

**DRAFT**

**INITIAL STUDY  
MITIGATED NEGATIVE DECLARATION**

**Fox Camp Prairie Restoration Project  
Humboldt Redwoods State Park**

**April 2012**



State of California  
**DEPARTMENT OF PARKS AND RECREATION**



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## MITIGATED NEGATIVE DECLARATION

**PROJECT:** Fox Camp Prairie Restoration Project

**LEAD AGENCY:** California Department of Parks and Recreation

**AVAILABILITY OF DOCUMENTS:** This Initial Study/Mitigated Negative Declaration is available for review at:

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

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

Humboldt Redwoods State Park  
17119 Avenue of the Giants  
Weott, CA 95571

Humboldt County Public Library  
1313 Third Street  
Eureka, CA 95501

California Department of Parks and Recreation Internet Website.  
[http://parks.ca.gov/default.asp?page\\_id=980](http://parks.ca.gov/default.asp?page_id=980)

**PROJECT DESCRIPTION:**

California State Parks (CSP) proposes to restore prairie habitat by removing trees on up to 35 acres of closed canopy forests and adjacent small clumps of trees within a 102-acre project area. Active fire suppression and a lack of fire ignitions – historically ignited by Native Americans – has allowed trees to colonize these prairies and convert them into closed canopy forests. The encroaching trees are primarily Douglas-firs.

Trees will either be removed by heavy equipment or will be felled with a chainsaw. An excavator or other piece of heavy equipment will be used to push over trees so that the root wads stay attached. Trees will then be removed, either by truck or helicopter, or burned on site. The excavator will remove most of the dirt from root wads and may push loose soil into holes created by tree removal. Duff material will be redistributed to prevent erosion but soil disturbance will be minimized. No vehicles will travel on slopes greater than 40%. The removed trees will primarily be used for instream restoration projects within the Park. The stump of trees felled with a chainsaw will be cut to within 18 inches of the ground if greater than 24 inches in diameter or eight inches if less than 24 inches in diameter.

A copy of the Initial Study is incorporated into this Mitigated Negative Declaration. Questions or comments regarding this Initial Study/Mitigated Negative Declaration should be addressed to:

John E. Harris  
Senior Environmental Scientist  
California Department of Parks and Recreation  
North Coast Redwoods District  
P.O. Box 2006  
Eureka, CA 95502-2006

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 Mitigated 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 mitigation measures detailed in these documents are feasible and will be implemented as stated in the Mitigated Negative Declaration.

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John E. Harris  
District Environmental Coordinator/Senior Environmental Scientist

Date

## TABLE OF CONTENTS

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Table of Contents .....	iii
Chapter 1 – Introduction .....	2
1.1 Introduction and Regulatory Guidance .....	2
1.2 Lead Agency .....	2
1.3 Purpose and Document Organization .....	2
1.4 Summary of Findings .....	3
Chapter 2 – Project Description .....	6
2.1 Introduction .....	6
2.2 Project Location .....	6
2.3 Background and Need for the Project .....	6
2.4 Project Objectives .....	7
2.5 Project Description .....	7
2.6 Project Implementation .....	7
2.7 Visitation .....	8
2.8 Consistency with Local Plans and Policies .....	9
2.9 Discretionary Approvals .....	9
2.10 Related Projects.....	9
Chapter 3 – Environmental Checklist .....	12
Chapter 4 – Mandatory Findings of Significance .....	64
Chapter 5 – Summary of Mitigation Measures .....	66
Chapter 6 – Summary of Monitoring Plan .....	68
Chapter 7 – References .....	70
Chapter 8 – Report Preparation .....	74
Appendix A – Fox Camp Prairie Restoration Plan.....	76
Appendix B – Maps .....	78
Appendix C – Species List: Plants .....	80
Appendix D – Species List: Wildlife.....	82



## CHAPTER 1 – INTRODUCTION

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### 1.1 INTRODUCTION AND REGULATORY GUIDANCE

The Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared by the California Department of Parks and Recreation (DPR) to evaluate the potential environmental effects of the proposed Fox Camp Prairie Restoration Project at the Humboldt Redwoods State Park (HRSP), Humboldt County, California. 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 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 revisions in the project plans or proposals made by or agreed to by the applicant mitigate the potentially significant effects to a less-than-significant level, a Mitigated Negative Declaration (MND) may be prepared instead of an EIR [CEQA Guidelines §15070(b)]. The lead agency prepares a written statement describing the reasons a proposed project would not have a significant effect on the environment and, therefore, why an EIR need not be prepared. This IS/MND 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 the Department of Parks and Recreation (DPR aka CSP). The contact person for the lead agency is:

John E. Harris  
District Environmental Coordinator  
California Department of Parks and Recreation  
North Coast Redwoods District  
P.O. Box 2006  
Eureka, CA 95502  
Phone: 707-445-6547 ext. 19

### 1.3 PURPOSE AND DOCUMENT ORGANIZATION

The purpose of this document is to evaluate the potential environmental effects of the proposed Fox Camp Prairie Restoration Project. Mitigation measures have also been

incorporated into the project to eliminate any potentially significant adverse impacts or reduce them to a less-than-significant level.

This document is organized as follows:

#### *Chapter 1 - Introduction*

This chapter is 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, Impacts, and Mitigation Measures*

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. Mitigation measures are incorporated, where appropriate, to reduce potentially significant impacts to a less than significant level.

#### *Chapter 4 – Mandatory Findings of Significance*

This chapter identifies and summarizes the overall significance of any potential impacts to the natural and cultural resources, cumulative impacts and impacts to humans, as identified in the Initial Study.

#### *Chapter 5 - Summary of Mitigation Measures*

This chapter summarizes the mitigation measures incorporated into the project from the Initial Study.

#### *Chapter 6 - Summary of Monitoring*

This chapter describes the monitoring that will be used to ensure that all mitigation measures are implemented as planned during project construction.

#### *Chapter 7 - References*

This chapter identifies the references and sources used in the preparation of this IS/MND.

#### *Chapter 8 - Report Preparation*

This chapter includes a list of report preparers.

### **1.4 SUMMARY OF FINDINGS**

Chapter 3 of this document contains the Environmental (Initial Study) Checklist that 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 and supporting environmental analysis provided in this document, the proposed Fox Camp Prairie Restoration Project 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, and cumulative impacts.

In accordance with §15064(f) of the CEQA Guidelines, a MND shall be prepared if the proposed project would not have a significant effect on the environment after the inclusion of mitigation measures in the project. Based on the available project information and the environmental analysis presented in this document, there is no substantial evidence that, after the incorporation of mitigation measures, the proposed project would have a significant effect on the environment. It is proposed that a Mitigated Negative Declaration be adopted in accordance with the CEQA Guidelines.



## CHAPTER 2 – PROJECT DESCRIPTION

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### 2.1 INTRODUCTION

This Initial Study/Mitigated Negative Declaration (IS/MIND) has been prepared by the DPR to evaluate the potential environmental effects of the proposed Fox Camp Prairie Restoration Project (See Appendix A) at Humboldt Redwoods State Park (HRSP). CSP proposes to restore prairie habitat by removing invading trees.

### 2.2 PROJECT LOCATION

The project is located within the North Coast Redwoods District (NCRD) of California State Parks (see Appendix B). The proposed work would take place in the forested uplands of the Cuneo Creek subwatershed, which drains into the Bull Creek watershed in the northwest portion of Humboldt Redwoods State Park. The project is located southwest of Eureka and northwest of Garberville. The legal description for the project area is (T 1 S, R 1 E, Sections 2, 3, 4, 33, 34, 35, 27, 28) USGS 7.5' Bull Creek CA quadrangles.

Access to the project site from Eureka, California, is south 33 miles via U.S. Highway 101. The main access to the project is 6.5 miles west of the Dyerville Overlook via the Mattole Road.

### 2.3 BACKGROUND AND NEED FOR THE PROJECT

As the third largest park in the California State Park's system, HRSP is home to a great diversity of habitats and historic features that are enjoyed by visitors year round. HRSP is best known for its majestic old-growth redwood forests. Also of interest are the native grasslands (prairies) that play a vital role in protecting the cultural and biological diversity that exist within the Park. Native Americans periodically burned the prairies for a variety of reasons including to increase acorn harvests, encourage the growth of basket materials, and improve forage for big game like elk and deer. Many of the early European settlers burned prairies to maintain open grasslands for livestock. By the early 1900's, human caused ignitions became less common and eventually all fires were aggressively suppressed. The change in fire regimes has allowed many species to establish and thrive in prairies where they were absent or rare before. The most obvious example of this is Douglas-fir trees. Douglas-fir seedlings are capable of germinating in prairies but are easily killed by the low intensity fires typical of grassland burns. After multiple years with no fire, the seedlings are able to grow sufficiently to survive typical grassland fires. Over time, the trees grow to form a closed canopy forest where insufficient light is present to support the prairie vegetation. The extent of prairies prior to European settlement is unknown but we estimate that approximately 60% of the native prairies have been converted to closed canopy forests because of fire suppression (DPR 2007).

Many non-native grasses and forbs arrived with European settlers and are now often more common than native species in the prairies. While the non-native species are less

desired than native grasses, most do not alter habitat as dramatically as trees that replace all native vegetation. CSP has an exotic plant management program that actively removes exotic plants. The program prioritizes removing plants that have the greatest impact on native species, and are most cost effective to treat.

CSP has been burning the prairies within the project area for over a decade to maintain existing prairies and kill encroaching trees. While the fires have been able to kill some of the encroached trees, and some trees have been cut with chainsaws, only a small percentage of the area has returned to open grasslands.

## **2.4 PROJECT OBJECTIVES**

The primary objective of the proposed project is to return the area to a grassland environment by removing trees that have been able to grow due to fire suppression. The following objectives have been identified within this framework:

- Encourage the growth of native grassland species within the project area.
- Prevent the establishment and spread of invasive exotic plants.
- Protect the area from erosion resulting from tree removal.

The project is also consistent with the CSP mission and its management directives aimed at preserving the state's extraordinary biological diversity and protecting its most valued natural resources.

## **2.5 PROJECT DESCRIPTION**

CSP proposes to restore prairie habitat by removing trees on up to 35 acres of closed canopy forests and adjacent small clumps of trees within the 102-acre project area. The trees are primarily Douglas-firs that invaded open grasslands post European settlement. Active fire suppression and a lack of fire ignitions – historically ignited by Native Americans – has allowed trees to colonize and is converting grasslands into closed canopy forests.

## **2.6 PROJECT IMPLEMENTATION**

An excavator or other piece of heavy equipment will be used to push over trees so that the root wads stay attached. Backcountry heavy equipment operations - best management practices (Merrill and Casaday 2003) will be observed to minimize potential environmental effects of operation (e.g. leaks, fire risk etc.). The excavator will remove most of the dirt from root wads and may push loose soil into holes created by tree removal. Duff material will be redistributed to prevent erosion but soil disturbance will be minimized. To help retain slope stability a smaller number of trees, primarily on slopes greater than 40% or along service roads, will be cut with a chainsaw leaving roots undisturbed. The stump of trees felled with a chainsaw shall be cut to within 18 inches of the ground if greater than 24 inches in diameter or 8 inches if less than 24 inches in diameter. Trees will be decked on site then removed, either by truck or helicopter. Slash piles may be burned on site. Experimental blocks on slopes less than 40% may be burned to encourage growth of native grassland vegetation in areas with no herbaceous component. Total area burned will not exceed 2 acres in the first year

but if burning the experimental blocks encourages vegetation growth and discourages erosion then larger areas may be burned in subsequent years. Air quality permits will be obtained for all burning. No vehicles will travel on slopes greater than 40% or within 50 ft of watercourses. Work will be conducted during the “dry” season (Aug 1 – October 31) or in the “wet” season (November 1 – February 1) if dry conditions persist. Operations will cease before soils become sufficiently saturated to cause a turbidity increase into drainages that lead to Class I, II, III or IV waters (as defined by Title 14 California Code of Regulations § 895). Log storage sites will occur greater than 50 feet from existing watercourses. The removed trees will primarily be used for future instream restoration projects within the Park.

