well as campers touring the grove. Limited parking, and crowded trail conditions will likely increase user conflicts with the addition of equestrian use.

Humboldt Redwoods State Park contains hundreds of acres of pristine wildland where there are currently no invasive non-native plants. The Founder's Grove Trail currently does not allow equestrian use and is generally free of invasive, non-native plant species. The potential negative impacts associated with equestrian use include the introduction of invasive, non-native plants from horse manure, feed, and hooves, and nitrogen loading into the soil from horse manure. Horse manure is high in nitrogen and can carry invasive non-native plants seeds. It is common to observe non-native plants growing out of horse manure. In addition, seeds from invasive non-native plants can be carried on the horse's hooves and in their feed. Over loading the soil

with nitrogen may enable both non-native and native plants that are not normally found along this trail to colonize the area. By allowing horses on this trail there is a high potential that invasive non-native plants will be introduced into pristine native habitat.

Grasshopper Trail

Bicycles not approved, Equestrians not approved (Segment 1)

The Grasshopper trail runs along a steep, fall-line road descending from Grasshopper peak to the River Trail. The road/trail is poorly drained and entrenched along most of its length. Weak geology and steep inner-gorge terrain eliminate practical opportunities for reroutes and no opportunities for re-engineering such as outcropping or drainage structures exist within the existing trail alignment. The introduction of bicycles or equestrians would accelerate mechanical wear on the trail resulting in more rapid entrenchment and disruption of natural drainage patterns. Captured runoff and soft worn soils will result in unsustainable levels of erosion and sedimentation into nearby streams.

Addition of equestrians and bicycles to the Grasshopper Trail will not improve circulation patterns because the trail intersects the River Trail which is not approved for equestrians or bicycles. A dead-end trail at the bottom of a long, steep descent will encourage unauthorized use of the River Trail and other nearby pedestrian-only trails.

Hidden Springs Beach Trail

Bicycles not approved (Segments 1, 2, 3)

The Hidden Springs Beach Trail is a short dead-end trail that provides beach access to the campers staying at the Hidden Springs Campground. Approving use by bicycles would not improve circulation patterns in the park. The lower section of trail consists of flights of stone steps and is not safe for bicycles. Some narrow sections of trail have limited sight lines and do not provide space for retreat from the trail if users meet. Adding bicycle access to the trail would also increase use of an at-grade road crossing at Avenue of the Giants, increasing risk of a vehicle/cyclist collision.

High Rock River Trail

Equestrians not approved (Segments 1, 2, 3, 4, 5)

The High Rock River Trail is a narrow, undulating trail constructed along the western edge of the South Fork Eel River. In many locations the trail is situated along steep slopes and offers little opportunity for widening. Three streams are spanned with narrow bridges not constructed to equestrian standards. Passing between hikers and equestrians could not be accommodated along many sections of narrow trail. Steep terrain in many locations will not allow pedestrians to retreat off of the trail bed to allow passing.

The High Rock River Trail does not connect with any trails authorized for use by equestrians so would not improve circulation but would encourage unauthorized use of the non-approved trails at the Five Allens Trail or Chandler Grove. The trail surface is entrenched native material and is soft, exposing roots in many places. Hardening required to protect the roots from

damage would require frequent maintenance to ensure an adequately drained trail surface and current cyclic maintenance resources could not accommodate the increased workload.

Humboldt Redwoods State Park contains hundreds of acres of pristine wildland where there are currently no invasive non-native plants. The High Rock River Trail currently does not allow equestrian use and is generally free of invasive, non-native plant species. The potential negative impacts associated with equestrian use include the introduction of invasive, non-native plants from horse manure, feed, and hooves, and nitrogen loading into the soil from horse manure. Horse manure is high in nitrogen and can carry invasive non-native plants seeds. It is common to observe non-native plants growing out of horse manure. In addition, seeds from invasive non-native plants can be carried on the horse's hooves and in their feed. Over loading the soil with nitrogen may enable both non-native and native plants that are not normally found along this trail to colonize the area. By allowing horses on this trail there is a high potential that invasive non-native plants will be introduced into pristine native habitat. Introduction of manure and urine along the riparian corridor of the South Fork Eel River will also increase nutrient loading in the river and will result in algal blooms during periods of low flow and warm temperatures. Algal blooms are known to have fatal consequences for young salmonids and other aquatic species.

Homestead Trail - Cuneo to Pole Line

Bicycles not approved (Segment 10)

This section of the Homestead Trail connects the Cuneo Creek Equestrian Campground to Pole Line Road. The trail crosses Cuneo Creek with a series of low water fords that change routinely after high flow events alter the active channel. The banks are non-armored and very erodible. Adding an additional use would increase the mechanical breakdown of the stream banks and allow more sediment to enter the stream. The streambed is very rough and uneven and would not be safe for bike riding. Most riders would likely walk much of this segment. This segment of trail does not improve circulation patterns because Indian Orchard Trail, the potential loop, is not suitable for adding cycling as an additional use. Accessing Pole Line Road from the Hamilton Road area is a preferred alternative, see below.

