

RESOURCES MANAGEMENT PLAN

REDWOOD NATIONAL PARK

DECEMBER 1994 (REVISED)



United States Department of the Interior

NATIONAL PARK SERVICE

Western Region
600 Harrison Street, Suite 600
San Francisco, California 94107-1372

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Memorandum

To: Superintendent, Redwood National Park

From: ^{ACTING} Regional Director, Western Region

Subject: Approval of Resources Management Plan

Attached is a signed copy of the Redwood National Park Resources Management Plan (RMP). We recognize that this represents the culmination of a great deal of hard work, and we congratulate everyone that contributed to this plan. It will be an extremely valuable document in directing the park's resources management activities and in communicating the park's needs. Again, congratulations on the development of an excellent RMP.

for Stanley T. Albright

Attachment

cc:

Associate Director, Natural Resources, WASO, w/enc.

Associate Director, Cultural Resources, WASO w/enc.

Chief, Air Quality Division, WASO, w/o/enc.

Chief, Water Resources Division, WASO, w/o/enc.

Chief, Mining and Minerals Branch, WASO, w/o/enc.

CPSU Unit Leader, University of California at Davis, NBS w/enc.

Chief, Div. of Park Historic Preservation, Western Region, w/enc.

Chief, Div. of Natural Resources and Research, Western Region,
w/2 copies of enc.

Chief, Div. of Planning, Grants, & Environmental Quality, Western
Region w/enc.

Museum Collections Repository, WACC, w/enc.

NPS Archives, Harpers Ferry Center, w/enc.

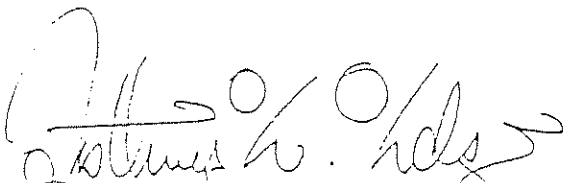
Technical Information Center (DSC-PGT) w/enc.

Resources Management Plan

Redwood National Park

December 1994 (Revision)

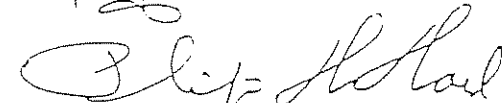
Recommended By:



Superintendent, Redwood National Park
Deputy

12/29/94
Date

Approved By:



Regional Director, Western Region

12/30/94
Date

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I. INTRODUCTION

A. Overview

At Redwood National Park, approximately 106,000 acres have been set aside to preserve significant examples of the primeval coastal redwood (Sequoia sempervirens) forests and streams and seashores "...for the purposes of public inspiration, enjoyment and scientific study..." and "...to protect existing irreplaceable Redwood National Park resources from damaging upslope and upstream land uses..." (Public Laws 90-545 and 95-250).

The National Park Service has the opportunity at Redwood National Park to perpetuate elements of cultural heritage and of magnificent natural ecosystems - the redwood forests, streams, coastal resources, and associated resources for the non-exploitive use and enjoyment of the people of America and the world. The Resources Management Plan describes actions for both natural and cultural resources that begin this process.

The Resources Management Plan provides the basis for undertaking a comprehensive, multi-disciplinary approach to resources management throughout Redwood National Park. The plan provides the framework and background to understand the resource problems of the park along with the legislative and executive mandates which provide direction for managing these resources.

This plan discusses Redwood's natural and cultural resources, both of which are significant, and that are managed under the same broad guidelines. Implementation of each program is intended to complement the other.

National Park Service management policies state that "...the Service will prepare plans to guide resource management..." to achieve the objectives for park management in the Statement for Management. According to the management policies, the plan will "...specify needed research and provide comprehensive direction for resources management activities."

Redwood National Park's Statement for Management (revision approved March 24, 1992) provides guidance on major issues and sets the management objectives for the park, including those related to resources management. The General Management Plan, approved March 10, 1981, sets the overall goals and directions for the management of the park. Natural and cultural resources management programs were discussed in the General Management Plan; goals for both were presented, and management actions for cultural resources were described.

The Resources Management Plan provides the details on executing actions to meet the objectives of the Statement for Management and the goals set forth in the General Management Plan. Specific resource areas are further addressed in resource management action plans. The Watershed Rehabilitation Plan, Fire Management Plan, Water Resources Management Plan, Black Bear Management Plan, Bald Hills Prairie Vegetation Management Plan, Davison Riparian Vegetation

Mitigation Plan, Exotic Plant Management Plan, and Roosevelt Elk Relocation Plan are individual management plans which have been approved and are being implemented.

The plan will be implemented in compliance with the laws and policies governing the operation of the National Park System, including the United States Code, Title 16, Redwood National Park legislative history, P.L. 90-545 (establishing Redwood National Park), P.L. 95-250 (expanding the park), a programmatic memorandum of agreement with the State Historic Preservation Office and the Advisory Council for Historic Preservation for the General Management and Watershed Rehabilitation Plans, and other applicable laws and policies.

In addition, the Service will cooperate with the State of California to insure that management actions complement natural and cultural resources of the three California Redwoods State Parks located within the boundary of Redwood National Park. To this end, the National Park Service and the California Department of Parks and Recreation have signed a Memorandum of Understanding agreeing to manage the state and federal lands in a consistent and compatible manner as one ecological unit. The desired outcome is improved resources protection and fiscal savings through cost efficiencies.

B. Resource Management Problems

Major changes in the natural scene have occurred in the 140 years since the arrival of European culture on the north coast of California. Fully half the park land has been directly altered by logging, plowing, pasturing and other modifications of the vegetation. Some of the animals occupying the present park lands have been hunted or directly displaced by past habitat modification. Other elements of the pristine fauna have been influenced by habitat changes elsewhere; for example, the loss of falcons and pelicans due to pesticides. Indirect effects of land use outside the park are also strongly felt within park lands in and along streams.

Approximately 50,000 acres of the forest lands now within the park were logged prior to park establishment and 200 miles of logging roads constructed, mostly since 1950. Significant erosion has accompanied the alteration of the watershed by logging and, with periodic large storms and floods, has caused elevated and widened stream channels which in turn have destroyed or endangered streamside redwood groves. High suspended sediment levels and changes in stream beds have damaged aquatic resources.

In earlier times, the grizzly bear was hunted to extinction in California and Roosevelt elk were greatly reduced. The California condor was lost from habitat now within the park. Traditional Native American burning and other practices responsible for maintaining some vegetation types were ended. The role of Native Americans as a predator of elk, deer, and other animals was reduced.

The occurrence of natural fires was limited by increasingly effective fire control practices. Native

aquatic systems were altered by introduction of exotic fish, hatchery plantings and watershed alterations. Exotic trees and other plants were introduced. Native prairie vegetation was altered by exotic pasture grasses and domestic livestock. Prairies were invaded by trees in response to removal of domestic livestock. Oak woodlands were invaded by Douglas-fir. A few exotic birds and mammals have been introduced and persist, usually in association with humans; populations of marine mammals were reduced. The sea otter was extirpated. Native birds, including hawks and eagles, were greatly reduced.

Human influences will continue in and around the park and in contiguous watersheds. Some of these are agriculture, grazing, mining, commercial forestry, highways, air and water pollution, park visitors, and park resource management activities.

C. Resource Management Objectives

Redwood National Park's objectives for resources management (from the Statement for Management) are to:

- Restore and/or maintain the natural ecosystems of the park.

- Continue with biological and physical restoration of park lands severely impacted by past land-use practices.

- Eliminate non-conforming uses within the park.

- Evaluate the changing influence of natural fire on park resources and cooperate with other agencies and landowners in the implementation of the fire management plan and the use of prescribed fire to restore natural fire effects to park ecosystems.

- Minimize the impacts on park resources resulting from current human activity outside the park.

- Assess the impacts of land use changes on park resources through watershed research and stream-monitoring activities in cooperation with the U.S. Geological Survey.

- Protect the old-growth redwoods and other park resources from the adverse effects of timber harvesting and other activities outside the park through implementation of cooperative agreements and other provisions of section 3(e) of the park's enabling legislation based on research data and resource management recommendations.

- Cooperate with other agencies and private interests in planning for the management and use of resources adjacent to the park.

Cooperate with other agencies and private interests in managing and restoring the Redwood Creek estuary.

Protect the visual resources and air quality related values of Redwood National Park from impairment by man-caused pollutants.

Develop a long term baseline resource inventory and monitoring program, permitting evaluation of global climate change and other influences on park resources.

Preserve the prehistoric, historic, and contemporary traditional features that trace human use of the redwood region.

Develop basic resource information about the park's cultural resources and manage them in a manner consistent with the natural values for which the park was established.

Develop a program that interprets the cultural resources of the park.

PRESENT RESOURCE STATUS

Natural Resource Baseline Information

There is not a complete resource basic inventory for Redwood National Park, although many data have been collected in the conduct of other research and management projects. Most of this work was accomplished following park expansion in 1978. Investigations were in response to a Congressional directive to undertake and publish the results of erosion and sedimentation studies. Other work included redwood ecology, the role of fire, soils classification and mapping, oak woodlands and grassland ecology, coastal vegetation descriptions, watershed rehabilitation procedures and monitoring, studies of heroic wildlife species (black bear, Roosevelt elk, river otter, coyote), second growth forest successions, fisheries biology and studies of the Redwood Creek estuary. Cultural and historical resources were also inventoried, listed, mapped and recorded. An extensive erosion and sedimentation research and monitoring program was undertaken along with several ancillary studies, including cold pool formation, flood history, precipitation monitoring and stream and sediment discharge. Air quality and meteorological monitoring along with monitoring of lichens were initiated more recently. Many of these efforts generate information which will prove useful for proposed inventory and monitoring and global climate change initiatives. To fulfill expectations of the latter, however, present investigations and basic data gathering efforts must be greatly expanded, be more specifically focussed, environmental monitoring must be automated and the program as a whole designed to satisfy different criteria.

Physiography

Redwood National Park has two distinctive physiographic environments - the coastline and the mountains of the Coast Range. The coastline is, for the most part, unaltered by humans. It is rugged, with stretches of steep, rocky cliffs broken by rolling slopes that are covered by grass and brush. The tidal zone is generally rocky and difficult to traverse, except for Gold Bluffs Beach, a seven-mile expanse of dunes and sandy beach.

Inland from the coast lies the dominating physiography of the Coast Range. Major streams and ridgelines trend northwest. The gently rounded summits of the mountains contrast with the steep sideslopes that have been deeply incised by streams. Elevations within the park range from sea level to 3,097 feet at Schoolhouse Peak.

Geology

The bedrock beneath Redwood National Park is primarily of the Franciscan assemblage, a collection of sandstones, siltstones, and minor amounts of conglomerates. There also are isolated exposures of chert and volcanic greenstones. These rocks are thoroughly folded, sheared, and jumbled. The Franciscan is bounded on the west by the San Andreas fault, which is several miles off the coast, and on the east by the South Fork Mountain fault. The South Fork

Mountain fault runs through the northeast corner of Redwood National Park in the Little Bald Hills area.

The Franciscan assemblage was laid down on the ocean floor as deposits of sand and mud about 150 million to 100 million years ago. Continental drift and associated plate movements caused the Franciscan assemblage to collide with the continent, and eventually it uplifted to become the Coast Range. Continued folding and faulting complicated the Franciscan assemblage.

Just east of Crescent City, Redwood National Park contains small remnants of marine and non-marine sedimentary deposits that are approximately 11 million years old. The park also includes a corner of the Point Saint George marine terrace.

The other major geologic formation in the park is a deposit of loosely consolidated sediments that are primarily fluvial in origin and informally known as the Gold Bluffs formation. It is exposed along Gold Bluffs Beach and in the Prairie Creek drainage basin. The Gold Bluffs formation is thought to be a river delta deposit laid down by the Klamath River more than two million years ago.

Soils

The soils in Redwood National Park are primarily derived from the Franciscan assemblage. Residual soils are confined mainly to patches on sloping ridge crests, except for those developed on the Gold Bluffs formation. There also are alluvial soils in the park that developed on floodplains, in alluvial valleys, and on stream terraces of major streams and rivers. Variations in soil types are controlled primarily by the topography and varying rock types in the underlying Franciscan assemblage. Local variations may result from microclimatic differences influenced by slope aspect.

Vegetation

Historically the region encompassing the present park lands was abundantly forested. Sitka spruce dominated the forests immediate to the ocean. Inland of the spruce forests, coast redwood was common with Douglas-fir, tan oak, hemlock, and grand fir occurring as associates.