## 2.7 VISITATION

According to the California State Parks Statistical report, HRSP receives approximately 450,000 people per year. The majority of the visitation occurs during the summer months from mid-May through September. The proposed Fox Camp Prairie Restoration Project would not increase visitation.

**Table 2.7.1. Annual visitor attendance at Humboldt Redwoods State Park.**

<b>*Fiscal Year</b>	<b>Paid Day Use</b>	<b>Free Day Use</b>	<b>Overnight Camping</b>	<b>Total Attendance</b>
1995-1996	1,781	548,941	87,162	637,883
1996-1997	3,742	497,670	67,955	569,367
1997-1998	2,775	452,670	61,172	516,617
1998-1999	3,535	508,285	58,361	570,181
1999-2000	4,334	490,744	68,757	563,835
2000-2001	6,127	475,562	67,201	548,890
2001-2002	2,969	461,933	72,434	537,336
2002-2003	4,201	443,242	60,064	507,507
2003-2004	2,249	425,921	54,076	482,246
2004-2005	1,402	390,598	49,825	441,824
2005-2006	1,002	393,183	47,182	441,367
2006-2007	1,714	337,131	44,635	383,480
2007-2008	1,823	366,671	52,842	421,336
2008-2009	1,734	378,916	50,100	430,750
2009-2010	1,860	350,355	47,045	399,260
2010-2011	1,863	387,615	40,704	430,182
<b>Total Attendance</b>	<b>43,112</b>	<b>6,909,436</b>	<b>929,512</b>	<b>7,882,060</b>
<b>Average Yearly Attendance</b>	<b>2,694</b>	<b>431,840</b>	<b>58,094</b>	<b>492,629</b>

\* Data obtained from the DPR Attendance Database

## **2.8 CONSISTENCY WITH LOCAL PLANS AND POLICIES**

The proposed restoration plan is consistent with the mission of CSP *“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.”*

The proposed project is consistent with local plans and policies currently in effect. Please see Chapter 3, Section IX, Land Use and Planning, for further details.

## **2.9 DISCRETIONARY APPROVALS**

California State Parks will perform all necessary reviews and acquire all permits necessary prior to implementing any project component that may require regulatory review.

California State Parks retains approval authority for the proposed Fox Camp Prairie Restoration Project. The project meets goals presented in the Humboldt Redwoods General Plan (DPR 2001),

The project requires additional approval or permits from the following government agencies:

- U.S. Fish and Wildlife Service - Prior to operations, a letter of Technical Assistance will be obtained from the USFWS, identifying any temporal operating restrictions for the northern spotted owl.

California State Parks will acquire all necessary reviews and permits prior to implementing any project components requiring regulatory review.

## **2.10 RELATED PROJECTS**

CSP has other natural resource restoration projects planned for the Park; the following projects are currently underway or proposed in the foreseeable future in or near the proposed project area:

- CSP will thin 264 acres of overly dense second growth forests in the Cuneo Creek watershed to improve forest health and encourage the development of old forest characteristics.
- Several small exotic plant removal projects in HRSP may occur during and after the Fox Camp Prairie Restoration project.
- Riparian forest restoration is currently occurring in Bull Creek and lower Cuneo Creek. This project involves the planting of riparian associated tree and shrub species.
- Prescribed fires are scheduled to occur in the fall of most years within the prairies of HRSP. The prescribed fire preferred reoccurrence interval is approximately every 3-5 years.

- CSP is planning restoration of the lower Bull Creek floodplain from approximately the confluence with Cuneo Creek down to Albee Campground. Implementation of this project is anticipated to occur in 2012-13.
- CSP is in the planning to stabilize portions of the Devil's Elbow Landslide through sediment removal and planting. Devil's Elbow is located in the South Fork of Cuneo Creek. This work is anticipated to occur in the summer of 2013.

Although no work is currently being planned, the Cuneo Creek watershed is also the highest priority for future relic logging road removal.



## CHAPTER 3 – ENVIRONMENTAL CHECKLIST

PROJECT INFORMATION	
1.	Project Title: Fox Camp Prairie Restoration Plan
2.	Lead Agency Name & Address: California Department of Parks & Recreation
3.	Contact Person & Phone Number: John E. Harris (707) 445-6547 x19
4.	Project Location: Humboldt Redwoods State Park
5.	Project Sponsor & Address: California Department of Parks & Recreation North Coast Redwoods District 3431 Fort Ave. Eureka, CA 95503
6.	General Plan Designation: State Park
7.	Description of Project: CSP proposes to restore prairie habitat by removing trees on up to 35 acres of closed canopy forests and adjacent small clumps of trees within a 102-acre project area. Active fire suppression and a lack of fire ignitions – historically ignited by Native Americans – has allowed trees to colonize these prairies and is converting them into closed canopy forests. The encroaching trees are primarily Douglas-firs.  Trees will either be removed by heavy equipment or will be felled with a chainsaw. An excavator or other piece of heavy equipment will be used to push over trees so that the root wads stay attached. Trees will then be removed, either by truck or helicopter, or burned on site. The excavator will remove most of the dirt from root wads and may push loose soil into holes created by tree removal. Duff material and redistribute duff material to prevent erosion but soil disturbance will be minimized. No vehicles will travel on slopes greater than 40%. The removed trees will primarily be used for instream restoration projects within the Park. The stump of trees felled with a chainsaw shall be cut to within 18” of the ground if greater than 24” or 8” if less than 24” in diameter. Slash

piles may be burned on site. Duff may be burned on experimental blocks smaller than two acres on slopes under 40% to aid the return of native prairie vegetation in areas lacking herbaceous vegetation. If burning aids the return of native grasses and prevents erosion, then additional burning may occur in subsequent years. The restoration plan includes numerous best management practices (Appendix A).

8. Surrounding Land Use & Setting: Refer to Chapter 3 of this Document (Section IX, Land Use Planning)
9. Approval Required from Other Public Agencies Refer to Chapter 2 of this document (Section 2.9 Discretionary Approvals)

**ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED**

If implemented as written, this project could result in a "Potentially Significant Impact" involving at least one area of the environmental factors checked below, as indicated in the Initial Study 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 MITIGATED 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 will 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, 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. Therefore, all impacts have been avoided or mitigated to a less-than-significant level and no further action is required.

John E. Harris  
District Environmental Coordinator

Date

## EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers, except “No Impact”, that are adequately supported by the information sources cited. A “No Impact” answer is adequately supported if the referenced information sources show that the impact does not apply to the project being evaluated (e.g. the project fall outside a fault rupture zone). A “No Impact” answer should be explained where it is based on general or project specific factors (e.g. the project will not expose sensitive receptors to pollutants, based on a project specific screening analysis).
2. All answers must consider the whole of the project related effects, both direct and indirect, including off-site, cumulative, construction, and operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether that impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate when there is sufficient evidence that a substantial or potentially substantial adverse change may occur in any of the physical conditions within the area affected by the project that cannot be mitigated below a level of significance. If there are one or more “Potentially Significant Impact” entries, an Environmental Impact Report (EIR) is required.
4. A “Mitigated Negative Declaration” (Negative Declaration: Less Than Significant with Mitigation Incorporated) applies where the incorporation of mitigation measures, prior to declaration of project approval, has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact with Mitigation”. The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier IER (including a General Plan) or Negative Declaration [CCR Guidelines for the Implementation of CEQA, §15063(c)(3)(D)]. References to an earlier analysis should:
  - a) Identify the earlier analysis and state where it is available for review.
  - b) Indicate which effects from the environmental checklist were adequately analyzed in the earlier document, pursuant to applicable legal standards, and whether these effects were adequately addressed by mitigation measures included in that analysis.
  - c) Describe the mitigation measures in this document that were incorporated or refined from the earlier document and indicate to what extent they address site-specific conditions for this project.
6. Lead agencies are encouraged to incorporate references to information sources for potential impacts into the checklist or appendix (e.g. general plans, zoning ordinances, biological assessments). References to a previously prepared or outside document should include an indication of the page or pages where the statement is substantiated.
7. A source list should be appended to this document. Sources used or individuals contacted should be listed in the source list and cited in the discussion.
8. Explanation(s) of each issue should identify:
  - a) the criteria or threshold, if any, used to evaluate the significance of the impact addressed by each question **and**
  - b) the mitigation measures, if any, prescribed to reduce the impact below the level of significance.

# I. AESTHETICS

## ENVIRONMENTAL SETTING

Humboldt Redwoods State Park contains many of California’s most significant 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. Two major roadways, California’s Highway 101 and the scenic Avenue of the Giants, intersect the Park. Neither of these highways are designated as a state scenic highway.

The project area is a mixture of open grasslands with scattered Douglas-firs and closed canopy forests with almost no grasses, shrubs or other understory vegetation. Fox Camp Multi-Use Trail (MUT) runs through the project area and is closed to privately owned motorized vehicles with the exception of adjacent landowners that share the road with CSP staff. Fox Camp MUT connects to the Mattole Road but the project is not visible from the Mattole Road. An old homestead and orchard exists adjacent to and within the project area. Encroaching conifers are obstructing views of the area and damaging the orchard and homestead. Trees may be cut to prevent further damage to these resources.

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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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) The work would be located within an area that does not contain any park scenic vista points. The proposed work would not be visible from any park scenic vista points. No impact.
- b) The proposed project area is not within a state scenic highway. The proposed project would remove trees that have encroached on to existing prairies and restore views of the historic prairie and homestead. No impact.

- c) The proposed project may temporarily decrease the visual appeal of the project area, however as grasses and other prairie vegetation return, many will appreciate the added open space in a park dominated by dense forests. The duration of any noticeable changes resulting from related activities would be a temporary impact, limited to approximately 3 years. Less than significant impact.
- d) Lighting is not an element of this project and no new artificial light sources would be introduced into the landscape. All construction work would be limited to daylight hours, eliminating the need for work lights. No impact.

## II. AGRICULTURAL 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.

Humboldt County encompasses approximately 2,286,090 acres (3,572 square miles) with roughly 1,362,942 acres of that area in agricultural production (49,795 agricultural, 294,714 grazing/timber, and 1,018,432 timber production) (Humboldt County Planning Division 2008). The primary agricultural product of Humboldt County is harvested timber, for which the county leads the state in both volume and value. In 2006, agricultural production ranked as follows: 1) Timber Production - \$107,944,884, 2) Nursery Stock (cut flowers, ornamental and forest tree production) - \$49,414,576, 3) Milk and Milk Products - \$44,742,414, 4) Livestock - \$23,888,736, 5) Field Crops (alfalfa, silage, range, etc.) - \$10,483,400, 6) Fruit & Nut Crops - \$1,523,000, 7) Vegetable Crops - \$1,183,700, (Humboldt County's Crop Report 2008).

At this time, no lands within the boundaries of the Park are used or zoned for agricultural purposes; however, agricultural relics are readily observable in and around the Park. A former homestead and orchard lies partially within the project area. 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 (Humboldt County Planning Division 2008).

