

Protecting Resources at Redwood National and State Parks through Cooperation and Understanding

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Introduction

The environmental and economic consequences of timber harvesting in the Pacific Northwest have provoked controversy for decades. No place symbolizes this controversy better than Redwood National Park (RNP) which was the focal point of a bitter debate over its creation and expansion.

Background

The original 1968 park boundary (Figure 1) encompassed a narrow 1/4-mile corridor along the lower reaches of Redwood Creek and was a compromise between intensely competing interests. On lands upslope and upstream of the park boundary the combination of timber harvest, logging road construction, and major storms greatly accelerated naturally high erosion rates. This resulted in a significant threat to the downstream park resources through increased sediment loads and accumulations in streams, elevated water levels, stream bank erosion, and impacts to biological resources (Ridenhour and Hofstra 1994). Conservation groups were concerned with loss of valuable park resources and filed a series of lawsuits demanding the Secretary of the Interior take action to protect park lands. After lawsuits, court decisions, contentious hearings, and considerable division among local communities, Congress expanded RNP in 1978. To reduce risk of damage to downstream park resources, this legislation authorized a program to rehabilitate areas within the park and to control erosion on private lands upstream of the park.

Erosion Control Program for Park Lands

Since park expansion, considerable progress has been made toward controlling erosion and sedimentation within the park. The focus has been on road removal because fluvial and mass wasting erosion associated with poorly located and designed logging roads are major contributors of sediment to aquatic systems. To date, approximately 173 miles of more than 445 miles of road within the Redwood Creek portion of the park have been removed. The program has gained national recognition, and methods developed at RNP (Spreiter et.al. 1995) have been applied on state and federal lands in many other locations.

Sediment Sources in Redwood Creek

Since 1978, scientific studies performed in the Redwood Creek basin have examined the quantity and origin of sediment transported by Redwood Creek and its tributaries. These studies revealed that for the period between 1981 and 1988, roughly 72 % of the total sediment transported by Redwood Creek originated from areas upstream of the park (Madej 1991). Other studies suggest that fluvial erosion of roads can account for 30 percent to more than 60 percent of all sediment entering a stream system, depending on the type of terrain and road (RNSP 1997; Best et.al. 1995; Hagans and Weaver 1987). Based upon inventories of road related erosional problems inside the park, the total erosion potential from all roads in the Redwood Creek basin is estimated at roughly 5,185,000 cubic yards of sediment. Of this total, 85 percent is associated with roads on upstream private lands (RNSP 1997). Clearly, the greatest human-influenced threat to park resources located along the mainstem of Redwood Creek is from the roads located upstream of the park.

Logging Roads in the Upper Redwood Creek Basin

Based on analysis of aerial photographs (RNSP 1997), roads upstream of the park totaled about 1,100 miles in 1992 (Figure 2). About 66 percent of these road miles were constructed before 1964, 14 percent were constructed between 1964 and 1978, and 20 percent were constructed between 1978 and 1992. Most of the upper basin roads, therefore, were built before enactment of the 1983 state forest practice rules which describe current-day road construction and erosion control standards.

Of the 1,100 miles of roads upstream of the park, about 340 miles were determined to be unmaintained and not driveable as of 1992. Another 180 miles were classified as unmaintained but still driveable. Almost half of the road network is therefore unmaintained in the upper basin. Unmaintained roads are more likely than the maintained roads to fail during a large storm as a result of plugged and rusted culverts, rotted woody debris contained in road fills, and diversion of streamflow. Current state forest practice rules do not require long-term road maintenance. Nearly 40 miles of new logging roads have been built since 1992.

Early Attempts at Erosion Control for Private Lands (Confrontation)

Since park expansion the timber industry, private landowners, environmental activists, and government agencies have remained at odds over timber harvesting and road building practices on private lands upstream from the park. Early attempts by the park to implement an erosion control program on private lands were largely unsuccessful because of the poor relations between the park and private landowners following park expansion. The threats to aquatic and riparian resources from abandoned or poorly constructed/maintained roads also had not yet been fully understood or accepted by the general public or timber industry. The park made \$400,000 available to the California Forest Improvement Program for erosion control projects on private lands in the Redwood Creek basin but little of this funding was used. During this period, field review of timber harvest plans on private lands by park geologists was restricted. Disagreements about protective measures were often confrontational and managed to reinforce prevailing feelings of distrust. The park's ability to influence land use practices was limited.

Relations between the park and private landowners began to improve in the early 1990's. Several technical reports and professional papers describing erosional processes, sedimentation, and erosion control in the Redwood Creek basin had been published by park staff. Efforts were made to improve our public relations by personal contact with several of the landowners. As a result, between 1991 and 1993 erosion control work was performed on approximately 10 miles of roads on Bureau of Land Management (BLM) and private lands. Park geologists were also allowed to attend more field reviews of proposed timber harvest plans. While progress had been made toward improving relations and implementing an upper basin erosion control program, progress was still slow and landowner cooperation remained inconsistent and unpredictable.