With increasing elevation and increasing distance from the sea, redwood became less abundant and Douglas-fir, tan oak, madrone, and other species increased in importance. Redwood was rare beyond 10 to 15 miles inland where forests were dominated by Douglas-fir, except where serpentine soils gave rise to a specialized vegetation. Further inland at high elevations, east of present parklands, pines and true firs became more abundant.

Today, more than 125 years since the permanent settlement of the region by Europeans, this general pattern of vegetation persists. While extensive alteration of both the forests and non-forest vegetation has occurred, the general distribution of forest and non-forest vegetation is similar to that described in the first written records.

Sixteen vegetation types have been described for the park (see the Fire Management Plan).

These include old growth redwood forest, second-growth redwood forest, partially cut redwood forest, young Douglas-fir forest, alder forest, prairie, oak woodland, mixed evergreen forest, riparian, coastal shrub, coastal spruce forest, freshwater marsh, coastal strand, Jeffrey pine woodland, chaparral, and unvegetated bare ground. In addition, the U.S. Fish and Wildlife Service has classified the western portions of the park for wetland and deepwater habitats.

Rare, Threatened, and Endangered Plants

Coastal bluffs, rock outcrops, streamsides, wet meadows, bogs, and serpentine soils host the majority of the rare plants of Redwood National Park. In comparison, heavily forested areas contain few rare plant species. The majority of the rare plants in the park occur within one harsh environment, the serpentine/periodotite rock belt stretching across northern Del Norte County. Here few nutrients are available for plant uptake because of the ultra basic (high pH) soil chemistry and its poor water holding capacity. Sparse vegetation survives in this area (Little Bald Hills) despite annual rainfall of 100 inches.

Redwood National Park's list (Appendix A) of rare, threatened or endangered plants was developed by combining the following:

1. Species currently listed by the U.S. Fish and Wildlife Service as endangered or threatened.
2. Species currently under review for Federal listing as endangered or threatened.
3. Species designated as endangered or rare by the State of California.
4. California Native Plant Society's (CNPS) list of plants presumed extinct in California or elsewhere.
5. CNPS' list of plants rare and endangered in California or elsewhere.
6. CNPS' list of plants rare and endangered in California - common elsewhere.
7. CNPS' list of "Plants for Which We Need More Information".

A species currently under review for Federal listing as endangered or threatened (category 2 or "candidate" species) does not have legal status or protection under the Federal Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq*). It is National Park Service policy, however, to treat candidate species as if they were listed.

Some species not on Federal lists, but only on State lists, have been included on Redwood's list. Four of the taxa were formerly under Federal consideration, but were dropped and designated category 3 species. Many of the species included in Table 4 have not been noted or collected within the park. Because they have been found nearby in similar habitats; however, it is possible they would also be within park boundaries. They have been included at the recommendation of local botanists familiar with the area.

Wildlife and Fisheries

The wildlife and fisheries of the park includes a broad spectrum of the common species of the Pacific states. The mammals, birds, marine mammals, marine and anadromous fish, and other marine groups include migratory species while the remaining groups and species are essentially resident. Within the National and State Parks, roughly 50,000 acres of native vegetation remains more or less intact. Most of the elements of the terrestrial faunal systems, especially those associated with the forests, remain intact. Certain species of particular economic value or hazard have been strongly modified since 1850. The grizzly bear was known from park lands, but is now extinct. The Roosevelt elk was hunted nearly to extinction by the end of the 19th century, but remnants persisted and with protection have extended their range in areas formerly utilized. Today the largest observable groups of elk are found at Elk Prairie within Prairie Creek State Park, at the Davison property outside of Orick, at the park office at South Operations Center, and along the Bald Hills Road at the eastern-most boundary of the park in the Redwood Creek basin. Mountain lions have also been dramatically reduced in number since first European contact. However, the reclusive animal is still observed occasionally and there may be indication that its numbers are increasing.

Many of the park's larger mammals are also influenced by hunting and poaching near the park. Poaching may prevent the repopulation of certain areas by native species, for example, Roosevelt elk in the Bald Hills prairies. Poaching may also alter the population and individual characteristics of certain groups. The mountain lion, because of its wide ranging character, is afforded the least protection by available park habitat.

Implementation of proposed developments in the General Management Plan will utilize wildlife habitat. Although the direct impact in wildlife is expected to be minimal and has been documented in an environmental statement, wildlife may have an influence on these developments. For example, if backcountry camping areas are located in areas of high black bear use, bear problems typically found in other parks could develop at Redwood National Park.

Pesticide residuals, most notably DDT, continue to have a long-term influence on two visiting birds, the brown pelican and peregrine falcon. The park provides critical habitat for both endangered species; however, their long-term status will be affected by pesticides which originate outside the park.

Feral pigs and trespass cattle utilize wildlife habitat, making it unavailable to native species. Although the trespass problem should be reduced by boundary fencing, feral pigs will continue to damage vegetation in the northeast corner of the park. Other exotics, including muskrat and porcupine, have been successfully introduced or have invaded the area subsequent to suitable alteration by humans.

Depredation of private property by wildlife who also use park land has and continues to be a problem in the southern portion of the park. Park wildlife is influenced by attempts to control the problem, including live trapping and removal, and issuance of permits which allow private

landowners to shoot the depredating animal.

Influences on fisheries include the effect of previous (and on-going) logging, commercial offshore fishing, Native American fishing rights, sport fishing, offshore oil and gas development, and levee construction on Redwood Creek.

Logging in and above the park, along with severe storms, resulted in erosion of hillslopes and deposition of sediment in the tributaries and main stem of Redwood Creek and many other park streams. The excessive sediment has reduced the available spawning and rearing habitat in the rivers and creeks and correspondingly, the number of fish, especially salmon, coastal cutthroat trout, and steelhead. Although the park's watershed rehabilitation program may reduce sediment yields from some streams, ongoing logging upstream from the park and the large volume of sediment in the streams will limit the recovery of many areas.

Commercial offshore fishing may also influence the park's fishery resources through direct removal of commercially-important anadromous fish, thus reducing the number available to return and spawn in park streams. The exercise by Native Americans of their traditional fishing rights and sport fishing have and will influence the park's fishery in much the same manner as commercial offshore fishing.

Proposals for off shore oil and gas lease sales just south of Redwood National Park could impact park fisheries resources, if oil spills occur and reach the coast.

Modification of the lower two miles of Redwood Creek through channelization and construction of levees has influenced the entire Redwood Creek fishery by eliminating summer rearing habitat at the mouth of the creek. This has most severely affected chinook salmon and coastal cutthroat trout who use the embayment at the mouth of the creek to prepare to enter the ocean.

Marine systems are described only generally for the park area. Beyond the local extirpation of the sea otter and reduction of salmonids, little change is known to have occurred. The southern sea otter has been considered for reintroduction along the northern California coast to help protect the species from oil spills off the central California coast.

Rare, Threatened, and Endangered Wildlife

Threatened and endangered fish and wildlife species within the park are listed in Appendix B. Significant changes in the types and numbers of listed species within the last two years have occurred. Of particular significance is the marbled murrelet, a marine alcid that nests and roosts on the broad limbs of ancient redwood and Douglas fir trees. Surveys have revealed the largest numbers of murrelets south of Puget Sound, Washington to be found in lower Redwood Creek. While a recovery plan has not been prepared, it is likely that the survival of this unique species will in large part be due to the ancient forest resources of Redwood National and State Parks.

Air Quality

Preservation of all of Redwood's resources depends on good air quality. Protection and

maintenance of resources in their primeval state depends on minimizing all types of man-induced alterations, including degradation of air quality. Air pollution, even at quantities below the federal standards, can harm vegetation, degrade visual air quality, and diminish visitor enjoyment.

Air quality is an essential element of the visitor experience at Redwood National Park. Much of a visitor's appreciation and understanding of park resources comes from seeing the trees, forests, streams, and seashores of the park. A number of overlooks and scenic vistas in the national park depend on good air quality, including coastal scenes and inland vistas (see Table 1). Both close-up and distant views of redwood forests are aided by good visibility. The scenic views described in the table below, extend beyond park boundaries, but are nevertheless part of the park experience and worthy of protection. Park managers will participate in regulatory decisions (for example, air quality permits, plans, and rules) and work cooperatively with State and private interests to resolve air quality related conflicts and ensure that identified vistas (and any future vistas similarly identified) are adequately protected.

Air quality also affects a number of resource related values of the park. For example, the serpentine soils in the Little Bald Hills area (in the northeast corner of the park) host a Jeffrey pine woodland; Jeffrey pine are particularly susceptible to damage from ozone. Although Redwood National Park contains no federally listed threatened or endangered plant species, a number of California Native Plant Society species listed as rare or endangered are found in the park. Most of these species are concentrated along the coast and in the Little Bald Hills area.

Air quality in the redwood region is generally considered good to excellent. Air quality monitoring over the past years indicate that air pollution levels do not exceed federal standards for sulfur dioxide and total suspended particulates. Humboldt and Del Norte Counties have achieved "attainment" status of SO_2 and total suspended particulates and are unclassified for ozone, carbon monoxide, and NO_2 . Suspended particulates exceeded standards in the early 1970's, however, improved technology, better use of materials, and the reduction in the number of sawmills (and especially their concurrent teepee burners) has resulted in an overall reduction of suspended particulates.

Visibility has also improved as the quantity of suspended particulates has been reduced. Recent closure of mills near the park combined with elimination of open burning at other sawmills has resulted in clearer views with less haze and smoke. Occasionally, especially in the fall, vistas and scenic overlooks are obscured by smoke and haze from nearby sawmills and broadcast burning. Most views and scenes are impaired naturally by the fog, rain, and low clouds which are common to the redwood region.

An air quality monitoring station is operated in the park near the mouth of the Klamath River. That station measures ozone, particulates, sulfates, nitrates, visibility, and meteorological conditions. Other stations are operated through the Northcoast Unified Air Quality Management District in near the park in Crescent City (5 miles west) and Eureka (40 miles south). Particulates are the primary pollutant monitored, although ozone monitoring occurs at the Eureka

station. Testing for other emissions such as nitrous oxides, carbon monoxides, and sulfur oxides occurred in the early 1970's.

There are several legislative and administrative influences on air quality. The Clean Air Act, as amended in 1977, was established by Congress after determination that the nation's air quality was rapidly deteriorating, and that federal leadership and financial assistance were needed to cope with the problem. The stated purpose of the Act is to protect and enhance the nation's air quality. The primary Federal responsibility is to provide technical and financial assistance to State and local governments, who have the responsibility to develop and execute air pollution prevention and control programs.

Section 118 of the Act indicates that all federal facilities must comply with all federal, state, interstate, and local requirements in the same manner and to the same extent as any non-governmental entity.

Part C of the Clean Air Act is entitled "Prevention of Significant Deterioration of Air Quality." Among the stated purposes of this part is "to preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monuments, national seashores, and other areas of special or regional natural, recreational, scenic, or historic value..."

As part of this preservation effort, the Clean Air Act established three classifications with varying degrees of restriction of allowable air quality deterioration. Under the terms of this classification, the 1968 portion of Redwood National Park was designated Class I. This is a mandatory designation, and may not be changed. The remainder of the park (1978 and state lands) was then designated Class II. According to the Act, this classification was not mandatory, and was anticipated that these lands would be recommended for upgrading to Class I as air quality related values are deemed important to the area. Under these designations, the maximum allowable increases of particulate matter and sulfur dioxide have been established (see Table 2).

However, the Clean Air Act amendments of 1992 clarified that what were previously Class II lands in Redwood National Park, are now designated Class I. Therefore, all lands within Redwood National Park are now designated Class I.

Another stated goal of the Clean Air Act (Section 169A) is "the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I federal areas which impairment results from man-made air pollution." The EPA has issued regulations (40 CFR 51.300 to 51.307) requiring states containing mandatory Federal Class I areas to develop programs to assure reasonable progress toward meeting this goal.

Section 165, paragraph (d)(2)(C)(ii) of the Clean Air Act reads as follows: "In any case where the Federal Land Manager demonstrates to the satisfaction of the state that the emissions from such (major emitting) facility will have an adverse impact on the air quality-related values (including visibility) of such lands, notwithstanding the fact that the change in air quality

Table 1: Scenic Vistas

<u>OBSERVATION POINT</u>	<u>VIEW ANGLE (azimuth)</u>	<u>KEY FEATURE</u>
Hiouchi Flat	80 - 120°	Smith River Siskiyou Mountains Old Growth Redwood Trees
Crescent City	300 - 360°	Pacific Ocean Castle Rock
False Klamath Cove	200 - 340°	Pacific Ocean and Coastline
Requa	120 - 330°	Klamath River Pacific Ocean
Klamath River	280 - 40°	Klamath River Ocean and Coastline
Coastal Drive	160 - 340°	Pacific Ocean and Coastline
Redwood Information Center	200 - 360°	Pacific Ocean Redwood Forest Hillslopes
Lady Bird Johnson	330 - 10°	Pacific Ocean Coastline Redwood Forest
Redwood Creek	120 - 140°	Redwood Forest Hillslopes
Bald Hills Road (numerous turnouts and overlooks)	0 - 360°	Prairies Oak Woodlands Redwood Forest Pacific Ocean

resulting from emissions from such facility will not cause or contribute to concentrations which exceed the maximum allowable increases for a Class I area, a permit (for construction) shall not be issued." This paragraph assures that the impact on air quality related values is the ultimate factor that determines whether a source will be allowed to be built in the area.

