

**TIMBER HARVEST PLAN REVIEWS**  
**1991 Progress Report**  
**Submitted by: Ron Sonnevil**  
**Redwood National Park, Geology Branch**

**I. INTRODUCTION:**

This long-term program to review landuse practices upstream of Redwood National Park was initiated in 1976, as a result of the Redwoods Agreement, negotiated between the Department of the Interior, the Department of Justice, and the three major industrial timberland owners in the lower Redwood Creek basin. The Redwoods Agreement stipulated that each company submit plans for annual timber harvesting in Redwood Creek to the National Park Service for review and comment on lands in a 77,000 acre area immediately upstream and upslope from Redwood National Park. The NPS review included an evaluation of the proposed operations and field inspection of each harvest site to locate potential erosion problems and recommend mitigating measures directed toward eliminating or substantially reducing the potential for increases in erosion resulting from timber operations. The goal was to prevent permanent and irreparable damage to downstream resources within the Redwood National Park through the modification of upstream landuse practices. Mitigating recommendations were submitted to the companies and to the California Department of Forestry and Fire Protection (CDF) for inclusion within the final, approved harvesting plan. CDF retained exclusive regulatory authority for timber harvesting operations conducted on these private lands and worked cooperatively with NPS professionals to assure that necessary recommendations were included as requirements within each plan of operation.

Accelerated erosion and sediment yields resulting from timber harvesting and road construction continued to threaten the downstream resources of Redwood National Park. Detection of these deleterious effects within the Redwood Creek basin led to the Congressional expansion of the park (PL-95-250) in 1978. Over 48,000 acres, mostly former industrial timberlands in the lower Redwood Creek basin, were added to the park. These lands were included in the park expansion both to preserve the remaining fragmentary stands of old growth redwood and, more importantly, to create a protective buffer of stabilized land upslope and upstream of the park's superlative, but threatened, redwood groves along Redwood Creek. Much of the land covered by the initial Redwoods Agreement was incorporated within the new boundaries of Redwood National Park. Congress designated that the remaining lands covered under the Redwoods Agreement were to be included in a 30,000 acre Park Protection Zone (PPZ) located immediately upstream of the new national park boundary (Figure 1).