Homestead Trail – Pole Line to Hamilton e-camps

Bicycles conditionally approved (Segments 7 west of Hamilton e-camps, 8, 9)

This section of the Homestead Trail connects the Hamilton Environmental Camps to Pole Line Road and also provides connectivity via the Mattole Road to Baxter Environmental Camp, the Baxter Camp Trail, and the greater Bull Creek Backcountry. This trail linkage would provide improved circulation between the northern slopes of Bull Creek (Pole Line Road, Fox Camp Road, and Peavine Ridge Road) and the southern area of Bull Creek (Grieg Road and Grasshopper Road). The trail surface is firm and stable and existing crossings are hardened. There are segments of the trail that will require improved sight lines by additional brushing maintenance and some speed calming devices, such as durable pinch points, textured surfaces, and signage, to limit potential safety issues with other users before a change in use could be approved

Homestead Trail – Hamilton e-camps to Thornton Trail

Bicycles not approved (Segment 7 east of Hamilton e-camps)

This section of the Homestead Trail connects the Hamilton Environmental Camp to the Thornton Trail and Albee Creek Campground beyond. The trail crosses Bull Creek in two locations at low water fords that change routinely after high flow events alter the active channel. The banks are non-armored, deeply entrenched, and very erodible sand and silt. Adding an additional use would increase the mechanical breakdown of the stream banks and allow more sediment to enter the stream. The streambed is very rough and uneven and would not be safe for bike riding. Most riders would likely walk much of this segment. A cycling route out of the Albee Creek Campground is possible to the east toward Tall Trees day-use area and Look Prairie Road, see below.

Homestead Trail – Thornton Trail to East end

Bicycles conditionally approved (Segments 1, 2, 3, 5, 6)

This section of the Homestead Trail provides connectivity from the Thornton Trail and Albee Creek Campground with Look Prairie Road and the Homestead Trail - Bull Creek Trail North Connector forming a loop from the campground. Terrain is moderate to easy and would provide a quality family riding experience. Tread hardening with aggregate would also be required to protect tree roots along forest segments and prairie soils. Numerous locations would require additional trail brushing to improve site distances and speed calming devices such as durable pinch points, textured surfaces and signage to limit potential safety issues with other users before a change in use could be approved.

Homestead Trail-Bull Creek Trail North Connector

Bicycles conditionally approved (Segments 1, 2)

This short section of trail provides connectivity from the Homestead Trail at its intersection with Look Prairie Road to the Bull Creek Trail North, forming a loop from the Albee Creek Campground. This segment would direct users across the Mattole Road, on-grade. Numerous locations would require additional trail brushing to improve site distances and tread hardening with aggregate would also be required to protect forest soils and tree roots before a change in use could be approved.

Homestead-Baxter Trail Connector

Bicycles not approved (Segments 1, 2, 3)

The Baxter Homestead Connector Trail connects the lower end of the Baxter Trail to the Homestead Trail via Hamilton Barn Road. Most of the trail is built on shifting alluvium in the active channel of Bull Creek and the route of the trail can vary year-to-year. The trail approaches to the low flow channel are deeply incised, fall-line segments with abundant sediment transport into the stream. There are no design alternatives that can be used to create stable multi-use access points at the stream channel. Adding an additional use will increase sediment transport into the channel, resulting in negative impacts to the aquatic and riparian habitats in the creek.

Indian Orchard

Bicycles not approved (Segment 1)

The Indian Orchard Trail connects the Cuneo Creek Equestrian Campground to Peavine Ridge Road and Fox Camp Road. The trail crosses Cuneo Creek with a series of low water fords that change routinely after high flow events alter the active channel. The banks are steep, non-armored and very erodible sands and gravel. Adding an additional use would increase the mechanical breakdown of the stream banks and allow more sediment to enter the stream. The trail is severely entrenched and has numerous seeps that are captured and run down the trail exacerbating the entrenchment. The trail tread is not firm and stable in many locations and cannot support an additional use. Sight distances are limited in many locations and the trail is narrow along most of its length. The trail does not connect to any other authorized bicycle trails so approving the change in use would not improve circulation patterns. Allowing bicycles would create a new trailhead for that use within the equestrian campground and may lead to increased user conflicts on the trail and at the trailhead.

Johnson Camp Trail

Bicycles not approved (Segment 1)

Bicycles are not approved due to this trail's location in a backcountry non-mechanized zone.

Mahan Plaque Loop Trail

Equestrians not approved (Segments 1, 2, 3, 4, 5, 6)

The Mahan Plaque Loop Trail is a short loop trail through old-growth redwood groves along the Avenue of the Giants. The trail is currently designated as hiking only and has no connectivity to nearby trails that support equestrian use. There are no parking or staging facilities near the trailhead that can safely accommodate horse trailers and there is not sufficient land base to develop the necessary parking and staging facilities to provide safe loading and unloading of horses. The trail surface is entrenched native material and is soft, exposing roots in many places. Hardening required to protect the roots from damage would require frequent maintenance to ensure an adequately drained trail surface and current cyclic maintenance resources could not accommodate the increased workload.