Table 2: Maximum Allowable Pollution Increase
under Class I and II Status

<u>Pollutant</u>	Maximum Allowable Increase (micrograms per cubic meter)	
	<u>Class I</u>	<u>Class II</u>
Particulate matter:		
Annual geometric mean..	5	19
24 hour maximum.....	10	37
Sulfur dioxide:		
Annual arithmetic mean....	2	20
24 hour maximum.....	5	91
3 hour maximum.....	25	512

Redwood National Park is within the jurisdictional area of the North Coast Unified Air Quality Management District. The district provides contract air pollution control services to Humboldt, Del Norte and Trinity Counties. The district operates within the scope of the "Air Quality Management Plan for the California North Coast Air Basin," September 1985. The plan is implemented through the "Air Quality Control Rules, Regulation 1 of the California North Coast Air Basin," adopted May 12, 1976, revised in March 13, 1986, and through Development plans and management actions within the park are implemented in compliance with the "Air Quality Control Rules." To date, it has not been necessary to obtain a permit for any in-park activities.

Smoke and haze from two sawmills near the park occasionally reduced the visibility of park scenes. These problems were most pronounced during fall and winter days with inversions. The sawmills included the Simpson Timber Company mill at Klamath (2 miles from the park) and the Miller-Rellim Company mill near Crescent City (within 1 mile of the park). Smoke and haze, produced at the mills by burning economically unusable bark and small scraps of wood, are noticeable in a number of park areas. Visitors at the mouth of the Klamath River at the Requa Overlook have occasionally had their view impaired by haze from the Simpson mill in the past. However, with the closure and/or reduction of operations of these two mills, visibility has improved.

Natural causes of visibility impairment include fog, clouds, rain, salt spray haze, and natural forest haze inversion. All are part of the redwood environment; most contribute to and enhance the visitor experience on the northcoast.

Other park resource problems resulting from air pollution originating outside the park have not as yet been identified. There is no observed degradation of resources from air pollution.

Although there has been an overall regional decline in air pollution, a number of threats loom on the horizon. Offshore oil and gas drilling has been proposed for the Eel River basin. Although just south of the park's coastline, emissions from that development could impair visibility and impact other resources within the park.

Occasional burning of debris piles, smoke from woodstoves, and prescribed burns are man-made sources of air pollution that originate in the park. All are minor, short-term sources; prescribed burns and debris burning are conducted in conformance with local air pollution regulations. None of these sources create resource problems within the park. "Regulation 2 of the California North Coast Air Basin, Open Burning Procedures," adopted May 13, 1976, revised March 14, 1984.

Cultural Resource Baseline

The attached Cultural Resource Documentation Checklist indicates the status of the park's cultural resources. The prehistoric, historic and contemporary Native American cultural resources of Redwood National Park cover a time span of at least 2,000 and perhaps 6,000 years.

Prehistoric

A significant amount of archeological reconnaissance, as well as a number of archeological test excavations, have been completed in Redwood National Park. The more than 50 recorded prehistoric cultural resources include: major villages both along the coast and rivers and inland in the northern part of the park and in the Redwood Creek basin; temporary or seasonal camps throughout the park, probably reflecting the use of seasonal or specific resources; trail sites along ridges used as travel routes; and ceremonial or power seeking places. Of these, three coastal villages and the Bald Hills Archeological District, which includes 26 prehistoric archeological sites, are listed in the National Register of Historic Places.

The prehistoric cultural resources of the park are significant as a source of information important to the understanding of local and regional prehistory and to theoretical and methodological questions of wider anthropological interest. Equally important, these resources have associational significance for nearby Native American communities whose members include descendants of people whose traditional lands are now included within the park.

Historic

The historic resources representing the major stages of regional land use and social and economic history, are distributed throughout Redwood National Park. Items of early sea trade are present in some of the coastal prehistoric/historic villages. Trails, roads, and stage stops associated with early transportation networks are found both in the northern part of Redwood National Park and in the Redwood Creek basin. Mining settlements were established along the coast. Landscaping, structures, and equipment associated with homesteading and early ranching are located within the park boundaries as are buildings and support facilities associated with the

commercial industries of logging, fishing, and dairies. A World War II radar station was established south of the mouth of the Klamath River, now within the park.

Three historic studies have been completed for the park and two historic resources are listed on the National Register of Historic Places: the World War II radar station/observation post and the Old Redwood Highway. Two historic trails (Kelsey and Trinidad) and an early homestead (Lyons) may also be eligible for listing on the National Register of Historic Places. A National Register nomination has been submitted for the Jonathan Lyons Homestead.

Contemporary Native American Resources

In the vicinity of Redwood National Park, a number of Indian communities are politically active and committed to the continuation of aspects of traditional culture. The prehistoric cultural resources are of great importance to these peoples, not only as part of Native American history but also as places that are still in use. These resources include places, burial grounds, and ceremonial sites, all found throughout the park. Important also are certain natural resources which are utilized by the local Indians for traditional purposes, including materials for baskets, ceremonial structures and ceremonial paraphernalia.

Influences

Influences on park cultural resources include: past logging and associated road building activities, park developments including the watershed rehabilitation program and resources management, visitor impacts and interpretation activities. Local Indians, whose peoples traditionally utilized the lands now within the park, are also a factor in the management of cultural resources.

Many of the prehistoric cultural resources have been impacted by activities associated with past logging. Park developments have the potential to further impact these resources. Such developments include removal of roads and erosion control as part of the watershed rehabilitation program, removal of non-native vegetation, revegetation projects, and General Management Plan actions such as trail and campground construction, removal of structures and maintenance activities.

The park has an archeologist on staff. All projects which involve disturbance of earth, wetlands, or increased visitor impacts are reviewed by park personnel on park project clearance forms. If adverse impacts to cultural resources are unavoidable, archeological excavations are conducted as mitigation of such impacts.

Visitors have the potential to adversely impact cultural resources, primarily through vandalism. Such impacts are avoided through the development of visitor facilities in areas away from cultural resources, by conservation of cultural resources by signing if necessary, and by interpretation.

The focus of interpretation in the park is natural resources. However, prehistoric, historic and

contemporary Native American cultural resources yield contributions to interpretive projects since these resources are an invaluable record of previous peoples' use of the land and the natural resources.

Local Indians, traditionally tied to lands now within Redwood National Park, have concerns (described above) regarding the park's cultural and natural resources. Therefore, the park has and continues to consult with Native American Heritage Advisory Committees on the use of cultural and native resources within park lands.

Cultural Context/Themes

The cultural resources of Redwood National Park, the archaeological sites, the ethnographic resources, the historic structures and features, and collections can be placed in the following themes. Additional themes may be included as new information and data are obtained.

I. Cultural Developments: Indigenous American Populations

A. The Earliest Inhabitants

7. Western Archaic Adaptations (California Area) - most interior prehistoric sites in the park

B. Post Archaic and Precontact Developments

3. Hunters and Gatherers of Western Littoral and Sierra Regions (California) - most prehistoric sites in the park

9. Post-Archaic Adaptations - most prehistoric sites in the park

20. Post-Archaic Adaptations in Riverine Zones - development of a cultural adaptation based on extensive use of lower waterways and coastal areas in the park

C. Prehistoric Archeology: Topical Facts

2. Prehistoric Technology - most prehistoric sites in the park and prehistoric collections

3. Prehistoric Economics/Trade - obsidian trade networks

10. Prehistoric Religion, Ideology, and Ceremonialism - prehistoric ceremonial sites in the park

12. Prehistoric Settlements and Settlement Patterns - most prehistoric sites in the park

19. Prehistoric Cultural Change - most prehistoric sites in the park

23. Paleoecology - interior prehistoric sites in the park

D. Ethnohistory of Indigenous American Populations

1d. Native Cultural Adaptations at Contact to the Western Littoral and Sierra Environments - sites in the park occupied during the contact period

3b. Varieties of Early Conflict, Conquest, or Accommodation, Forced and Voluntary Population Movements - historic accounts of treatment of native populations in the area of the park

3c. Varieties of Early Conflict, Conquest, or Accommodation, The New Demographics - historic accounts of treatment of native populations in the area of the park

6a1. The Myth of the Vanishing Native, Ethnic Revitalization, Changing Tribal Statuses, Political, and Religious Systems - local Native American activities

VIII. World War II

D. The Home Front - the World War II radar station on the coast south of the Klamath River

X. Westward Expansion of the British Colonies and the United States, 1763-1898

D4. Western Trails and Travelers, California Trails and Settlement of California - Jedediah Smith's expedition and trails associated with the Gold Rush and early settlement in northwest California

E1. The Mining Frontier, California Gold Rush - Gold Rush period mining and related activities in the area of the park

F. The Farmer's Frontier - the Lyons family ranches

XII. Business

A4. Extractive or Mining Industries, Timber and Lumber - logging activities in the area of the park

A5. Extractive or Mining Industries, Fishing and Livestock - fishing and ranching in the area of the park

XVI. Architecture

X. Vernacular Architecture - Lyons family structures

Resources Management Program

The program proposed for the management of the natural resources includes:

1. Active management for restoration and prevention of further degradation resulting from earlier or continuing environmental alteration;
2. Protection of park resources from the impact of human activities outside park boundaries;
3. Research designed to describe the natural systems and the essential processes which maintain them;
4. Incorporation of research results into a continuing plan of management designed to perpetuate the natural processes which are essential for the maintenance of the native ecosystems.
5. Continue to develop and implement inventory and monitoring programs that provide data needed to assess resource conditions and develop meaningful alternatives for management.

Natural resource management project priority is based on: Legislative or Executive Order mandates; protection and restoration of park resources; Service-wide management policies; park management objectives; and opportunity for research and management of resources within the park.

Erosion Control, Prevention, and Sediment Monitoring

The rehabilitation of the Redwood Creek basin will remain the major program of natural resource management at Redwood National Park. Important objectives of the overall effort include rehabilitation of logged hillslopes and disturbed grasslands, restoration of ephemeral, intermittent, and perennial stream channels, and revegetation of logged forest land. These objectives will be accomplished by controlling gully, rill, and slope erosion; by re-diverting streams back into their natural, pre-logging channels; by excavating fills placed in road and skid trail stream crossings; by removing organic debris and stored sediment in natural stream channels, where necessary; and by stabilizing mass movement features, where feasible.

Approximately 130 miles of logging road remain to be rehabilitated. The majority of these roads are relatively high standard, wide roads which will require extensive excavation of large stream crossings and end hauling of large quantities of material. Details of the program are provided in a separate Watershed Rehabilitation Plan that is being revised to update the priorities for work remaining within the park and to recommend approaches to achieving the parks goals of minimizing man-induced erosion within the park.

Integral to the Revised Watershed Rehabilitation Plan is the Road Inventory (in preparation) that

is to represent the basis for the thorough evaluation of threats posed by remaining road surfaces in the park. The Road Inventory will allow for a prioritization based solely on the potential volume of soil to be delivered to park water courses. The actual priorities selected will be described in the Revised Watershed Rehabilitation Plan and will consider other criteria such as whether or not an affected stream contains significant aquatic resources.

Work requires a multi-year approach each year, including: 1) Completion and documentation of the previous year's treated sites. Raw soil is revegetated with trees and shrubs and surface erosion controlled with mulch. Sites are surveyed and a cost analysis made which is documented in a comprehensive report; 2) Detailed site planning and implementation of specific work to be accomplished during the current year, including heavy equipment work carried out in the summer months to heal the pre-park scars caused by road building and timber harvest; and, 3) Planning for the next year's rehabilitation site work by preparing maps and evaluating erosional activity.

Additional projects include the removal of unnecessary roads and the maintenance of roads considered to be essential. Monitoring the effectiveness of treatment techniques will assist in evaluating the relative success of efforts and in guiding future projects.

