

## II.1 Introduction

(See Section 1 of the current Nomination Form and Section 1, 2 and 3 of the original Nomination Forms)

1a) *State Party:*  
USA

1b) *Name of World Heritage property:*  
Redwood National Park

1c) *Please provide geographical coordinates for the site to the nearest second. (In the case of large sites, please give three sets of geographical coordinates.)*

Geographical coordinate: 41 degrees 49' 47"N northern end

Geographical coordinate: 41 degrees 04' 52"N-southern end

Geographical coordinate: 124 degrees 09' 28"W-Western edge

Geographical coordinate: 123 degrees 53' 50"W-Eastern edge

1d) *Give date of inscription on the World Heritage List.*

date (dd/mm/yyyy): 05/09/1980

1e) *Give date of subsequent extension(s), if any.*

1f) *List organization(s) responsible for the preparation of this site report.*

### Organization #1

Organization Name: National Park Service  
Last Name: Pierce  
First Name: Bill  
Title: Superintendent  
Address: 1111 Second Street  
City: Crescent City  
State/Prov: CA  
Postal Code: 95531  
Telephone: 707-464-6101 x5000  
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**II.2 Statement of Significance (see Section 2 of the current Nomination Form and Section 5 of the original Form)**

2a) *When a State Party nominates a property for inscription on the World Heritage List, it describes the heritage values of the property which it believes justifies the inscription of the property on the World Heritage List. Please summarize the justification for inscription as it appears in the original nomination of the property.*

The original nomination stated that the site contains the largest remaining contiguous stands of ancient coast redwood trees on earth (criteria ii, outstanding examples representing significant on-going biological process in the evolution of terrestrial and coastal ecosystems and communities of plants). Coast redwoods (*Sequoia sempervirens*) are the tallest living things on earth, and are among the last descendents of an ancient race of trees that was once spread widely over the world and has persisted for 160 million years. The modern coast redwood forest covered more than 2 million acres (82,000 ha) in an almost continuous 25-mile-wide (40 km) belt along the Pacific Coast from Monterey County, California to southern Oregon but now cover only 5% of their original range. The extent of logging combined with the discovery of what was then the world's tallest known tree (367.8 feet; 112.1 meters) in Redwood Creek culminated in the establishment of Redwood National Park in 1968. To prevent damage to the new park, particularly to the grove that included several of the world's tallest known trees, from continued logging upstream and upslope caused the U.S. Congress to expand the park in 1978. The beauty and grandeur of redwood forests attract visitors from throughout the world to walk among the remnants of an ancient race and experience the majesty that has inspired artists and galvanized conservationists to rally for the preservation of these last remaining trees in their original streamside settings (criteria iii—superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance.)

2b) *At the time of initial inscription of a property on the World Heritage List, the World Heritage Committee indicates the property's outstanding universal value(s) (or World Heritage value(s)) by agreeing on the criteria for which the property deserves to be included on the World Heritage List. Please consult the report of the World Heritage Committee meeting when the property was listed and indicate the criteria for which the Committee inscribed the property on the World Heritage List. (Choose one or more boxes.)*

Cultural Criteria

- i
- ii
- iii
- iv
- v
- vi

Natural Criteria

- i
- ii
- iii
- iv

2c) *At the time of initial inscription, did the World Heritage Committee agree upon a Statement of Significance for the WHS? (Consult the report or minutes of the World Heritage Committee meeting when the property was listed.*

NO

2c1) *If YES, please cite it here.*

2c2) *If NO please propose a Statement of Significance for the World Heritage Site based on the consideration given the property by the Committee when it inscribed the property on the World Heritage List. (Note: Following the completion of the Periodic Report exercise, the State Party, in consultation with appropriate authorities, will determine whether to proceed with seeking a Committee decision to approve any proposed Statement of Significance. The Committee must approve any proposed Statement of Significance through a separate, formal process. See 7g.)*

The Committee inscribed the site under natural criteria ii and iii.

Criterion ii: Redwood National and State Parks preserve the largest remaining contiguous ancient coast redwood forest in the world in their original forest and streamside settings. Redwoods are one of only three extant species descended from a race of trees that has existed for 160 million years and once found throughout the world. The 43,000 acres (17,200 ha) of old growth redwood forests in the property are among the last remnants of more than 2 million acres (809,400 ha) that spread in a dense band 25 miles (40 km) wide along the Pacific Coast from Monterey, California to southern Oregon in 1850 AD. The old growth forest and stream communities include rare and endangered bird and fish species dependent on the integrity of the ecosystem for their survival. Redwood National and State Parks contain more than half of the potential nesting habitat for marbled murrelets, a seabird listed as a threatened species that nests only in coastal old growth forests. The parks contain the largest block of suitable and near-suitable murrelet nesting habitat in California and likely support the highest density of murrelets in California.

Criterion iii: Coast redwoods (*Sequoia sempervirens*) are the tallest living things, and several of the world's tallest known trees grow in the site. The magnificence of the trees in their forest setting inspired John Muir and other early conservationists to plead for protection of the trees and spurred the world's first conservation organizations dedicated to protecting the redwoods and other superlative natural phenomena.

2d) *Since the original inscription of the property on the World Heritage List, has the World Heritage Committee agreed with a proposal by the State Party that the property be recognized for additional World Heritage values and added additional criteria to the inscription as a result of a re-nomination and/or extension of the property?*

NO

2d1) *If YES, please indicate which new criteria were added and the date.  
(dd/mm/yyyy)*

**II.3 Statement of Authenticity / Integrity**  
**(See Section 2 of the current Nomination Form and Section 4 of the original Form)**

3a) *In addition to meeting one or more of the criteria, which justify inscription on the World Heritage List, a natural or cultural property must meet the appropriate conditions of authenticity and/or integrity, as defined in clauses 24b and 44b of the Operational Guidelines for Implementing the World Heritage Convention. If at the time of inscribing the property on the World Heritage list, the State Party and the International Council on Monuments and Sites, ICOMOS and/or the International Union for Conservation of Nature and Natural Resources, IUCN, evaluated the authenticity and integrity of the property, please cite those evaluations here. (Please quote directly from the nomination, Committee minutes and the Advisory Body's evaluation.)*

At the time of inscription, the property included approximately 48,500 acres (120,000 ha.) which had been intensively logged for coast redwoods and other old-growth timber species. Uncut old growth forests in the site are being afforded maximum protection under laws and policies governing the management of all U.S. national parks. Much of the land that was added to the national park in 1978 was logged immediately prior to inscription. The legislation expanding the park called for a watershed rehabilitation program to restore the damage caused by clearcutting. Some of the logged lands were replanted by timber companies, but typical post-logging silvicultural practices such as thinning were not completed by the timber companies after the lands became parklands. Other lands in the site were not planted but were allowed to regrow without any management. These stands of second-growth forest do not possess structural, ecological, and esthetic characteristics typical of uncut old growth forests. Vegetation ecologists and foresters believe that some second growth stands will not regain old growth characteristics unless silvicultural practices are re-instituted. Because of the extent of past logging, thousands of acres within the property do not possess the qualities that give outstanding international significance to the site. The NPS is developing a plan to restore second growth forests and to shorten the time needed for logged forests to regain characteristics of old growth forests.

