

DRAFT ENVIRONMENTAL ASSESSMENT

REMOVAL OF AH PAH ROAD AND SPURS AND SITE RESTORATION



**REDWOOD NATIONAL and STATE PARKS
HUMBOLDT COUNTY, CALIFORNIA**

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INTRODUCTION

During the development of this plan, a significant change was made regarding the relationship between Redwood National Park and the three redwood state parks included within the Congressionally-authorized national park boundary. A committee of national and state park managers recommended that the lands within the Congressionally-authorized boundary be referred to as "Redwood National and State Parks." The parks are presently engaged in developing ways to accommodate this and other recommendations of the coordinating committee. For convenience, this plan will continue to differentiate between lands, facilities, and plans belonging to either the national or state park.

PURPOSE AND NEED

Redwood National Park and North Coast Redwoods District of California State Parks propose to remove Ah Pah Road (also known as A.K. Wilson Road or County Line Road), the B-line, S-Line, a portion of East Ridge Road and 3 spur roads (Figures 1 and 2). The roads were used by California Department of Transportation (Caltrans) for the construction of the Highway 101 Park Bypass in 1984 through 1990. The roads, built by timber companies to access harvest areas (with the exception of East Ridge Road, which was built by the Civilian Conservation Corps), came under park management when lands were added to the national park to accommodate construction of the highway 101 bypass. They are segments that dead end or are completely isolated as a result of the construction of the Highway 101 Park Bypass.

The Special Use Permit issued to Caltrans to construct and operate the bypass states that Caltrans will restore to National Park Service Standards all areas disturbed as part of the bypass construction. The National Park and Caltrans have entered into a Memorandum of Agreement in which Caltrans is funding the restoration of the impacted areas.

Ah Pah Road, S-Line, B-Line and the northern section of East Ridge Roads pose a threat to hillslope and downstream aquatic resources. Roads, particularly abandoned and unmaintained roads, progressively decay and ultimately fail, depositing sediment into streams. Roads in the adjacent Redwood Creek watershed have been shown to cause a significant increase in the sediment supply to the stream channels (Hagans and Weaver, 1987). The roads in this proposed project cross a combined total of at least 12 headwater intermittent or perennial streams which are tributary to Ah Pah, McGarvey and Prairie Creeks. These creeks are tributary to the Klamath River and Redwood Creek and support wildlife including native trout and other anadromous fish populations.

It is National Park Service policy that "Terrain and plants may be manipulated where necessary to restore natural conditions on lands altered by human activity. Management activities may include, but will not be restricted to, removing

constructed features, restoring natural gradients, and revegetating with native park species . . ." (U.S. Department of Interior, 1988). It is a management objective of Redwood National Park to restore and/or maintain the natural ecosystems of the park. To continue with biological and physical restoration of park lands severely impacted by past land-use practices." (U.S. Department of Interior, 1992).

The work is further supported by State Redwoods Parks General Plan (1985), which states "The department shall further undertake to maintain areas in and/or restore them to, their natural and historic hydrologic condition, as determined by specific research" and ". . . Surface water shall be protected from degradation and from excess sedimentation resulting from human disturbances both inside and outside the parks (e.g., . . . logging . . .).

This document evaluates the environmental consequences of restoring the lands in the Ah Pah Road area by removing the road benches and reconstructing buried stream channels. Redwood National and State Parks also propose to construct hiking trails and develop a wayside exhibit to interpret the area. The No-Action alternative is also evaluated.

ALTERNATIVES

Alternative 1: No Action

Under this alternative, Ah Pah Road, East Ridge Road, B-Line, S-Line and 3 spur roads would be retained. Redwood National and State Parks would continue to maintain the road to minimize erosion. This consists of annual evaluations of culvert conditions, seasonal inboard ditch improvements, and occasional brushing to maintain road corridor. The roads would become more costly to maintain as ongoing road deterioration would necessitate larger repair projects. Culverts would require eventual replacement so as to maintain equipment access to the entire road prism for maintenance needs. Park protection rangers would continue to patrol the area for abandoned vehicles, illegal camping, and vandalism.

Alternative 2: Remove Ah Pah Road and Spurs and Restore Site (Preferred Alternative)

Under this alternative, Ah Pah Road, a portion of East Ridge Road, B-Line, S-Line, and 3 spurs would be removed. The road benches would be recontoured. Where the roads cross stream channels, the channels would be excavated down to the original (before-road) configuration. More than 1200 lineal feet of stream channel would be restored. Road fill removed from stream channels would be placed in stable areas of the road corridor to conform to original hillslope configuration. Approximately 2.0 miles of road would be removed. Approximately 32,000 cubic yards of road fill would be excavated and placed in stable locations along the road corridor. Work

would take an estimated 10 weeks to complete with a hydraulic excavator and two D8 size bulldozers.

The recontoured road segments adjacent to stream channels within the second growth lands of Redwood National Park boundaries would be covered with forest duff upon completion of heavy earth moving equipment work to minimize rainsplash erosion. Recontoured roads within the old growth forests of Prairie Creek Redwoods State Park would be revegetated with sword ferns transplanted from surrounding areas. Forest duff would be spread amongst the ferns to naturalize the area more quickly.

About 1000 feet of trail would be constructed along the recontoured Ah Pah Road alignment from Newton B. Drury Scenic Parkway (old Highway 101) to interpret the restoration project. A parking area and interpretive displays would be developed at the current location of the intersection of Ah Pah Road and Newton B. Drury Scenic Parkway. The parking area would consist of 4 - 6 parking spaces and would encompass the existing paved area along the eastern shoulder at the intersection.

The remainder of the East Ridge Road, in addition to all of the projects constructed by the Civilian Conservation Corps in Prairie Creek Redwoods State Park, will be evaluated at a later date for its historic significance. If it is determined that the portion of the East Ridge Road within the project area is not significant based on criteria of the National Register of Historic Places, the State Historical Landmarks and Points of Historical Interest, or the California Register of Historical Resources, it would be removed and rehabilitated. If the portion of the East Ridge Road within the project road is eligible for listing, it would not be removed and rehabilitated as part of this project. The State Historic Preservation Office will be provided the opportunity to comment on the results of the evaluation prior to any action.