Upper Basin Erosion Control and Monitoring

Concurrent with erosion control and sediment monitoring in the park are efforts to reduce new erosion sources and monitor sediment sources in the upper basin as required in Public Law 95-250. As described in the Watershed Rehabilitation Plan, the objectives of these programs are to understand and characterize where sediment originates and how and when it is transported; to suggest modifications in timber harvest plans to reduce potential erosion problems; and to develop, in concert with local landowners, upper basin land use and rehabilitation plans.

The park is in the process of developing a cooperative resources management planning effort with the major upper basin landowners. The goal of this plan will be to identify potential erosion problem areas in the upper basin and to correct them. The park has met with landowners and drafted an agreement that focusses on identifying erosion problems associated with roads as the initial target of our efforts. The park would work cooperatively with landowners, California Department of Forestry, in obtaining funding for this work. In addition, Public Law 95-250 authorizes the expenditure of federal funds on private lands where necessary to minimize threats to the park. The park plans to cooperate by identifying erosion problems, developing alternatives, planning work, and assisting with funding where appropriate and necessary.

Water and sediment discharge in Redwood Creek upstream of the Park Protection Zone and at the upstream and downstream boundaries of the park will be quantified. The project would include monitoring water and sediment discharge of three tributaries undergoing timber harvest on different terrain types along with monitoring water and sediment discharge on a pristine unlogged watershed as a control. Selected samples are collected during storms to quantify peaks of sediment discharge. Data collected will be used to evaluate sediment sources and transport processes in Redwood Creek and to help prioritize where upper basin rehabilitation work may be

needed most.

Timber Harvest Plan Reviews

An on-going program to perform office and field reviews of all timber harvest plan (THP) and road building proposals in the 30,000 acre Park Protection Zone (PPZ) would continue. Park staff would continue to participate in California Department of Forestry (CDF) pre-harvest field inspections (when permitted), develop site specific recommendations, express NPS concerns at CDF review team meetings, inspect on-going operations as they are conducted and complete post-harvest compliance inspections. Efforts to gain access to pre-harvest inspections for THP's in the upper basin (above the PPZ) will continue. These efforts will focus primarily on convincing landowners that NPS representatives are interested in finding creative ways to harvest timber without causing excessive damage to resources.

Vegetation Management

The vegetation management program will emphasize rehabilitation site revegetation, threatened and endangered plant management, soils analysis and mapping, prairie, oak woodland management and prescribed fire implementation, exotic plant control, and vegetation monitoring.

A newly developing program of considerable importance concerns the management of the park's second growth vegetation. This program represents a complex and potentially controversial challenge for the park. Approximately 61 percent of Redwood National Park's land was logged prior to the establishment of the park in 1968 or its expansion in 1978. These cutover lands are in various stages of succession and are typically dominated by unnaturally high densities of Douglas-fir. The long-term development of these fir-dominated stands is of concern and subject to much debate. The park's objectives are to restore the pre-logging balance of species, to reduce the fire hazard posed by these dense fir stands, and to restore wildlife habitat values. Pilot projects will be developed to obtain better information on the techniques and costs of a large scale program as well as give more information on the results that could be expected. Alternatives for management will be evaluated and presented for public review.

Emphasis will also be placed on fully implementing the Bald Hills Vegetation Management Plan by controlling fir invasion into the prairies. This will be accomplished principally by 'restoring' fire as a natural process but also through manual removal of fir where too large or otherwise infeasible to burn. Individual prescribed burn plans and conifer removal plans will be developed annually, implemented, and monitored.

The Exotic Plant Management Plan will be implemented by monitoring the distributions of target species and evaluating their present and future impact upon park resources. Control programs will be continued and/or implemented. A major emphasis will be placed on control of scotch broom and European beach grass which are particularly aggressive and which crowd out native vegetation.

Monitoring will continue on the permanent vegetation plots to document long and short term

vegetation changes and to recommend management where necessary and appropriate.

Rare and Endangered Plants:

All activities that could have an effect upon vegetation would be preceded by an on-site inspection by the park plant ecologist. Rare, threatened or endangered plants are looked for and if found, management actions for their protection and perpetuation will be taken to insure that the species and its habitat are not. The park will cooperate with the U.S. Fish and Wildlife Service, which is the lead agency in matters pertaining to threatened or endangered species, including delineation of critical habitat on parklands. Consultations following the Section 7 requirements of the Endangered Species Act of 1973, as amended, will be conducted as required.

Wildlife and Fisheries

Wildlife projects would attempt to understand and characterize species and habitats within the park, with an emphasis on the wildlife related issues described earlier. Specific management proposals would be formulated as a result of additional study. Action plans have been prepared for Roosevelt Elk relocation and black bears. Additional action plans are being prepared for the Northern Spotted Owl, Marbled Murrelet, Redwood Creek Estuary, Roosevelt Elk, Peregrine Falcon, and Mountain Lion.

Study of native mammals is oriented towards a number of individual species with the intent of analyzing current problems, foreseeing potential issues, and understanding wildlife associations with habitat types.

Increased efforts toward inventory and monitoring are proposed with enlarging the reptile and amphibian monitoring that has occurred and including small mammals and avian species in the effort.

Within the last three years several species have been listed as Federally threatened. These include the Northern Spotted Owl, the marbled Murrelet, and the tidewater goby. The brown pelican utilizes the marine zone during the summer, breeding elsewhere. Bald Eagles are occasional visitors. Peregrine falcons may be found in the park and have successfully nested and fledged young within the last two years. As a result a specific management plan is being developed for Peregrine falcons.

The last three years have seen the wildlife program of the park change from one of monitoring and developing management alternatives, plans, and actions for species affected by past land uses, to one of increasing time and resources devoted toward monitoring and managing for threatened species, which are doing relatively well within the boundaries of the park.

Proposals for park development and resources management projects will be reviewed on a routine basis for potential impacts to these species.

Study of both fish, habitat quality, and aquatic invertebrates is proposed. The emphasis is on continuing to develop an understanding the effects of logging on fish and aquatic invertebrates in

the Redwood Creek watershed. In addition, continuing analysis leading to additional restoration activities at the Redwood Creek estuary is proposed. Any in-stream projects would be directed towards restoration of native fisheries.

Research, management, and monitoring of the Redwood Creek estuary will continue. Data will be used to develop restoration alternatives for the estuary that was severely impacted by construction of flood control levees and channelization. Management of estuarine water levels retains some critical fish rearing habitat while preventing flooding of private property. Monitoring of these activities documents effectiveness and provides data for refining these activities. Increased funding would accelerate restoration of this critical habitat by making resources available to participate with the Corps of Engineers in implementing a proposed restoration project.

Geographic Information System

Integral to effective and timely evaluation of newly acquired data and to look at resource issues across landscape boundaries is the park's Geographic Information System (GAS). The plan provides for the continued progress and development of this key management tool that represents critical support for evaluating upper basin landuse issues, long term monitoring and evaluation studies. While in the near term the GAS will be primarily a tool for accomplishing traditional resource management activities, the program will continue to develop into an instrument integral to the operations of law enforcement, interpretation, and maintenance.

Air Quality

An air quality, visibility, and meteorological monitoring station will be operated in the park. The station was established in early Fiscal Year 1988 and monitors ozone, particulates, sulfates, nitrates, visibility, and meteorology. The station is located near the mouth of the Klamath River and is adjacent to Class I lands in the park and will provide baseline information for use in evaluating off-shore oil and gas extraction proposals.

Cultural Resources

The cultural resources program will focus on ensuring cultural resources compliance of all proposed projects whether developmental, management, or restoration. Significant efforts will continue in performing Native American liaison activities and performing special projects such as participating in development of concept and other management plans. Besides Redwood, the park archaeologist also provides these services for other northern California parks, Whiskeytown National Recreation Area, Lassen Volcanic National Park, and Lava Beds National Monument. The overall emphasis of the cultural resources program will be protection of all of these park's cultural resources.

A great cultural resources need is for a permanent full time curator. Park collections management is now a collateral duty for an interpretive ranger. The park has significant resources, especially those administrative records related to the development of the rehabilitation program. Maps, aerial photos, documentation, biological and soil samples, and raw data are all kept in various locations throughout the park for lack of proper storage facilities. Efforts will be

made to acquire funding necessary to fund a full time curator position.

Tables 1 and 2

NPS Resource Personnel and Current Year Funding

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TABLE 1
NPS RESOURCE PERSONNEL
(current year only)

FY: 95
PARK: REDW
REGION: WRO

TYPE OF NPS EMPLOYEE	FTEs OF RESOURCES WORK		
	Natural	Cultural	Total
Research Scientists	1.0	0.0	1.0
Resources Specialists	28.7	0.9	29.6
025 Park Rangers Res Mgmt	1.0	0.0	1.0
025 Park Rangers Res Prot	1.0	0.0	1.0
025 Park Rangers Res Interp	0.0	0.3	0.3
Maintenance Personnel	7.4	0.0	7.4
Total of RES Personnel	39.1	1.2	40.3
TOTAL PARK FTE: 119.0 PERCENT	32.9%	1.0%	33.9%

End of data

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17:48:45

TABLE 2
NATURAL AND CULTURAL
CURRENT YEAR FUNDING
(\$ in thousands - by activity type)

Page: 0001
FY: 95
PARK: REDW
REGION: WRO

FUNDING SOURCE	TOTAL	RES	MIT	MON	PRO	INT	ADM
PCR1	55.00	0.00	0.00	0.00	55.00	0.00	0.00
RCCM	35.00	0.00	0.00	0.00	35.00	0.00	0.00
POF1	6.00	0.00	0.00	0.00	6.00	0.00	0.00
PCR2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RMRR	23.00	0.00	0.00	0.00	23.00	0.00	0.00
PNR1	1868.25	74.00	1171.90	225.70	40.70	0.00	355.95
SNGS	9.90	0.00	0.00	9.90	0.00	0.00	0.00
NDON	6.50	0.00	0.00	6.50	0.00	0.00	0.00
NSTA	22.00	0.00	0.00	20.00	0.00	0.00	2.00
RNSR	30.00	0.00	0.00	30.00	0.00	0.00	0.00
PNR2	192.00	192.00	0.00	0.00	0.00	0.00	0.00
NFED	150.00	150.00	0.00	0.00	0.00	0.00	0.00
TOTAL	2397.65	416.00	1171.90	292.10	159.70	0.00	357.95

End of data

PROGRAMMING SHEET 1

Funded Cultural, Interdisciplinary, and Natural Resource Activities

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PROGRAMMING SHEET 1
CULTURAL
CURRENT YEAR FUNDED ACTIVITIES
(\$ in thousands)

Page: 0001
FY: 95
PARK: REDW
REGION: WRO

PROJECT NUMBER	PROJECT TITLE	PKG NUM	CULT RES TYPE	SYSTEM- WIDE ISSUE	FUNDING SOURCE	ACT TYP	CURRENT YEAR 1995		OUTYEAR 1 1996		OUTYEAR 2 1997		OUTYEAR 3 1998		TOTAL		
							\$	FTE	\$	FTE	\$	FTE	\$	FTE	\$	FTE	
001.000	MANAGE CULTURAL RESOURCES PROGRAMS		COMB	C24	PKBASE-CR PRO		55.00	0.8	0.0	0.0	0.0	0.0	0.0	0.0	55.00	0.8	
					RG-CR-MTN PRO		35.00	0.3	0.0	0.0	0.0	0.0	0.0	0.0	35.00	0.3	
					Subtotal		90.00	1.1	0.00	0.0	0.00	0.0	0.00	0.0	90.00	1.1	
002.000	PARK CURATION		OBJC	C09 C15	PKBASE-OT PRO		6.00	0.2	0.0	0.0	0.0	0.0	0.0	0.0	6.00	0.2	
005.000	REVISE NAT. REG. OF HISTORIC PLACES NOMINATION FORM		COMB	C26	TEMP\$-CR RES		0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	
006.000	PRESERVE AND STABILIZE STRUCTURES		STRC	C12 C13	REP-REHAB PRO		23.00	0.5	0.0	0.0	0.0	0.0	0.0	0.0	23.00	0.5	
4 projects printed							Grand Total	119.00	1.8	0.00	0.0	0.00	0.0	0.00	0.0	119.00	1.8

Enc data

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PROGRAMMING SHEET 1
NATURAL and CULTURAL
CURRENT YEAR FUNDED ACTIVITIES
(\$ in thousands)