Currently, the County has approximately 273,000 acres under California Land Conservation Agreement contracts (Humboldt County Planning Division 2008), 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 has 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| Agency, to non-agricultural use?   |                          |                          |                          |                                     |
| 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) 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) No land within the vicinity of the project site is zoned as agricultural land or used for agricultural purposes as defined by the Farmland Mapping and Monitoring Program. Therefore, this project would have no effect on any category of California farmland, conflict with any existing zoning for agricultural use or Williamson Act contract, or result in the conversion of Farmland to non-agricultural use. No impact.
- b) As noted in the Environmental Setting above, HRSP is part of the California State Park System and does not support any agricultural operations or farmland. No impact.
- c) CSP policies and practices, deed restrictions, and other constraints related to acquisition of designated agricultural lands and the impacts of continued agricultural use on the Park’s operational and resource management needs, do not allow for agricultural uses in HRSP. No impact.

### III. AIR QUALITY

#### ENVIRONMENTAL SETTING

The area including HRSP is subject to air quality planning programs required by the federal Clean Air Act of 1970 (CAA), its amendments from 1990, and the California Clean Air Act of 1988 (CCAA). Both the federal and state statutes provide ambient air quality standards to protect public health, timetables for progressing toward achieving and maintaining ambient standards, and the development of plans to guide air quality improvement efforts of state and local agencies.

The California Air Resources Board (CARB) is the "clean air agency" in the state. CARB was established in 1967 to 1) attain and maintain healthy air quality, 2) conduct research into the causes of and solutions to air pollution, and 3) systematically attack the serious problems caused by motor vehicles, which are the major causes of air pollution in the State. Since its formation, the CARB has worked with the public, the business sector, and local governments to find solutions to California's air pollution problem. The resulting state air quality standards set by the CARB continue to outpace the rest of the nation and have prompted the development of new antismog technology for industrial facilities and motor vehicles. In September 2006, the California State Legislature passed AB 32, the Global Warming Solutions Act of 2006 with the goal of reducing man-made California greenhouse gas emissions back to 1990 emission levels by 2020. The legislation grants the Air Resource Board extraordinary powers to set policies, draw up regulations, lead the enforcement effort, levy fines and fees to finance it and punish violators.

Humboldt County is included in the North Coast Air Basin along with Del Norte, Trinity, and Mendocino counties. These counties operate as a unified special district, or the North Coast Unified Air Quality Management District (AQMD), which manages air resources in this mountainous, predominantly rural region. The North Coast Unified AQMD's main purpose is to enforce local, state, and federal air quality laws and regulations.

Ambient air quality standards were developed to protect public health and welfare. Individuals or groups that are especially reactive to criteria pollutants are considered sensitive receptors such as children, the elderly, individuals susceptible to respiratory distress, and those who are acutely or chronically ill. Facilities where sensitive receptors are likely to be located include schools, playgrounds, childcare centers, retirement and convalescent homes, hospitals, medical clinics, and residences.

Air standards specify the concentration of pollutants the public can be exposed to without experiencing adverse health effects. National and state standards are reviewed and updated periodically based on new health studies. California ambient standards tend to be at least as protective as national ambient standards and are often more stringent. Based on these standards (attainment, non-attainment, or unclassified), regional areas such as the North Coast Air Basin are given an air quality status "label" by the federal and state regulatory agencies for planning purposes. As defined by the CAA, a region with air quality as good as or better than the national ambient air quality standards has maintained or achieved "attainment"; a region that exceeds ambient air quality standards is designated as a "non-attainment" area; and a region that cannot be

classified on the basis of available air quality data is designated as an “unclassified” area. An area is designated in attainment if the state standard for the specified pollutant was not violated at any site during a three-year period. An area is designated in non-attainment if there was at least one violation of a state standard for the specified pollutant within the area boundaries.

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 including carbon monoxide, hydrogen sulfide, lead, ozone, nitrogen dioxide, sulfur dioxide, and sulfates (Table 3-1). The Basin is in non-attainment with California standards for particulate matter (PM10, or particles with an aerodynamic diameter of 10 microns or less). 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). With respect to Federal standards, the North Coast Air Basin is in attainment of all Federal standards and is undetermined for PM 2.5 pollutants. Long-term impacts on regional air quality are projected to increase at a slower rate than in the past, due to conversion to more efficient and lower emission vehicles and the Regional Transportation Plan (RTP) plan policies and actions (HCAOG 2004).

**Table 3.3.1. Air Quality Standards Based on 2006 Humboldt County Air Quality Designations\***

<b>Pollutant</b>	<b>State Status</b>	<b>National Status</b>
Ozone	Attainment	Unclassifiable/Attainment
PM10	Non-Attainment	Unclassified
PM2.5	Unclassified	Unclassifiable/Attainment
	No state standard	Unclassifiable/Attainment
Carbon Monoxide	Attainment	Unclassifiable/Attainment
Nitrogen Dioxide	Attainment	Unclassifiable/Attainment
Sulfur Dioxide	Attainment	Unclassifiable/Attainment
Sulfates	Attainment	NA
Lead	Attainment	NA
Hydrogen Sulfide	Attainment	NA
Visibility Reducing Particles	Unclassified	NA

\*CARB 2006

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 checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**DISCUSSION**

- a) Work proposed in this project would not be in conflict with or would not obstruct implementation of any applicable air quality plan for the North Coast Air District. Air quality permits will be obtained for any organic matter (slash or duff) that is burned. No diesel portable equipment would be used during the project. No impact.
- b) The proposed project will not emit air contaminants at a level that, by themselves, will violate any air quality standard, or contribute to a permanent or long-term increase in any air contaminant. However, restoration work will generate short-term emissions of fugitive dust (PM10) and involve the use of equipment and materials that may emit ozone precursors (i.e., reactive organic gases [ROG] and nitrogen oxides, or NOx). Increased emissions of PM10, ROG, and NOx could contribute to existing non-attainment of PM10 conditions and interfere with achieving the projected attainment standards. Less than significant impact.
- c) See b above.
- d) The project is not located near sensitive receptors therefore will not expose sensitive receptors to substantial pollutant concentrations. Any equipment use that could generate fugitive dust would be of limited duration, both in daily operation and as a percentage of the proposed work for this project. The project area would be closed to the public and work would generally occur during daylight hours. These conditions will result in a less than significant impact.
- e) The proposed work would not result in the long-term generation of odors. Construction related emissions could result in a short-term generation of odors, including fuel or solvent vapors. However, because construction activities would be short-term, odorous emissions would be limited and dissipate rapidly in the air with increased distance from the source. Less than significant impact.

## IV. BIOLOGICAL RESOURCES

### ENVIRONMENTAL SETTING

The Park occurs 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 in 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 (Hickman 1993). The extensive logging that occurred throughout the western portion of the Bull Creek watershed during the 1950's and 1960's removed old-growth Douglas-fir and redwood from extensive areas of the watershed. Prairies within HRSP are being converted to Douglas-fir dominated forests due to fire suppression.

To address the potential impacts to biological resources in the project area, the CDFG California Natural Diversity Database (CDFG 2011) and the CNPS Online Inventory of Rare and Endangered Plants of California (CNPS 2011) were queried. The assessment area was defined as the USGS 7.5' quadrangle in which the project is located (Bull Creek), as well as four adjacent quadrangles (Scotia, Buckeye MTN., Weott, Honeydew). Results from the query are presented below under the corresponding sections. Additional information used in this assessment was derived from CSP databases on file at the North Coast Redwoods District office.

### Sensitive Natural Communities and Plants

The CNDDDB List of Terrestrial Natural Communities (CNPS 2010) is based on classification described in "A Manual of California Vegetation" (Sawyer et al. 2009). The list ranks natural communities in California by their rarity and threatened status. Ten Vegetation Series (Sawyer and Keeler-Wolf 1995) are documented within HRSP (DPR 2007, see table 3.4.1). Series listed with an asterisk and all the associations within them are considered rare and worthy of consideration by CNDDDB.

**Table 3.4.1.** Number of Hectares in Each MCV Vegetation Series

Series	Hectares	Acres
Redwood Series*	11,797	29,152
Douglas fir – Tanoak Series	5,234	12,934
Tanoak Series	2,146	5,303
Douglas-fir Series	603	1,491
California Annual Grassland Series	548	1,353
Coyote Brush Series	124	50
Pacific Madrone Series	70	172
Red/White Alder Series	65	162

Eastwood Manzanita Series	2	5
Black Cottonwood Series*	Not mapped due to limited size	

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

Humboldt Redwoods State Park is dominated by two large well-developed riparian zones associated with the South Fork and main stem of the Eel River and with Bull Creek. The proposed action occurs within the greater Bull Creek watershed (which contains the Cuneo subwatershed) that comprises over half of the Park. The lower reaches of Bull Creek are dominated by the alluvial old-growth redwood stands of Rockefeller Forest. Upstream of this area, from the Albee Creek Campground to Burns Creek, which is just upstream of Cuneo Creek, the riparian area consists primarily of highly disturbed Black Cottonwood – Willow Series. This once extensive cottonwood-willow forest was severely impacted by the massive floods of 1955 and 1964. The “restoration” efforts of the day, which involved the channelization and rip-rapping of Bull Creek and placing fill in the floodplain all but eliminated this riparian forest. There are some areas where red alder (Red Alder Series) has come back and re-established a riparian forest.

The Cuneo Creek watershed is composed of the main stem, South Fork, and North Fork. All three of these streams are perennial and with the exception of the lower reaches are characterized by narrow riparian zones (Alder Series) bordered by very steep hillsides or cliffs. A large portion of the South Fork and lower main stem of Cuneo Creek was severely impacted by sediment from the Devil’s Elbow landslide, which began to experience significant failures in the 1970’s. This eliminated a large majority of the riparian vegetation in these stream reaches. Small amounts of willow (*Salix* spp.), coyote brush (*Baccharis pilularis*) and red alder (*Alnus rubra*) are starting to re-colonize this area.

The project area consists of ridge-top prairies and former prairies within the Cuneo Creek watershed. Much of the area has been converted from prairies to Douglas-fir dominated forests due to fire suppression. Slopes are rarely over 40%. A break in slope at times marks the boundary between the project area and dense, second-growth forests down slope.

Based on recent vegetation mapping (DPR 2007) no sensitive habitats are known to occur in the project area. The redwood series occurs outside of the project area, primarily occurring in the eastern portion of the Park. The Black Cottonwood Series is limited in overall distribution occurring in riparian corridors, which are excluded from the project area.

Several special status plants have the potential to occur in the assessment area and are presented in Appendix C. The California Annual Grassland Series, Douglas-fir Series, Douglas-fir-Tanoak Series, and the Tanoak Series characterize the project area. Surveys were conducted in conformance with California Department of Fish & Game Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities

(<http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/guideplt.pdf>). No sensitive plants were found (Barrett 2011).

## Animals

The diversity of vegetation and habitats at HRSP provides for an assortment of wildlife including 150 species of birds, 70 species of mammals, 50 species of reptiles and amphibians, 10 species of fish and numerous invertebrate species (Eikeberry and Hastings 1986). Habitat classification utilized in this discussion is based on the California Wildlife Habitat Relationship System (Mayer and Laudenslayer 1988) HRSP contains numerous different habitat types including its namesake Redwood (RDW), Douglas-Fir (DFR), Annual Grassland (AGS), and Montane Riparian Forest (MRI). Redwood is most common in the eastern portions of the Park, in alluvial flats associated with the South Fork and main stem of the Eel River, and lower Bull Creek. This habitat type transitions into Douglas-fir at higher elevations and west of the Albee Creek Campground area. These areas are generally more xeric which favors the Douglas-fir over the Redwood type.

The project area contains areas classified as the DFR and AGS habitat type. The DFR habitat forms a complex mosaic of forest assemblages due to the geologic, topographic, and successional variation typical within its range (Sawyer 1980 in CWHR). Older age stands that have higher densities and volume of snags and downed logs are an important wildlife component of this habitat. Snags and logs are rare in the project area because the stands are relatively young. Common bird species typical of this habitat include the 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 mule deer (*Odocoileus hemionus*), black bear (*Ursus americanus*), mountain lion (*Puma concolor*), dusky-footed woodrat (*Neotoma fuscipes*), and northern flying squirrel (*Glaucomys sabrinus*). Common amphibians and reptiles that are largely coincident with the distribution of Douglas-fir habitat include the northwestern salamander (*Ambystoma gracile*), coastal giant salamander (*Dicamptodon tenebrosus*), clouded salamander (*Aneides ferreus*), and northwestern garter snake (*Thamnophis ordinoides*).