If the remainder of East Ridge Road is removed, then the section of the Hope Creek - Ten-Tapo Trail which occupies a portion of the road will be rebuilt to park hiking trail standards along the removed road corridor.

AFFECTED ENVIRONMENT

Ah Pah Road and Spurs

The portion of Ah Pah Road in Redwood National and State Parks is approximately 1.2 miles long. The road is at an elevation of about 875 to 900 feet above sea level. The road varies in width from 18 feet to 30 feet and is surfaced with about one foot depth of gravel. The road traverses old growth forest for about 0.4 mile. The remaining portion of the road traverses slopes that were tractor logged in the late 1940s to early 1960s.

The road crosses 10 perennial or intermittent streams that are tributary to McGarvey Creek, which discharges into the Klamath River. Three of the streams are perennial; the remainder are intermittent. Many of the stream crossings have metal culverts to convey stream flow under the road. Most of the culverts are decayed and require replacement in the immediate future. Most of the stream crossings were constructed without culverts. Instead of culverts, most stream crossings were constructed as "humboldt" crossings, where the road was built on soil placed on top of logs and debris from the original vegetation clearing. The condition and integrity of the logs is uncertain, but evidence from other roads examined in the Redwood Creek basin have revealed that stream crossings of this nature tend to fail within a few decades after road construction.

The road is frequented by visitors, some of whom camp illegally along the road. Redwood trees have been illegally felled and stolen. Other trees have been vandalized. The area has been a popular gathering place and is used for abandoning cars, household appliances and garbage.

Spur roads off Ah Pah road consist of the S-Line, East Ridge Road and numerous tractor trails. The portion of the S-Line within the project area is about 0.2 mile long, averages 30 feet in width and is surfaced with gravel. The S-Line crosses two headwater channels. There are numerous tractor trails within the project area, all on National Park Service lands. Some of these tractor trails cross intermittent and headwater channels.

B-Line

The portion of the B-Line within park boundaries consists of two isolated road segments that are no longer accessible by vehicle. These two segments became isolated as a result of the construction of the Highway 101 Park Bypass in 1991. Each segment is about 0.2 mile long and traverses slopes which were timber harvested in the late 1940s through early 1960s.

The southernmost segment of the B-Line, proposed to be removed, crosses one intermittent stream and one perennial stream, both tributary to the North Fork of Ah Pah Creek. The road has impounded water behind the road prism to an average depth of about 10 feet on the perennial stream. The surface area of the impoundment is about 0.3 acre. Water in the impoundment drains through an elevated 6 inch diameter plastic pipe across the road prism and also through the road fill into the channel beyond the crossing. The road fill at this stream crossing is in the initial phases of failure, evidenced by water flow emerging through natural ground pipes within the stream crossing fill. Some fill eroded from the crossing in winter of 1993-94.

The northernmost segment of the B-Line proposed to be removed crosses one intermittent stream which is tributary to the North Fork of Ah Pah Creek.

East Ridge Road

The East Ridge Road, which was planned to traverse the entire length of Prairie Creek Redwoods State Park, was constructed by the Civilian Conservation Corps in 1933 and 1934 (see below). Eight tenths of a mile of the East Ridge Road is within the project area. The first 0.25 miles of this road, as it departs Ah Pah Road, is proposed to be removed. This portion of East Ridge Road is a one lane road which is intermittently surfaced with gravel. It ranges in width from 10 feet to 16 feet, and averages 12 feet. Where the road traverses along the sideslopes, fills generally average 2-3 feet of depth on the outboard side and do not exceed 6 feet. The road is in a heavily disturbed tractor logging area and appears to have been variously routed through the timber harvest area over the course of the logging history. The most recent route is occasionally steep and is undergoing rill erosion. This reach of road crosses one intermittent stream.

The remaining 0.55 miles of the East Ridge Road within the project area, predominately follows a ridge through an old growth redwood and douglas fir forest, curving as necessary to avoid trees. It is one lane, ranging in width from 8 feet to 16 feet and averages 10 feet. The road traverses three watersheds: Prairie, Ah Pah and McGarvey Creeks. Where the road is on the ridge top, minor, less than 1 foot high, berms run along each side of the roadway. Where the road traverses along sideslopes, fills generally average 2 to 3 feet of depth on the outboard side and do not exceed 8 feet. This section of road crosses 2 streams and one headwater swale.

Climate and Air Quality

The climate of the area is coastal maritime, typified by warm, dry summers and cool, wet winters. Night and morning coastal fog is typical during summer months. Rainfall averages about 70 inches per year, falling mainly between October and May. Snowfall is uncommon, but can occur several times per year and seldom accumulates.

The project area is Class I air quality according to the Clean Air Act Amendments of 1977.

Geology / Physiography

The area is underlain by Pleistocene fluvial deposits of the Gold Bluffs Formation. This unit overlies Franciscan Complex sandstones, which are exposed locally in cutbanks.

The roads are located on or near broad ridges. Cutbanks along the side slopes of the roads range in height from 1 foot to more than 30 feet in some locations. Lands now under the management of the National Park were timber harvested by tractor methods, resulting in a maze of tractor skid trail scars. Generally the skid trails have cut bank scars less than 4 feet high. However, in a few locations the cut bank approaches 15 feet. Lands under the management of the State Parks are unharvested.

The physiography of these lands is typical of old growth redwood forests in ridge areas in north coastal California.

Soils

Soils in the area are well-drained and are derived from sandy to cobbly sediments. Within the harvested lands, the soils have been highly disturbed by tractor trails and other timber harvest practices. Soils within the old growth areas are undisturbed, except for along the road corridors and, to a lesser degree, along the Ten Tapo Creek - Hope Creek hiking trail.

Water Resources

The proposed project area is located in the watershed divide and upper headwaters of Prairie Creek, McGarvey Creek and North Fork Ah Pah Creek. Ah Pah and McGarvey Creeks are tributaries to the Klamath River, which provides important habitat for anadromous fish and other aquatic species. The Klamath River is also an important river for sport fishing, Indian tribal uses, and domestic and agricultural uses. Prairie Creek flows primarily through Prairie Creek Redwoods State Park and Redwood National Park and provides important habitat for anadromous fish and other aquatic species. Near the confluence of Prairie Creek with Redwood Creek in the Orick Valley there are some domestic and agricultural uses.