Page: 0001
FY: 95
PARK: REDW
REGION: WRO

PROJECT NUMBER	PROJECT TITLE	PKG NUM	CULT RES TYPE	SYSTEM- WIDE ISSUE	FUNDING SOURCE	ACT TYP	CURRENT YEAR 1995 \$\$ FTE	OUTYEAR 1 1996 \$\$ FTE	OUTYEAR 2 1997 \$\$ FTE	OUTYEAR 3 1998 \$\$ FTE	TOTAL \$\$ FTE
003.000	PREScribed FIRE MANAGEMENT AND RESEARCH		COMB	N07 N17	PKBASE-NR MIT		59.00 1.8	59.00 1.8	59.00 1.8	59.00 1.8	236.00 7.2
008.000	INVESTIGATION OF MARINE RESOURCES			N20	PKBASE-NR RES		0.00 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.00 0.0
100.000	RESOURCES MANAGEMENT DIVISION ADMINISTRATION		COMB	N24	PKBASE-NR ADM		137.70 2.5	137.70 2.5	137.70 2.5	137.70 2.5	550.80 10.0
101.000	RESOURCES MANAGEMENT SUPPORT BRANCH OPERATION			N06 N24	PKBASE-NR MIT		295.30 7.4	295.30 7.4	295.00 7.0	295.00 7.0	1180.60 28.8
Grand Total							492.00 11.7	492.00 11.7	491.70 11.3	491.70 11.3	1967.40 46.0

4 projects printed

End of data

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PROGRAMMING SHEET 1
NATURAL
CURRENT YEAR FUNDED ACTIVITIES
(\$ in thousands)

Page: 0001
FY: 95
PARK: REDW
REGION: WRO

PROJECT NUMBER	PROJECT TITLE	PKG NUM	CULT RES TYPE	SYSTEM- WIDE ISSUE	FUNDING SOURCE	ACT TYP	CURRENT YEAR 1995 \$\$ FTE	OUTYEAR 1 1996 \$\$ FTE	OUTYEAR 2 1997 \$\$ FTE	OUTYEAR 3 1998 \$\$ FTE	TOTAL \$\$ FTE
001.000	SEDIMENT SOURCE INVENTORY IN REDWOOD CREEK			N20 N12	PKBASE-NR	MON	65.20 2.3	63.30 1.9	58.20 1.8	57.90 1.8	244.60 7.8
002.000	HYDROLOGIC MONITORING AND SEDIMENT TRANSPORT			N20 N12	PKBASE-NR	MON	40.30 1.4	42.30 1.4	44.40 1.4	46.62 1.4	173.62 5.6
003.000	TIMBER HARVEST PLAN REVIEW AND INSPECTIONS			N06 N16	PKBASE-NR	MIT	16.80 0.5	14.20 0.4	10.80 0.3	11.34 0.3	53.14 1.5
004.000	REDWOOD CREEK UPPER BASIN ROAD ANALYSIS			N06 N16	PKBASE-NR	MON	39.10 1.4	34.10 1.3	29.10 1.2	24.10 1.1	126.40 5.0
005.000	HYDROLOGIC AND BASIN RESPONSE MODELS FOR REDWOOD CK			N12 N06	PKBASE-NR	RES	18.00 0.6	20.90 0.7	23.00 0.8	25.10 0.9	87.00 3.0
006.000	REDWOOD CREEK WATERSHED COOPERATIVE MANAGEMENT			N06 N16	PKBASE-NR	MIT	16.80 0.5	25.54 0.9	29.30 1.0	29.40 1.0	101.04 3.4
010.000	GEOLOGICAL SERVICES BRANCH ADMINISTRATION			N06 N20	PKBASE-NR	ADM	32.15 0.5	34.40 0.5	36.00 0.5	36.80 0.5	139.35 2.0
025.000	CHANNEL RESPONSE TO GRAVEL EXTRACTION			N06 N11	PKBASE-NR	MON	4.10 0.2	4.30 0.2	4.50 0.2	4.70 0.2	17.60 0.8
026.000	EVALUATION OF MILL CREEK WATERSHED			N06 N20	PKBASE-NR	MON	2.00 0.1	2.10 0.1	2.20 0.1	2.30 0.1	8.60 0.4
029.000	HYDROLOGIC EFFECTS OF PRAIRIE MANAGEMENT			N07 N12	PKBASE-NR	MON	2.00 0.1	4.00 0.2	4.00 0.2	3.00 0.1	13.00 0.6
031.000	ACQUIRE DIGITAL ORTHO PHOTO QUADS			N06 N02	GIS	MON	9.90 0.0	0.0 0.0	0.0 0.0	0.0 0.0	9.90 0.0

continued...

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PROGRAMMING SHEET 1
NATURAL
CURRENT YEAR FUNDED ACTIVITIES
(\$ in thousands)

Page: 0002
FY: 95
PARK: REDW
REGION: WRO

PROJECT NUMBER	PROJECT TITLE	PKG NUM	CULT RES TYPE	SYSTEM WIDE ISSUE	FUNDING SOURCE	ACT TYP	CURRENT YEAR 1995 \$\$ FTE		OUTYEAR 1 1996 \$\$ FTE		OUTYEAR 2 1997 \$\$ FTE		OUTYEAR 3 1998 \$\$ FTE		TOTAL \$\$ FTE	
037.000	MAP RESOURCES USING GIS			N22	N20 \$-DONATE	MON	6.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.50	0.0
100.000	EROSION CONTROL AND WATERSHED RESTORATION			N06	N10 PKBASE-NR	ADM	35.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.00	0.0
					PKBASE-NR	MIT	350.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	350.00	0.0
					Subtotal		385.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	385.00	0.0
101.000	INVENTORY OF EROSION POTENTIAL ON PARK ROADS			N06	N20 PKBASE-NR	MIT	22.00	0.5	0.0	0.0	0.0	0.0	0.0	0.0	22.00	0.5
					PKBASE-NR	ADM	18.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.00	0.0
					Subtotal		40.00	0.5	0.00	0.0	0.00	0.0	0.00	0.0	40.00	0.5
102.000	MONITOR CALTRANS HIGHWAY BY-PASS PROJECTS			N24	ST-LOCAL	MON	20.00	0.5	0.0	0.0	0.0	0.0	0.0	0.0	20.00	0.5
					ST-LOCAL	ADM	2.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.00	0.0
					Subtotal		22.00	0.5	0.00	0.0	0.00	0.0	0.00	0.0	22.00	0.5
7	NO FISH & WILDLIFE RESOURCES BRANCH ADMINISTRATION			N24	N02 PKBASE-NR	ADM	64.60	1.0	64.60	1.0	64.60	1.0	64.60	1.0	258.40	4.0
201.000	INVENTORY, MONITOR. & ECOL. STUDY OF HERPETOFAUNA			N20	N02 PKBASE-NR	MON	8.00	0.2	8.00	0.2	8.00	0.2	0.0	0.0	24.00	0.6
					RG-NS-RES	MON	30.00	0.8	30.00	0.8	30.00	0.8	0.0	0.0	90.00	2.4
					Subtotal		38.00	1.0	38.00	1.0	38.00	1.0	0.00	0.0	114.00	3.0
203.000	INVENTORY, MONITORING, & ECOLOGICAL STUDY OF BIRDS			N02	N20 PKBASE-NR	RES	0.0	0.0	13.00	0.4	19.00	0.5	0.0	0.0	32.00	0.9
					PKBASE-NR	MON	0.0	0.0	0.0	0.0	0.0	0.0	19.00	0.5	19.00	0.5
					Subtotal		0.00	0.0	13.00	0.4	19.00	0.5	19.00	0.5	51.00	1.4
203.001	INVENTORY, MONITORING, & ECOLOGICAL STUDY OF BIRDS AVIAN PRODUCTIVITY			N20	N06 PKBASE-NR	RES	7.00	0.1	0.0	0.0	0.0	0.0	0.0	0.0	7.00	0.1
208.000	SURV. & ECOL. STUDY OF THREAT, ENDANG & SENS ANIMAL			N02	N20 PKBASE-NR	MIT	45.00	1.5	45.00	1.5	45.00	1.5	45.00	1.5	180.00	6.0
					TEMPS-NR	RES	96.00	3.4	0.0	0.0	0.0	0.0	0.0	0.0	96.00	3.4
					Subtotal		141.00	4.9	45.00	1.5	45.00	1.5	45.00	1.5	276.00	9.4

continued...

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PROGRAMMING SHEET 1
NATURAL
CURRENT YEAR FUNDED ACTIVITIES
(\$ in thousands)

Page: 0003
FY: 95
PARK: REDW
REGION: WRO

PROJECT NUMBER	PROJECT TITLE	PKG NUM	CULT RES	SYSTEM- WIDE TYPE	FUNDING SOURCE	ACT TYP	CURRENT YEAR 1995 \$\$ FTE	OUTYEAR 1 1996 \$\$ FTE	OUTYEAR 2 1997 \$\$ FTE	OUTYEAR 3 1998 \$\$ FTE	TOTAL \$\$ FTE
208.001	SURVEY AND ECOL. STUDY OF THREAT.END.& SENS. ANIMAL SPOTTED OWL INVENTORY,RES		N20	N02	TEMP\$-NR	RES	96.00 3.4	0.0 0.0	0.0 0.0	0.0 0.0	96.00 3.4
208.002	SURVEY & ECOL. STUDY OF THREAT. END. & SENS. ANIMAL MARBLED MURRELET RESEARCH		N20	N02	FED-OTHER	RES	150.00 4.3	75.00 2.1	75.00 2.1	0.0 0.0	300.00 8.5
Project Total							387.00 12.6	120.00 3.6	120.00 3.6	45.00 1.5	672.00 21.3
209.000	BLACK BEAR MANAGEMENT		N18	N22	PKBASE-NR	PRO	7.00 0.3	7.00 0.3	7.00 0.3	7.00 0.3	28.00 1.2
251.000	STREAM RESTORATION		N12	N02	PKBASE-NR	MIT	18.50 0.5	0.0 0.0	0.0 0.0	0.0 0.0	18.50 0.5
					PKBASE-NR	MON	0.0 0.0	18.50 0.5	8.50 0.2	8.50 0.1	35.50 0.8
Subtotal							18.50 0.5	18.50 0.5	8.50 0.2	8.50 0.1	54.00 1.3
257.000	REDWOOD CREEK ESTUARY RESEARCH AND MANAGEMENT		N12	N02	PKBASE-NR	RES	49.00 1.5	43.00 1.5	43.00 1.5	43.00 1.5	178.00 6.0
259.000	REDWOOD CREEK FISHERIES INVENTORY AND MONITORING		N20		PKBASE-NR	MON	25.00 0.7	25.00 0.7	25.00 0.7	0.0 0.0	75.00 2.1
263.000	SUMMER STEELHEAD TROUT RESEARCH		N20	N02	PKBASE-NR	MON	3.00 0.1	3.00 0.1	3.00 0.1	3.00 0.1	12.00 0.4
273.000	ROOSEVELT ELK RESEARCH AND MANAGEMENT		N20		PKBASE-NR	MIT	10.00 0.3	0.0 0.0	0.0 0.0	0.0 0.0	10.00 0.3
274.000	BOUNDARY FENCING AND MANAGEMENT		N16		PKBASE-NR	PRO	31.00 1.0	31.00 1.0	31.00 1.0	31.00 1.0	124.00 4.0

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PROGRAMMING SHEET 1
NATURAL
CURRENT YEAR FUNDED ACTIVITIES
(\$ in thousands)

Page: 0004
FY: 95
PARK: REDW
REGION: WRO

PROJECT NUMBER	PROJECT TITLE	PKG NUM	CULT RES TYPE	SYSTEM- WIDE ISSUE	FUNDING SOURCE	ACT TYP	CURRENT YEAR 1995		OUTYEAR 1 1996		OUTYEAR 2 1997		OUTYEAR 3 1998		TOTAL	
							\$\$	FTE	\$\$	FTE	\$\$	FTE	\$\$	FTE	\$\$	FTE
276.000	LONG-TERM FOREST VEGETATION MONITORING			N20	PKBASE-NR MON		4.00	0.2	0.0	0.0	0.0	0.0	0.0	0.0	4.00	0.2
277.000	DAVISON RIPARIAN MITIGATION			N17	PKBASE-NR MIT		23.00	1.0	23.00	1.0	23.00	0.6	23.00	0.6	92.00	3.2
277.001	DAVISON RIPARIAN MITIGATION BIRD MONITORING			N06 N20	PKBASE-NR MON		4.00	0.2	4.00	0.2	4.00	0.2	4.00	0.2	16.00	0.8
280.000	AQUATIC RESOURCES MANAGEMENT PLAN			N02 N12	PKBASE-NR MIT		10.00	0.6	0.0	0.0	0.0	0.0	0.0	0.0	10.00	0.6
300.000	VEGETATION MANAGEMENT BRANCH ADMINISTRATION			N06 N05	PKBASE-NR ADM		68.50	1.0	68.50	1.0	68.50	1.0	68.50	1.0	274.00	4.0
302.000	EXOTIC VEGETATION MANAGEMENT			N05 N17	PKBASE-NR MIT		54.50	1.0	54.50	1.0	54.00	1.0	54.00	1.0	217.00	4.0
303.000	PRAIRIE AND OAK WOODLAND MANAGEMENT			N07 N17	PKBASE-NR MIT		17.50	0.5	17.50	0.5	17.50	0.5	17.50	0.5	70.00	2.0
305.000	RARE, THREATENED AND ENDANGERED PLANTS			N03	PKBASE-NR PRO		2.70	0.1	2.70	0.1	2.70	0.1	2.70	0.1	10.80	0.4
306.000	REHABILITATION SITE REVEGETATION			N06	PKBASE-NR MIT		27.50	0.7	27.50	0.7	27.50	0.7	27.50	0.7	110.00	2.8
310.000	SOIL SURVEY AND MANAGEMENT			N06 N22	PKBASE-NR MON		29.00	0.6	29.00	0.6	29.00	0.6	29.00	0.6	116.00	2.4
39 Projects printed																
Grand Total							1580.65	33.6	834.94	22.8	826.80	22.1	688.56	18.1	3930.95	96.6

data

PROGRAMMING SHEET 2

Unfunded Cultural, Interdisciplinary, and Natural Resource Activities

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PROGRAMMING SHEET 2
CULTURAL
UNFUNDED ACTIVITIES
(\$ in thousands)