Humboldt Redwoods State Park contains hundreds of acres of pristine wildland where there are currently no invasive non-native plants. The Mahan Plaque Loop Trail currently does not allow equestrian use and is generally free of invasive, non-native plant species. The potential negative impacts associated with equestrian use include the introduction of invasive, non-native plants from horse manure, feed, and hooves, and nitrogen loading into the soil from horse manure. Horse manure is high in nitrogen and can carry invasive non-native plants seeds. It is common to observe non-native plants growing out of horse manure. In addition, seeds from invasive non-native plants can be carried on the horse's hooves and in their feed. Over loading the soil with nitrogen may enable both non-native and native plants that are not normally found along this trail to colonize the area. By allowing horses on this trail there is a high potential that invasive non-native plants will be introduced into pristine native habitat. Introduction of manure and urine near the riparian corridor of the South Fork Eel River may also increase nutrient loading in the river and will result in algal blooms during periods of low flow and warm

temperatures. Algal blooms are known to have fatal consequences for young salmonids and other aquatic species.

River Trail

Bicycles not approved, Equestrians not approved (Segments 1, 2, 3, 4, 5, 6, 7)

Bicycles are not approved due to this trail's location in a backcountry non-mechanized zone.

The River Trail is a narrow, undulating trail constructed along the western edge of the South Fork Eel River. In many locations the trail is situated along steep slopes or rip-rap bank protection and offers little opportunity for widening. Numerous deep canyons are spanned with small narrow bridges. Passing between hikers and equestrians could not be accommodated along many sections of trail and the terrain in many places is too steep for pedestrians to retreat off of the trail. The River Trail does not connect with any trails authorized for use by equestrians so would not improve circulation but would encourage unauthorized use of the non-approved trails at Grasshopper Trail and river crossing points along the South Fork Eel River.

Humboldt Redwoods State Park contains hundreds of acres of pristine wildland where there are currently no invasive non-native plants. The River Trail currently does not allow equestrian use and is generally free of invasive, non-native plant species. The potential negative impacts associated with equestrian use include the introduction of invasive, non-native plants from horse manure, feed, and hooves, and nitrogen loading into the soil from horse manure. Horse manure is high in nitrogen and can carry invasive non-native plants seeds. It is common to observe non-native plants growing out of horse manure. In addition, seeds from invasive non-native plants can be carried on the horse's hooves and in their feed. Over loading the soil with nitrogen may enable both non-native and native plants that are not normally found along this trail to colonize the area. By allowing horses on this trail there is a high potential that invasive non-native plants will be introduced into pristine native habitat. Introduction of manure and urine along the riparian corridor of the South Fork Eel River will also increase nutrient loading in the river and will result in algal blooms during periods of low flow and warm temperatures. Algal blooms are known to have fatal consequences for young salmonids and other aquatic species.

Rockefeller Loop Trail

Equestrians not approved (Segments 1, 2, 3, 4)

The Rockefeller Loop Trail is a designated accessible trail. The trail is designed and maintained according to the standards set forth in the California State Parks Accessibility Guidelines – 2015 Edition. The guidelines require accessible trails to maintain a firm and stable surface and trail surface cross-slopes of less than 5%. The introduction of equestrian use on the Rockefeller Loop Trail would cause accelerated mechanical wear on the trail surface. Hardening required to maintain required cross-slopes would require frequent maintenance and current cyclic maintenance resources could not accommodate the increased workload.

Circulation patterns in the park would not be improved because no adjacent or nearby trails accommodate equestrian use. The Rockefeller Loop itself is a short loop trail and does not provide access to any notable destination or other route.

The Rockefeller Loop Trail is one of the busiest trails in the park year-around, with short-stay visitors as well as campers touring the grove. Limited parking, no trailer parking, and crowded trail conditions make this an unsafe trail/trailhead to introduce equestrian use.

Humboldt Redwoods State Park contains hundreds of acres of pristine wildland where there are currently no invasive non-native plants. The Rockefeller Loop Trail currently does not allow equestrian use and is generally free of invasive, non-native plant species. The potential negative impacts associated with equestrian use include the introduction of invasive, non-native plants from horse manure, feed, and hooves, and nitrogen loading into the soil from horse manure. Horse manure is high in nitrogen and can carry invasive non-native plants seeds. It is common to observe non-native plants growing out of horse manure. In addition, seeds from invasive non-native plants can be carried on the horse's hooves and in their feed. Over loading the soil with nitrogen may enable both non-native and native plants that are not normally found along this trail to colonize the area. By allowing horses on this trail there is a high potential that invasive non-native plants will be introduced into pristine native habitat. Introduction of manure and urine along the riparian corridor of Bull Creek will also increase nutrient loading in the creek and will result in algal blooms during periods of low flow and warm temperatures. Algal blooms are known to have fatal consequences for young salmonids and other aquatic species.