Floodplains and Wetlands

There are no floodplains within the proposed project area. Stream channels within the area are steep, headwater channels with steep side slopes. Channel gradients range from 10% to 50%. Side slopes range from 10% to 90%. Downstream, in Prairie Creek, Ah Pah Creek and McGarvey Creek, floodplains are present in the lower gradient reaches and are flooded during flows which exceed bankfull discharge (during floods with recurrence intervals generally greater than 2.5 years).

Wetland areas within the proposed project site include ponded water behind the road prism along the B-Line. Other wetlands within the project include riparian corridors along stream reaches.

Vegetation

Vegetation in the proposed project area is typical of old growth coniferous forest and second growth forests. The vegetation within Prairie Creek Redwoods State Park is pristine old growth redwood forest, except for the narrow areas within the road prism of Ah Pah Road and East Ridge Road. The forest supports redwood, Douglas-fir, rhododendron, huckleberry, redwood sorrel and ferns. Within Redwood National Park, the vegetation is typical of revegetating cut-over lands. The National Park lands were selectively harvested beginning in the 1940s. There are numerous old growth trees remaining. Regrowth is composed of redwood, Douglas-fir, alder, salmon berry, sword fern and other second growth forest species. The native vegetation was a forest of redwood and Douglas-fir similar to the adjacent uncut land.

Fish and Wildlife

Anadromous salmon and steelhead spawn downstream of the project area in Ah Pah and McGarvey Creeks.

Wildlife in the project area is typical of Northern California old growth and second growth redwood forests. Detailed inventories of this area have not been conducted, but observations indicate the presence of the following wildlife: black bear, Roosevelt elk, black-tailed deer, northern spotted owl, marbled murrelet, rough skinned newt, northern red legged frog, and typical Redwood forest bird species.

Threatened and Endangered Species

Flora

Surveys for threatened and endangered flora were performed in March 1994. The surveys were inconclusive regarding the presence of any threatened and endangered flora species because most plant species were unidentifiable at that time of year. The project area will be resurveyed when identifying characteristics are present. The plant communities present in the project area are unlikely to contain sensitive, Threatened and Endangered plant species. (If any sensitive species are discovered, the proposed project will be modified so as to not disturb the area surrounding the particular plant(s) or the impacts will be mitigated).

Fauna

Surveys, performed in 1993, for northern spotted owl and marbled murrelet, indicate that both federally listed threatened species. The area supports nesting habitat for both species and murrelets are nesting in the area. A male and female spotted owl were identified in the project area, but nesting status was not determined. Marbled murrelets were detected exhibiting occupied behavior, indicating they probably nest in the area.

The area supports habitat for the following category 2 candidates for federal listing as threatened or endangered species; Townsend's western big-eared bat, white-footed vole, Pacific fisher, western pond turtle, Del Norte salamander, northern red-legged frog, and rocky coast sideband snail.

Coho salmon and steelhead trout are being considered for listing as a threatened species and summer steelhead trout are a category 2 candidate species. These species spawn downstream of the project area.

Cultural Resources

In compliance with Section 106 of the National Historic Preservation Act, the project area was inventoried for cultural resources in 1993 and 1994 (Roscoe and Associates 1994, Van Kirk 1994). The inventory included field survey, archival research and consultations with the Yurok Tribe and persons knowledgeable about the history of the area.

No prehistoric properties are located within the project area and no traditional cultural properties or ethnographic properties were reported to be, or located, within the project area.

Research and consultations showed that the East Ridge Road was constructed by the Civilian Conservation Corps (CCC) in 1933 and 1934. The road, an 'inland scenic route', was originally planned to run the length of eastern portion of Prairie Creek Redwoods State park. Construction of the road began from the south and north ends but could not be completed because of the steep terrain and dense vegetation of the land, and therefore was abandoned. A 1949 California Division of Forestry Map (Van Kirk, 1994) shows the northern and southern sections of the road with a trail connecting the two. As described above, 0.8 miles of the northern section of this road is within the project area. Of this section, the northernmost 0.25 miles has been widened and partially surfaced with gravel and is probably no longer on the original route. It is therefore, not eligible for inclusion on the National Register of Historic Places, the State Historical Landmarks and Points of Historical Interest or the California Register of Historical Resources. The southern 0.55 miles of the road is essentially unaltered and retains integrity. Van Kirk (1994) and the Redwood National Park Archeologist recommend that the southern 0.55 miles of the East Ridge Road within the project area be evaluated, along with the remainder of the CCC projects within Prairie Creek Redwoods State Park, for eligibility for listing on the National Register of Historic Places, the State Historical Landmarks and Points of Historical Interest or the California Register of Historical Resources.

Research also showed that the Ah Pah Road and remaining roads in the project area, were constructed by Coast Redwood Company which logged the area beginning in the late 1940s. In addition to the roads, a concrete pad, which was the foundation of the logging shop, and a concrete spring house are located adjacent to the Ah Pah Road. Neither of these properties are eligible for listing on the National Register of Historic Places, the State Historical Landmarks and Points of Historical Interest or the California Register of Historical Resources.

Scenic Resources

The landscape setting of the Ah Pah Road area is characterized by old growth redwood forest within Prairie Creek Redwoods State Park and second growth forest with numerous old growth redwood trees within Redwood National Park.

A portion of the Ten Tapo - Hope Creek hiking trail traverses about 200 feet of the East Ridge Road. The trail accesses memorial old growth redwood groves of the Save-the-Redwoods League. These memorial groves are dedicated by the Save-the-Redwoods League in recognition of donors and others who have contributed to the acquisition and conservation of old growth redwood groves.

Illegally dumped litter and trash is widely scattered throughout the project area. Litter ranges from small paper debris, bottles, and tires to rusty washing machines, televisions and at least six old, rusted automobiles.

The project area is bounded on the east by Highway 101, a 4 lane freeway which provides a continual background noise of light vehicle and truck traffic. Traffic noise is more noticeable within the national park lands than state park lands due to the greater distance of the state park lands from the highway.