Page: 0001
FY: 95
PARK: REDW
REGION: WRO

PK	PROJECT	PROJECT TITL	PKG	CULT	SYSTEM-	FUNDING	ACT	STARTING YEAR	OUTYEAR 1	OUTYEAR 2	OUTYEAR 3	TOTAL	
PRI	NUMBER		NUM	RES	WIDE	SOURCE	TYP						
				TYPE	ISSUE			\$\$ FTE	\$\$ FTE	\$\$ FTE	\$\$ FTE	\$\$ FTE	
1	001.000	MANAGE CULTURAL RESOURCES PROGRAMS		COMB	C24	PKBASE-CR PRO		43.00 1.0	0.0 0.0	0.0 0.0	0.0 0.0	43.00 1.0	
2	002.000	PARK CURATION		OBJC	C09 C15	PKBASE-CR PRO		25.00 0.8	35.00 1.0	35.00 1.0	35.00 1.0	130.00 3.8	
3	005.000	REVISE NAT. REG. OF HISTORIC PLACES NOMINATION FORM		COMB	C26	TEMP\$-CR RES		8.00 0.0	0.0 0.0	0.0 0.0	0.0 0.0	8.00 0.0	
4	006.000	PRESERVE AND STABILIZE STRUCTURES		STRC	C12 C13	REP-REHAB PRO		0.0 0.0	23.00 0.5	23.00 0.5	0.0 0.0	46.00 1.0	
5	3.000	ETHNOGRAPHIC OVERVIEW, ASSESSMENT, TRADITIONAL USE		ETHN	C04	TEMP\$-CR RES		20.00 0.0	0.0 0.0	0.0 0.0	0.0 0.0	20.00 0.0	
5 projects printed													
Grand Total								96.00 1.8	58.00 1.5	58.00 1.5	35.00 1.0	247.00 5.8	

End of data

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PROGRAMMING SHEET 2
NATURAL and CULTURAL
UNFUNDED ACTIVITIES
(\$ in thousands)

Page: 0001
FY: 95
PARK: REDW
REGION: WRO

PK	PROJECT	PROJECT TITL	PKG	CULT	SYSTEM-	FUNDING	ACT	STARTING YEAR	OUTYEAR 1	OUTYEAR 2	OUTYEAR 3	TOTAL						
PRI	NUMBER		NUM	RES	WIDE	SOURCE	TYP											
				TYPE	ISSUE			\$\$ FTE	\$\$ FTE	\$\$ FTE	\$\$ FTE	\$\$ FTE	\$\$ FTE					
0	323.000	HISTORICAL		CULL	N20	N07	RG-NS-RES	RES	1.00	0.1	18.00	0.7	22.00	1.0	22.00	1.0	63.00	2.8
		ROLE OF FIRE					VOL-IN-PK	RES	0.00	0.2	0.50	0.3	0.50	0.3	0.50	0.3	1.50	1.1
		ON THE																
		VEGETATION																
		OF REDW					Subtotal		1.00	0.3	18.50	1.0	22.50	1.3	22.50	1.3	64.50	3.9
0	007.000	PUBLIC			N18	N16	PKBASE-NR	INT	30.00	1.0	30.00	1.0	30.00	1.0	30.00	1.0	120.00	4.0
		EDUCATION-NA																
		TURAL AND																
		CULTURAL																
		RESOURCES																
0	008.000	INVESTIGATION			N20		NRPP	RES	35.00	1.0	35.00	1.0	35.00	1.0	35.00	1.0	140.00	4.0
		N OF MARINE																
		RESOURCES																
0	001.000	PALEOCLIMATIC AND			N07	N17	PKBASE-NR	RES	10.00	0.5	12.50	0.6	7.60	0.3	5.40	0.2	35.50	1.6
		ECOLOGICAL																
		STUDIES																
		projects printed																
		Grand Total							76.00	2.8	96.00	3.6	95.10	3.6	92.90	3.5	360.00	13.5

Order data

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PROGRAMMING SHEET 2
NATURAL
UNFUNDED ACTIVITIES
(\$ in thousands)

Page: 0001
FY: 95
PARK: REDW
REGION: WRO

PK	PROJECT	PROJECT TITL	PKG	CULT	SYSTEM-	FUNDING	ACT	STARTING YEAR	OUTYEAR 1	OUTYEAR 2	OUTYEAR 3	TOTAL	
PRI	NUMBER		NUM	RES	WIDE	SOURCE	TYP						
				TYPE	ISSUE			\$ \$ FTE	\$ \$ FTE	\$ \$ FTE	\$ \$ FTE	\$ \$ FTE	
0	261.000	COAST CUTTHROAT TROUT RESEARCH		N20	N02	NRPP	RES	18.00 0.5	0.0 0.0	0.0 0.0	0.0 0.0	18.00 0.5	
0	204.000	INVENTORY, ASSESSMENT, & MGMT OF NON-NATIVE WILDLF.		N04	N20	PKBASE-NR	MON	8.80 0.3	8.80 3.2	8.80 0.3	0.0 0.0	26.40 3.8	
0	205.000	EFFECTS OF RESOURCE MANAGEMENT TREATMENTS ON WLDLF.		N20	N17	PKBASE-NR	MON	40.00 1.1	40.00 1.1	40.00 1.1	40.00 1.1	160.00 4.4	
0	206.000	IMPACTS OF DEVELOPMENT AND VISITOR USE ON WILDLIFE		N20	N18	NRPP	MON	8.00 0.3	5.00 0.2	5.00 0.2	5.00 0.2	23.00 0.9	
0	267.000	FISH RESOURCE INVESTIG. OUTSIDE OF REDWOOD CK BASIN		N20	N02	NRPP	RES	5.60 0.2	5.60 0.2	17.50 0.5	0.0 0.0	28.70 0.9	
0	282.000	IMPACTS AND PERSISTENCE OF FINES IN PRAIRIE CREEK		N06		PKBASE-NR	MON	150.00 4.0	0.0 0.0	0.0 0.0	0.0 0.0	150.00 4.0	
0	278.000	EFFECTS OF FRAGMENTATIO N ON BIOLOGICAL RESOURCES		N06		NRPP	RES	10.00 0.3	0.0 0.0	0.0 0.0	4.00 0.1	14.00 0.4	
0	255.000	NON-NATIVE FISH MANAGEMENT		N04	N20	PKBASE-NR	MIT	17.50 0.5	3.50 0.1	0.0 0.0	0.0 0.0	21.00 0.6	

continued...

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PROGRAMMING SHEET 2
NATURAL
UNFUNDED ACTIVITIES
(\$ in thousands)

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PARK: REDW
REGION: WRO

PK	PROJECT	PROJECT TITL	PKG	CULT	SYSTEM-	FUNDING	ACT	STARTING YEAR	OUTYEAR 1	OUTYEAR 2	OUTYEAR 3	TOTAL	
PRI	NUMBER		NUM	RES	WIDE	SOURCE	TYP						
				TYPE	ISSUE			\$\$ FTE	\$\$ FTE	\$\$ FTE	\$\$ FTE	\$\$ FTE	
0	269.000	RECREATIONAL COMMERCIAL FISHING IMPACTS		N19	N20	PKBASE-NR	MIT	2.00 0.1	0.0 0.0	0.0 0.0	0.0 0.0	2.00 0.1	
0	211.000	TICK AS VECTOR FOR LYME DISEASE IN RNP		N20	N24	PKBASE-NR	RES	31.25 5.6	31.15 5.6	31.15 5.6	0.0 0.0	93.55 16.8	
0	202.000	INVENTORY, MONITORING, AND ECOL. STUDY OF MAMMALS		N20	N02	PKBASE-NR	MON	18.00 0.5	18.00 0.5	18.00 0.5	18.00 0.5	72.00 2.0	
0	253.000	RECOVERY OF OF A TIMBER-HARVE STED WATERSHED		N20		NRPP	RES	35.00 1.0	20.00 0.7	20.00 0.7	0.0 0.0	75.00 2.4	
0	202.001	INVENTORY, MONITORING, AND ECOL. STUDY OF MAMMALS BAT INVENTORY		N20	N02	NRPP	RES	5.00 0.2	0.0 0.0	0.0 0.0	0.0 0.0	5.00 0.2	
0	266.000	TERRESTRIAL INVERTEBRATE S SURVEY		N20		NRPP	RES	6.00 0.3	6.00 0.3	6.00 0.3	6.00 0.3	24.00 1.2	
0	271.000	BEAR ECOLOGY IN THE REDWOOD FOREST		N20		NRPP	RES	200.00 8.5	200.00 8.5	200.00 8.5	200.00 8.5	800.00 34.0	
0	212.000	EFFECTS OF POACHING; RESOURCE PROTECTION		N18	N19	PKBASE-NR	PRO	7.00 0.2	3.00 0.1	0.0 0.0	0.0 0.0	10.00 0.3	

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PROGRAMMING SHEET 2
NATURAL
UNFUNDED ACTIVITIES
(\$ in thousands)

Page: 0003
FY: 95
PARK: REDW
REGION: WRO

PK	PROJECT	PROJECT TITL	PKG	CULT	SYSTEM	FUNDING	ACT	STARTING YEAR	OUTYEAR 1	OUTYEAR 2	OUTYEAR 3	TOTAL	
PRI	NUMBER		NUM	RES	WIDE	SOURCE	TYP						
				TYPE	ISSUE			\$ \$ FTE	\$ \$ FTE	\$ \$ FTE	\$ \$ FTE	\$ \$ FTE	
0	207.000	ECOLOGY OF THE FOREST CANOPY			N20 N02 NRPP		RES	25.00 0.4	25.00 0.4	25.00 0.4	0.0 0.0	75.00	1.2
0	205.001	EFFECTS OF RESOURCE MANAGEMENT TREATMENTS ON WDLF. EFFECTS-FIRE /TREE REMOVAL			N06 N20 FED-OTHER		RES	18.80 0.5	18.80 0.5	18.60 0.5	18.50 0.5	74.70	2.0
0	027.000	GEOLOGIC MAPPING AND NEOTECTONICS			N24	PKBASE-NR	RES	0.00 0.0	2.10 0.1	4.20 0.2	2.10 0.1	8.40	0.4
0	023.000	COASTAL, BEACH, AND ESTUARINE PROCESSES			N09 N20 PKBASE-NR		MON	11.50 0.4	7.80 0.3	8.20 0.3	8.60 0.3	36.10	1.3
0	024.000	GEOLOGIC HAZARDS ASSESSMENT			N20 N22 PKBASE-NR		MON	0.00 0.0	15.00 0.5	0.00 0.0	0.00 0.0	15.00	0.5
0	022.000	DESIGN SURFACE WATER QUALITY MONITORING PROGRAM			N11 N20 PKBASE-NR		MON	0.00 0.0	5.00 0.2	0.00 0.0	0.00 0.0	5.00	0.2
0	021.000	FLOOD ROUTING ON THE TALL TREES GROVE			N12	PKBASE-NR	RES	0.00 0.0	15.00 0.5	0.00 0.0	0.00 0.0	15.00	0.5
0	007.000	GEOLOGY GEOGRAPHIC INFORMATION SYSTEM			N16 N20 PKBASE-NR		MON	38.00 1.0	39.90 1.0	41.90 1.0	44.00 1.0	163.80	4.0
C	3.000	TRAINING AND INFORMATION DISSEMINATIO			N24	PKBASE-NR	MIT	22.00 0.5	0.0 0.0	0.0 0.0	0.0 0.0	22.00	0.5