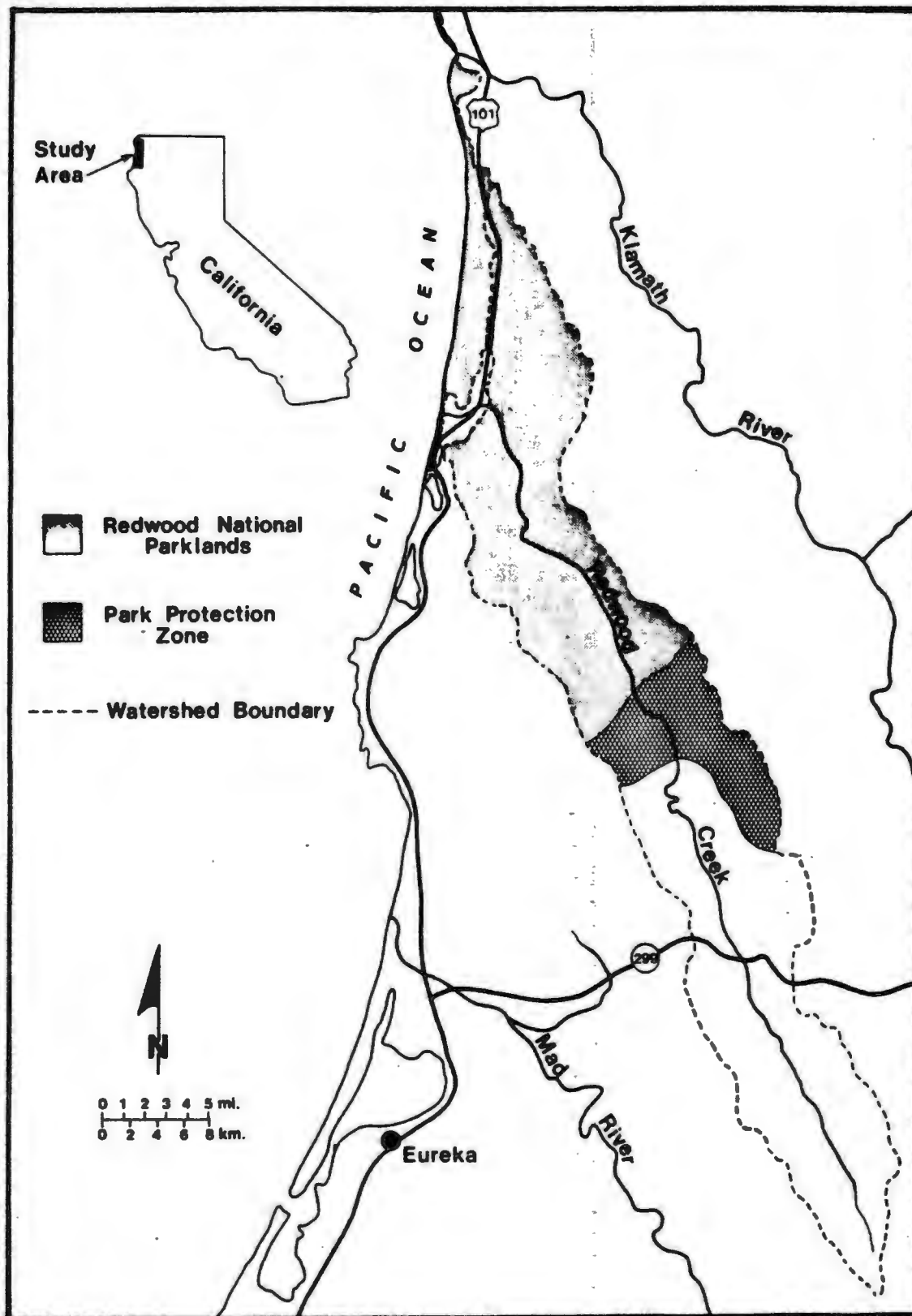


Figure 1. Location map showing the Redwood Creek watershed.

TABLE 1. Summary of annual Redwood National Park timber harvest reviews conducted on lands upstream the National Park.<sup>1</sup>

|                                          | <u>1978<sup>2</sup></u> | <u>1979</u> | <u>1980</u> | <u>1981</u> | <u>1982</u> | <u>1983</u> | <u>1984</u> | <u>1985</u> | <u>1986</u> | <u>1987</u> | <u>1988</u> | <u>1989</u> | <u>1990</u> | <u>TOTAL</u> |
|------------------------------------------|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| Plans Submitted                          | 22                      | 40          | 27          | 12          | 15          | 27          | 14          | 14          | 23          | 18          | 32          | 36          | 17          | 297          |
| Park Protection Zone (PPZ)               | 13                      | 26          | 14          | 4           | 11          | 15          | 4           | 7           | 13          | 3           | 7           | 7           | 4           | 128          |
| Upper Basin                              | 9                       | 14          | 13          | 8           | 4           | 12          | 10          | 7           | 10          | 15          | 25          | 29          | 13          | 169          |
| Total Acreage                            | 2213                    | 2759        | 3510        | 977         | 750         | 2777        | 1619        | 1534        | 2877        | 2496        | 3506        | 3360        | 1900        | 30278        |
| Plans Inspected by NPS (PPZ/UPPER BASIN) | 12/2                    | 25/5        | 14/5        | 4/4         | 11/3        | 15/3        | 4/1         | 7/0         | 12/1        | 3/2         | 7/3         | 7/1         | 4/2         | 125/32       |
| Acreage Inspected by NPS                 | 1365                    | 2292        | 3084        | 625         | 630         | 1614        | 335         | 563         | 1624        | 637         | 963         | 860         | 653         | 15245        |

<sup>1</sup> By fiscal year, October through September

<sup>2</sup> Does not include 24 timber harvesting plans covering 837 acres located on private lands in the 1978 expansion area which were field inspected but never harvested.

Congress also recognized the limitations of past cooperative efforts and legal actions as effective methods of protecting park resources from upstream landuse practices. To this end, they directed the National Park Service to develop clear land use guidelines for adoption by the Congress, to protect and preserve Redwood National Park resources.