IMPACTS OF ALTERNATIVE 1 AND 2

Impacts of Alternative 1: No Action

There would be no impacts to air quality or significant cultural resources under this alternative.

Impacts to Geology / Physiography

The underlying geology of the area would remain the same. The physiography of the area would be unaltered, with the exception of fluvial erosion and landsliding processes exacerbated by the presence of unstable road reaches and from failure of stream crossings.

Impacts to Soils

The potential for landsliding and fluvial erosion from the road benches would increase as roads deteriorate. Downslope soils would be stripped and displaced as roads fail.

Impacts to Water Resources

Water runoff would continue to be routed through maintained road ditches and culverts. At the time of failure of unstable road reaches or stream crossings, sediment loads in the stream channel would be increased. Ongoing failure of unstable road reaches in the proposed project area deposited sediment directly into stream channels this past winter. Downstream resource damage would be great and long lasting in the event of massive failure of the roads.

The water ponded behind the B-Line would eventually drain down, potentially under rapid, catastrophic conditions. Downstream resource damage from catastrophic failure of the segment of road ponding the water, would be great and long lasting. Highway 101 freeway culvert is within 500 feet downstream of the ponded water, and would very likely become plugged under conditions of catastrophic failure of the B-Line. This would cause saturation of the highway road fill at the culvert, threatening the integrity of the highway. Downstream resources in Ah Pah Creek would be highly impacted for a long time. Finer portions of sediment would be deposited

within spawning gravels, reducing quality of spawning habitat. Pool habitat would potentially be reduced, impacting amphibians and other aquatic species.

Impacts to Floodplains and Wetlands

There are no floodplains within the proposed project area. Downstream, in Prairie Creek, Ah Pah Creek and McGarvey Creek, floodplains are present in the lower gradient reaches and are flooded during flows which exceed bankfull discharge. Catastrophic failure of stream crossings within the proposed project area would cause increased sediment loads to stream channels. During a flood, sediment deposition on the floodplains in the affected watersheds could be increased, if the flood coincided with stream crossing failure(s).

The wetland created by the impounded water behind the B-Line would remain intact until failure of the road prism which is currently acting as a dam. Upon failure of the road, the pond will drain down to a greatly reduced size, potentially draining completely, leaving an unrestricted flow course and newly exposed side slopes.

Impacts to Vegetation

The vegetation within the harvested lands has been regenerating since timber harvest ceased. Under the no action alternative, vegetation would continue to grow.

Fluvial erosion and mass failures may damage some downslope vegetation, including old growth redwood forest.

Impacts to Fish and Wildlife

Upon failure of the road fill on the B-Line which is damming water behind it, there would be some loss of amphibian and aquatic invertebrate habitat of the pond area and downstream channel areas.

Impacts to Threatened and Endangered Species

Red legged frog and western pond turtle breeding habitat would be diminished upon the eventual failure of the pond on the B-Line.

Erosion from the existing roads in the project area would increase sediment deposition in the downstream reaches of Ah Pah and McGarvey Creeks under the No Action Alternative. Downstream reaches support steelhead trout and coho salmon which are proposed to be listed as threatened species. The No Action Alternative threatens habitat of both of these species.

Impacts to Scenic Resources

The scenic resources of the area would continue to be impacted under the No Action Alternative by the continued presence of the road corridors within a natural area of the parks. Scenic resources would be further impacted when mass failures and fluvial erosion from decay of the roads impact downslope resources. Mass failures and

fluvial erosion leave scars of bare soil, increase stream turbidity and occasionally topple old growth trees.

Impacts to Park Operations

Redwood National Park and Prairie Creek Redwoods State Parks would continue to perform periodic maintenance of the roads. This requires approximately 2 person days plus heavy equipment each year for standard maintenance. As the road continues to undergo decay, culvert replacements and other more costly maintenance projects would be necessary.

Park protection rangers would continue to patrol the area for vandalism and illegal camping and dumping.

Impacts of Alternative 2: Remove Ah Pah Road and Spurs and Restore Site (Preferred Alternative)

Impacts to Air Quality

Air quality in the project area would be temporarily decreased by the presence of diesel exhaust from the heavy equipment and support vehicles. There would not be significant long-term adverse impacts to air quality under this alternative.

Impacts to Geology / Physiography

The physiography of the site would be altered along the existing road corridors to a configuration similar to what existed prior to road building. The new configuration would provide for more dispersed runoff, similar to pre-road conditions. Stream channel valley forms would be restored to pre-road conditions where roads and larger tractor trail cross the channels. Original valley widths and channel grades would be excavated. Erosion potential due to the presence of a road prism would be greatly reduced once the road has been removed.

Impacts to Soils

Original forest soils that were disturbed during initial road building in the 1930s (East Ridge Road) and in the late 1940s - early '50s (Ah Pah Road and Spurs and B-Line) would be redisturbed by the heavy equipment. About 22 acres of surface soil would be relocated within the project area. Original top soil which was buried during road construction in the 1940s would be retrieved and returned to the surface as part of the excavation process. The old buried top soil would, for the most part, be placed at or near the surface of the recontoured slopes. This has been shown to have significant beneficial impacts to revegetation on other restoration projects within Redwood National Park. Following heavy equipment work, hand crews would transplant sword ferns and spread forest duff in proposed and existing visitor areas where the soil is disturbed as part of this project. Other disturbed soil, outside of proposed visitor

areas would be covered forest duff alone. Duff provides protection from rainsplash and surface erosion of newly exposed soils.

Impacts to Water Resources

Stream channels would undergo a short term rise in sediment load during the first winter rains as channel excavations undergo minor adjustments. The increased sediment loads are expected to be minimal and of short duration, with no net deleterious impacts to aquatic habitat. During subsequent seasonal rains, the affected streams would return to normal sediment loads as self armoring of the channel progresses and vegetation regrows on adjacent hillslopes.

Long-term impacts to water resources include the reduced potential of large quantities of sediment delivered to the streams. Roads in the adjacent Redwood Creek watershed have been shown to cause a significant increase in the sediment supply to the stream channels.