3b) *Have there been significant changes in the authenticity or integrity of the property since inscription?*

YES

3b1) *If YES, please describe the changes to the authenticity or integrity and name the main causes.*

The watershed rehabilitation program has removed more than 190 miles of old logging roads that threatened the integrity and function of park watersheds. The NPS has developed a program for cooperative erosion control with private landowners to reduce threats to park resources by treating poorly constructed and maintained logging roads outside park boundaries.

## II.4 Management

(See Section 4 of the current Nomination Form and Section 2 and 4 of the original Form)

Management Regime

4a) *How can the ownership/management of the property best be described? (Select all that apply.)*

- management under protective legislation
- management under contractual agreement(s) between State Party and a third party
- management under traditional protective measures
- other

*Please describe.*

Redwood National and State Parks are owned by the United States Government on behalf of the American public and by the State of California on behalf of the people of the State of California. The parks are managed by the National Park Service, a federal agency, and the California Department of Parks and Recreation, a state agency under the Resources Department of the State of California. As units of the National Park Service and the California State Parks, the parks received the highest level of conservation protection afforded by federal or state law in the United States of America or the State of California, respectively.

Redwood National Park was established by the U.S. Congress on October 2, 1968 to provide permanent protection for 58,000 acres (23,490 ha.), including three state parks established by the California Legislature in the 1920s (Prairie Creek Redwoods, Del Norte Coast Redwoods, and Jedediah Smith Redwoods). On March 27, 1978, Congress expanding the original park by 48,000 acres (19,440 ha) for a total of 106,000 acres (42,930 ha) and establishing a 33,000-acre (13,355 ha) "park protection zone" outside park boundaries as a buffer between the park and private timberlands. In March 2002, the National Park Service and the California Department of Parks and Recreation signed a Cooperative Management Agreement to manage the four park units cooperatively as Redwood National and State Parks. The parks are managed for protection of resources and visitor enjoyment under Federal and state statutes that assure perpetual protection and preservation.

4b) *Please indicate under which level of authority the property is managed*

Other

*Please describe*

National and state.

4c) *Please describe the legal status of the property. For example, is it a national, provincial or territorial park? A national or provincial historic site?*

Redwood National Park, Prairie Creek Redwoods State Park, Del Norte Coast Redwoods State Park, and Jedediah Smith Redwoods State Park are managed cooperatively as Redwood National and State Parks by the National Park Service and the California Department of Parks and Recreation.

4d) *Please provide the full name, address and phone/fax/e-mail of the agency(ies) directly responsible for the management of the property.*

Contact #1

Agency Name: National Park Service  
First Name: Bill  
Last Name: Pierce  
Address: 1111 Second Street  
City: Crescent City  
State/Prov: CA  
Postal Code: 95531  
Telephone: (707) 464-6101 ext 5000  
Fax: (707) 464-1812  
Email: REDW\_superintendent@nps.gov

Contact #2

Agency Name: California State Parks  
First Name: Marilyn  
Last Name: Murphy  
Address: 1111 Second Street  
City: Crescent City  
State/Prov: CA  
Postal Code: 95531  
Telephone: (707) 464-6101 ext 5100  
Fax: (707) 464-1812  
Email: REDW\_Superintendent@nps.gov

4e) *Please provide a list of key laws and regulations, which govern the protection and management of the cultural and natural resources of the property.*

The primary Federal laws and statutes that apply to the Federal lands in Redwood National and State Parks are

–Redwood National Park Act (16 USC 79a-79q (1988), October 2, 1968, 82 Stat. 931, Public Law 90-545 and March 27, 1978, 92 Stat. 163, Public Law 95-250 ;

–the National Park Service Organic Act (16 USC 1 et seq. (1988), August 25, 1916, ch. 408, 39 Stat. 535);

–General Authorities Act of 1970 (16 USC 1a-1--1a-8, 84 Stat. 825, Public Law 91-383);

–and National Park Service Management Policies.

The primary California Statutes that apply to State Park Lands are

–Public Resources Code 5001 et seq, Stats. 1939, Ch. 94; and

–California Wilderness Act (PRC 5093.30-5093.40, Stats. 1974, Ch. 1196).

4f) *Please describe the administrative and management arrangements that are in place for the property concerned, making special mention of the institutions and organizations that have management authority over the property and the arrangements that are in place for any necessary coordination of their actions. Make special reference, if appropriate, to the role of First Nations in managing the property.*

The National Park Service and the California Department of Parks and Recreation manage the national park and the three state park units cooperatively as Redwood National and State Parks under the provisions of a Memorandum of Understanding originally signed in 1994, renewed in 1999, and replaced with a Cooperative Management Agreement signed in March 2002 by the National Park Service Pacific-West Regional Director and the State Parks Director in Sacramento, California. Under the Cooperative Management Agreement, the agencies have agreed to commit respective fiscal resources, staff, equipment, and facilities assigned to either agency to the common protection of all resources contained within the parks as well as for the appropriate public enjoyment and appreciation. The Department of Parks and Recreation maintains a staff liaison who serves as the state park superintendent stationed at National Park Service headquarters and a resource management liaison stationed with the National Park Service resource management staff. The national park and state park superintendents are responsible for day-to-day management of the site. The National Park Service superintendent reports to the Pacific-West Regional Director who reports to the National Park Service Director in Washington, D.C. The state park superintendent reports to the Northcoast Redwoods District Superintendent in Eureka who reports to the State Parks Director in Sacramento, California. The agencies have developed operating procedures and standards for managing park activities including visitor protection and public safety, public information, interpretation and publications, resource management, maintenance, design and construction, planning, signing, and policy development.

In 1996, the National Park Service and California Department of Parks and Recreation entered into a Memorandum of Understanding among the National Park Service-Redwood National Park, California Department of Parks and Recreation-Prairie Creek Redwoods State Park, and the Yurok Tribe to establish government to government relations as authorized by the Tribal Self-Governance Act of 1994 (Public Law 103-413). The Yurok Tribe is governed by an elected Chairperson and Tribal Council. Southern portions of the national park and all of Prairie Creek Redwoods State Park lie within the ancestral territory of the Yuroks. The Yurok Reservation includes lands that lie one mile on either side of the Klamath River. The mouth of the Klamath River and a strip of land on either side of the mouth are reservation lands that are also included within the Redwood National Park boundary. [The Hoopa-Yurok Settlement Act of 1988 (Public Law 100-580) partitioned the joint Hoopa-Yurok reservation established by the Act of April 8, 1864 (13 Stat. 40), and several executive orders (Executive Order of June 23, 1876, Executive Order of October 16, 1891; Executive Order 1480 of February 17, 1912) into separate reservations.] The tripartite Memorandum of Understanding provides the basis for the National Park Service, California Department of Parks and Recreation, and the Yurok Tribe to work cooperatively on planning and economic development projects, natural and cultural resource management projects, and cultural issues including protection of Yurok cultural sites, exchange of information on Yurok culture and cultural sites, the parks' interpretive programs of Yurok culture, and the disposition of artifacts from aboriginal Yurok territory in the parks' collections.

The current park boundaries also encompass ancestral lands of the Tolowa and the Chilula. The Chilula no longer exist as a distinct group but have become part of the Hupa who live to the east. In addition to the Yurok Tribe which has a formal government-to-government relation with the National Park Service and the California Department of Parks and Recreation, members of three Tolowa groups, three Yurok groups, and the Hoopa Valley Tribe have traditional ties to lands now within the park. The park staff has consulted with the American Indian communities since 1978 and continues to consult on issues including planning for development and resource management, access to and use of traditional lands and resources, interpretation of American Indian lifeways, and employment of American Indians.