South Prairie Trail

Bicycles conditionally approved (Segment 1)

The South Prairie Trail connects upper Grieg Road with the lower section of Grieg Road in the Bull Creek backcountry. The South Prairie Trail is presently the most remote route in the upper Bull Creek watershed and gets very little use from any user group. The trail can be used to form a loop with Grieg Road and will eventually link into the proposed Grasshopper Saddle Trail to provide a link from the lower Bull Creek watershed to the upper watershed. The trail is wide and well out-sloped with a firm and durable surface that can accommodate multi-use. Due to limited sight distances and long downhill grades, speed calming devices such as durable pinch points, textured surfaces and signage will be required to limit potential safety issues with other users before a change in use could be approved.

Williams Grove Trail

Bicycles conditionally approved (Segments 1, 2, 3)

The William's Grove Trail connects the Hidden Springs Campground with the William's Grove day use area and the south fork Eel River. The trail descends from the upper end of the campground to the east side of Highway 101 then levels off and roughly follows contour until it crosses under US 101. The trail then drops again west of the highway and crosses the Avenue of the Giants at the William's Grove day-use area. The trail has long downhill sections with some limited visibility so speed calming devices such as durable pinch points, textured surfaces

and signage will be required to limit potential safety issues with other users before a change in use could be approved. A steel cable support spans the trail in one location, limiting overhead clearance. This potential hazard would require evaluation and possible modification prior to adding bicycles. Many sections of the trail surface are still native material and those sections will have to be hardened to protect the surface from deformation cause by wheel

Recommendations Report

Change-in-Use Requests

Appendices

Change in Use Evaluation Form

Change in Use Process Flowchart

8.8 Change-In-Use Survey

Park (Including Classification): _____
 Trail Name: _____
 Location in Unit: _____
 Current Use Designation(s): _____
 Proposed Use Type Change: _____
 Use Change Initiated By: _____
 Evaluation Date: _____



Evaluation Criteria

	Yes	No
Based on Criteria, is this Use Change Compatible?		
Based on Criteria, does this Use Change Enhance Circulation?		
Based on Criteria, will this Use Change Decrease Trail Safety?		
Based on Criteria, is the Trail Sustainable Under Existing Use Conditions?		
With the Proposed Use Change Will the Trail be Sustainable		
Based on Criteria, will the Proposed Used Change Create Negative Impacts to the Natural or Cultural Resources?		
Will the Proposed Use Change and/or Modifications to the Existing Trail Create Significant Facility Maintenance or Operational Work Load?		
Are there other Routes in the Unit or on Nearby Public Lands that Adequately Accommodate the Type of Trail Use Proposed?		
Would needed modifications trigger outside agency permits?		
Recommendation Based on Evaluation Criteria - Substantiate in Comment Box		
Recommend that the Park's General Plan or Road and Trail Management Plan be Developed or Amended to Evaluate this Change in Use		
Recommend that the Proposed Change in Trail Use be Approved		
Recommend that the Proposed Change in Trail Use be Approved After Design Modifications are Implemented:		
Recommend that the Major Reroute be Considered to Accommodate Proposed Change in Use		
Recommend that the Proposed Change in Trail Use be Approved with Management Options such as: Alternating Days of Use, One Way Travel, Seasonal Closures etc.		
Recommend that the Proposed Change Use be Put on Hold - See Comment Box Below		

Summary Criteria Evaluation on Based on the Synthesis of Data from the Following Pages

Insert Map of Area of Proposed Use Change

Comments:

Evaluation Team Members: _____

Multiple trail route use change proposals in one unit may recommend development or amendment of a unit wide road and trail transportation management plan.

Qualified Department District Staff, including a DPR Trained Trail Coordinator will complete this survey and checklist to:

- (1) Determine the sustainability, trail user safety and feasibility of a proposed change in allowed uses for a single existing trail.
- (2) Determine the appropriateness of proposed use change in relation to cumulative impacts to the existing uses (users, routing, hiking opportunities, etc)
- (3) Support and Document the Request with a Project Evaluation Form and associated CEQA document.
- (4) Validate the existing conditions described on the attached trail log. The trail log should address typical log elements and positive and negative attributes related to the evaluation criteria.

Evaluation Criteria	Yes	No	Comments
#1 Existing Conditions			
Check any existing conditions:			
1.1			Describe positive and negative impacts of the proposed change and any other details related to the question to assist decision is made . Put N/A in "No" section for criteria not applicable to trail evaluated.
Does the Park Unit have a General Plan?			
1.2			
If Yes, does it address specific trail uses or other management directive supporting the proposed use change			
1.3			
1.4			
Does the Park have an approved road and trail management plan?			
Trail or Road Surface Type:		Check Applicable	
1.5	Asphalt		
1.6	Concrete		
1.7	Gravel		
1.8	Native Material		