Impacts to Floodplains and Wetlands

Removal of the road prisms would provide for the recovery of more than 1200 lineal feet of stream channel and associated wetland and riparian corridors. These channel reaches are currently buried by road fill, with channel flow piping through culverts and along buried logs at the base of fills. All of the proposed recovered channel reaches are located in headwater areas. Four of the streams are perennial, the remainder are intermittent.

The original stream channel that is currently flooded on the B-Line Road would be restored to its original contours. The natural function of the stream channel would be restored.

Impacts to Vegetation

Vegetation growing along the cutbanks and on the fillslopes of the roads would be destroyed as part of the removal of the road prisms. Some of these plants, such as sword ferns, would be salvaged prior to the commencement of heavy equipment activity, for use in revegetation of trails and the parking area. Some ferns and forest duff from outside the disturbance area will be gathered to supplement the revegetation and naturalization in proposed visitor areas within the project. No old growth redwood or Douglas-fir trees would be affected by the proposal.

Vegetation would eventually recolonize the areas disturbed by the heavy equipment. Recolonization would commence immediately in these areas, because in the process of road removal with heavy equipment, buried top soil is typically returned to the top surface of much of the disturbed area. Colonization would continue with time, as natural seed sources are abundant in the immediate area.

The likelihood of significant invasion by exotic plant species is low due to the lack of seed sources on the project site. In the event any exotic plants appear, the Park will take care of the plants in accordance with National Park Service policy, National Park Service resource management guidelines and Redwood National Park Exotic Plant Plan.

Impacts to Fish and Wildlife

There would be a temporary decrease in habitat quality for all wildlife due to noise and activity during the 10 week heavy equipment phase of the project. The majority of large, mobile wildlife would probably move out of the area during construction activities and return after heavy equipment has left the area. No permanent adverse impact on any wildlife population is anticipated.

Aquatic and riparian habitat would be increased because an estimated 1200 feet of intermittent and perennial stream channel would be restored.

At the ponded water along the B-Line, there is an expected loss of some amphibian and aquatic invertebrate habitat as a result of the draining of the pond and subsequent restoration of the original stream channel. Sediment released during the draining may deposit some fine material in downstream fish spawning gravels, but the amount should be minimal.

Impacts to Threatened and Endangered Species

No sensitive threatened or endangered plants have been found in the proposed project area. If any sensitive plants are discovered, the proposed project will be modified so as to not disturb the area surrounding the particular plant(s). If any threatened and endangered plant species are found, then informal consultation with either U.S. Fish and Wildlife Service or California Department of Fish and Game would occur.

Redwood National Park consulted with the U.S. Fish and Wildlife Service in December 1993 about potential impacts to northern spotted owls and marbled murrelets. The park agreed to restrict work to outside the core breeding period for marbled murrelets and spotted owls. Heavy equipment and chainsaw work would begin no sooner than August 5, 1994 and would end before March 15, 1995. If proposed work is not completed in the one season, consultations with U.S. Fish and Wildlife Service would resume regarding the work schedule for the 1995 season. Work before September 15 (the end date of the murrelet breeding season) is proposed in the area near Highway 101 where ambient noise levels are already high. Work would begin 2 hours after sunrise and end 2 hours before sunset to further minimize disturbance.

Following the work schedule approved by the U. S. Fish and Wildlife Service, the work would not adversely affect marbled murrelets or northern spotted owls.

Breeding habitat for red legged frog and western pond turtle would be diminished upon removal of the ponded water behind the B-Line. The pre-pond channel gradient, which would be uncovered under the preferred alternative, is about 3%. It is expected that some new breeding habitat for these species would be provided within the quiet water areas behind boulders and logs within the channel.

Spawning gravel for coho salmon and summer steelhead trout would be protected from deleterious impacts of increased sedimentation from road failures once the roads have been removed. The spawning gravels may receive a small amount of fine sediment from draining the pond, but the effect should be minimal.

Impacts to Cultural Resources

The proposed project would have no effects on any properties listed on or eligible for listing on the National Register of Historic Places, the State historical Landmarks and Points of Historical Interest or the California Register of Historical Resources.

If cultural resources are encountered during the implementation of the project, work would be suspended at the find until the national park archeologist evaluates the materials and offers recommendations for further action.

Impacts to Scenic Resources

Road scars in the project area would be obliterated. Within the first 1000 feet of the Ah Pah Road from the Newton B. Drury Scenic Parkway, earth moving will be directed more strongly toward complete recontouring to original ground configurations. This area would also undergo extensive transplanting and forest duff application to restore the forest understory soon after earth moving is completed. Areas that have been timber harvested would have less intensive work on the total recontouring and revegetation aspect, and more attention on restoring hydrologic systems, controlling erosion and retrieving top soil. Some of the higher cutbanks in the harvested area may not be completely buried. Following restoration, most visitors would not know that a road had existed.

The scenic resources of the area would be mostly restored to more natural appearing conditions. Tractor trails within the area would remain, and continue to revegetate with herbaceous and woody species, eventually succeeding to coniferous forest.

Impact to Park Operations

The parks would no longer need to perform annual road maintenance in the project area. Since all culverts, ditches and gates associated with the roads would be removed, there would be no future costs for the replacements and maintenance of these items. Periodic trail maintenance would be necessary to maintain the interpretive trail. This would require approximately 1 person day per year to clear windfall debris and encroaching vegetation.

It is anticipated that there would be a great reduction in the amount of illegal camping and vandalism in the proposed project area with the absence of a drivable road. This would reduce the need for frequent protection ranger patrols for illegal camping and vandalism in the area.

Park personnel implementing this project would not be available to work on Congressionally mandated watershed rehabilitation program within Redwood Creek watershed.

Resource specialists would perform annual reviews of the completed project to monitor potential impacts to water resources, soils, vegetation and wildlife. This would require about 5 person days per year for the first 4 years, reducing to about 2 person days per year after that.