4g) *Please also note whether there have been any significant changes in the ownership, legal status, contractual or traditional protective measures, or management regime for the World Heritage Site since the time of inscription.*

The 1994 Memorandum of Understanding (renewed in 1999, and replaced with a Cooperative Management Agreement in March 2002) between the National Park Service and the California Department of Parks and Recreation for cooperative management of Redwood National and State Parks is a significant change to the management regime since the time of inscription and covers all of the site originally inscribed as "Redwood National Park". The 1996 Memorandum of Understanding between the National Park Service-Redwood National Park, California Department of Parks and Recreation-Prairie Creek Redwoods State Park, and the Yurok Tribe also represents a change in the management of portions of the site.

4h) *Is there a management plan for the property?*

YES

4h1) *If YES, please summarize the plan, indicating if the plan is being implemented and since when, and the URL where the plan can be located, if available. (A copy of the plan should be submitted in December 2004. See Section 8)*

Management plans are required by law for both National Park Service and California state park units. In 1999 and 2000, the California State Park and Recreation Commission and the National Park Service, respectively, approved the General Management Plan/General Plan for Redwood National and State Parks. The plan sets ten goals under three main categories—resource protection and preservation; public enjoyment and visitor appreciation; and maintaining collaborative relationships with gateway communities and local American Indian tribes.

The highlights of these general goals include:

– lands, ecosystems, and processes that have been altered by modern human activities are restored or replicated;

–the parks serve as a laboratory for scientific study and research that promotes preservation, restoration, and understanding of the parks' resources, and provide adequate scientific information to support management decisions about resources and visitor use;

–visitors and the general public understand the significance of American Indian cultures in the history of the region and their historic and contemporary ties to park lands;

–relationships with gateway communities are founded in cooperation, and joint efforts are directed toward strengthening and developing facilities, services, and information delivery systems that facilitate public access to and appreciation of the resources and values of the parks and the surrounding region as well as enhance the economic well-being of local communities; and

–formal government-to-government relationships with local American Indian tribes are based on application laws and guidelines, and collaborative relationships are based on mutual interests in managing and protecting the lands, waters and other resources within the parks and are guided by an understanding of and respect for the tribes' geographic, economic, and cultural ties to the parks' resources and values.

The plan provides specific direction in several program areas including:

–watershed restoration through removal or treatment of abandoned logging and ranch roads that are contributing unnatural amount of sediment into streams and threatening streamside redwood trees is continuing, with restoration focused on the Redwood Creek basin because of the substantial damage in that watershed;

–the National Park Service will play a leadership role in organizing a multijurisdictional, multidisciplinary approach to addressing the restoration of the Redwood Creek estuary at the mouth of the creek to protect threatened anadromous fish;

–the second growth forests that have regrown on former industrial timberlands will be managed using accepted silvicultural techniques to accelerate the return of characteristics found in old-growth forests;

–fire will be reintroduced into vegetation communities where it is a natural ecological process;

–Redwood National and State Parks management plans, visitor services, and marketing efforts will be coordinated with local interests to achieve mutual strategies and objectives in the areas of public services and facilities, tourism, and the preservation of community values; and

–Redwood National and State Parks staff will provide technical assistance and advice to individuals or businesses interested in developing appropriate and complementary visitor services in gateway communities

*4h2) If NO, is a management plan under preparation or is preparation of such a plan foreseen for the future?*

## Financial Resources

4i) *What is the annual operating budget for the property in the current fiscal year? (For sites consisting of more than one property provide the budgets of constituent parts.)*

National Park Service FY 2002 (Oct '01-Sept '02): \$7,067,000  
National Park Service FY 2003 (Oct '02-Sept '03): \$7,412,000  
California Department of Parks and Recreation, FY 2003 (July '02-June '03):  
\$938,557

## Sources of Expertise and Training in Conservation and Management Techniques

4k) *Please describe any sources of specialized expertise, training, and services that come from sources off-site (e.g., training centers, museum conservation facilities).*

The National Park Service and California Department of Parks and Recreation participate in training programs offered at a variety of National Park Service sites throughout the nation, including two major training centers, and in California. Agency-specific expertise and assistance is provided by National Park Service Pacific-West Regional Office staff in Oakland, California and Seattle, Washington, and California Department of Parks and Recreation service centers located in Sacramento and Asilomar, California.

4j) *Please provide information about the number of staff working at the World Heritage Site (enter figures).*

Full Time: 97 (Value must be a number)  
Part Time: 26 (Value must be a number)  
Seasonal: 143 (Value must be a number)  
Other: 110 (Value must be a number)

*Please list the job categories of these staff (e.g., Park Superintendent, Historian, Ecologist, Interpreter, General Works/Maintenance Manager) and describe the specialized skills and expertise of the World Heritage Site's staff members.*

The numbers of employees in the different job categories varies with available funding and as vacancies arise, especially for technician and seasonal positions. National and state park employees include 17 management and administration staff; 18 law enforcement rangers; 11 interpretation staff; 45 maintenance staff; 41 natural resource management staff, including botanists, wildlife and fisheries biologists, and geologists, and an archeologist and a museum curator.

## Visitation

4l) *Are there any visitor statistics for the site?*

YES

411) *If YES, please provide the annual visitation for the most recent year it is available, indicating what year that is, a brief summary of the methodology for counting visitors, and briefly describe the trends in visitation. (In describing these trends, please use the year of inscription as a baseline.)*

National Park Service total visitation was reported to be 404,789 in calendar year 2002. For the three state parks in calendar year 2002, California Department of Parks and Recreation reported a total of 535,936 visits (85,903 overnight camping visits; 298,050 paid day-use visits; and 151,983 free day-use visits.) Combining these figures gives a total visitation of over 940,000 visits, although some visitors are counted twice if visitation figures are combined.

The National Park Service visitation statistics are computed by adding direct counts at some locations to counts derived by using multipliers for numbers of vehicles counted at other locations. The method of counting visitors has changed since inscription, and is periodically revised by the National Park Service Statistical Office. The California Department of Parks and Recreation figures for overnight camping and paid day-use are based on numbers of campsites sold and vehicles at entrance stations, respectively, multiplied by a conversion factor. The California Department of Parks and Recreation free day-use visits are compiled by using a conversion factor for manual car counts at certain areas at certain times of day.

National Park Service visitation statistics in the 1999 Redwood National and State Parks General Management Plan/General Plan Environmental Impact Statement/Report give the visitation in 1980, the year of inscription, as 269,717. Reported visitation climbed from 28,042 in 1970 shortly after park establishment to 269,717 in 1980, after which visitation grew more slowly to 348,458 in 1990. The NPS visitation statistics between 1970 and 1996 show an average annual rate of growth of 11.1%. Total visits for the three state parks decreased by an average of 3.5% annually from 1987 through 1997, with the period between 1990 and 1997 showing an annual decrease of only 2.3% a year. However, the number of camping visits to the state parks remained essentially constant over the period 1987-97.

To avoid duplication of visitor counts, the visitation for state parks was not included in the National Park Service counts given in the General Management Plan, with the exception of overnight visitors at state park campgrounds, based on the assumption that most state park visits have been captured in the National Park Service numbers due to the layout of the park and the available visitor facilities. California State Park visitation numbers as reported in the General Management Plan/General Plan are available beginning in 1987, when the visitation was reported to be 844,833. Visitation to state parks between 1987 and 1994 was based on a calendar year. Beginning in 1995/96, state park visitor counts were conducted over the state fiscal year beginning July 1 through June 30 of the following calendar year. This counting period does not give an accurate indication of visitation for a single "high-use visitor season", which is usually considered June, July, and August of a calendar year. Therefore, we calculated the state park visitation for calendar year 2002 to be able to compare national park and state park visitation numbers over the same time period.