The Park is inhabited by several listed and sensitive wildlife species (a complete list of known or potential sensitive wildlife species can be found in Appendix D). 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*). Less restricted in its habitat preference is the federally threatened northern spotted owl (*Strix occidentalis caurina*). This species occurs in both the Redwood and Douglas-fir habitat types and has been documented near the project area but is not nesting within 0.25 miles of the project (NCRD database). 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*). All three species are California Species of Special Concern (CSC). Survey efforts in the 1990's failed to detect the presence of the Pacific fisher in the Park; however, the species has been documented on lands adjacent to the Park (Scott Osborn, DFG, pers

comm.) and one was observed near Myers Flat in 2008 (Don Beers pers comm.). 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 presumed extirpated. The Sonoma tree vole, formally known as the red-tree vole, is known to occur within both the Park and the project area. This species lives primarily in the canopy of Douglas-fir trees. There are four CSC amphibians (the southern torrent salamander (*Rhyacotriton variegatus*), the tailed frog (*Ascaphus truei*), the foothill yellow-legged frog (*Rana boylei*), and the northern red-legged frog (*Rana aurora*) and one reptile northwestern pond turtle (*Clemmys marmorata marmorata*) that have been documented in HRSP, as well as two listed species of fish (the coho salmon (*Oncorhynchus kisutch*) and the steelhead (*Oncorhynchus mykiss*). The project area does not contain suitable habitat for any of these species.

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. However, species such as the murrelet are not dependent upon wildlife linkages but require large contiguous stands of old-growth forests.

### 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). The DOM provides policy for the protection, restoration, and maintenance of natural resources within the State Park system. The proposed action is in conformance with Department policy.

Would the project	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect,	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

either directly or through habitat modification, or any species identified as sensitive, candidate, or special status species in local or regional plans, policies, or regulations, or by the Calif. Dept. of Fish and Game, the U.S. Fish and Wildlife Service, or NOAA Fisheries?

- |   |                          |                          |                                     |                                     |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| 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 Calif. Dept. 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 type="checkbox"/>            | <input checked="" 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) Create objectionable odors affecting a substantial number of people?   | <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

- a) The proposed restoration project will promote native species endemic to prairie settings. The restoration project includes avoidance measures that will be implemented to reduce the potential for adverse impacts to sensitive species to a less than significant level. These avoidance measures include surveying for sensitive species and maintaining spatial buffers where necessary for certain restoration activities. A CSP Natural Resource Program inspector will be on-site during restoration activities to monitor activities and ensure avoidance measures are implemented. The project will be conducted in compliance with all applicable State and Federal threatened and endangered species protection laws and regulations.

## Plants

Sensitive plant surveys were conducted to determine whether the proposed project will negatively impact any potential occurrences of sensitive plants or habitats in the project area (Barrett 2011). Sensitive plants are rare, threatened, or endangered species, as defined by the Federal and California Endangered Species Acts, as well as non-listed species that require consideration under section 15380 of CEQA. Survey methods followed the CDFG survey protocol (CDFG 2000) and included a detailed survey of the forested habitat and Fox Camp Road within the project area. The area surveyed also included a buffer approximately 25 ft wide extending into adjacent prairies located along the boundary of the project area. No sensitive plants were detected within the project area.

## Northern Spotted Owl

Northern spotted owls (*Strix occidentalis caurina* - NSO) surveys have been conducted in accordance with US Fish and Wildlife protocols with no nesting pairs detected within 0.25 miles of the project area.

### MITIGATION MEASURE BIOLOGICAL 1 – NORTHERN SPOTTED OWL

1. No operations shall occur unless a valid NSO technical assistance has been obtained from the U.S. Fish & Wildlife Service (Service).
2. Surveys for the NSO shall be conducted in conformance with accepted Service approved NSO survey protocols. A map showing the location(s) of known (if any) NSO activity centers within the project area or affected by the project during the past 3 years shall be provided. An activity center is defined as a site(s) 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 1992). The final determination of an activity center is at the discretion of the Service.
3. If any known activity centers occur within 400 m (0.25 mile) of the proposed action then the following standard protection measures shall apply.
  - a) A buffer zone for NSO's shall be established within a 305 m (1,000 ft) radius of a tree or trees containing a nest or supporting an activity center during the NSO's critical nesting period which occurs from February 1 through August 31.
  - b) No operations shall occur within a 152 m (500-ft) radius of an activity center. Within the 152 m (500 ft) to 305 m (1,000 ft) spatial buffer the minimum habitat requirements of functional roosting habitat (minimum 60% canopy, avg. stand trees >28 cm [11" dbh]) shall be maintained.

## Other Raptors

No nesting raptors have been detected within or adjacent to the project area. As there are several species of raptors that could nest within the project area, surveys for nesting birds or their nests are warranted.

### MITIGATION MEASURE BIOLOGICAL 3 – RAPTORS

Prior to the start of project-related work, a CSP inspector shall be instructed in the identification of raptor nests (both occupied and unoccupied) and raptor breeding behavior by the District’s Senior Environmental Scientist or his designee. During operations, the inspector shall be responsible for assuring that no raptor nests are impacted by the proposed treatments by implementing the following measures:

1. If an unoccupied raptor nest is detected (during the critical nesting period of January 15 through August 31), the nest tree and surrounding screen trees will not be disturbed and the location shall immediately be reported to the Senior Environmental Scientist.
2. If an occupied raptor nest is detected in the project area, the CSP inspector will cease operations within ¼ mile of the raptor nest and immediately notify the Senior Environmental Scientist. The Senior Environmental Scientist or his designee will then determine the species of raptor and the following measures.
3. All trees with nests and appropriate screening trees will be retained.

<b>Species Name<sup>1</sup></b>	<b>Critical Nesting Period</b>	<b>Temporal<sup>2</sup> (Disturbance) Buffer</b>	<b>Spatial<sup>3</sup> (Habitat) Buffer</b>
<b>ACCIPITRIDAE</b>			
Cooper’s Hawk	March 1 – August 31	400 m (0.25 mile)	30 m (100 ft.)
Sharp-shinned Hawk	March 1 – August 31	400 m (0.25 mile)	30 m (100 ft.)
Osprey	February 15 – August 31	400 m (0.25 mile)	30 m (100 ft.)
Redtail Hawk		400 m (0.25 mile)	15 m (50 ft.)
Red-shoulder Hawk	February 1 – August 31	400 m (0.25 mile)	15 m (50 ft.)
<b>STRIGIFORMES</b>			
Great Horned Owls	February 1 – August 31	400 m (0.25 mile)	30 m (100 ft.)
Cavity Nesting Owls	February 1 – August 31	400 m (0.25 mile)	30 m (100 ft.)

<sup>1</sup> Mitigation measures for the northern spotted owl are covered above. Other species of raptors such as the golden eagle, northern harrier, bald eagle, or long-eared owl are not expected to nest within the project area due to lack of habitat and are therefore not addressed.

<sup>2</sup> Temporal buffers are temporary buffers established around nest sites that restrict operations during the species critical nesting period.

<sup>3</sup> Spatial buffers are permanent habitat retention buffers established around a species nest site. Until the nest site is determined to be no longer active (normally after 3 years of no use) habitat modification is not allowed within the buffer.

## **Mammals**

Even though the project may result in the felling of some Douglas-fir trees no significant adverse effect to the Sonoma tree vole is anticipated. Habitat loss for this sensitive species will be minimal. Although the Pacific fisher has not been documented within the project area there is a potential that it could be present. Fisher's require expanses of contiguous forest with large conifers or hardwoods for loafing and denning sites. The species also makes use of subniven habitats (e.g. logs, slash). The project area has no large logs, or other cover for denning, and falling of trees will occur outside of the fisher's breeding season, therefore the project will result in a less than significant impact.

## **Amphibians and Fish**

Adult tailed frogs and northern red-legged frogs can occur in upland habitats. However, as the project will primarily be occurring during the dry months these species should be concentrating their activities in the riparian areas where water is present so that they can hydrate. The potential of operations impacting these species during other times of year is minimal. The proposed action will not result in a significant adverse effect to amphibians.

The project area does not include habitat for fish. Measures are incorporated in the project plan that should assure that sediment will not reach watercourses. No impact to fish.

- b) There are no sensitive natural communities (including riparian and wetland habitats) found within the project area. Vehicles will only operate when soils are not sufficiently saturated that turbidity could increase in drainages leading to Class I, II, III or IV waters. No significant adverse effect.
- c) As discussed above in item b, there are no wetlands within the project area. No significant adverse effect.
- d) There are no identified wildlife linkages located within the project. The project area, the Park, and surrounding areas within the biological assessment area consist of a matrix of forest habitats that allow for the movement of wildlife. No significant adverse effect.
- e) As previously discussed the proposed action is being conducted in conformance with CSP policy to restore it's lands. It is not in conflict with any policies or ordinances. No significant adverse effect.
- f) Humboldt Redwoods State Park is not part of any Habitat Conservation Plan or Natural Communities Conservation Plan. The prairie restoration activities proposed under this plan are in conformance with the goals of the regional conservation Forest to the Sea effort. No impact.

## V. CULTURAL RESOURCES

### ENVIRONMENTAL SETTING

#### Ethnographic Background

The project area is located within the Cuneo Creek drainage in HRSP, Humboldt County, California. Cuneo Creek is a tributary of the Bull Creek watershed.

The Cuneo Creek and Bull Creek watersheds are within the ethnographic territory of a tribe known in the literature as Sinkyone, but which in fact were actually known as Lolahnkok (Merriam 1998; Baumhoff 1958:184). No Lolahnkok village sites are known to be located in the Cuneo Creek drainage, and only one Lolahnkok village is known to have existed in the upper Bull Creek basin: Kahs-cho'-chin-net'-tah, which was located about seven miles upstream from Dyerville on a spot known to Euro-Americans in the 1920s as Schoolhouse Flat (Baumhoff 1958:187). This village, which was apparently atop a bluff just west of Mattole Road in the former town of Bull Creek, was approximately one-half mile northeast of the project area.

Kroeber, who does not cite his source(s), described the Sinkyone cycle of land occupancy (specifically referring to the territory of the Lolahnkoks) as follows:

Like most of the surrounding groups, the Sinkyone were quite definite in the habit of occupying their permanent villages in the stream valleys only in the winter half of the year, while in summer they dwelt on the more open mountain sides and hilltops. Thus, the Bull Creek people spent the dry season at a variety of places in the hills, living on game and vegetable food. After the first rains, when Eel River and the South Fork began to rise, they came down to them to fish. After these large streams were swollen, the smaller watercourses appear to have offered better facilities for taking salmon, and the heart of winter was spent in the home villages on Bull Creek. With this dependence on the food in the hills during a large part of each year, it seems that the limits of the territory of each little local group must have been accurately observed upland, as well as along the streams, and that the fixed boundaries must have given something akin to political cohesion to the people of each unit. (Kroeber 1976:145-146)

Contradictory to Kroeber's reference of "villages [plural] in the Bull Creek Watershed, Merriam, based on interviews with the Lolahnkok George Burt, indicates the presence of only one village, Kahs-cho'-chin-net'-tah, in the watershed. It was at this village that Burt was born (Merriam 1998:reel 9).