PREPARER, COORDINATION AND CONSULTATION

This environmental Assessment was prepared by Darcia Short, Geologist, Redwood National Park. The following persons and agencies were consulted during preparation of this document:

Redwood National Park

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Greg Bundros
Terry Hofstra
Carolyn Meyer

Aïda Parkinson
Jim Popenoe
Ann Smith
Terry Spreiter
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California Department of Parks and Recreation, North Coast Redwoods District

Don Beers
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U.S. Fish and Wildlife Service, Sacramento, California

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U.S. Army Corps of Engineers, San Francisco, California

Eric Behn

Jay Franke, Arcata, California

Roscoe and Associates, Eureka, California

Susie Van Kirk, Arcata, California

Yurok Tribe, Eureka, California

REFERENCES CITED:

- 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 (Proceedings of the Corvallis Symposium, August, 1987) IAHS Publ. no. 165.
- U. S. Department of the Interior, National Park Service. 1988. Management Policies. Washington, D.C.
- U. S. Department of the Interior, National Park Service, Redwood National Park. 1992. Statement for Management. Crescent City, California.
- Roscoe and Associates, 1994, A Cultural Resources Inventory of the Ah Pah Road Rehabilitation Project, Humboldt County, California. On file Redwood National Park, Arcata Office.
- State of California. 1985. State Redwoods Parks General Plan. Department of Parks and Recreation, State Park and Recreation Commission. P.O. Box 2390, Sacramento 95811
- Van Kirk, Susie, 1994, Additional Information on the Ah Pah Road Project. On file Redwood National Park, Arcata Office.

APPENDIXES

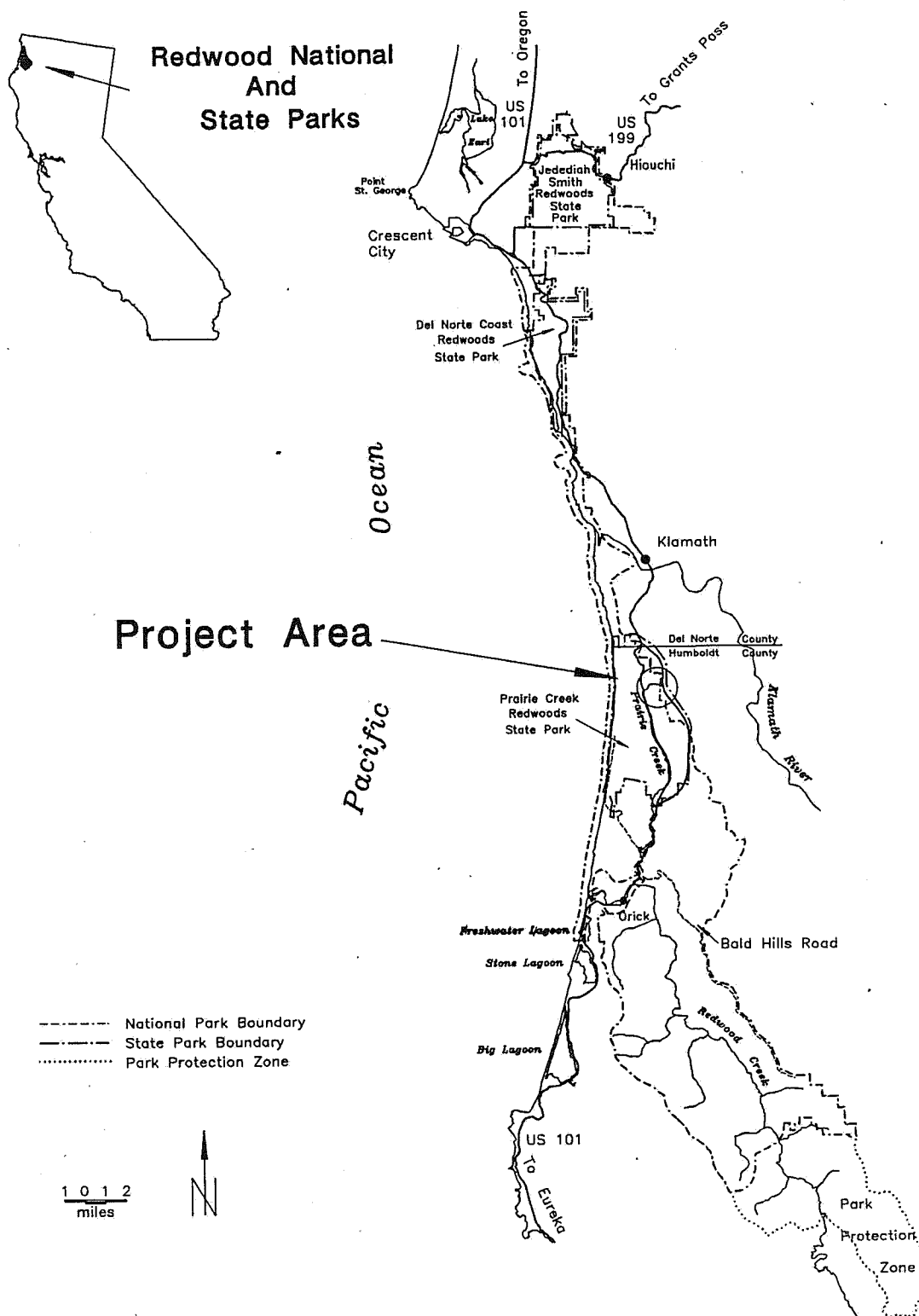


Figure 1. Location of Proposed Project Area in Redwood National and State Parks.