In May 1978, following expansion of the park and the assumed demise of the former Redwoods Agreement with the timber companies, the Deputy Regional Director, Western Region, National Park Service, negotiated an agreement with the California Department of Forestry and Fire Protection. The agreement stipulated that: 1) CDF would notify the National Park Service of all proposed Timber Harvesting Plans (THP) submitted for lands within the entire Redwood Creek basin upstream of Redwood National Park and, 2) Redwood National Park professionals would be permitted to participate in CDF field reviews for harvest plans within the Park Protection Zone and on selected plans in the upper basin. NPS participation was to include both field inspections and office reviews of the proposed operations and subsequent formulation of recommendations to accept, reject, or modify specific operating proposals in order to provide protection to downstream park resources. As before, the Park Service was to have no regulatory authority but would merely provide comments to the state for possible inclusion in the official, enforceable timber harvest plan.

## **II. STUDY AREA:**

This project primarily concerns lands within the Redwood Creek Basin upstream of Redwood National Park. The project area is divided into two main areas: the Park Protection Zone (PPZ) which encompasses 30,000 acres immediately upstream of the park, and the Upper Basin which is the remainder of land (77,840 acres) in the Redwood Creek basin upstream of the PPZ (Figure 1). Timber harvest plans on private lands outside of the Redwood Creek basin but adjacent to Redwood National Park, are also reviewed to prevent offsite physical impacts to adjacent park lands.

## **III. RESULTS TO DATE:**

Following expansion of the park in 1978, NPS professional staff conducted office and field reviews of proposed timber harvest operations on private lands within most areas of the Redwood Creek basin. With few exceptions, all proposed operations within the PPZ were reviewed with the timber owner during detailed field inspections led by the California Department of Forestry (Table 1). In addition, plan areas on private lands upstream from the PPZ were also given field review if the terrain was judged to be erosionally sensitive or the results of operations could be potentially damaging to park resources. Table 1 summarizes timber harvest plans submitted to and approved by CDF for the Redwood Creek basin from 1978 through 1990. National Park Service geologists reviewed 125, or 97 percent of the 128 timber

harvest plans submitted in the PPZ and 32, or 19 percent of the 157 timber harvest plans submitted for the upper basin.

National Park Service involvement in the review of proposed timber harvest plans in the upper Redwood Creek basin changed dramatically in 1983 (Table 1). A change in administrative procedures implemented by CDF in 1983 effectively precluded NPS participation in the field review of timber harvest plans on lands upstream from the PPZ. Prior to 1983 NPS participation was accomplished at the request and permission of CDF.

Currently, CDF allows park participation on timber harvest plan inspections outside of the PPZ only when the landowner's permission for access can be independently secured by park personnel prior to the field review. With rare exception, most landowners have regularly and routinely refused access to park professionals for either pre- or post-harvest inspections. When permission is granted to inspect plan areas upstream of the PPZ the plan is typically small and has low potential for erosion. Attempts were made, in 1983, to officially provide comments and recommendations to CDF on proposed timber harvest plans which NPS staff were denied access to inspect. These comments and suggestions, based on inspection of aerial photographs, were not well received by CDF because they lacked site-specific mitigation measures which can only be developed after field inspection of the area.

Draft Land Use Guidelines for the PPZ were developed by park staff and were submitted for review to the Department of the Interior in December, 1984. The guidelines addressed timberland operations on privately owned lands upstream of the park boundary which could be injurious to forest resources, wildlife and fisheries within the park's portion of the Redwood Creek watershed. When timber harvesting is proposed, the guidelines are intended to be used in conjunction with requirements of the State of California forest practices regulations. The objective of these guidelines is to protect downstream park resources while at the same time permitting the orderly harvesting of timber on privately owned lands lying within the PPZ.

Between the early 1980's and 1989 a National Park Service employee, William Weaver, served on a number of committees and task forces appointed by the State Board of Forestry to investigate current practices and make recommendations on needed revisions in forest regulations for private lands in the State. National Park Service representation on these committees helped lead to proposed changes in regulations to require roads to be constructed with rolling dips to prevent diversion of streams out of their channels when culverts become plugged.