If Kroeber is correct in his claim of multiple village sites in the Bull Creek drainage, this would be consistent with the habitation pattern found in the next major drainage to the south, that of Salmon Creek, where ethnographer Pliny Goddard's informant, a Lolahnkok known only as "Charlie", located some 16 Lolahnkok village sites above the mouth of the cree (Baumhoff, 1958: 186-189). The Salmon Creek and Bull Creek drainages are the most extensive ones within the Lolahnkoks' territory, and their comparative village ratio of 16:1 seems surprising, given the multiplicity of habitable locations in each basin.

This discrepancy raises the possibility that Merriam's information was incomplete and that other Lolahnkok villages existed in the Bull Creek drainage. Even if this were so, however, it is extremely unlikely that a permanent village would have been located within the project area, which is high in the drainage with no suitable flat available for a permanent dwelling place.

There remains the possibility that the project area was used by the Lolankoks, as per Kroeber, for hunting and gathering. While there are small prairie areas in the upper drainage of Cuneo Creek, their remoteness, when combined with thick intervening vegetation and abrupt and unstable terrain, would make them locations of last resort for the Lolahnkoks, with far larger and more accessible oak woodlands and prairies available immediately downstream at the confluence of the South Fork and main fork of Cuneo Creeks and along Bull Creek.

### **Historic Background**

Euro-American inhabitancy in the Bull Creek drainage was reported as early as 1869. In October of that year a newspaper noted a homicide at Fox Camp, which lies atop the ridgeline west of the South Fork of Cuneo Creek and less than one quarter of a mile west of the current project area (Rohde and Rohde 1992: 230). According to one review of the Bull Creek drainage, which takes no note of the Fox Camp occurrence:

Settlement and land claims in the Bull Creek Basin started in the early 1870's. Some of the earliest claims were in the heavy timber stands on the stream benches or flats extending from the mouth of Bull Creek 4 miles upstream (through the present Rockefeller Forest) to the west edge of the redwood forest. Over 1,000 acres along lower Bull Creek were patented by nearly a dozen individuals before 1880. But the greater percentage of the basin's redwood forest acreage was taken up in claims between 1880 and 1888....Because there was little opportunity for agricultural development or livestock grazing in these claims of dense forest lands, and no possibility of commercial [sic.] logging them, it is probable that they were originally acquired for speculative purposes. (Gilligan 1966:43)

The first known permanent white residents of the Bull Creek watershed were Tosaldo and Addie Johnson, who homesteaded prairie lands on the hill-slope north of Rockefeller Forest in 1872 (Rohde and Rohde 1992:227; Gilligan 1966:43). By 1895 there were a dozen or so families living in the canyon (Rohde and Rohde 1992:203). Approximately 7.5 miles up Bull Creek the canyon narrows to what soon becomes a gorge; at this point Mattole Road leaves the canyon bottom to climb the ridge-slope to Panther Gap. It was in this vicinity, near the start of the grade and adjacent to the project area, that the main community of Bull Creek, which began at the western edge of the Rockefeller Forest, ended.

Near the southern edge of the main Bull Creek community were two ranches belonging to the Lewis family. One of these was on the land now used for the Cuneo Creek Horse Camp just outside the eastern boundary of the project area (Rohde and Rohde 1992:206). In 1942 the Lewis' house burned, which at the time of burning was the oldest house in the Bull Creek watershed (Irvine 1915:894). The Lewis family continuously occupied the property until the 1960s when the area was acquired as part

of the program to include all land in the Bull Creek drainage as part of HRSP (Rohde and Rohde 1992).

Would the project	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
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"/>

### DISCUSSION

- a) Cultural resources, including historical and archaeological resources, have been inventoried by State Parks Cultural Resources staff at the North Coast Redwoods District. PRC 5024 compliance documentation has been completed (Collins 2011).
- b) If any archaeological or historical resources are encountered during project implementation, application of the conditions stated in the plan (Appendix A) will reduce the impact to a less than significant level.
- c) Based on surveys conducted to date and a records search no human remains or burial sites have been documented or are known to exist at the proposed project sites. No impact is anticipated, but if any human remains or burial artifacts are identified, application the conditions stated in the plan (Appendix A) will reduce the impact to a less than significant level.

## **VI. GEOLOGY AND SOILS**

### **ENVIRONMENTAL SETTING**

#### **Topography and Setting**

The project area is on a ridgeline on the western edge of the Cuneo Creek watershed, HRSP, in southern Humboldt County. The general slope aspect of the watershed is to southeast, though the various stems of Cuneo Creek result in a variety of slope aspects. The majority of the project area is on a northeast to southeast aspect and consists of slopes <40%. Small pockets (<1 acre) are up to 50% slope.

A prominent flight of fluvial terraces and broad active floodplain flank the lower mainstem of Cuneo Creek. Much of the mid-slope and lower slope was clearcut in the 1950's and 1960's but has been unmanaged since that time. Cuneo Creek drains to Bull Creek, then to the South Fork of the Eel River.

The South Fork of the Eel River has been TMDL (Total Maximum Daily Load) listed as temperature and sediment impaired; the TMDL developed for that study relied heavily on data from the Bull Creek watershed. The proposed project addresses several recommendations in the TMDL (United States Environmental Protection Agency, 1999) for accelerating late seral conditions that will improve both water temperature and sediment impacts to the system. Fox Camp Road trends northwest through the project site and an abandoned logging road helps define a portion of the eastern boundary of the project. Project work will occur during the drier time of the year over a two to four month period and thus worker exposure to geologic hazards that have saturation components will be very low.

#### **Regional Geology**

Humboldt Redwoods State Park is located within the Coast Ranges. These are a generally northwest-trending chain of coastal mountains primarily formed from remnants of the Pacific tectonic plate that were scraped off and uplifted as it collided with and dove below the North American plate, which it continues to do. Over millions of years, the movement from this ongoing tectonic plate collision, along with the periodic changes of the ocean's level, has 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.

#### **Park Specific Geology**

This seismic activity and the 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 watershed and other watersheds within the Park that continue at some locations outside of the Park. Sediment and debris from these destabilized slopes have exacerbated flooding and impacted fisheries, ancient redwoods, riparian vegetation, and structures. The Park 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.

McLaughlin et al. (2000) map most of the Cuneo Creek watershed as underlain by sheared and folded mudstone of the Yager Terrane of the Franciscan Complex. The subunit of the Yager Terrane in the watershed includes minor rhythmically interbedded sandstone, locally with lenses of conglomerate. The subunit is partially distinguished by its irregular topography and lacks a well-incised system of sidehill drainages. Mappable units of Conglomerate of the Yager Terrane, comprised mostly of well rounded, polymict, recycled clasts of hypabyssal volcanic and plutonic rocks, crop out in small pockets within the more prevalent sandstone. McLaughlin et al. (2000) also map Melange of the Pliocene to Late Cretaceous Coastal Belt Terrane in the headwaters of the South Fork of Cuneo Creek; this unit underlies most of the project site. Subequal amounts of shattered sandstone and argillite with much clayey, penetratively sheared rock that exhibits generally irregular topography, lacking well-incised sidehill drainages characterize the unit. McLaughlin et al. (2000) map a northwest striking thrust fault that is part of the Garberville fault system as the contact between the Melange and sandstone subunit terranes near the eastern boundary of the project. Other minor faults help define the upper mainstem and north fork of Cuneo Creek.

McLaughlin et al. (2000) map a landslide that heads in the prairie in the east-central portion of the project, near Fox Camp Spring. They mapped the landslide as burying the thrust fault contact between the bedrock terranes, indicating that the landslide post-dates the last movement on the fault. As mapped by McLaughlin et al. (2000) the landslide would post-date the early Holocene, as it appears to deflect the middle fork of Cuneo Creek; a nearby terrace has radiocarbon age control of about 9,000 years before present. More than half of the landslide burned in 1959 but there is no evidence of its reactivation as a result (in spite of the 1964 storm event while the landslide would have been relatively bare). They also map other large landslide deposits throughout the Cuneo Creek watershed.

Spittler (1983) mapped debris slide slopes across most of the Cuneo Creek watershed between the south fork and upper mainstem. He also mapped disturbed ground and smaller rotational slides along the north fork. All of the watershed streams have inner gorge slopes. Immediately downslope from the proposed treatment area, Spittler mapped debris slide slopes. He also mapped numerous debris slides, active slides, larger rotational/translational slides, debris torrents, slopes greater than 70% grade, and inner gorge slopes in the drainages downslope from the project. Spittler did not map the landslide reported by McLaughlin et al. (2000) in the east central portion of the project, near Fox Camp Spring and his mapping of geologic contacts, which is done in more detail than McLaughlin et al.'s (2000), precludes its existence. However, he did map two areas of disturbed ground, each about 1,000 square feet in area within the prairie. One is reported near the head of McLaughlin et al. (2000) large landslide headscarp and the other within the project area near its southern boundary. Spittler mapped the contact between Yager Formation and Franciscan Formation (Coastal Belt Rocks of McLaughlin et al.) rocks slightly farther east than McLaughlin et al. (2000) but did not map it in fault contact.

## **Slope Stability**

California State Park staff mapped the entire Cuneo Creek watershed for planning related to road removal projects for both hydrological/stability modeling (SHALSTAB,

Fiori et al., 2002) and detailed project planning. These maps and plans provide information that help set project boundaries and design limits for the project. Bedding observed in exposures below the Devil's Elbow landslide failure surface, in the south fork of Cuneo Creek, revealed a north to northwest strike, dipping moderately to the southwest. McLaughlin et al. (2000) also mapped north-northeast striking, moderately westward dipping beds in the adjacent Burns Creek watershed and somewhat westerly striking but highly variable attitudes in the northern part of the watershed. The only bedding attitude within the Melange unit that underlies the project area strikes north-northwest and dips 50 degrees to the east. If this is representative of the general geologic structure in the project area (though it is variable across short distances), it would be unfavorable for slopes steeper than ~100% grade and could contribute to instability for shallower slopes if fractures or other geologic structures intersected the bedding plane. However, the project area slopes are generally less than 40% grade and therefore there is a low potential for geologic structure to contribute to slope failure related to project activities.

Semi-active, northwest-trending scarps that reflect the incipient downslope movement and dismemberment of the westernmost edge of the Cuneo subwatershed cross much of the project area. These scarps are mostly related to deep seated foundering of the ridge, most likely during extremely violent groundshaking during earthquakes in the vicinity of the Mendocino Triple Junction (MTJ), the meeting place of three tectonic plates about 10 miles west from the project area. Based on the migration history of the MTJ and corresponding topographic expression of ridges and landslides parallel to that migration route, Fiori and Vaughan (2006) proposed that the Cuneo Creek area is a current focus of energy released during these events. Because of the hypothesized depth of the incipient failure planes associated with these scarps, their likely failure mechanism and the historic grassland conditions of the site, which predominated over a prolonged period before the most recent tree encroachment, there is a low potential for slope movement related to project activities that exceeds the long term rate of generally gradual downslope movement that helped form the scarps. For the most part the scarps are not sufficiently continuous to suggest that they reflect the integration of a discrete landslide mass that has a highly integrated and developed failure plane. One area that does have a more integrated appearance suggestive of more extensive rotational movement, no air photo history of extensive industrial timber harvest, and a location upslope from steep slopes has been excluded from the project area.

Based on review of aerial photography and the Fiori et al. (2002) mapping, areas with a high potential for shallow instability and historically active debris slides were also excluded from the project area. Neither of the areas Spittler mapped as disturbed ground within the project area have a large number of trees and both are on gentle to moderate slopes; therefore there is a low potential for these areas to re-activate due to project activities. Based on Spittler's mapping, the large landslide mapped by McLaughlin et al (2000) is not present. Either this or its age and lack of response to much more severe disturbances than proposed by this project indicate that there is a non-existent to very low potential for reactivation of the landslide at the scale that it is mapped; as previously discussed a segment of the upper portion as mapped by McLaughlin et al. (2000) was excluded based on field and air photo examination by Patrick Vaughan, a certified engineering geologist.