Trail Use Change Survey

Evaluation Criteria		Yes	No	Comments
Trail and Road Facility Use Type				
1.9	Public			
1.10	Administration			
1.11	Fire Break			
1.12	Motorized Recreation			
1.13	Non-Motorized Recreation			
1.14	ADA Accessible Route of Travel			
1.15	Does the proposed route connect to a Trail Head or other Accessible Facility?			
1.16	Road Used as Trail Route			
Trail Specific Facility Use Type				
1.17	Trail Class I, II, III, IV			Enter Trail Classification Here - Not Yes or No
Current Trail Uses Allowed (on road or trail)		Yes	No	
1.18	Pedestrian			
1.19	Mountain Bike			
1.20	Equestrian			
1.21	Other - Specify in Comment Box			
#2 Compatibility for Multi-User Trails				
Check any existing conditions:				
2.1	Would the proposed use change create incompatible conflict with existing facilities (trail heads, stables, campgrounds etc)?			
2.2	Is it located on a trail already in a high use area and are there resource impacts?			
2.3	Is there significant user conflict?			
2.4	Is there evidence of unauthorized use?			
2.5	Is it consistent with park classification?			
2.6	Does the Proposed Use Currently Exist in the Park?			
2.7	Is there documented survey or statistical information that identifies a need for proposed additional use designation?			
2.8	Is the existing trail considered ADA accessible by US Access Board?			
2.9	Based on Above Criteria, Is this Use Change Compatible?			

Trail Use Change Survey

Evaluation Criteria		Yes	No	Comments
#3 Affects to Trail Unit User Circulation Patterns				
Check any existing conditions:				
3.1	Does the proposed use change provide a loop or semi loop connection?			
3.2	Does the change provide a legal or legitimate route for existing unauthorized trail uses or user created trail?			
3.3	Does the change provide a connection to adjacent land agency which allows similar use?			
3.4	Does it improve circulation or relieve congestion on other high use or at capacity trails?			
3.5	Does it create potential additional use changes on surrounding/adjacent or connecting trails or facilities?			
3.6	Does it require a seasonal closure to mitigate resource impacts?			
3.7	If yes, will seasonal closures disrupt circulation patterns?			
3.8	Based on Above Criteria, Does this Use Change Enhance Circulation			
#4 Effects to Trail Use Safety				
Check any existing conditions:				
4.1	With standard cyclic trail brushing (as required by the trail Class), is there adequate site distance for safe warning for the proposed use change?			
4.2	With standard cyclic slough and berm removal, is there adequate tread width for safe passage for the proposed multi-user designation?			
4.3	With equestrian mutli-use, are tread widths safe for the pedestrian, mobility devices and/or bike user to retreat to the downhill side of trail?			
4.4	If tread widths for equestrian use is narrow, are the fill slopes gentle, firm and stable for the pedestrian, mobility devices and/or bike user to retreat to the downhill side of trail?			
4.5	Does the trail have sinuosity that slows bike users?			
4.6	Can sinuosity be designed into existing trail tread alignment to slow bike users?			

Trail Use Change Survey

Evaluation Criteria		Yes	No	Comments
4.7	Does the use change require removal of special concern plant species to maintain adequate trail widths and sight distances?			
4.8	Would use type change existing conditions or cause problems for enforcement of park rules and regulations?			
4.9	Would use type change existing conditions or cause problems for emergency response?			
4.10	Would alternating days of use reduce the change of use impacts to reduce safety concerns?			
4.11	Based on Above Criteria, Will this Use Change Decrease Trail Safety?			
#5 Effects on Trail Sustainability				
Check any existing conditions:				
5.1	Are trail grades commensurate with soil types, use type, season use and facilitate natural hydrologic drainage patterns such as sheet flow?			
5.2	Is the trail drainage being captured and released on hillsides and not at natural topographic drainage features?			
5.3	Trail tread firm and stable?			
5.4	Are there abrupt changes in trail running grade?			
5.5	Is the fill slope stable?			
5.6	Is the back slope/cut bank stable?			
5.7	Does the trail tread remain firm and stable in wet conditions?			
Supporting Data From Trail Log				
5.8	Number of Water Bars required for proper drainage			
5.9	Lineal Footage of Berms			
5.10	Lineal Footage of Ditches			
5.11	Lineal Footage Rills and Ruts			
5.12	Lineal Footage log Entrenched Trail			
Describe the locations and different types of soil types and matrix encountered on trail				
5.13	Rocky			
5.14	Rocky/Partial Soil Profile			
5.15	Full Soil Profile			