4m) *Please briefly describe the visitor facilities at the property.*

Three NPS (Kuchel Visitor Center, Crescent City Information Center, Hiouchi Information Center) and two state park visitor centers, one in Prairie Creek Redwoods State Park and another in the Jedediah Smith Redwoods State Park campground; four drive-in campgrounds in the three state parks; nine primitive backcountry camps; 211 miles of hiking, equestrian, and bike trails; the DeMartin Redwood Youth Hostel; and several scenic drives, including the Bald Hills Road, Newton B. Drury Parkway, Cal-Barrel Road, Coastal Drive, Howland Hill Road, and U.S. Highways 101 and 199, all with unnamed pullouts.

4n) *Is there tourism/visitor management plan for the property?*

YES

4n1) *If YES, please briefly summarize the plan, and provide a URL where the plan can be located.*

The 2000 GMP/GP serves as the basic plan to manage visitation to the parks. A copy of the plan is attached. It is not available as a digital file although there are digital copies of sections of the accompanying environmental impact statement.

#### Scientific Studies

4o) *Please list key scientific studies and research programs that have been conducted concerning the site. (Please use the year of inscription as a baseline.)*

There are four primary areas under which scientific studies and research programs are conducted: geology, geomorphology and hydrology; forest and vegetation ecology and forest management; wildlife and fisheries ecology; and cultural resources and ethnography. Key scientific studies in these program areas include:

Geology, geomorphology and hydrology:

Hagans, D. K., and W. E. Weaver. 1987. "Magnitude, Cause and Basin Response to Fluvial Erosion, Redwood Creek Basin, Northern California." In *Erosion and Sedimentation in the Pacific Rim Steeplands — Proceedings of a Symposium*, Corvallis, Oregon, 1987, R. L. Beschta, T. Blinn, G. E. Grant, G. G. Ice, and F. J. Swanson, eds. International Association of Hydrological Sciences, IAHS-AISH Publication No. 165, p. 419-428.

Hagans, D. K., W. E. Weaver, and M. A. Madej. 1986. "Long Term On-site and Off-site Effects of Logging and Erosion in the Redwood Creek Basin, Northern California." In *Papers Presented at the American Geophysical Union Meeting on Cumulative Effects* (Dec. 9-13, 1985, San Francisco, CA. National Council of the Paper Industry, NY, NY. Technical Bulletin. no. 490:38-66, May

Madej, M.A. 1992. "Cooperative Erosion Control Efforts Based on Sediment Transport Trends, Redwood Creek, North Coastal California." In *Interdisciplinary Approaches in Hydrology and Hydrogeology*, American Institute of Hydrology, p. 373-388.

Nolan, K. M., H. M. Kelsey, and D.C. Marron, eds. 1995. *Geomorphic Processes and Aquatic Habitat in the Redwood Creek Basin, Northwestern California*. Chapters A-V, U.S. Geological Survey Professional Paper 1454.

Ricks, C. L. 1985. "Flood History and Sedimentation of the Mouth of Redwood Creek, Humboldt County, California." Prepared for the National Park Service. Technical Report 15. Redwood National Park. Orick, CA

Weaver, W.E., D. K. Hagans, and M. A. Madej. 1987. Managing forest roads to control cumulative erosion and sedimentation effects. Pp. 119-130 in: *Proceedings of the California Watershed Management Conference*. November 18-20, 1986. West Sacramento, CA. Report 11. Wildland Resources Center, University of California. Berkeley, CA.

#### Forest ecology and forest management:

Muldavin, E. H., J. M. Lenihan, W. S. Lennox, and S. D. Veirs, Jr. 1981 "Vegetation Succession in the First Ten Years Following Logging of Coast Redwood Forests."

Veirs, S. D., Jr. 1980. "The Role of Fire in Northern Coast Redwood Forest Dynamics." In *Proceedings of the Conference on Scientific Research in the National Parks*. Vol. 10: Fire Ecology, pp. 190-209. National Park Service: Washington, D.C.

Veirs, S. D., Jr. 1982. "Coast Redwood Forest: Stand Dynamics, Successional Status and the Role of Fire" in J. E. Means (ed.) *Forest Succession and Stand Development Research in the Northwest*, . Pp. 119-141. Forest Research Laboratory, Oregon State University, Corvallis, OR.

#### Wildlife and fisheries ecology:

George, T. L., and L. A. Brand. 2002. The effect of habitat fragmentation on birds in coast redwood forests. *Studies in Avian Biology*: Vol. 25, No.1, pp.92-102.

Hazard, G. C., and T. L. George. 1999. Landbird abundance and diversity in different-aged stands of coast redwood forests in northwestern California. *Northwestern Naturalist*: Vol. 80, No. 3, pp. 99-109.

Mandel, R. D., and D. W. Kitchen. 1979. "The Ecology of Roosevelt Elk in and around Redwood National Park." Report prepared for the National Park Service.

Nelson, S.K. and T.E. Hamer. 1995a. "Nesting Biology and Behavior of the Marbled Murrelet." In *Ecology and Conservation of the Marbled Murrelet*, by C.J. Ralph, G.L. Hunt, M.G. Raphael, and J.F. Piatt, tech. eds., pp. 57-67. Gen. Tech. Rep. PSW-GTR-152. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Dept. of Agriculture.

Nelson, S.K. and T.E. Hamer. 1995b. "Nest Success and the Effects of Predation on Marbled Murrelets." In Ecology and Conservation of the Marbled Murrelet, by C.J. Ralph, G.L. Hunt, M.G. Raphael, and J.F. Piatt, tech. eds., pp. 89-97. Gen. Tech. Rep. PSW-GTR-152. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Dept. of Agriculture.

Tanner, R. G., and R. J. Gutierrez. 1996. "A Partial Inventory of Northern spotted owls (*Strix occidentalis caurina*) in Redwood National Park, 1995." Annual report to National Park Service, Redwood National Park. Cooperative Agreement No. CA 8480-3-9005

Taylor, G., and R. Barnhart. 1997. Mortality of angler caught and released summer steelhead: Final Report. California Cooperative Fishery Research Unit and Humboldt State University Foundation. Contract Number FG 5018 IF, California Department of Fish and Game, Steelhead Trout Catch Report-Restoration Card. 30 pp.

#### Cultural resources and ethnography:

Bearss, E. C. 1982. History Basic Data. Redwood National Park. Del Norte and Humboldt Counties, California. National Park Service, Division of History, Office of Archeology and Historic Preservation. Washington, D.C. 266 pp. + appendices. Reprint of 1969 edition, excluding the National Register Nominations. On file Redwood National Park, Archives, Orick, California.

Bradley, D., and M. Corbett. 2002. Lyons Family Ranches Historic Landscape District National Register of Historic Places Nomination Form. On file at Redwood National Park, Archives, Orick, California.

Eidsness, J. P. 1988. A Summary of Cultural Resources Projects, Redwood National Park. Arcata, CA. On file, Redwood National Park, Archives, Orick, California.