The proposed project excludes riparian zones and provides them with a 60-foot no operations buffer. The project area generally has slopes less than 40% and all vehicles will be restricted to slopes less than 40%. Trees on cuts or fills along service roads will not have root balls removed.

In the long term, decreased evapotranspiration from the tree removal will increase the hydrological loading on the slope and thus increase the window of exposure for storm induced instability to pre-forest encroachment conditions on the prairie. However, forest restoration has occurred and is planned in the mid-slope and toe areas of potential deep-seated failures that head in the prairies; these improvements will likely offset the relatively minor hydrological effects of tree removal in the prairie. In addition, as previously mentioned the depth of failure planes and scale of the slope movement associated with the prairie scarps suggests that hydrologic effects on these incipient landslides from project activity will likely be minimal. Areas that have slightly higher potential for increased instability have been excluded from treatment. Overall, the long term net result will be a return toward background rates of sediment loading, as stochastic events and future climates allow.

### **Seismicity**

Seismicity in the region is extremely high. The Park and project area would be strongly affected by groundshaking generated by rupture of the Cascadia subduction zone, which terminates at the MTJ, about 10 miles west of the Park. This zone is capable of magnitude 9 earthquakes. Depending on site-specific characteristics potential seismic hazards in the Park include liquefaction, landsliding (discussed in the preceding section), and strong to violent, possibly amplified, ground shaking.

However, the potential for liquefaction in saturated slopes within the project area is very low because nearly all of the soils in the prairies have a moderately high clay and/or gravel component. These particle sizes have a low susceptibility to liquefaction. Furthermore, water tables are generally too deep to saturate the soils; saturated soils are required to cause liquefaction. Soil descriptions and mapping from the NRCS (Wood, pers. com 2011) generally do not suggest the presence near-surface of perched water tables. Spring or seep features with a potentially high water table capable of saturating the soils have a 60 foot wide no-cut buffer (for general aquatic protection) and generally had surface particle sizes unlikely to liquefy. Breaks-in-slope below the water features would likely capture any sediment that might travel offsite.

The project site is likely to receive extremely violent groundshaking in the event of a large magnitude earthquake nearby. Ridgecrests tend to focus groundshaking energy and this helps explain why there are many scarps along the ridgeline, due to foundering and shattering of the underlying rock. Active faults (movement within the last 11,000 years) that would produce strong ground shaking 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.

**Table 3.6.1: Faults and Parameters Near Humboldt Redwoods State Park**

<b>Fault Name &amp; Geometry<sup>1</sup></b>	<b>Slip Rate (mm/year)</b>	<b>Recurrence Interval (years)</b>	<b>Maximum Moment Magnitude</b>	<b>Last Known Fault Displacement</b>
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](http://earthquake.usgs.gov/research/hazmaps/products_data/2002/faults2002.php)

## 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), underlying rock composition, 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 and are moderately coarse textured (mostly gravelly loams), and have high infiltration capacities. In some places, the top soil may be relatively thin owing to the steep slopes and past logging disturbance.

The primary soil type underlying the prairies is the Dolason-Forhau-Peaked complex soils, on 5 to 30 percent slopes. Crazycoyote-Sproulish-Caperidge complex soils on 15 to 50 percent slopes and Sproulish-Canoecreek-Redwholy complex soils on 30 to 50 percent slopes mantle the tree encroached prairies east from the most open portions of the prairie (Wood, pers.com 2011). The Dolason-Forhau-Peaked complex is moderately well drained to well drained colluvium and residuum derived from sandstone and mudstone with a maximum solum thickness of 59 inches. The Crazycoyote-Sproulish-Caperidge and Sproulish-Canoecreek-Redwholy complexes are both well drained colluvium and residuum derived from sandstone and mudstone with a maximum

solum thickness of 79 inches.

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 landslide, lateral spreading subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>

## DISCUSSION

- a) Although those working on the project will be exposed to any event that might occur, the entire north coast is a seismically active region. While the chance of the rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground

failure, or landslides are certainly possible in this area, and is probably higher than in most of the nation, this project will not substantially increase the exposure of people or structures to risk of loss, injury, or death as a result of these events because of the seasonality and short duration of the work. No significant adverse effect.

- b) As heavy equipment will only work during dry periods there will not be any heavy equipment working or yarding on the project slopes during periods that could damage soil structure. Those canopied areas that are opened by the tree removal will receive a blanket of duff, grass or slash that will act as a mulch to protect topsoil. The mulch will eventually increase topsoil resources as it decays. No significant adverse effect.
- c) The project is located within geologic units with potentially unstable slopes. The most recently active landslide bearing slopes have been identified by a Certified Engineering Geologist for avoidance. Nearly all slopes over 40% grade will not be treated and have been excluded from the project; smaller areas over 40% grade that might be treated do not have access to watercourses or proximity to infrastructure (Fox Camp Road) The relatively gentle to moderate slope of the project treatment area and mulching to help attenuate the impact of microburst saturation, and backfilling of holes developed by the tree removal suggest there is a very low potential for slope instability to initiate as a result of the project.
- d) No structures are involved with the project; therefore, risks from expansive soils do not apply. No impact.
- e) No disposal systems are involved with the project: therefore, risks from failure of disposal systems do not apply. No impact.
- f) There are no known unique paleontological resources or sites or unique geologic features in the project area. No impact.

## VII. Greenhouse Gas Emissions

### ENVIRONMENTAL SETTING

A survey was conducted to estimate the size and number of trees that may be removed in this project (Table 3.7.1).

**Table 3.7.1. Estimated number of trees that may be removed in this project.**

Acres	Trees/acre >4.5" dbh	Quadratic mean diameter of trees >4.5"
17	188	18
14	353	12
4	294	12

Once the trees are felled they will stop absorbing more carbon dioxide from the atmosphere and will gradually release carbon dioxide back into the atmosphere as they decompose. This release of carbon dioxide will be partially offset by the establishment and growth of grasses and forbs consistent with neighboring prairies.

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 project will remove trees from the project area and place most of them in Bull Creek to improve habitat. The trees will decay over time and slowly release carbon into the atmosphere. The amount of carbon released, however is too small to contribute significantly to climate change. Less than significant impact.
- b) This project is consistent with CSP's *Cool Parks* initiative and minimizes the amount of carbon released into the atmosphere by maintaining the project area in its natural, grassland state. No Impact.

## VIII. HAZARDS AND HAZARDOUS MATERIALS

### ENVIRONMENTAL SETTING

#### Hazardous Materials

The Department of Toxic Substances Control's (DTSC) produces a Hazardous Waste and Substances Sites (Cortese) List that provides information about the location of hazardous materials release sites. According to the 2007 DTSC list, there are 48 hazardous material sites in Humboldt County (DTSC 2008) and there are no known sites in HRSP; however, one site (a historic lumber company) occurs approximately 24 miles to the southeast of the Park at Myers Flat. There are no known hazardous material sites or hazardous materials in the project area

#### Schools and Airports

The project area is in a remote portion of Humboldt County. The closest schools are Honeydew Elementary and Agnes J. Johnson, which are located 34 and 39 miles respectively from the project area. No airstrips exist within the Park or adjacent to Park property. The Garberville Airport is approximately 47 miles to the southeast.

#### Emergency Response Plan

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 (Humboldt County June 2002). No specific project area emergency response or evacuation plans exists;

#### Wildland Fires

The HRSP Wildfire Management Plan provides the necessary information for fire control in HRSP (CDPR 1986). An objective of the plan is to take initial control action on all fires in any area considered threatening to Park System lands, including private or other public lands adjacent to the unit boundary. The proposed project is located in the more xeric western portions of the Park. This area has experienced an increase in fuels and/or potential fire intensity due to the increased fuel loads resulting from the growth of trees within the project area.

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, substances, or waste into the	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- 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) Project activities would require the use of certain potentially hazardous materials such as fuels, oils, or other fluids associated with the operation and maintenance of vehicles and chainsaws. Generally, these materials would be contained within vessels engineered for safe storage. Large quantities of these materials would not be stored at or transported to the station sites. Park employees and contractors will be driving to and from the project area transporting potentially hazardous materials such as fuels, oils, or other fluids associated with the operation and maintenance of vehicles and equipment. Spills, upsets, or other operational related accidents could result in a release of fuel or other hazardous substances into the environment. The following project requirements are incorporated into the restoration plan to reduce impacts to a less than significant level. 1) All vehicles will be limited to working on slopes that are less than 40% and will be stored overnight at geologically stable locations 2) Equipment will be inspected for leaks immediately prior to the start of

construction, and regularly inspected thereafter until equipment is removed from the park. Leaks that develop will be repaired immediately in the field or work with that equipment will be suspended until repairs are made. 3) CSP will ensure that the equipment operators maintain a spill kit at the site periods of during heavy equipment operation. In the event of any spill or release of any chemical in any physical form on or immediately adjacent to the project sites or within the park during operations, the contractor will immediately notify the appropriate DPR staff (e.g., project manager or supervisor). Appropriate agencies will be notified in the event of significant spillage. 4) No maintenance or fueling activities will be permitted within 100 feet of a stream, spring or seep.

- b) During the project, hazardous substances could be released to the environment from vehicle or equipment fluid spills or leaks. Implementation of the measures discussed above will reduce risks to on-site workers, the public, or the environment to less than significant.
- c) There are no schools or proposed schools within one-quarter mile of the project area. No impact.
- d) The project area is not included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5. Therefore, no impact would occur with project implementation.
- e) The planned project sites are not located within two miles of a public use airport. Therefore, no impact would occur because of this project.
- f) The planned project sites are not located within the vicinity of a private airstrip. No impact.
- g) All construction activities associated with the project would occur within the boundaries of the HRSP; work would not restrict access to or block any public road. As stated above, the project site is not part of any emergency response or evacuation route. A site-specific safety plan is required for each phase of restoration. The project has been designed to avoid any conflicts with existing plans or increase in emergency response time. The restoration plan includes measures that will assure that operations will not block or hinder emergency traffic on the Fox Camp MUT. Less than significant impact.
- h) The project is not to any structures or urbanized areas. Crews will be required to park vehicles away from flammable material such as dry grass and brush. Park staff will be required to have a State Park radio on site, which allows direct contact to a centralized dispatch center to facilitate the rapid dispatch of control crews and equipment in case of a fire. All felled trees will be brought to the ground, and will not be left suspended or hanging in crowns of other trees. All felled trees and any large accumulations of slash will be hauled away or burned on site. Less than significant impact.

## IX. HYDROLOGY AND WATER QUALITY

### ENVIRONMENTAL SETTING

The Water Quality Control Plan for the North Coast Region (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. The restoration project occurs in the North Coastal Basin, which covers an area of approximately 8,560 square miles located along the north-central California Coast. Soils are generally unstable and erodible, and rainfall is high. The project area occurs in the Eel River unit, one of nine hydrologic units of the North Coast Basin. The only major surface water development in the Eel River hydrologic unit is Lake Pillsbury, which is formed by Scott Dam. The project occurs in the Eel River Valley basin. Currently the Eel River unit is an area of water surplus for projected requirements. The present water quality within the Region generally meets or exceeds the water quality objectives set forth by the Basin Plan. The groundwater table in the Park fluctuates annually, depending on rainfall and seasonal temperatures. The area does not serve to recharge commercially available aquifers. There are no public water sources within the area of the proposed project.

The 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. The amount of sediment washed through the Eel River is legendary, a process known as sediment production or yield. The area is naturally unstable and produces high natural rates of disturbance; in addition, the area is also highly sensitive to human disturbance. Studies conducted have concluded that certain timber harvest practices and road building activities exacerbate the natural condition. This led the State Park System to acquire the entire Bull Creek watershed.