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PROGRAMMING SHEET 2

NATURAL

UNFUNDED ACTIVITIES

(\$ in thousands)

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PARK: REDW

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PK	PROJECT	PROJECT TITL	PKG	CULT	SYSTEM	FUNDING	ACT	STARTING YEAR	OUTYEAR 1	OUTYEAR 2	OUTYEAR 3	TOTAL	
PRI	NUMBER		NUM	RES	WIDE	SOURCE	TYP						
				TYPE	ISSUE			\$	FTE	\$	FTE	\$	FTE
N IN RESTORAT.													
0	104.000	RESTORATION RELATED TO PLANNED VISITOR DEVELOPMENTS				N06 N24 PKBASE-OT MIT		40.00	1.0	0.0	0.0	0.0	0.0
						PKBASE-OT ADM		5.00	0.0	0.0	0.0	0.0	0.0
						Subtotal		45.00	1.0	0.00	0.0	0.00	0.0
0	105.000	RESTORATION WORK ON ACQUIRED LANDS IN COYOTE CREEK				N06		160.00	4.0	160.00	4.0	160.00	0.0
						PKBASE-NR ADM		16.00	0.0	16.00	0.0	16.00	0.0
						Subtotal		176.00	4.0	176.00	4.0	176.00	0.0
0	210.000	PUBLIC EDUCATION-WILDLIFE RESOURCES				N18 N16 NON-PROFI INT		5.00	0.1	0.0	0.0	0.0	0.0
1	208.000	SURV. & ECOL. STUDY OF THREAT, ENDANG & SENS ANIMAL				N02 N20 PKBASE-NR MON		18.00	0.5	2.00	0.1	0.0	0.0
						FED-OTHER RES		60.00	2.0	60.00	2.0	60.00	2.0
						TEMP\$-NR RES		0.0	0.0	150.00	6.3	150.00	6.3
						Subtotal		78.00	2.5	212.00	8.4	210.00	8.3
3	208.001	SURVEY AND ECOL. STUDY OF THREAT.END.& SENS. ANIMAL SPOTTED OWL INVENTORY,RE S				N20 N02 TEMP\$-NR MON		0.0	0.0	150.00	6.3	150.00	6.3
5	002.000	HYDROLOGIC MONITORING AND SEDIMENT TRANSPORT				N20 N12 PKBASE-NR MON		30.30	0.6	26.50	0.6	27.80	0.6
8	004.000	REDWOOD CREEK UPPER BASIN ROAD ANALYSIS				N06 N16 PKBASE-NR MON		11.00	0.6	15.30	0.8	16.10	0.8

continued...

11/15/94

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PROGRAMMING SHEET 2

NATURAL

UNFUNDED ACTIVITIES

(\$ in thousands)

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PARK: REDW

REGION: WRO

PK	PROJECT	PROJECT TITL	PKG	CULT	SYSTEM-	FUNDING	ACT	STARTING YEAR	OUTYEAR 1	OUTYEAR 2	OUTYEAR 3	TOTAL	
PRI	NUMBER		NUM	RES	WIDE	SOURCE	TYP						
				TYPE	ISSUE			\$\$ FTE	\$\$ FTE	\$\$ FTE	\$\$ FTE	\$\$ FTE	\$\$ FTE
9	006.000	REDWOOD CREEK WATERSHED COOPERATIVE MANAGEMENT		N06	N16	PKBASE-NR	MIT	9.20 0.5	9.20 0.5	9.20 0.5	9.20 0.5	36.80	2.0
14	209.000	BLACK BEAR MANAGEMENT		N18	N22	TEMP\$-NR	PRO	15.00 0.4	0.0 0.0	0.0 0.0	0.0 0.0	15.00	0.4
15	51.000	STREAM RESTORATION		N12	N02	ST-LOCAL	MIT	0.0 0.0	15.00 0.4	0.0 0.0	0.0 0.0	15.00	0.4
16	29.000	HYDROLOGIC EFFECTS OF PRAIRIE MANAGEMENT		N07	N12	PKBASE-NR	MON	8.00 0.4	8.00 0.4	6.00 0.3	5.00 0.2	27.00	1.3
17	57.000	REDWOOD CREEK ESTUARY RESEARCH AND MANAGEMENT		N12	N02	PKBASE-NR	RES	30.00 2.0	0.0 0.0	0.0 0.0	0.0 0.0	30.00	2.0
						FED-OTHER	MIT	0.0 0.0	300.00 2.0	0.0 0.0	0.0 0.0	300.00	2.0
						Subtotal		30.00 2.0	300.00 2.0	0.00 0.0	0.00 0.0	330.00	4.0
18	63.000	SUMMER STEELHEAD TROUT RESEARCH		N20	N02	NRPP	RES	15.00 0.4	0.0 0.0	0.0 0.0	0.0 0.0	15.00	0.4
20	75.000	MARBLED MURRELET RESEARCH		N20		FED-OTHER	RES	60.00 2.0	60.00 2.0	60.00 2.0	60.00 2.0	240.00	8.0
20	259.000	REDWOOD CREEK FISHERIES INVENTORY AND MONITORING		N20		PKBASE-NR	MON	52.50 1.5	35.00 1.0	35.00 1.0	35.00 1.0	157.50	4.5
23	005.000	HYDROLOGIC AND BASIN RESPONSE MODELS FOR REDWOOD CK		N12	N06	PKBASE-NR	RES	8.20 0.4	8.60 0.4	9.00 0.4	9.50 0.4	35.30	1.6

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PROGRAMMING SHEET 2

NATURAL

UNFUNDED ACTIVITIES

(\$ in thousands)

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PARK: REDW

REGION: WRO

PK	PROJECT	PROJECT TITL	PKG	CULT	SYSTEM-	FUNDING	ACT	STARTING YEAR	OUTYEAR 1	OUTYEAR 2	OUTYEAR 3	TOTAL			
PRI	NUMBER		NUM	RES	WIDE	SOURCE	TYP								
				TYPE	ISSUE			\$ \$ FTE	\$ \$ FTE	\$ \$ FTE	\$ \$ FTE	\$ \$ FTE	\$ \$ FTE		
24	001.000	SEDIMENT SOURCE INVENTORY IN REDWOOD CREEK		N20	N12	PKBASE-NR	MON	9.20	0.5	9.70	0.5	10.20	0.5	39.80	2.0
28	276.000	LONG-TERM FOREST VEGETATION MONITORING		N20		PKBASE-NR	MON	10.00	0.3	0.0	0.0	0.0	0.0	10.00	0.3
29	273.000	ROOSEVELT ELK RESEARCH AND MANAGEMENT		N20		NON-PROFI	RES	48.00	1.4	5.00	0.1	0.0	0.0	53.00	1.5
						PKBASE-NR	RES	6.00	0.2	22.30	0.6	0.0	0.0	28.30	0.8
						NRPP	RES	0.0	0.0	0.0	0.0	70.00	2.0	140.00	4.0
						Subtotal		54.00	1.6	27.30	0.7	70.00	2.0	221.30	6.3
30	008.002	SURVEY & ECOL. STUDY OF THREAT. END. & SENS. ANIMAL MARBLED MURRELET RESEARCH		N20	N02	FED-OTHER	RES	50.00	1.8	0.0	0.0	0.0	0.0	50.00	1.8
31	203.001	INVENTORY, MONITORING, & ECOLOGICAL STUDY OF BIRDS AVIAN PRODUCTIVITY		N20	N06	PKBASE-NR	RES	18.77	0.5	14.30	0.4	16.79	0.5	66.16	1.9
32	203.000	INVENTORY, MONITORING, & ECOLOGICAL STUDY OF BIRDS		N02	N20	PKBASE-NR	MON	14.00	0.4	14.00	0.4	14.00	0.4	56.00	1.6
33	201.000	INVENTORY, MONITOR. & ECOL. STUDY OF HERPETOFAUNA		N20	N02	PKBASE-NR	MON	5.00	0.1	5.00	0.1	5.00	0.1	15.00	0.3

continued...

1/15/94
1 12

PROGRAMMING SHEET 2
NATURAL
UNFUNDED ACTIVITIES
(\$ in thousands)

Page: 0007
FY: 95
PARK: REDW
REGION: WRO

PK	PROJECT	PROJECT TITL	PKG	CULT	SYSTEM	FUNDING	ACT	STARTING YEAR	OUTYEAR 1	OUTYEAR 2	OUTYEAR 3	TOTAL
PRI	NUMBER		NUM	RES	WIDE	SOURCE	TYP					
				TYPE	ISSUE			\$ \$ FTE	\$ \$ FTE	\$ \$ FTE	\$ \$ FTE	\$ \$ FTE
48 projects printed												
Grand Total									1381.62	48.0	1555.55	52.9 1259.44 43.8 1522.00 61.5 5718.61 206.2

End of data

APPENDIX A

Rare, Threatened and Endangered Vascular Plants

RARE, THREATENED OR ENDANGERED VASCULAR PLANTS IN OR NEAR REDWOOD NATIONAL PARK

Taxa	Status				Habitat
	USFWS ¹	Calif ²	CNPS ³		
<i>Abronia umbellata</i> Lam. ssp. <i>breviflora</i> (Standl.) Munz Pink sand verbena	C2	-	1B		Coastal strand. Occurs on several beaches in the park.
<i>Arctostaphylos norrisensis</i> Wells Del Norte manzanita	C2	-	4		Occurs near the Little Bald Hills in chaparral and lower coniferous forests.
<i>Bensionella oregana</i> (Abrams & Bucig) Morton. Bensionella	C2	CR	1B		Heads of streams, edges of wet meadows. May be restricted to fog belt 2,000-5,000 feet. This species is not known in the park, but should not be eliminated from consideration.
<i>Calamagrostis crassiglumis</i> Thurb. Thurber's reed grass	C2	-	2		Swampy places, freshwater marshes, coastal scrub; Marin and Mendocino County to Del Norte Co., Alaska. Status in park unknown.
<i>Calamagrostis foliosa</i> Kearm. Leafy reed grass	C3c	CR	4		Rocky places along the coast. North coastal scrub; Sonoma to Humboldt Co. Has been collected south of park.
<i>Cypripedium fasciculatum</i> Wats. Clustered Lady's-slipper	C2	-	4		Occurs near the park in Del Norte County.
<i>Erigeron cervinus</i> Greene Siskiyou Daisy	-	-	4		Formally <i>E. delicatus</i> . Rocky cliffs above rivers and streams in old-growth redwood and Douglas-fir forests. Known in the park. Protected under CEQA.

<i>Eriogonum nudum</i> Benth. var. <i>paralinum</i> Reveal. Del Norte Buckwheat	-	-	2	Not known from within the park but does occur in coastal prairies and coastal bluffs. Protected under CEQA.
<i>Eriogonum pendulum</i> Wats. Waldo eriogonum	C3c	-	2	Dry serpentine slopes or ridgetops, along streams or in disturbed areas, evergreen forests less than 3,100 feet. Collected north of the park.
<i>Lathyrus palustris</i> L. Marsh pea	-	-	2	May occur in the northern sections of the park. Wet areas, lower coniferous forest, and bogs or fens. Protected under CEQA.
<i>Lillium occidentale</i> Purdy Western lily	FE	CE	1B	Former range included park lands. Collected north and south of the park in northern coastal scrub, coastal prairie.
<i>Lillium vollmeri</i> Eastw. Vollmer lily	C3c	-	4	Wet areas, serpentine. North coastal coniferous forests.
<i>Listera cordata</i> (L.)R.Br. Heart-leaved Twayblade	-	-	4	Potentially endangered by logging. Occurs in the park, near the town of Orick. Protected under CEQA.
<i>Oenothera wolffii</i> Raven, Dietrich & Stubbe Wolf's evening primrose	C1	-	1B	Coastal bluffs, gravel road banks near the coast. Known in the park.
<i>Phacelia argentea</i> Nels & Macbr. Sand dune phacelia	C2	-	1B	Coastal strand, Del Norte county to SW Oregon. Historically collected within the present park boundaries.
<i>Piperia candida</i> Morgan & Ackerman White-flowered Rein Orchid	-	-	4	Perennial herb that may occur near the Bald Hills. No collections have been made within the park. Sometimes occurs on serpentine soils. Protected under CEQA.
<i>Saxifraga nuttallii</i> Small Nuttall's Saxifrage	-	-	2	Only one occurrence in California along the lower portions of the Smith River. Protected under CEQA.