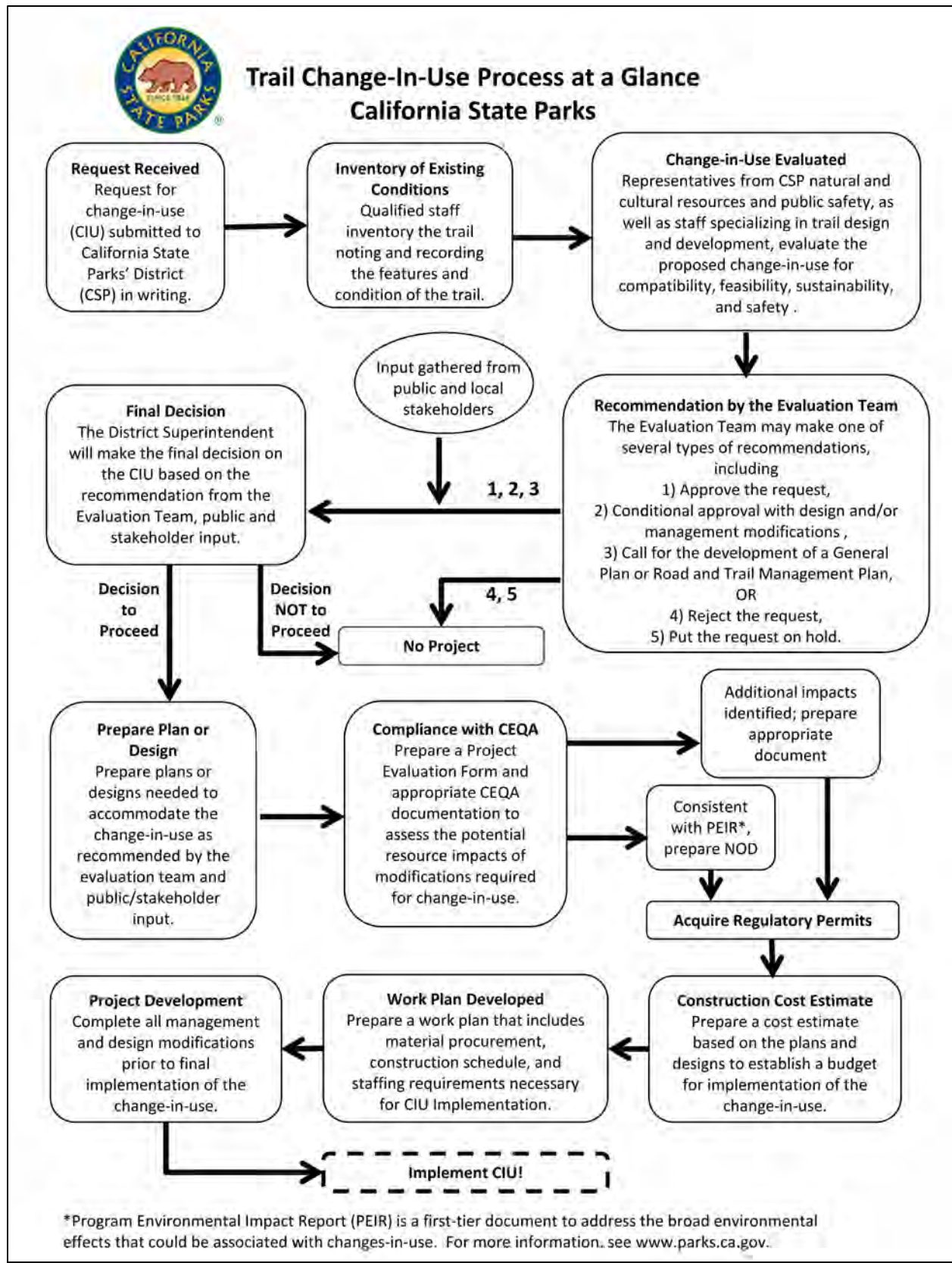
Trail Use Change Survey

Evaluation Criteria		Yes	No	Comments
5.16	Partial Soil Profile/Sandy			
5.17	Sandy			
5.18	Based on Above Criteria, is the Trail Sustainable Under Existing Use Conditions?			
5.19	With the Proposed Use Change, will the Trail be Sustainable?			
	If Not Sustainable, Can Any of the Following Measures be Implemented to Make the Trail Sustainable for the Proposed Use Change?			
	Minor reconstruction of trail tread would:			
5.20	Correct lack of outslope			
5.21	Eliminate abrupt grade changes			
5.22	Stabilize unstable cut bank			
5.23	Stabilize unstable fill slope			
5.24	Correct rilling, rutting			
	Provide for firm and stable surfaces			
5.25	Minor realignment of trail within immediate existing trail proximity would:			
5.26	Stabilize unstable cut bank			
5.27	Stabilize unstable fill slope			
5.28	Eliminate abrupt grade changes			
5.29	Correct unsustainable grades			
5.30	Correct Lack of sinuosity			
5.31	Based on Above Criteria, Can the Trail be Made Sustainable for Proposed Use Conditions?			
5.32	Can wet weather closures establish or maintain Sustainability?			
5.33	Should a Major Reroute be Considered to Establish Sustainability?			
#6 Effects or Impacts to the Natural or Cultural Resources				
	Would proposed use change and/or needed modifications significantly impact:			
6.1	erosion of existing Trail Tread?			
6.2	geologic conditions?			

Trail Use Change Survey

Evaluation Criteria		Yes	No	Comments
6.3	sensitive wildlife habitat?			
6.4	sensitive vegetation habitat?			
6.5	a riparian or stream environment zone			
6.6	a sensitive historic feature?			
6.7	Is the Trail a historic feature?			
6.8	Based of Above Criteria, Would the Proposed Used Change Create Negative Impacts to the Natural or Cultural Resources?			
#7 Effects or Impacts to the Facility Maintenance and Operational Costs				
Would proposed use change and/or needed modifications:				
7.1	Change the current classification of the trail?			
7.2	Create the need for fill slope or cut bank retaining walls?			
7.3	Require aggregate or other trail hardening techniques required to maintain tread stability?			
7.4	Require additional or upgrading of turnpikes or causeways?			
7.5	require additional bridges or puncheons?			
7.6	Require additional maintenance to maintain current existing conditions?			
7.7	Require additional management practices to maintain user compliance?			
7.8	Could the proposed modifications be completed by non-department work forces?			
7.9	Could the proposed modifications be maintained by non-department work forces with no cost to State Parks?			
7.10	Are durable pinch point native materials readily available?			
7.11	If alternating days of use by user type is a management practice, is alternating days of use able to be enforced?			
7.12	Will the Proposed Use Change and/or Modifications to the Existing Trail Create Significant Facility Maintenance or Operational Work Loads?			