Gates, T., R. B. McConnell, and J. P. Eidsness. 2000. Report on Consultations with Knowledgeable Yurok Regarding the Ossagon Prairie Management Plan, Redwood National and State Parks, Humboldt County, California. Final Draft. August 2000. PX #1443PX848099084. 20 pp. + attachments. On file Redwood National Park, Archives, Orick, California.

Gates, T., and J. P. Eidsness. 2001. Phase 2 Ethnographic Landscape and Contemporary Native American Concerns for Management of the Bald Hills, Redwood Creek Basin, Redwood National and State Parks, Humboldt County, California. On file Redwood National Park, Archives, Orick, California.

Soulliere, L. E. 1983. Architectural survey and evaluation. Redwood National Park. National Park Service. Crescent City, CA. 52 pp. On file Redwood National Park, Archives, Orick, California.

4o1) *Please describe how the results of these studies and research programs have been used in managing the World Heritage Site.*

Scientific studies in geology, geomorphic processes, and hydrology are used to plan and design watershed restoration projects and to manage the channel, main tributaries and estuary of Redwood Creek as habitat for endangered salmonid fishes. Vegetation management studies are the basis for developing a second-growth forest management and restoration program, and are used to determine the ecological role of fire in the parks' vegetation communities in preparation for implementing a fire management program that includes prescribed fire as a resource management tool. The wildlife and fisheries studies are used to obtain baseline information about the status and distribution of animal species, primarily rare and endangered species, as well as several species of birds and large mammals that are attractive to or attracted to humans. Some wildlife and fisheries studies are beginning to be used to manage visitors for the protection of endangered species. The archeological and ethnographic studies are used to guide the protection and preservation of cultural resources, and to provide information to serve as the basis for the understanding, appreciation, and interpretation of the local contemporary American Indians cultures in whose ancestral territories the parks are now located.

4o2) *What role, if any, has the property's designation as a World Heritage Site played in the design of these scientific studies and research programs? For example, has there been a specific effort in these programs to focus on the recognized World Heritage values of the property?*

Although there has been no specific research programs focused on designation as a World Heritage Site, the values for which the Site is recognized are the focus of research and scientific studies, which are designed to learn more about the ecology of the Site for application to protective management and restoration of damaged components of the redwood forest ecosystem.

#### Education, Information and Awareness Building

4p) *Is there a plaque at the property indicating that it is a designated World Heritage Site?*

YES

4q) *Is the World Heritage Convention logo used on all of the publications for the property?*

NO

4r) *Are there educational programs concerning the property's World Heritage values aimed at schools?*

YES

4r1) *If YES, please briefly describe these programs.*

The NPS delivered environmental education outreach programs to almost 6800 students in 2003. Educational programs on the redwood ecosystem and ecology are given throughout the year at two on-site environmental education schools. In addition, the National Park Service in partnership with the Oregon Museum of Science and Industry hosts summer science camps that investigate components of the redwood ecosystem.

4s) *Are there special events and exhibitions concerning the property's World Heritage values?*

YES

4s1) *If YES, please briefly describe them.*

Exhibits that describe the property's World Heritage values are produced in-house and displayed throughout Northern California at community events including festivals, county fairs and parades.

Ranger-led activities and interpretive programs that highlight the property's World Heritage values are presented throughout the summer visitor season from the end of May through the beginning of September. These programs include guided walks in old-growth coastal redwood forest, coastal, and stream environments, and evening campground slide programs that focus on redwood forest and stream ecology, preservation history, threatened and endangered species, and watershed restoration.

Park staff present programs that highlight the property's World Heritage values in local communities for special groups and in schools.

4t) *Please briefly describe the facilities, visitor center, site museum, trails, guides and information material that are available to visitors to the World Heritage Site.*

Three information centers (one near each of the parks' three main entry points) and two visitor centers (one in Prairie Creek Redwoods State Park and one in Jedediah Smith Redwoods State Park) provide basic information and orientation to park visitors. None of these facilities is large, and visitors depend mainly on personal interaction with Redwood National and State Parks personnel at information desks to obtain adequate way-finding orientation and activity planning information. The information centers offer books, publications, and souvenirs related to the parks for sale. The five centers have exhibits to provide introductory information about the parks' five main interpretive themes.

In-depth interpretation of resources is provided primarily through formal interpretive programs given at the outdoor amphitheaters in each of the state park campgrounds, through regularly scheduled ranger-led programs that highlight different resources and park areas, and through the publications sold in each of the information and visitor centers. There are junior ranger programs at three state park campgrounds. There is a museum collection and a park archive that are open for professional study by appointment with the museum curator. There is a wide selection of written material about the parks, including a free National Park Service site bulletin, a free park newspaper, an official handbook produced by the National Park Service Division of Publications, free one-page descriptions of selected park resources and programs such as Roosevelt elk and the watershed restoration program, interpretive brochures for several main trails, and trail maps for each of the three state parks. In addition to materials available on-site, the National Park Service and California Department of Parks and Recreation maintain websites that provide both general and specific information on the parks and available facilities and activities

*4u) What role, if any, has the property's designation as a World Heritage Site played with respect to the education, information and awareness building activities described above? For example, has the World Heritage designation been used as a marketing, promotional, or educational tool?*

The World Heritage designation is used in funding and grant proposals. The official Redwood National and State Parks Guide sold in visitor centers and all official publications mention the designation.

## **II.5 Factors Affecting the Property (See Section 5 of the current Nomination Form)**

5) *Please briefly identify factors affecting the property under the following headings: Development Pressures, Environmental Pressures, Natural Disasters and Preparedness, Visitor and Tourism Pressures, Number of Inhabitants Within Property and Buffer Zone and Other - major factors likely to affect the World Heritage values of the property. First discuss those that were identified in the original nomination, in the same order in which they were presented there, then those that have been discussed in reports to the World Heritage Committee since inscription, and then other identified factors.*

*This section should provide information on all the factors which are likely to affect a property. It should also relate those threats to measures taken to deal with them, whether by application of the protection described in Section 4e or otherwise.*

*Not all of the factors suggested in this section are appropriate for all properties. The list provided is indicative and is intended to assist the State Party in identifying the factors that are relevant to each specific property.*

*(In describing these trends, please use the year of inscription as a baseline.)*

*For EACH Factor, please specify the following:  
key actions taken to address factor  
any plans that have been prepared to deal with factor in the future  
whether the impacts of factor appears to be increasing or decreasing, and  
the timeframe for which the comparison is being made.*

### Development Pressures

5a) *Provide information about Development Pressures on the following: demolitions or rebuilding; the adaptation of existing buildings for new uses which would harm their authenticity or integrity; habitat modification or destruction following encroaching agriculture, forestry or grazing, or through poorly managed tourism or other uses; inappropriate or unsustainable natural resource exploitation; damage caused by mining; and the introduction of invasive nonnative species likely to disrupt natural ecological processes, creating new centers of population on or near properties so as to harm them or their settings.*

Forestry: The original nomination discussed effects of extensive and intensive logging on old growth forests and portions of the property, the importance of the property for preservation of remnant unlogged ancient redwood forests, and the watershed restoration program established to mitigate effects of logging on site values. Exploitation of forest resources through clearcut logging and the effects of poorly sited, poorly constructed, and poorly maintained logging roads on streams in logged watersheds were the impetus for the establishment and expansion of the national park in 1968 and 1978 respectively. The past damage to national park resources from these past land use practices is being lessened through the watershed restoration program.