Technical studies of upstream landuses and their impacts on downstream park resources have also been performed by the Redwood National Park geology branch. These studies are aimed specifically at identifying shortcomings in the current State

regulations which allow for avoidable impacts from forestry operations. The most significant study result so far is the documentation of erosion problems (gullies) and sediment delivery caused by diversion of streamflow by poorly constructed logging roads. (Hagans and Weaver, 1987; Weaver and others, 1987). Recommendations from this study have been incorporated into timber harvest plans which NPS staff have reviewed and have been incorporated into proposed changes to CDF rules for road construction practices in California. Also, road construction practices in some National Forests have been modified in response to the RNP study results. A study which examines the widespread practice of road abandonment and effects this practice has on increased erosion rates on timber lands is in progress. This study is needed to help convince the State that landowners should be required to maintain forest roads for periods much longer than the present requirement of three years after timber harvest.

#### **IV. PRELIMINARY CONCLUSIONS:**

The threats to downstream park resources resulting from continued road construction and harvesting of timber upstream from the park are as real now as they were when the park was expanded in 1978. Unfortunately, since the passage of P.L. 95-250 in 1978, there has been a considerable reduction in the National Park Service's ability 1) to field review and provide recommendations on timber harvest plans, 2) to conduct follow-up reviews during and upon the completion of timber harvesting operations and 3) to secure access to conduct erosion and sedimentation studies. These three elements, which formed the backbone of effective erosion monitoring and park protection since 1978, are now subject to an almost total ban on access imposed by private landowners for most of the Redwood Creek basin upstream of Redwood National Park. We desperately need access to these lands in the upper Redwood Creek basin to fulfill our mandate to protect park resources from upstream landuse activities.

#### **V. FUTURE WORK:**

Future work directed toward protecting the resources of Redwood National Park from the effects of landuse activities on private lands upstream will depend primarily on regaining access to private land either through participation within the State of California review process or through independent arrangements made with private landowners. Restoring a high level of cooperation for timber management in Redwood Creek's upper basin is important for achieving sound protection for downstream park resources.

An agreement needs to be established between the National Park Service and the California Department of Forestry and Fire Protection which allows us to participate in field inspections outside the 30,000 acre PPZ (about half of the Redwood Creek basin lies upstream of the PPZ). We need permission to participate in the pre-harvest field inspections, as well as to

gain access to conduct follow-up inspections once the harvests have been completed (RNP has never been allowed to perform follow-up inspections). CDF has authority to grant us permission to inspect private lands.

Besides pursuing legal access through the State to inspect private timberlands in the upper basin, efforts are needed to establish contact with private landowners and their representatives. The controversy which led to expansion of Redwood National Park thirteen years ago caused strong feelings against the National Park Service throughout the timber industry. For some, these feelings continue to be barriers in obtaining NPS access to participate in pre-harvest inspections on lands in the upper basin. Efforts are needed to convince those people that the National Park Service does not represent a threat but, instead, can help them manage their timberland resources in an environmentally sound manner through implementation of appropriate erosion control and erosion prevention measures.

The current forest practice rules in California require that the landowner be responsible for maintaining any roads constructed as part of a THP for three years after completion of harvest activities. The National Park Service needs to lobby for long term, essentially permanent maintenance of roads constructed under purview of the forest practice regulations.

Work on several other THP related projects is planned for the future. The park has records on nearly 300 THPs which have been submitted since 1978 in the Redwood Creek basin. Data from these THPs will be incorporated into a data base and, ultimately, into the GIS system. A study was implemented three years ago to inventory roads constructed between 1954 and 1978 and determine their maintenance status as of 1984. The bulk of the data has been collected and it is hoped that the remainder will be completed in 1991.

## **VI. REFERENCES CITED:**

- Hagans, Danny K. and W.E. Weaver, 1987. Magnitude, cause and basin response to fluvial erosion, Redwood Creek basin, northern California. In: R.L. Beschta, et al (eds). Erosion and sedimentation in the Pacific Rim (Corvallis, Oregon Symposium). August 1987. IAHS Publication No. 165, pp. 419-428.
- Weaver, William E., D.K. Hagans, and M.A. Madej. 1987. Managing forest roads to control cumulative erosion and sedimentation effects. In: Proceedings of the California watershed management conference. November 18-20, 1986. Sacramento, California. Report 11. Wildland Resources Center, University of California. Berkeley, California. 6 pp.