8.9 Change-In-Use Process Flow Chart



8.10 Seasonal Road Driving Policy



State of California • Natural Resources Agency

Edmund G. Brown Jr., *Governor*

DEPARTMENT OF PARKS AND RECREATION

Lisa Ann L. Mangat, *Director*

North Coast Redwoods District
P.O. Box 2006 Eureka, CA 95502
(707) 445-6547

March 16, 2016

To: North Coast Redwoods District Employees

From: Jeff Bomke, District Superintendent

A handwritten signature in blue ink, appearing to read "Jeff Bomke".

Subject: Seasonal Road Use in the North Coast Redwoods District

SCOPE AND PURPOSE

The purpose of this Superintendent's Policy is to prevent damage to non-paved park roads from vehicle use during the wet season or other adverse weather conditions, and to protect aquatic resources and water quality in park streams. This policy applies to all North Coast Redwoods District (NCRD) employees, volunteers, agencies, municipalities, utilities, contractors, and cooperators using park owned, non-public (controlled access) backcountry roads, as well as some public use roads within the District, exclusive of units within the Redwood National and State Parks cooperative Management Area. Please refer to the Superintendents' Policy No. 1 dated May 6, 2011, Seasonal Road Use in Redwood National and State Parks (RNSP) for policy related to seasonal road use. Supervisors are responsible for ensuring that their employees, volunteers, contractors and cooperators are familiar with the Seasonal Road Use Policy for roads in the NCRD. This policy does not apply to property owners that have legal, unconditional easements over park property. The North Coast Redwoods District will work cooperatively with landowners to reduce damage to encumbered roads during wet conditions. All-season roads degrade over time, even with proper maintenance. Therefore, roads designated as all-season may be re-designated as seasonal roads if conditions dictate. To improve protection and sustainability of non-paved roads, protect backcountry aquatic resources, and avoid confusion among affected staff, a list of all-season roads will be published annually the first week of October.

BACKGROUND

All-season roads are constructed with compacted gravel or paved surfaces. They have hardened surfaces and can be driven on with standard vehicles during most weather conditions. All-season roads are not designed to accommodate large trucks or crew vehicles during the wet season or other adverse weather periods. Seasonal roads are constructed with a surface consisting of native material or reworked gravel that can deform and erode when conditions are wet. Damage occurs through rutting which compromises the effectiveness of road surface drainage and allows runoff from precipitation to concentrate on the road surface and cause erosion. Erosion and sedimentation from roads impacts aquatic resources and water quality. Use of

backcountry roads during wet weather conditions significantly increases road repair and maintenance workloads and associated costs.

POLICY

No unpaved roads shall be driven on, whether designated seasonal or all-season, if the use causes deformation or displacement of the road surface . Seasonal roads in the park shall not be driven on with any vehicle by any agency or entity, including State Park personnel during the winter period or within 24 hours following rainfall greater than 0.5-inch that occurs outside of the winter period. Seasonal roads may be driven on by ATVs/UTVs providing ATV/UTV use does not deform or rut the road surface .

Backcountry roads that have been re-engineered or constructed during the previous dry season shall not be driven on at any time by any vehicle or ATV/UTV during the following rainy season unless there is an emergency. Emergencies are exempt from this policy. Emergencies are defined as medical assistance, search and rescues, law enforcement responses to reported incidents, fires, utility outages and other immediate threats to the public or park resources.