California State Parks, in partnership with the USFS 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 mouth of Cuneo Creek. In addition, State Parks and the Department of Fish and Game 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) and that stream habitat conditions have improved (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.

### Tsunamis

There are no bodies of water in the project area that are vulnerable to tsunami or seich (oscillation of a body of water in a containing basin).

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 type="checkbox"/> | <input checked="" 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 type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) 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 type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Substantially degrade water quality?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) 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"/> |
| g) 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"/> |
| h) 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"/> |
| i) Result in inundation by seiche, tsunami, or mudflow?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

## DISCUSSION

- a) The project would comply with all applicable water quality standards and waste discharge requirements. Based on the project description, the project would result in no impact to water quality and waste discharge.
- b) The project would not deplete groundwater supplies or interfere substantially with groundwater recharge. Groundwater quantity would not be changed by the project. No Impact.
- c) No vehicles will be allowed on slopes greater than 40% or within 50 ft of watercourses. Unstable areas are also excluded from the project area. These measures will assure that the proposed action will not alter the drainage pattern of the landscape nor of any waters. No impact.
- d) The project would not create or contribute runoff water in amounts that would exceed the capacity of existing or planned stormwater drainage systems, or provide substantial additional sources of polluted runoff. No stormwater systems are downslope from the project. No impact.
- e) The project will not degrade water quality. No Impact.
- f) The project would not involve housing designed for human occupation. There is no housing within the Cuneo watershed. No impact.
- g) The project would not include any structure designed for human occupation. No impact.
- h) The project 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. No impact.
- i) The project would not result in inundation by seiche or tsunami, or mudflow because the project is not located near a large water body. There is a low potential for mudflow to result from the project because of the gentle to moderate slope of the project area and mulching of treatment sites. Work would occur during periods of non-saturation and no surface runoff to limit workers exposure to mudflow. No impact.

## **X. LAND USE AND PLANNING**

### **ENVIRONMENTAL SETTING**

The proposed project is located within the boundaries of HRSP, which is zoned by Humboldt County as Open Space/Parks. The Park is bordered by Gilham Butte (Bureau of Land Management), a few small privately held parcels and private industrial timberlands. The surrounding areas are primarily zoned for timber production.

In 2001, the Department of Parks and Recreation released the Humboldt Redwoods State Park General Plan (Calif. Dept. Parks & Recreation 2001) to provide vision and direction for future Park management and development. The Plan's Declaration of Purpose contains the broadest statement of management goals designed to fulfill the vision for the Park. The Declaration of Purpose for HRSP is as follows:

The purpose of HRSP is to protect, preserve, 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.

According to the General Plan, only a small percentage of the Park's land is developed for public use, as much of it is too steep, rugged, and inaccessible (Calif. Dept. Parks & Recreation 2001). To facilitate land use and resource management in HRSP, four management zones have been developed: 1) Primitive Zone, 2) Backcountry Zone (Non-mechanized), 3) Backcountry Zone (mechanized) and 4) Frontcountry Zone. The zones represent parts of a park that will be managed similarly.

**Primitive Zone** – This zone encompasses the most unspoiled area of the park including the Carl "A" Anderson Redwoods Natural Preserve and the Bull Creek State Wilderness Northern Section, both within the Rockefeller Forest, and the Bull Creek State Wilderness Southern Section, which is primarily located in the Canoe Creek watershed. 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 resource protection and recreational uses.

**Frontcountry Zone** – Most of the parks facilities lie within this zone occurring adjacent to the park's main roads. Future developments may be located on appropriate sites within this zone if they are consistent with natural and cultural resource protection.

The project area occurs within the Backcountry Mechanized Zone in the western portion of HRSP. The goal for this area is to rehabilitate damaged ecosystems and protect and preserve historic sites and structures, while allowing appropriate levels and types of public recreation access. Guidelines relevant to the proposed project include: 1)

rehabilitate disrupted drainage patterns and provide for the recovery of natural cover to promote soil stability; 2) where possible, manage second-growth redwood forest areas to promote ancient forest characteristics; and 3) protect and preserve any significant cultural resources, including archeological sites, homestead and ranch sites, remnant orchards, and historic road and trail segments, that currently are known to exist or that might be identified within this zone in the future.

In an attempt to meet goals presented in the General Plan and to address maintenance and re-establishment of natural ecological processes, the HRSP Vegetation Management Plan was developed (DPR 2007). This document provides a framework for the implementation of a vegetation management program. The plan describes the dynamic nature of Park ecosystems, vegetation issues, management strategies and techniques for achieving desired conditions, which have been set forth in the Humboldt Redwoods State Park General Plan (DPR 2001), California State Parks Department Operations Manual (DPR 2004), and District policy. The purpose of the HRSP Vegetation Management Plan is to provide guidance for implementation of specific vegetation management practices in order that long-term Department goals may be met. Specifically, the plan addresses the re-establishment of natural ecological processes essential for the development and maintenance of native plant communities.

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 type="checkbox"/>	<input checked="" 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) The project is situated completely within the boundaries of HRSP. No established community exists within the boundaries of the Park. Therefore, the proposed project would not physically divide an established community. No impact.
- b) The project would not conflict with any land use project, policy, or regulation of any agency with jurisdiction over the project adopted for the purpose of avoiding or

mitigating an environmental effect. In general, this project has been designed to meet a critical resource protection need, and is in agreement with the General Plan and the Vegetation Management Plan. The area is zoned Parks/Open Space by Humboldt County and Backcountry according to CSP. The project is in accordance to the zoning. No impact.

- 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. Refer also to Biological Section Item f. No impact.

## XI. MINERAL RESOURCES

### ENVIRONMENTAL SETTING

Humboldt County is one of the most geologically complex areas in the state. Gold mining became one of the first important industries in this area. Other minerals such as copper, chromium, silver, and zinc were also extracted from local mines (Humboldt County 2007). Due to high production and manufacturing costs, very little metallic mining is occurring in Humboldt County today. Current county mineral resource production is primarily limited to sand, gravel, and rock extraction (Humboldt County 2007). Gravel bars and deposits from the large streams and river flood plains supply most of the area gravel needs. Sand and gravel are mined primarily in-stream, with approximately 75% of all production occurring in the Eel River–Van Duzen complex. Rock production occurs in 32 active hard rock quarries that are scattered throughout the county (Humboldt County 2007).

Currently, there are no active mineral resource extraction sites within the boundaries of the HRSP. A former rock quarry occurs adjacent to the project area, but there are no current plans to reactivate the extraction site. Mineral resource extraction is not currently permitted on units designated as State Park.

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) The project would not result in the loss of availability of a known mineral resource because no known mineral resources exist within the Park and resource extraction is not allowed in State Park units. No impact.
- b) The project would not result in the loss of availability of a locally important mineral resource recovery site because none exists within the Park and resource extraction is not allowed in State Park units. No impact.

## XII. NOISE

### ENVIRONMENTAL SETTING

Humboldt Redwoods State Park is located in rugged forested terrain in northern California, surrounded by steep mountains and rushing rivers.

Existing noise affecting the project area results from sources such as ranger patrols on park roads, car and truck traffic on the Mattole Road, and occasional air traffic, consisting of small private planes, Coast Guard helicopters, and CalFire firefighting aircraft.

No airstrips exist within the Park or adjacent to Park property. The Garberville Airport is approximately 47 miles to the southeast (County of Humboldt 2005).

The Humboldt County General Plan Update (2007) lists noise compatibility levels for various land use patterns using the Day-Night Average Level (Ldn). Extensive Natural Recreation Areas have compatibility levels that range from 50 to 60 Ldn (clearly acceptable) to less than 90 Ldn (clearly unacceptable). Noise levels in the immediate vicinity of the chainsaws would range between 70 and 80 Ldn as previously measured by state park staff. Sensitive receptors include schools, playgrounds, childcare centers, retirement and convalescent homes, hospitals, medical clinics, and residences.

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 nose 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 type="checkbox"/>	<input checked="" 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

airport? If so, would the project expose people residing or working in the project area to excessive noise levels?

- f) Be in the vicinity of a private airstrip? If so, would the project expose people residing or working in the project area to excessive noise levels?

## DISCUSSION

- a) Project related noise levels at and near the planned project areas would fluctuate as heavy equipment or chainsaws operate to fell trees and a helicopter or truck haul trees off site. There are no noise-sensitive human land uses located in the vicinity of the project site that would be substantially affected by the proposed activities. Contractors and staff will be required to wear hearing protection when working within 50 feet of chainsaws, excavators or helicopters. Implementation of these measures would reduce any potential adverse impacts to a less than significant level.
- b) Project related activities would not involve the use of explosives, pile driving, or other intensive construction techniques that could generate significant ground vibration or noise. Minor vibration adjacent to equipment use during operations would be generated only on a short-term basis. Therefore, ground borne vibrations and noises would have a less than significant impact.
- c) Project-related noise would only occur during actual construction and be temporary in nature. Once construction is completed, all noise-generating equipment would be removed from the site. The project would not create any source that would contribute to a substantial permanent increase in ambient noise levels near the project. No impact.
- d) See Discussion XI (a) and (c) above. Less than significant impact.
- e) The project is not within an airport land use plan and is not within two miles of an airport or private airstrip; therefore, the project would have no impact.
- f) The project is not within the vicinity of an airport or private airstrip; therefore, the project would have no impact.

### XIII. POPULATION AND HOUSING

#### ENVIRONMENTAL SETTING

Humboldt Redwoods State Park is surrounded largely by commercial timberlands. The project area does not contain any structures. No other housing exists within the project area and no housing developments are planned at this time. The entire project area is owned by CSP.

Contractors and CSP staff who would work on the proposed project generally live in the small cities and rural areas to the north such as Fortuna, Eureka, and Arcata.

Occasionally, trail workers camp in the Park during trail projects.

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) The project would not induce substantial population growth because the project does not involve housing or new businesses. The project would include restoration of grasslands and would have no direct or indirect effect on population growth. The project would have no more than 20 employees working at one time during the summer months.

b) No replacement housing would be required; all workers already maintain housing in the region or provide their own temporary facilities.

c) No people would be displaced because the project only involves tree removal and would not restrict access or private property use. All work would take place within the confines of the Park boundaries, with no additions or changes to the existing local infrastructure. Therefore, the project would have no impact on population growth or housing requirements in the area.

**XIV. PUBLIC SERVICES**

**ENVIRONMENTAL SETTING**

The project area is in a remote portion of Humboldt County. No schools exist within the project area and the closest schools are Honeydew Elementary and Agnes J. Johnson, which are located 34 and 39 miles respectively from the project area. Police protection is provided by CSP Rangers located at the HRSP park headquarters in Burlington 12 miles to the southeast of the project area. Fire protection is provided by the California Department of Forestry and Fire Protection with the nearest fire station located in Weott, California approximately 10 miles to the southeast. The project area is not useable by vehicles, save for the Fox Camp MUT, which is for official use only.

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 type="checkbox"/>	<input checked="" type="checkbox"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>
Parks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**DISCUSSION**

a) The project area is in a remote part of the Park that is not adjacent to existing facilities.

**Fire**

No additional demands on fire protection are expected because of this project. The Fox Camp MUT will be kept clear and in working condition during project implementation. No change in the status or usability of existing roads will result from this project. No Impact.

**Police**

No additional demands on rangers or local police are expected because of this project. No change in the status or usability of existing roads will result from this project. No Impact.

**Schools**

No schools exist within or adjacent to the project area. No changes would occur that would effect existing schools or require additional schools or school personnel. No impact.