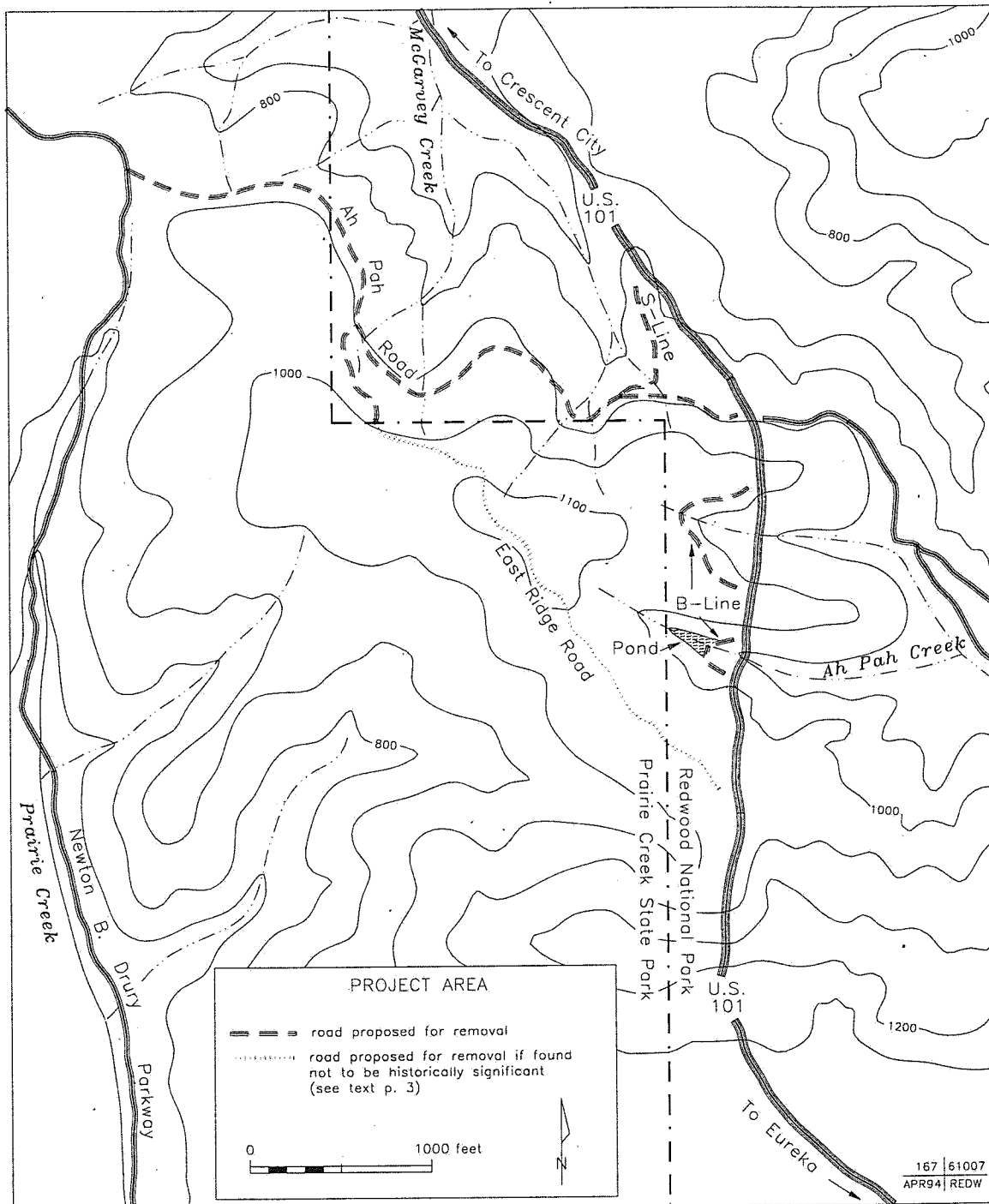


Figure 2. Location of Ah Pah Road, B-Line Road segments, S-Line and East Ridge Road in the project area.



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE

Western Region

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

L7617 XL7019 (PWFA-PGBEQ)

AUG 30 1995

Memorandum

To: Superintendent, Redwood National Park

From: ^{ACTING} Field Director, Pacific West Area

Subject: Ah Pah Road Removal-Restoration Wetlands Statement of Findings and Finding of No Significant Impact

Attached are the approved documents for the subject project.

for Stanley T. Albright

Attachments

cc w/o atch:
WASO-Water Resources

FINDING OF NO SIGNIFICANT IMPACT

Removal of Ah Pah Road and Spurs and Site Restoration

REDWOOD NATIONAL AND STATE PARKS
Humboldt County, California

This Finding of No Significant Impact should be attached to the August 1994 *Draft Environmental Assessment - Removal of Ah Pah Road and Spurs and Site Restoration*.

DESCRIPTION OF THE PROPOSAL

The National Park Service proposes to remove portions of Ah Pah Road (also known as A. K. Wilson Road or County Line Road), the B-Line, S-Line and a portion of East Ridge Road, in Redwood National and State Parks. Approximately two miles of roads will be removed and the sites restored. The parks will excavate approximately 32,000 cubic yards of road fill from stream channels, place it stable locations along the road corridor, and recontour the existing road benches to conform to original hillslope configuration. Work is estimated to take ten weeks to complete with a hydraulic excavator and two D8-size bulldozers.

The purpose of this project is to protect downstream and riparian resources from excess sediment delivered from abandoned and deteriorating roads used for timber harvesting, and to restore the original ecological functions of parklands by removing the road benches and reconstructing buried stream channels. The parks intend to develop a trail to the restored sites at a future date to provide the public with access to enjoy the area and learn about Redwood National and State Parks' ongoing restoration program.

An environmental assessment evaluated two alternatives:

- 1) No Action
- 2) Remove Ah Pah Road and Spurs and Restore Site (Preferred)

A complete description of all alternatives and the environmental consequences may be found in *Draft Environmental Assessment-Removal of Ah Pah Road and Spurs and Site Restoration*. Copies of the assessment and the Finding of No Significant Impact are available at Redwood National and State Park offices in Crescent City, Orick, Arcata, and Eureka.

SUMMARY OF PUBLIC REVIEW AND AVAILABILITY

The environmental assessment was released August 28, 1994 for a 60-day public review period ending October 28, 1994. A total of 35 copies were mailed to federal, state, and local agencies, elected official, regional conservation groups, local business organizations, and private citizens. Copies were also available at local municipal and college libraries, and park offices in Crescent City, Orick, Arcata and Eureka.

Written comments on the proposal were received from the U. S. Army Corps of Engineers, the California Department of Fish and Game, the California State Office of Historic Preservation, and one private individual. The State Office of Historic Preservation concurred with the parks that the preferred alternative will have no effect on historic resources.

Redwood National and State Parks have considered all the other comments and offer the following responses.

The U. S. Army Corps of Engineers commented that the proposed project may require a permit pursuant to the Clean Water Act (33 U.S.C. 1344).

Redwood National and State Parks have received a Department of the Army nationwide permit for this project (33 CFR Part 330, Appendix A, (B), (26)), pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344.) The parks have requested the waiver of water quality certification from the California Regional Water Quality Control Board required under Section 401 of the Clean Water Act, which is necessary for authorization of the 404 permit.