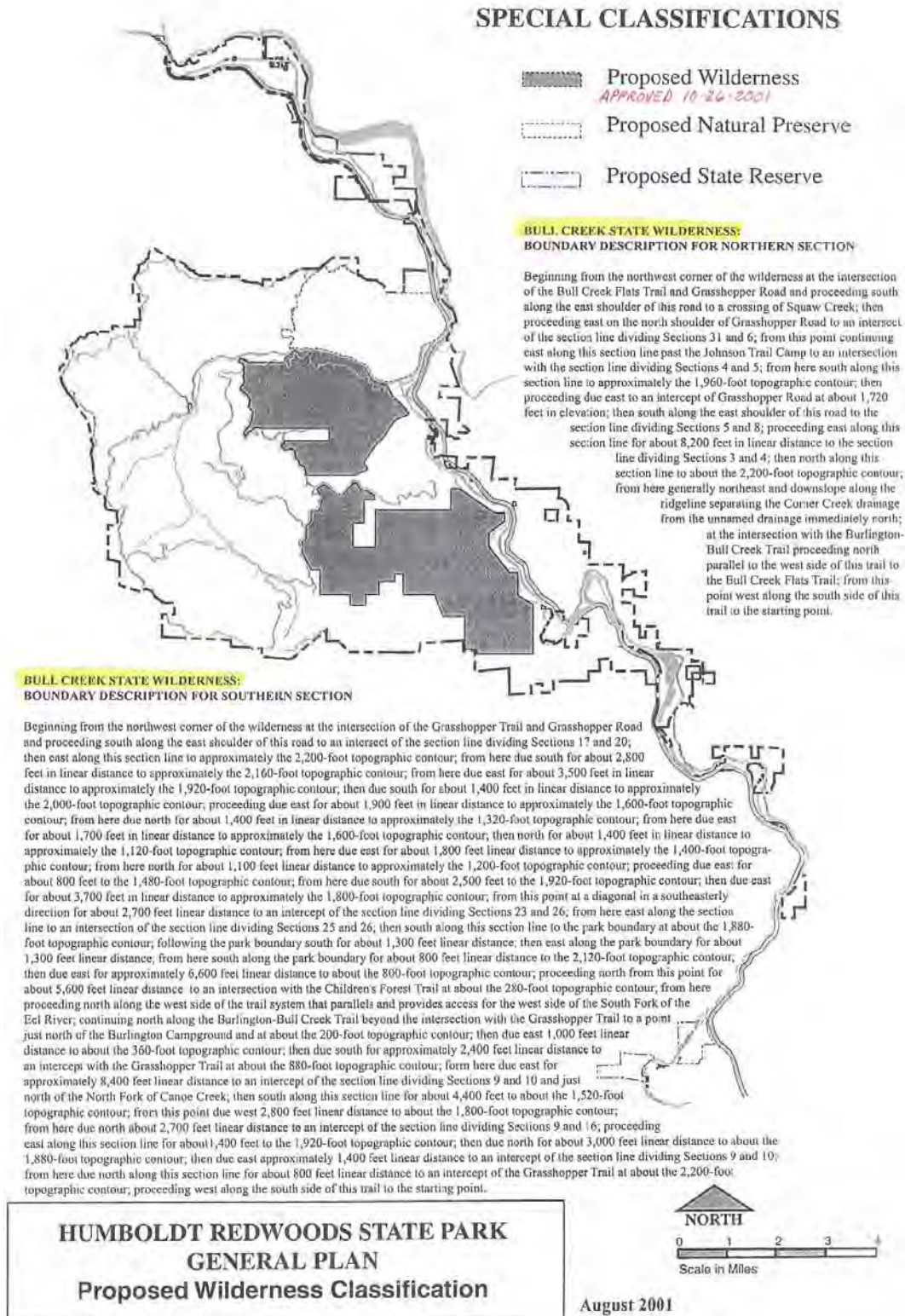
The winter period is defined as October 15 through May 15 or the beginning of the prolonged stormy weather season through the beginning of the prolonged dry weather season on the North Coast. Seasonal road closures can occur before October 15 if sufficient precipitation has occurred , and seasonal closures can extend beyond May 15 if roads have not had sufficient time to dry. Similarly, seasonal road closures can occur after October 15th if the rainy season has not yet produced sufficient precipitation to warrant closures. The NCRD Superintendents or their designee shall determine when seasonal roads are to be closed and re-opened.

As a general practice, vehicles driven on unpaved backcountry roads should have four-wheel drive and be engaged in four wheel drive. Tire chains shall not be used as a means to improve traction in order to gain access and should only be employed in emergencies or situations when extrication is not possible through mechanical assistance (e.g., winch, grip hoist, come-along, or towing by another vehicle).

Under all circumstances , volunteers, agencies, municipalities, utilities, contractors, and cooperators requiring access to non-paved backcountry roads during the wet season or other adverse weather conditions shall contact the Sector Superintendent , who in turn is required to contact the Roads and Trails Section Manager or the Sector RTR Supervisor to discuss road conditions, proposed use and protective BMP's prior to using non-paved roads.

8.11 HRSP Wilderness Boundaries

The following wilderness boundary descriptions was developed during the HRSP General Plan process.



8.12 Planning Team

The planning team for the HRSP RTMP consisted of Departmental staff with a variety of professional backgrounds, including environmental science, maintenance, GIS mapping, recreation, trails, archaeology, landscape architecture, and law enforcement. The following districts, divisions, and unit participated in the development of this plan:

North Coast Redwoods District Planning Team

Jay Harris, Senior Environmental Scientist
Brian R. Merrill, Senior Engineering Geologist – Roads, Trails, and Resources Section Manager
Amber Transou, Senior Environmental Scientist
Michelle Forys, Environmental Scientist
Greg Collins, Associate State Archeologist
John Miller, Park Maintenance Chief II
Shannon Dempsey, Engineering Geologist – District Environmental Coordinator
Tom Gunther, State Park Superintendent 1
Thomas Valterria, State Park Peace Officer, Supervisory
Mark Casanova, Park Maintenance Supervisor
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Thank you to the RTMP team members!

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