External threats to park resources from on-going commercial logging outside park boundaries are declining through changes in the California Forest Practice Rules that require less damaging techniques of road construction and additional attention to maintenance of roads. These requirements, along with enforcement of regulations protecting endangered species and water quality, have encouraged private timber companies to seek the technical advice of park geologists to assist with watershed restoration and road maintenance activities to reduce adverse impacts from roads. In addition, the partnership between the National Park Service and California Department of Parks and Recreation has increased National Park Service participation in preharvest inspections for proposed timber harvest plans within several hundred of park boundaries. The three state parks were established many years before the period of intensive logging, so the state park watersheds do not exhibit the same level of damage. However, logging outside the state parks has created some problems with erosion and sedimentation in streams, along with a threat from old roads that have not received adequate maintenance because of insufficient financial resources.

**Non-Native Invasive Species:** Redwood National and State Parks are threatened by the intentional and unintentional introduction of non-native invasive species, primarily plants. Invasive plants were not included as a threat to the integrity of the property at the time of inscription. Although invasive plants do not threaten redwood trees specifically, invasive plants threaten some plant communities that comprise part of the redwood forest ecosystem. Two major highways traverse the parks, and several communities located adjacent to the parks provide sources and pathways for invasion. The clearcuts in the national park offered newly bare ground on which invasive plants could become established following the major disruption of the natural ecological processes. The parks have developed an active program for management of alien invasive plant species. Invasive species are controlled or eliminated using an integrated pest management approach. Burning, mechanical removal by hand-pulling or with hand or power-tools, and limited hand application of selective herbicides are the primary control methods.

**Endangered species:** At the time of inscription, there were fewer species inhabiting the property that were considered endangered. While several of those species have since recovered (notably California gray whales and peregrine falcon), other species have become threatened with extinction over the past twenty years. Habitat modification, dams, development, heavy commercial fishing pressure, and stream damage from logging have caused the decline and endangerment of anadromous salmonid fishes in parks and throughout Pacific Northwest. Agriculture and population growth far from the parks are putting demands on water supply from the Trinity and the Klamath Rivers, two major rivers that eventually run into the parks. The mouth of the Klamath River lies within the parks, and the anadromous fisheries of the Klamath and Trinity have been severely depleted by water diversions and transbasin water transfers for agriculture, hydroelectric power, and water supply in California and Oregon hundreds of miles away from the parks. Habitat loss primarily from logging caused endangerment of old-growth dependent bird species (marbled murrelet and northern spotted owls) in the parks and throughout the ecoregion.

Highway Rebuilding: In 1994, the NPS reported to the WH Committee about a proposed highway realignment that could have resulted in the loss of hundreds of old growth redwoods. Because of objections from the park agencies, other state and federal resource agencies, environmental organizations, and the World Heritage Committee on the potential for direct adverse effects on the old growth trees that are the primary reason for inscription, the highway proposal was scaled back to a lower-impact solution to safety and traffic problems and only two large trees were removed. See item 6c for a detailed discussion.

## Environmental Pressures

5b) *Environmental pressures can affect all types of property. Air pollution can have a serious effect on stone buildings and monuments as well as on fauna and flora. Desertification can lead to erosion by sand and wind. What is needed in this section is an indication of those pressures which are presenting a current threat to the property, or may do so in the future, rather than a historical account of such pressures in the past.*

Geological hazards exacerbated by climate: Redwood National Park is located in a region with steep slopes, unstable soils and heavy rainfall. These environmental factors create a naturally high sediment load in Redwood Creek. Naturally occurring landslides on steep slopes and adjacent to stream channels further increase the sediment load in streams and cause loss of trees and vegetation on slopes. The naturally occurring erosion and landslides combined with the destabilization of slopes from removal of tree cover and road construction techniques create excessively high sediment loads in the creek and some tributary streams. Loss and degradation of habitat due to stream damage has been a major factor contributing to the endangerment of anadromous salmonid fishes throughout the Pacific Northwest, including Redwood National Park. The NPS watershed restoration program is reducing threats to fish by reducing the potential for sediment from old logging roads to cause damage to streams used by fish.

Non-native plant pathogens: Several non-native plant pathogens of the genus *Phytophthora* have become serious threats to local flora. One of these pathogens (sudden oak death) has been recognized only in the past few years. Port-Orford-cedar root rot and sudden oak death threaten park trees and shrubs. Sudden oak death has been isolated from redwood trees, but the degree of threat is not fully understood. Plant pathologists from the US Forest Service, Oregon State University, and the University of California at Berkeley are conducting research on both pathogens. There are some procedures in place to manage human traffic that contributes to the spread of both diseases. The National Park Service in partnership with the US Forest Service is managing visitor use to control the spread of Port-Orford-cedar root rot, and will be relocating a trail that passes through infected areas to reduce the chance of spreading the disease to uninfected areas.

## Natural Disasters and Preparedness

*5c) This section should indicate those disasters which present a foreseeable threat to the property and what steps have been taken to draw up contingency plans for dealing with them, whether by physical protection measures or staff training. (In considering physical measures for the protection of monuments and buildings it is important to respect the integrity of the construction.)*

Natural disasters affect both resources and visitors. Park ecosystems evolved in concert with earthquakes, tsunamis, floods, and high winds. Floods and high winds can have adverse effects on aquatic resources and streamside redwood trees in situations where previous land uses have already stressed these resources. After logging, debris and sediment enter streams. Stream channels fill with sediment (aggradation), and subsequent flood waters spread out into a wider area than the original stream channel. Streamside redwoods may have their roots buried as waves of sediment move downstream, or floodwaters may expose roots or undermine other trees, weakening the support and toppling trees. The watershed restoration program is removing or reducing sources of sediment that threaten aquatic and riparian resources.

High winds can topple redwood trees, which have shallow roots relative to the immense height of the trees. Individual trees within dense forest stands are protected from high winds to some extent by the adjacent trees. Trees on the edges of clearcuts are more susceptible to windthrow because they are more exposed to high winds. The second growth management program will speed the regrowth of trees so that the chance of windthrow on the edges of clearcuts will decrease.

Earthquakes increase chance of landsliding on steep slopes, particularly those destabilized by past timber harvest and abandoned logging roads. Earthquakes are not a particular problem for historical resources, which have generally withstood past seismic events.

Two visitor centers, Kuchel Visitor Center and Crescent City Information Center, are located in coastal high hazard zones. The Crescent City Information Center is located downstairs in the headquarters building. In 1964, a distant source tsunami generated by the Good Friday Alaska earthquake killed 12 people in the Crescent City near where the headquarters building is located. Tsunami emergency plans have been completed by both Humboldt and Del Norte County Offices of Emergency Services. Warning signs, sirens, and evacuation routes are in place. Crescent City was designated by the U.S. National Oceanic and Atmospheric Administration as a "tsunami-ready city" on May 29, 2002, the first community to receive that designation.

Wildfire is not a serious threat in coastal temperate rainforests. However, dry inland forests out of the summer fog zone and dense stands of unmanaged second growth forest are susceptible to catastrophic wildfires. The National Park Service has a fire management program conducted under a Fire Management Plan that meets National Park Service and national fire management standards. The California Department of Forestry and Fire Management provides fire protection for state parks. Mechanical reduction of hazardous fuels near park developments and private lands adjacent to park boundaries is part of the fire management program. The second growth forest management program will improve protection from catastrophic wildfire by reducing dense fuels.