<i>Sidalcea malacroides</i> (H. & A.) Gray Maple-leaved Checkerbloom	-	-	1B	Known to occur historically within the park. Coastal prairies. Protected under CEQA.
<i>Sidalcea malvaeflora</i> (DC.) Benth. ssp. <i>patula</i> C.L. Hitchc. Siskiyou Checkerbloom	C2	-	1B	Only known from ten occurrences in California, a few of the locations very near the park.
<i>Veratrum insolitum</i> Jeps. Siskiyou False-hellebore	C1	CC	4	Occurs in forests east of the park boundary. Has not been collected in the park.
<i>Viola primulifolia</i> L. ssp. <i>occidentalis</i> (Gray) L.E. McKinney & R.J. Little Western bog violet	C2	-	1B	Wet areas, on and off serpentine, in mixed evergreen forests. Collected north of the park.

¹ Federal status of species in 50 CFR Part 17.12, August, 1993. USFWS. Endangered and Threatened Wildlife and Plants; Review of Plant Taxa for Listing as Endangered or Threatened Species; Notice of Review.

PFE = Proposed for federal listing as endangered
 FE = Federally listed, endangered
 FT = Federally listed, threatened
 C1 = Candidate for federal listing, sufficient data exist to move forward with proposed listing
 C2 = Candidate for federal listing, need more information
 C3c = Taxa no longer being considered for listing, more abundant or widespread than was previously believed and or those that are not subject to any identifiable threat.

² Species designated as endangered, threatened, or rare by the State of California. 1994 Department of Fish and Game, Endangered Plant Program, Sacramento, California.

CE = Endangered
 CT = Threatened
 CR = Rare
 CC = Candidate for State Listing

³ Species listed as rare or endangered by the California Native Plant society: Skinner, M.W. and B.M. Pavlik. 1994. Inventory of Rare and Endangered Vascular Plants of California. February 1994 Special Publication No. 1. Fifth Edition. CNPS. Berkeley. CA.

1B = Plants rare and endangered in California or elsewhere.
 2 = Plants rare and endangered in California, but more common elsewhere.
 3 = Plants for which more information is needed.
 4 = Plants of limited distribution

APPENDIX B

Rare, Threatened and Endangered Animals

Rare, threatened, or endangered animals in or near Redwood National Park

TAXA	USFWS*	CALIF**	HABITAT
<u>BIRDS</u>			
Common Loon <i>Gavia immer</i>		CSC	Coniferous lakes, open lakes, bays, sea.
California Brown Pelican <i>Pelecanus occidentalis californicus</i>	FE	SE	Coast and ocean.
Double-crested Cormorant (rookery site) <i>Phalacrocorax auritus</i>		CSC	Coast, bays, lakes, rivers.
Aleutian Canada Goose (wintering) <i>Branta canadensis leucopareia</i>	FT		Stage and rest at Lake Earl/Talawa during migration.
Barrow's Goldeneye <i>Bucephala islandica</i>		CSC	Wooded lakes, beaver ponds. In winter, coastal waters.
Osprey <i>Pandion haliaetus</i>		CSC	Rivers, lakes, coasts. Known to breed in park.
Black-shouldered Kite <i>Elanus caeruleus</i>		SFP	Open foothills, grasslands, river valleys, marshes. Known to breed in park.
Bald Eagle <i>Haliaeetus leucocephalus</i>	FE	SE,SFP	Coast, lagoons, rivers and associated mature/old-growth forests.
Northern Harrier <i>Circus cyaneus</i>		CSC	Marshes, fields and prairies.
Sharp-shinned Hawk <i>Accipiter striatus</i>		CSC	Forest and thickets.
Cooper's Hawk <i>Accipiter cooperii</i>		CSC	Broken woodlands, canyons, river groves.
Ferruginous Hawk <i>Buteo regalis</i>	C2	CSC	Arid plains, open rangelands.

Rare, threatened, or endangered animals in or near Redwood National Park

TAXA	USFWS*	CALIF**	HABITAT
Golden Eagle <i>Aquila chrysaetos</i>		CSC,SFP	Open mountains, canyons, foothills, plains.
Merlin <i>Falco columbarius</i>		CSC	Open areas, coniferous forests.
Peregrine Falcon <i>Falco peregrinus</i>	FE	SE,SFP	Coastline.
Ruffed Grouse <i>Bonasa umbellus</i>		CSC	Mixed or deciduous woodlands.
Western Snowy Plover (breeding) <i>Charadrius alexandrinus nivosus</i>	FT	CSC	Beaches, coastal dunes. Several records from Lake Talawa, Stone Lagoon.
California Gull <i>Larus californicus</i>		CSC	Coast, beaches, lakes, rivers.
Marbled Murrelet <i>Brachyramphus marmoratus</i>	FT	SE	Feeds offshore, nests in old-growth forests.
Rhinoceros Auklet (nesting colony) <i>Cerorhinca monocerata</i>		CSC	Ocean.
Northern Spotted Owl <i>Strix occidentalis caurina</i>	FT	CSC	Old-growth and mature 2nd growth forests.
Great Gray Owl <i>Strix nebulosa</i>	FSS	SE	Dense forests and adjacent meadows. Three records in park. Transient.
Short-eared Owl (breeding) <i>Asio flammeus</i>		CSC	Prairies, marshes, dunes, irrigated lands.
Burrowing Owl (burrowing sites) <i>Athene cunicularia</i>		CSC	Prairies, seashore dunes.
Purple Martin <i>Progne subis</i>		CSC	Open or logged forests, towns farms.

Rare, threatened, or endangered animals in or near Redwood National Park

TAXA	USFWS*	CALIF**	HABITAT
Black-capped Chickadee <i>Parus atricapillus</i>		CSC	Mixed and deciduous woodlands, willow thickets.
Yellow-breasted Chat (breeding) <i>Icteria virens</i>		CSC	Stream tangles, briars, willow thickets, moist canyons.
<u>MAMMALS</u>			
Pallid Bat <i>Antrozus pallidus</i>		CSC	Caves, mine tunnels, crevices in rocks, buildings, trees.
Townsend's Western Big-eared Bat <i>Plecotus townsendii townsendii</i>	C2	CSC	Caves, mine tunnels, old buildings and hollow trees.
Red Tree Vole <i>Arborimus longicaudus</i>		CSC	Spruce, hemlock, fir forests.
White-footed Vole <i>Arborimus albipes</i>	C2	CSC	Dense forest near small streams.
Pacific Fisher <i>Martes pennanti pacifica</i>	C2	CSC	Mixed hardwood forests, cutover wilderness areas.
Wolverine <i>Gulo gulo</i>	C2	ST	High mountains. Several unverified sightings in the area.
Northern (Steller) Sea Lion <i>Eumetopias jubatus</i>	FT		Marine and coastal.
Sperm Whale <i>Physeter catodon</i>	FE		Ocean, migratory.
Right Whale <i>Balaena glacialis</i>	FE		Ocean, migratory.
Gray Whale <i>Eschrichtius robustus</i>	FE		Ocean, migratory.

Rare, threatened, or endangered animals in or near Redwood National Park

TAXA	USFWS*	CALIF**	HABITAT
Finback Whale <i>Balaenoptera physalus</i>	FE		Ocean, migratory.
Humpback Whale <i>Megaptera novaeangliae</i>	FE		Ocean, migratory.
<u>HERPETOFAUNA</u>			
Western Pond Turtle <i>Clennys marmorata</i>	C2	CSC	Aquatic habitats and nearby forests, grasslands. Dead juvenile found in Redwood Creek estuary.
Olympic Salamander <i>Rhyacotriton olympicus</i>		CSC	Well-shaded springs, streams and seeps in coastal forests.
Del Norte Salamander <i>Plethodon elongatus</i>	C2	CSC	Rock rubble or riverbeds, roadfills, moss-covered talus.
Tailed Frog <i>Ascaphus truei</i>		CSC	Cold, clear, rocky streams in humid forests.
Northern Red-legged Frog <i>Rana aurora aurora</i>	C2	CSC	Humid forests, woodlands, grasslands, streamsides.
Foothill Yellow-legged Frog <i>Rana boylei</i>		CSC	Woodland, chaparral, or forest streams.
<u>FISH</u>			
Tidewater Goby <i>Eucyclogobius newberryi</i>	FE	CSC	Estuarine. Recorded in Redwood Creek estuary in 1981.
Coast Cutthroat Trout <i>Onchyrhynchus clarki clarki</i>		CSC	Streams, rivers, and ocean.
Coho Salmon <i>Onchyrhynchus kisutch</i>	FP?	CSC	Streams, rivers, and ocean.

Rare, threatened, or endangered animals in or near Redwood National Park

TAXA	USFWS*	CALIF**	HABITAT
Chinook Salmon (spring run) <i>Onchyrhynchus tshawytscha</i>		CSC	Streams, rivers, and ocean.
Summer Steelhead Trout <i>Onchyrhynchus mykiss gairdneri</i>	FSS,C2	CSC	Streams, rivers. Known in Redwood Creek.

MOLLUSCS

Rocky Coast Sideband Snail <i>Monadenia fidelis pronotis</i>	C2
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*Federal status of species in 50 CFR 17.11 & 17.12, August 29, 1992, USFWS. Endangered and Threatened Wildlife & Plants.

FE	Endangered
FT	Threatened
FSS	Sensitive species
C2	Category 2 candidate for federal listing
FPL	Proposed for federal listing as threatened

**California Department of Fish and Game Natural Diversity Database, Special Animals, August 1991, and CDFG State & Federal Endangered & Threatened Animals of California, revised January, 1994.

SE	Endangered
ST	Threatened
CSC	Species of special concern
SFP	Fully protected species

APPENDIX C

Cultural Resources Checklist and Summary Charts

CULTURAL RESOURCE DOCUMENTATION CHECKLIST

TITLE	CURRENT AND APPROVED	INCOMPLETE; NEEDS REVISION OR UPDATING	NEEDED
PLANNING DOCUMENTS			
Preauthorization and Authorization			
Statement for Management (SFM)	X		
Outline of Planning Requirements (OPR)			
General Management Plan (GMP)		X	
Development Concept Plan (DCP)			X
Resources Management Plan (RMP)			
Interpretive Prospectus (IP)			
SERVICEWIDE INVENTORIES, LISTS, CATALOGS, AND REGISTERS			
Cultural Resources Bibliography (CRBIB)		X	
Cultural Sites Inventory (CSI)			X
List of Classified Structures (LCS)		X	
National Catalog of Museum Objects		X	
National Register of Historic Places		X	
BASIC CULTURAL RESOURCE DOCUMENTS			
Archeological Overview and Assessment		X	
Archeological Identification Studies		X	
Archeological Evaluation Studies		X	
Ethnographic Overview and Assessment		X	
Ethnographic Oral Histories & Life Histories			X
Ethnographic Program			X
Historical Base Map		X	
Historic Resource Study (HRS)		X	
Park Administrative History			X
Scope of Collection Statement		X	

CULTURAL RESOURCE DOCUMENTATION CHECKLIST

TITLE	CURRENT AND APPROVED	INCOMPLETE; NEEDS REVISION OR UPDATING	NEEDED
SPECIAL RESOURCE STUDIES AND PLANS			
Archeological & Ethnographic Collections Studies			
Archeological Data Recovery Studies			X
Collection Management Plan			X
Collection Storage Plan			X
Collection Condition Survey			X
Cultural Landscape Report (CLR)			X
Ethnohistory			X
Exhibit Plan			X
Historic Furnishings Report			
Historic Structure Preservation Guide (HSPG)			X
Historic Structure Report			
Social Impact Study			
Special History Study			
Traditional Use Study			X

SUMMARY CHART FOR ARCHEOLOGICAL SITES

Significance		Condition					Impacts				Documentation		
		Good	Fair	Poor	Destroyed	Unknown	Severe	Moderate	Low	Unknown	Good	Fair	Poor
National													
State & Regional	29	6	17	6							14	15	
Local													
Not Evaluated	23					19		6	17			10	13
TOTALS	52	6	21	6		19		6	46		14	25	13

SUMMARY CHART FOR STRUCTURES

Significance		Condition					Impacts				Documentation		
		Good	Fair	Poor	Destroyed	Unknown	Severe	Moderate	Low	Unknown	Good	Fair	Poor
National													
State & Regional	3	1	2						3		3		
Local	8	1	3	4				8			8		
Not Evaluated	3	1	2					2	1				3
TOTALS	14	3	7	4				8	4		11		3

SUMMARY CHART FOR CULTURAL LANDSCAPES

Significance		Condition					Impacts				Documentation		
		Good	Fair	Poor	Destroyed	Unknown	Severe	Moderate	Low	Unknown	Good	Fair	Poor
National													
State & Regional													
Local													
Not Evaluated	2		2					2				2	
TOTALS	2		2					2				2	