**Parks**

No new or altered facilities or services would be required to maintain acceptable public service as a result of this project. Sections of the proposed project area would be closed during implementation for no more than 3 months. Because a portion of the Fox Camp M.U.T. will be closed to the public during project implementation, there may be an increase in the use of nearby hiking trails. However, any change in use pattern would be temporary. Because the nearby alternate hiking trails are located within HRSP, any impact on facilities or services would be less than significant.

**Other**

The project would improve HRSP by protecting the natural resources of the Park. The project would improve the aesthetic quality of the slopes, improve visitor safety and encourage natural vegetation. No adverse impact would occur at HRSP or any other public facilities because of this project.

**XV. RECREATION**

**ENVIRONMENTAL SETTING**

Humboldt Redwoods State Park encompasses nearly 53,000 acres, which consists of over 17,000 acres of untouched old growth coast redwoods. Created in 1921 as a small old growth grove, the Park has grown over the years to include a diverse ecosystem including the entire Bull Creek watershed and the Rockefeller Forest, the largest remaining old growth redwood forest in the world. This is the fifth 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 100 miles of trail await 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 just enjoying the pristine environment. CSP offers interpretive talks and guided hikes on a seasonal basis. The Park receives an average of 490,000 visitors each year.

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 type="checkbox"/>	<input checked="" type="checkbox"/>

**DISCUSSION**

- a) The project would not increase existing uses of the Park and would not accelerate the deterioration of any facility because no increases in public use would result from the project. The Fox Camp Prairie would be improved as a result of the project. Alternate trails could potentially receive additional use; however, any changes in use patterns would be temporary and occur over a short duration. Because there are several nearby alternate hiking trails including ones that would offer a similar user experience and degree of difficulty, the temporary closure of the Fox Camp M.U.T. and would have a less than significant impact.
- b) The project would not include the construction of recreational facilities or the expansion of any facility that would have an adverse physical effect on the

environment. The project is a restoration of existing deleterious conditions that would reduce the existing adverse impacts on the environment; therefore, no negative impact would occur.

## XVI. TRANSPORTATION/TRAFFIC

### ENVIRONMENTAL SETTING

U.S. Highway 101 runs north to south through the eastern portion of HRSP. The U.S. Highway 101 offers easy 4-lane access from/to the south and to the north to the coastal region of Oregon.

In addition to the highway, circulation in the Park is accomplished primarily by two (two lane paved roads) including 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 for U.S. Highway 101. The road served as the main route of U.S. Highway 101 (the Redwood Highway) before the U.S. Highway 101 bypass was completed in 1960. The Mattole Road extends 65 miles along the Lost Coast from Ferndale to Highway 101 near the Dyerville Overlook in the northern portion of HRSP. The project area is accessed by the Fox Camp M.U.T. by way of the Mattole Road approximately 6.5 miles west of the Dyerville Overlook.

The Park is also accessible by air from airports at Garberville, located 20 miles to the south, and the Eureka-Arcata airport 60 miles to the north of the park in McKinleyville. The Eureka-Arcata airport has regularly scheduled commercial flights, which are often delayed or canceled due to thick fog and heavy rain. There is no regional transportation agency, however, Humboldt Transit Authority operates the local bus system providing service as far north as Trinidad and south to Scotia. There is no bus service offered to the project area.

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 checked="" type="checkbox"/>	<input 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

curves or a dangerous intersection) or incompatible uses (e.g. farm equipment) that would substantially increase hazards?

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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 type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**DISCUSSION**

- a) The project would not significantly increase the traffic on any public street system. No more than four vehicles would be used to travel to and from the project site on a daily basis. Trucks may haul logs to an area near the mouth of Cuneo Creek using the Mattole Road, but trips would be few and for a short duration. There are no intersections in the vicinity of the project area. Less than significant impact.
- b) The project would not cause traffic levels to exceed, individually or cumulatively, the level of service standards for designated roads or highways. The number of vehicles and frequency of travel related to this project is insignificant. Less than significant impact.
- c) The project sites are not located within an airport land use area, within two miles of a public airport, or near a private airstrip, and do 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; therefore, no impact would occur because of this project.
- d) The project does not contain a design feature or incompatible use that would substantially increase traffic hazards. The trails/roads occurring in the project area will not be altered. No impact.
- e) The project would not result in inadequate emergency access because the project would not impact any roads/trails that are currently open to public vehicle use. No impact.
- f) The project would not result in inadequate parking capacity because it would not change the pattern of use. No impact.
- g) The project would not conflict with adopted policies, plans, or programs supporting alternative transportation because it does not reduce or increase transportation uses. No impact.

## XVII. UTILITIES AND SERVICE SYSTEMS

### ENVIRONMENTAL SETTING

The project area does not contain any utilities or service systems. The area is in a remote wildland setting. There are no trashcans or trash pickup services in the project area. There is no project related debris generated from project activities that will require removal.

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		
d) Would the construction of these facilities cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have sufficient water supplies available to serve the project from existing entitlements and resources or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Comply with federal, state, and local statutes and regulations as they relate to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## **DISCUSSION**

- a) No wastewater would be produced by this project. No impact.
- b) No wastewater will be produced by this project. No impact.
- c) The project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities because no stormwater facilities are needed. No impact.
- d) No outside source of water would be required during project implementation. No impact.
- e) No wastewater will be produced by this project. Project will occur during daytime work hours over a short duration (no more than 2 months). No impact.
- f) No impact; no solid waste would be generated by this project. Waste from construction workers would be hauled off site and disposed of in a facility designed for waste.
- g) No impact; no solid waste would be generated.



## CHAPTER 4 – MANDATORY FINDINGS OF SIGNIFICANCE

Would the project	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
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 checked="" type="checkbox"/>	<input 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 probable future projects.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have environmental effects that would 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) The proposed project was evaluated for potential significant adverse impacts to the natural environment and its plant and animal communities. It has been determined that the proposed project has the potential to temporarily degrade the quality of the environment and adversely affect special-status animal species. The project also has the potential to temporarily increase erosion. However, by limiting the project to relatively flat terrain and limiting its scope to 35 acres of forested lands and 102 acres total, and with full implementation of all mitigation measures incorporated into

this project, it will avoid or reduce these potential impacts to a less than significant level.

- b) The proposed project has been evaluated for potential significant impacts to cultural resources of the Park and its immediate environment. It has been determined that no examples of significant cultural resources will be significantly impacted by the project. Less than significant impact.
- c) CSP conducts other restoration projects in this Park to reduce deleterious impacts to the environment. These include exotic plant control, instream restoration, second-growth forest restoration (thinning and planting), revegetation, stream and floodplain restoration, and the removal of relic timber roads. The implementation of these 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) All of the environmental effects have been determined to pose a less than significant impact on humans. The project is designed to reduce adverse effects to humans to the greatest extent possible. Potential impacts would be reduced to a less than significant level if all mitigation and project requirements are fully integrated into the project.

## CHAPTER 5 – SUMMARY OF MITIGATION MEASURES

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The following mitigation measures would be implemented by CSP as part of the Fox Camp Prairie Restoration Project in HRSP.

### **MITIGATION MEASURE BIOLOGICAL 1 – NORTHERN SPOTTED OWL**

1. No operations shall occur unless a valid NSO technical assistance has been obtained from the U.S. Fish & Wildlife Service (Service).
2. Surveys for the NSO shall be conducted in conformance with accepted Service approved NSO survey protocols. A map showing the location(s) of known (if any) NSO activity centers within the project area or affected by the project during the past 3 years shall be provided. An activity center is defined as a site(s) 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 1992). The final determination of an activity center is at the discretion of the Service.
3. If any known activity centers occur within 0.25 mile of the proposed action then the following standard protection measures shall apply.
  - a) A buffer zone for NSO's shall be established within a 1,000 foot radius of a tree or trees containing a nest or supporting an activity center during the NSO's critical nesting period which occurs from February 1 through August 31.
  - b) No operations shall occur within a 500-foot radius of an activity center. Within the 500 foot to 1,000 foot spatial buffer the minimum habitat requirements of functional roosting habitat (minimum 60% canopy, avg. stand trees >11" dbh) shall be maintained.

## MITIGATION MEASURE BIOLOGICAL 2 - RAPTORS

1. Prior to the start of project-related work a CSP inspector shall be instructed in the identification of raptor nests (both occupied and unoccupied) and raptor breeding behavior by the District's Senior Environmental Scientist or his designee. During operations the inspector shall be responsible for assuring that no raptor nests are impacted by the proposed treatments by implementing the following measures:
2. If an unoccupied raptor nest is detected (during the critical nesting period of January 15 through August 31), the nest tree and surrounding screen trees will not be disturbed and the location shall immediately be reported to the Senior Environmental Scientist.
3. If an occupied raptor nest is detected in the project area, the CSP inspector will cease operations within ¼ mile of the raptor nest and immediately notify the Senior Environmental Scientist. The Senior Environmental Scientist or his designee will then determine the species of raptor and the following measures.
4. All trees with nests and appropriate screening trees will be retained.

Species Name <sup>1</sup>	Critical Nesting Period	Temporal <sup>2</sup> (Disturbance) Buffer	Spatial <sup>3</sup> (Habitat) Buffer
ACCIPITRIDAE			
Cooper's Hawk	March 1 – August 31	400 m (0.25 mile)	30 m (100 ft.)
Sharp-shinned Hawk	March 1 – August 31	400 m (0.25 mile)	30 m (100 ft.)
Osprey	February 15 – August 31	400 m (0.25 mile)	30 m (100 ft.)
Redtail Hawk		400 m (0.25 mile)	15 m (50 ft.)
Red-shoulder Hawk	February 1 – August 31	400 m (0.25 mile)	15 m (50 ft.)
STRIGIFORMES			
Great Horned Owls	February 1 – August 31	400 m (0.25 mile)	30 m (100 ft.)
Cavity Nesting Owls	February 1 – August 31	400 m (0.25 mile)	30 m (100 ft.)

<sup>1</sup> Mitigation measures for the northern spotted owl are covered above. Other species of raptors such as the golden eagle, northern harrier, bald eagle, or long-eared owl are not expected to nest within the project area due to lack of habitat and are therefore not addressed.

<sup>2</sup> Temporal buffers are temporary buffers established around nest sites that restrict operations during the species critical nesting period.

<sup>3</sup> Spatial buffers are permanent habitat retention buffers established around a species nest site. Until the nest site is determined to be no longer active (normally after 3 years of no use) habitat modification is not allowed within the buffer.

## **CHAPTER 6 – SUMMARY OF MONITORING PLAN**

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Reports will be filed annually with CSP North Coast Redwoods District headquarters and will summarize the quality and quantity of work accomplished. Any difficulties regarding compliance with the terms of the project will be noted along with recommendations to improve future efforts.

CSP staff or a CSP representative will periodically revisit the project area after implementation to ensure that no new watercourses develop or gullying occurs until the devegetated portions of the project are able to grow grasses and other vegetation to stabilize the soil. If signs of erosion that may affect water quality appear then appropriate measures such as dispersing grass seed will be evaluated to prevent further erosion. Surveyors will also look for invasive plants that may establish before more desirable, prairie vegetation is able to occupy the site. DPR will evaluate appropriate measures to control undesirable plants when populations are small and easier to control.



## CHAPTER 7 – REFERENCES

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### **Aerial Photographs**

- June 14, 1997, WR-BKC-C, flight line 1, frames 6 to 8; flight line 2, frame 8 to 10, color, scale 1:12,000, flown by American Aerial Surveys for the California Department of Water Resources



## CHAPTER 8 – REPORT PREPARATION

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## **APPENDIX A – FOX CAMP PRAIRIE RESTORATION PLAN**

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## APPENDIX B – MAPS

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## APPENDIX C – SPECIES LIST: PLANTS

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**APPENDIX D – SPECIES LIST: WILDLIFE**

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