## Visitor and Tourism Pressures

5d) *In completing this section what is required is an indication of whether the property can absorb the current or likely number of visitors without adverse effects (i.e., its carrying capacity). An indication should also be given of the steps taken to manage visitors and tourists. Possible impacts from visitation that could be considered include the following:*

- i. damage by wear on stone, timber, grass or other ground surfaces ;*
- ii. damage by increases in heat or humidity levels;*
- iii. damage by disturbance to the habitat of living or growing things; and*
- iv. damage by the disruption of traditional cultures or ways of life.*

The property can absorb current visitation levels without apparent adverse effects. Visitation to the Tall Trees Grove in the national park is subject to a daily limit on permits issued for vehicles to drive several miles to the parking lot, from where visitors must walk to the grove. There is no established visitor carrying capacity for the grove, which can also be reached by a one-way hike of 8 miles during summer when Redwood Creek is low enough to cross on foot or after the seasonal footbridge has been installed. High flows in the creek during winter and spring and the one-way hiking distance effectively maintain the visitation at a level only slightly higher than what results from issuing vehicle permits.

In addition to the Tall Trees Grove, the 2000 General Management Plan/General Plan identified three other popular destinations in the parks that might need carrying capacity analyses in the future should incidental monitoring suggest that resources are being damaged by visitor use: Lady Bird Johnson Grove, Stout Grove, and Fern Canyon. These areas are currently subject to a de facto carrying capacity set by the available parking spaces.

## Number of Inhabitants Within Property and Buffer Zone

5e) *Include the best available statistics or estimate of the number of inhabitants, if any, within the property and any buffer zone and describe any activities they undertake which affect the property.*

Park residences at Orick, the Bald Hills, Elk Prairie and Espa Lagoon in Prairie Creek Redwoods State Park, Jedediah Smith Redwoods State Park, and Hiouchi house less than 25 permanent park employees on average. There are several housing units and trailer sites that house another 25 seasonal or temporary employees. The California Conservation Corps center at the current park maintenance area at Requa averages between 75 and 100 residents. Very few people inhabit the private inholdings within park boundaries near the mouth of the Klamath River (probably less than 10) or the private lands in Redwood Creek adjacent to or upstream of park and the Park Protection Zone. The five gateway communities and towns immediately outside park boundaries have small populations (Orick population 650; Requa and Klamath 1387; Crescent City population 13,836; Hiouchi population 750). Activities on private lands within and outside the parks that might affect park resources include use of pesticides and fertilizers that might affect park wildlife and vegetation through overspray, introduction of alien invasive plants for landscaping that might spread into the parks, domestic pets and livestock that potentially cause behavioral changes in park wildlife, trespass livestock, improper disposal of garbage that can attract wildlife that might become accustomed to

human food sources, and illegal activities such as big game poaching and theft of park resources. None of the legal activities constitute a major threat to park resources. Park interpreters, resource managers, and law enforcement rangers contact local residents on an incidental basis to provide information on park activities such as alien invasive plant control or the need for proper garbage disposal. Although the Park Protection Zone is largely uninhabited, timber harvest continues in this buffer zone as well as farther upstream on private lands that are sparsely inhabited.

5f) *List Other Factors*

The population of California is expected to exceed 58 million by the year 2040. In 2002, the population was estimated to be 34.7 million. Visitation to the parks can be expected to rise proportionately, with increased pressure on the available visitor facilities and the resources. In addition, population growth in the adjacent communities is expected to rise, although the rate of increase for northwestern California is not expected to be as great as in other areas of the state.

## **II.6 Monitoring**

**(See Section 6 of the current Nomination Form)**

### Administrative Arrangements for Monitoring Property

6a) *Is there a formal monitoring program established for the site? In this case, "monitoring" means the repeated and systematic observation and collection of data on one or more defined factors or variables over a period of time.*

YES

6a1) *If YES, please describe the monitoring program, indicating what factors or variables are being monitored and which partners, if any, are or will be involved in the program.*

The watershed restoration at Redwood National Park was the first systematic. The National Park Service and California Department of Parks and Recreation monitor natural and cultural resources within the parks, the condition of facilities including historic structures, and adjacent land uses. The primary natural resource monitoring programs in the parks cover air quality (partnership with National Park Service Washington Office Air Resources Division), water quality, streamflow (partnership with US Geological Survey), sediment budgets and other aspects of geology and geomorphology, alien plant species distribution, rare plants status and distribution, endangered animal species status and distribution, fire weather, and effects of prescribed fires. For cultural resources, the condition of archeological sites, cultural landscapes, and historic structures are monitored. In addition to regular monitoring of these resources by park staff, Redwood National and State Parks belong to the National Park Service Klamath Parks Network. The network is one of several regional groups of parks whose natural resources are being surveyed and monitored through the National Park Service Inventory and Monitoring Program under the guidance of the US Geological Survey Forest and Rangeland Ecosystem Science Center at Oregon State University in Corvallis, Oregon and its field office at South Oregon College in Ashland, Oregon.

Outside the parks, proposed timber harvest plans are reviewed by Redwood National and State Parks staff in cooperation with the California Department of Parks and Recreation who are legislatively authorized to participate in timber harvest plan review and preharvest inspections for proposed logging within 200 feet (60.9 m) of parks or other designated special treatment areas. Redwood National and State Parks staff also review planning notices and planning and development proposals from the two counties in which the parks are located, and from other local, state and government agencies such as the California Department of Transportation, the US Forest Service, and the US Bureau of Land Management when those proposals have the potential to affect park resources or visitors. The National Park Service is legislatively authorized to review timber harvest plans for lands in the Park Protection Zone.

## Key Indicators for Measuring State of Conservation

6b) *At the time of inscription of the property on the World Heritage list, or while in the process of reviewing the status of the property at subsequent meetings, have the World Heritage Committee and the State Party identified and agreed upon key indicators for monitoring the state of conservation of the property's World Heritage values?*

NO

6b1) *If YES, please list and describe these key indicators, provide up-to-date data with respect to each of them, and also indicate actions taken by the State Party in response to each indicator.*

6b2) *If NO key indicators were identified by the World Heritage Committee and used so far, please indicate whether the World Heritage Site management authority is developing or plans to develop key indicators for monitoring the state of conservation of the property's World Heritage Values.*

In addition to the park resources listed in 6a1, the National Park Service has identified "vital signs" for monitoring through the National Park Service Inventory and Monitoring Program. "Vital signs" identified for Redwood National and State Parks are selected elements of terrestrial fauna, terrestrial vegetation, aquatic biota, aquatic habitat, and geologic resources and processes.

## Results of Previous Reporting Exercises

6c) *Please describe briefly the current status of actions the State Party has taken in response to recommendations from the World Heritage Committee at the time of inscription or afterwards, through the process known as "reactive reporting." (Note: The answer to this question will be "not applicable" for many sites.)*

In 1994, the California Department of Transportation proposed a highway realignment project at Cushing Creek that would have resulted in the loss from park lands of between 110 and 275 old growth redwood trees exceeding three feet (1 m) diameter at breast height, with the loss along the existing highway right-of-way of additional old growth trees of several species including redwoods. The State Party requested the assistance of the WHC to prevent the loss of these trees that represent the primary heritage value of the Site. Based on comments from the US Department of the Interior, the National Park Service, the California Department of Parks and Recreation, the World Heritage Commission, and other conservation agencies and organizations, the California Department of Transportation revised its proposal. The California Department of Transportation convened a Value Engineering Team to determine low impact solutions that would meet the need to alleviate safety and traffic concerns. Highway improvements using the recommendations from the Value Engineering study were completed in 2000, and required the removal of only two old growth redwood trees, with no additional adverse effects on the integrity of the property.