Recent Attempts at Cooperative Erosion Control and Resource Protection (Collaboration and Cooperation)

In 1994, in response to public comment and newly established California Board of Forestry (BOF) Forest Practice Rules, the park decided to nominate Redwood Creek as a "sensitive watershed." Pursuant to the new BOF rules, sensitive watersheds receive added protection during timber harvest by the development and implementation of special timber harvest rules tailored to protect specific resources in a particular basin. We believed that attaining sensitive watershed status for Redwood Creek would be a great leap forward in fulfilling our legislative mandate of park resource protection.

In 1994, the park initiated meetings with representatives of timber companies operating in the watershed. The purpose of these meetings was to inform them of our intention to nominate Redwood Creek as a sensitive watershed, and to solicit their involvement in the process. Because additional forest practice regulations would result from a successful nomination, company representatives were opposed to this effort. As an alternative, they suggested the park's goals for resource protection might be realized better through cooperative and voluntary projects.

This suggestion was discussed during subsequent meetings with timber company representatives and landowners in the watershed. General agreement was reached in November, 1994, and a Memorandum of Understanding (MOU) between the park and individual companies and landowners was signed in March, 1995. The MOU's state the park and private landowners will "..... voluntarily cooperate to identify, prioritize, and correct, where economically feasible, potential sediment sources in the Redwood Creek basin." Thus, the MOU's provided a basic framework for cooperative erosion control on private lands in the upper Redwood Creek basin. These agreements were complemented by cooperative agreements with the BLM, U.S. Fish and Wildlife Service (USFWS), and Humboldt County Resources Conservation District (RCD).

Current Program for Erosion Control on Private Lands Upstream of the Park

Most of the ingredients for a successful erosion control program in the upper basin are in place today. Park and private landowner relationships have greatly improved, official agreements have been signed by the primary stakeholders, and there is an increasing awareness of the importance to control or prevent erosion from roads, especially in light of declining salmonid populations.

Two significant projects have been completed recently on private lands upstream of the park. These were cooperatively planned and funded projects involving the park, landowners, USFWS, state, and RCD. Nearly two miles of roads have been completely removed from unstable streamside areas and, with the completion of an on-going project this year, erosion control work will have treated an additional 12 miles of roads. In 1996, park staff also inventoried over 90 miles of roads on nearly 9,000 acres of private lands for erosion potentials. This is remarkable progress considering this area represents 10 percent of the upper basin and air photos had previously been our only source of information for many years.

Our participation during field reviews of proposed timber harvest plans on private lands has become more widely accepted. Besides attending most pre-harvest inspections, park geologists now perform detailed field mapping of areas proposed for timber harvest while foresters prepare their harvest plans.

By working together, resource concerns can be identified and protective measures incorporated into the harvest plan before it is submitted for filing and official review.

Continuing Obstacles

To date, funding to perform erosion control work on private lands has been provided primarily from the Jobs-in-the-Woods Program (administered by the USFWS as part of the Northwest Forest Plan (USDA and USDI 1994). While this funding has been useful, these opportunities are not always available, nor are they commensurate with the magnitude of problems found in Redwood Creek or in other watersheds throughout California and the Pacific Northwest. We believe monetary incentives for private industry in the form of tax credits or deductions for erosion control work are desperately needed to aggressively tackle the problems associated with the extensive road networks across the landscape.

Tax incentives could create long-term jobs in the woods dedicated to the repair, removal and maintenance of roads on private forest lands.

There will seemingly always be some level of mistrust of government agencies among private landowners. Some landowners had lost land in the creation of Redwood National Park while others feel they have lost the use of their property through restrictive government regulation. However, much mistrust stems from overly officious, aggressive, and confrontational experiences landowners have had with government at all levels and on a daily basis.

Summary

The goal of our present program in the upper Redwood Creek basin is to minimize erosion from private lands upstream from the park through the review of timber harvest plans, cooperative studies, erosion control projects, and coordinated resource management efforts that recognize resource protection and the long-term productivity of commercial forest lands. These cooperative efforts recognize that prevention of resource damage is more cost-effective than repair. The building of trust among various groups remains a high priority. Joint projects are designed to demonstrate that mutual benefits can result from cooperation without government interference or additional regulation.

Erosion control work on private lands differs from restoration on park lands. Private lands operate under a system of economy, and management decisions are based on project cost and need. In contrast, park lands are held in public trust and are managed under a different set of principles. Therefore, partnerships and cooperative agreements must respect and help protect each participant's need to manage their lands as necessary to achieve their long-term goals and objectives.

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