## II.7 Conclusions

### World Heritage Values

*7a) Please summarize the main conclusions regarding the state of the World Heritage values of the property (see items II.2. and II.3. above).*

The state of the World Heritage values of the property is excellent with respect to the old growth coast redwoods that represent the primary heritage value of the site (criteria iii—superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance.) The watershed restoration program has made significant progress restoring watersheds damaged by logging in what is now the national park. Since inscription of the site in 1980, the peregrine falcon has been removed from the Endangered Species List but several species found within the parks have been listed as endangered or threatened with extinction (criteria ii, outstanding examples representing significant on-going biological processes in the evolution of terrestrial and coastal ecosystems and communities of plants). Habitat loss and degradation have been the primary cause leading to threatened status for the northern spotted owl (*Strix occidentalis caurina*), marbled murrelet (*Brachyramphus marmoratus marmoratus*), Northern California steelhead (*Oncorhynchus mykiss*), southern Oregon/California coastal chinook salmon (*Oncorhynchus tshawytscha*), and Southern Oregon/Northern California coastal coho salmon (*Oncorhynchus kisutch*). In addition to these animal species, the beach layia (*Layia carnosa*), a plant found on one of the parks' beaches has been listed as endangered. Although National Park Service and California Department of Parks and Recreation actions have not been responsible for the decline of these species, the parks represent increasingly important refugia for these and other rare and endangered species.

### Management and Factors Affecting Site

*7b) Please summarize the main conclusions regarding the management of and factors affecting the property (see items II.4. and II.5. above).*

Since inscription of Redwood National Park in 1980, there have been two significant changes in site management. The partnership between the National Park Service and California Department of Parks and Recreation created by 1994 Memorandum of Understanding fostered cooperation between the two park agencies, resulting in more cost-effective management, better protection of resources, and improved service to visitors. The resources of the parks benefit from being managed as a single ecosystem without internal boundaries. The moniker "Redwood National and State Parks" gives visitors a better understanding of the relationship between the four park units. The 1996 Memorandum of Understanding among the National Park Service, California Department of Parks and Recreation-Prairie Creek Redwoods State Park, and the Yurok Tribe has paved the way for collaboration between the park agencies and one group of American Indians whose ancestral lands are now part of the parks. In addition to the formal relationship with the Yurok Tribe, the National Park Service and the California Department of Parks and Recreation have institutionalized regular consultations with other local American Indian groups who represent a diverse indigenous presence and whose archeological record extends back more than 4,500 years. The traditional lifeways, including arts, ceremonies, and methods of subsistence maintained by these groups, are intimately related to

park resources that constitute the heritage values of the site. The American Indian communities continue to rely on these resources for their spiritual, cultural, physical, and economic sustenance.

The heritage values of the site are also receiving increased protection through National Park Service and California Department of Parks and Recreation cooperation with other entities, notably the California Department of Transportation and the timber industry. As a direct result of the objections of the park agencies to the removal of old growth trees under the original Cushing Creek highway realignment proposal, the California Department of Transportation scaled back long-term plans for highway widening through Redwood National and State Parks, as well as several other state redwood parks, in recognition of the significant resource and aesthetic values embodied in old growth coast redwood forests. The National Park Service has made great progress in establishing working relationships with private timber companies whose activities have the potential to adversely affect park resources downstream of and adjacent to park lands. Park resource staff are engaged in long-range resource management planning with the timber industry as well as providing technical advice on cost-effective siting, construction, and maintenance of logging roads that could pose a threat to park resources. The National Park Service has signed Memoranda of Understanding with both private landowners and large industrial timber companies to work cooperatively to reduce or prevent sedimentation from logging operations in Redwood Creek upstream of the national park.

#### Proposed Future Action(s)

*7c) Please describe briefly future actions that the State Party has approved to ensure the conservation of the World Heritage values of the property.*

*These sample headings can be used as a checklist.*

- Modification of legal or administrative structure*
- Changes to financial arrangements*
- Increases to staffing level*
- Provision of training*
- Modification of visitor facilities*
- Preparation of a visitor management plan*
- Studies of public knowledge of the World Heritage Site*
- Emergency preparedness*
- Establishment or improvement of a monitoring program.*

Future approved actions for ensuring conservation of the site's World Heritage values are described in the 2000 General Management Plan/General Plan. Site-specific planning is underway for future watershed and forest restoration projects, for fire management, for development of visitor facilities at Freshwater Lagoon Spit, and for relocation of the NPS maintenance facility.

Responsible Implementing Agency(ies)

7d) *Please identify the agency(ies) responsible for implementation of these actions described in 7c, if different from those listed in Section II.4.*

Responsible Implementing Agency #1

Entity same as II.4

First Name:

Last Name:

Address:

City:

State/Prov:

Postal Code:

Telephone:

Fax:

Email:

Timeframe for Implementation

7e) *If known, or predictable, please provide a timeline for the implementation of the actions described in 7c.*

Actions in the approved 2000 General Management Plan/General Plan are being implemented as funding becomes available. The General Management Plan/General Plan is intended to guide park management over the next 15 years.

Needs for International Assistance

7f) *Is it anticipated that International Assistance, through the World Heritage Fund, will be requested for any of the planned actions described above?*

NO

7f1) *If YES, please state the nature of the request and when it will be requested, if known.*

## Potential Decisions for the World Heritage Committee

7g) Please indicate if the World Heritage Site management authority has preliminarily identified, as a result of this reporting exercise, an apparent need to seek a World Heritage Committee decision to change any of the following:

(Note: Following completion of the Periodic Report exercise, the State Party, in consultation with appropriate authorities, will determine whether to proceed with seeking a Committee decision on these changes. To request such changes, the State Party will need to follow a separate, formal process, subsequent to submitting the report.)

- change to criteria for inscription
- change to Statement of Significance
- proposed new Statement of Significance, where previously missing
- change boundaries or buffer zone

## II.8 Documentation

(See Section 7 of the current Nomination Form and Section 3 of the original Nomination Form)

8a) Please review the original nomination for the property to determine whether it is necessary or advisable to supply, update or amend any of the following documentation for the World Heritage Site. Indicate what documentation will be supplied to supplement the information found in this report. (This documentation should be supplied at the time the Periodic Report is submitted to the World Heritage Centre, in December 2004.)

- a) Photographs, slides and, where available, film. This material should be accompanied by a duly signed authorization granting, free of charge to UNESCO, the non-exclusive right for the legal term of copyright to reproduce and use it in accordance with the terms of the authorization attached.
- b) Topographic or other map or site plan which locates the WHS and its boundaries, showing scale, orientation, projection, datum, site name, date and graticule.
- c) A copy of the property management plan.
- d) A Bibliography consisting of references to all the main published sources on the World Heritage Site, compiled to international standards.

8b) Do you have a digital map of the WHS, showing its location and boundaries?

YES

8bi) If yes, in what format(s) is the map?

MS Word document and pdf formals

8bii) Is it published on a publicly-accessible website?

YES

8biii) If yes, please provide the URL of the site where the map can be found. Must be a valid URL.

[www.ncgic.gov/redw](http://www.ncgic.gov/redw)