The California Department of Fish and Game expressed concern about the loss of wetlands associated with the removal of the B-Line pond while acknowledging that failure of the road would adversely affect downstream aquatic life, including anadromous fisheries.

Park staff evaluated the wetland functions and values affected by the project. The primary wetland in the project area is a water impoundment on the B-Line. Park biologists found that much of the pond is greater than 6 feet depth and under a closed vegetation canopy for most of the year. Northwestern salamander and newt larvae were observed in the shallow areas of the pond. Use of the pond by other wildlife is minimal. The parks have determined that the restoration of the original channel in the area currently buried by the pond and road fill will provide 3500 square feet of wildlife habitat similar to that of the shallow (less than 6 feet deep) area of the pond which is currently 390 square feet.

A private individual provided extensive recommendations and suggestions for implementing the restoration project, including restoration techniques, and expressed concern that several threatened or endangered species and their habitats are significantly or potentially affected. Also noted were inconsistencies regarding the number of perennial and intermittent streams described in the Draft Environmental Assessment.

Redwood National and State Parks will use nationally-recognized watershed restoration techniques developed through 17 years of research and experience in the Redwood Creek basin. The parks have consulted with the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act about potential impacts to northern spotted owls and marbled murrelets. A work schedule has been established to minimize impacts to both species from noise and disturbance. The schedule will be adjusted according to the most current guidelines established by the U.S. Fish and Wildlife Service. No other significant adverse impacts on owls or murrelets are anticipated. The following table lists perennial and intermittent streams.

Table 1. Road - Stream Crossing Inventory for Ah Pah Road and Spurs.

ROAD NAME	NO. OF X-INGS	CULVERT	INTERMITTENT STREAM	PERENNIAL STREAM	WATERSHED
Ah Pah Rd	9	7	5	4	McGarvey
S-Line	1	0	1	0	McGarvey
B-Line	4	0	3	1	N. F. Ah Pah
East Ridge	1	0	1	0	McGarvey
J-Line spur	1	0	1	0	Prairie Creek

IMPACTS AND MITIGATION

An impact/mitigation matrix summarizing the potential impacts for which mitigation can be prescribed, the mitigating measures, and the party responsible for carrying out the mitigation is appended to this FONSI.

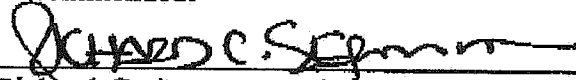
The environmental assessment indicates that there would be no adverse impacts to floodplains or cultural resources. The parks have consulted with the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act to develop measures to avoid or minimize impacts to northern spotted owls and marbled murrelets. No other listed or proposed threatened or endangered plant or animal species would be affected by this proposal.

Removal of the B-Line Pond will adversely affect less than one acre of wetland. Impacts to this wetland will be mitigated through measures developed in consultation with the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game. In compliance with NPS Guidelines for implementing Executive Order 11990, "Protection of Wetlands," a Wetlands Statement of Findings is attached.

CONCLUSION

Based on the environmental assessment and analyses of issues and alternatives, together with analyses of public response and the ability of the mitigation measures to reduce or eliminate adverse impacts, the National Park Service is implementing the proposed action. It is the determination of the National Park Service that the proposed action is not a major federal action significantly affecting the quality of the human environment. Nor is the proposed action without precedent or similar to one that normally requires an environmental impact statement. Therefore, in compliance with the National Environmental Policy Act, an environmental impact statement will not be prepared.

Recommended:


Richard C. Sermon, Acting Superintendent
Redwood National and State Parks

8/19/95

Date

Approved:


Stanley T. Albright, Field Director, Pacific West Area
National Park Service

8/30/95

Date

Finding of No Significant Impact - Environmental Assessment Removal of Ah Pah Road and Spurs and Site Restoration
Redwood National and State Parks Humboldt County, California

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Appendix 1

IMPACT/MITIGATION MATRIX

All mitigation actions are the responsibility of the National Park Service and the North Coast Redwoods District of California State Parks.

Impact	Mitigation
Wetlands: The removal of the road prism on the B-Line road will remove a 0.3 acre pond.	Impacts to wetlands will be mitigated as prescribed by the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and the California Department of Fish and Game.
Threatened and Endangered Species: Noise and human activity may affect northern spotted owls and marbled murrelets for the 10-week heavy equipment phase of the project.	The parks have consulted with the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act about potential impacts to northern spotted owls and marbled murrelets. A work schedule has been established which minimizes effects on both species due to noise. Work schedules will be adjusted according to the most current guidelines established by the U.S. Fish and Wildlife Service.
Cultural Resources: The proposed project will have no effects on any properties listed on or eligible for listing on the National Register of Historic Places, the State historical Landmarks and Points of Historical Interest or the California Register of Historical Resources.	If cultural resources are encountered during the implementation of the project, work would be suspended at the find until the national park archeologist evaluates the materials and offers recommendations for further action.

STATEMENT OF FINDINGS WETLANDS

Removal of Ah Pah Road and Spurs and Site Restoration

REDWOOD NATIONAL AND STATE PARKS Humboldt County, California

In accordance with Executive Order 11990 (Protection of Wetlands) and National Park Service Guidelines for implementing the order, the NPS has reviewed alternatives for the removal of several roads previously used for timber harvest activities in areas now part of Redwood National and State Parks. The course of action selected for implementation is the only practicable alternative in view of the long-term protection afforded park resources and aquatic resources in the forest ecosystem downstream of the parks.

DESCRIPTION OF THE PROPOSAL

The National Park Service proposes to remove portions of Ah Pah Road (also known as A. K. Wilson Road or County Line Road), the B-Line, S-Line and a portion of East Ridge Road, in Redwood National and State Parks. The purpose of this project is to protect downstream and riparian resources from excess sediment delivered from abandoned and deteriorating roads used for timber harvesting, and to restore the original ecological functions of parklands by removing the road benches and reconstructing buried stream channels.

One of the roads proposed for removal, the B-Line, has impounded behind the road prism at a stream crossing a 0.3 acre pond averaging 11 feet deep (figures 1, 2, and 3). The pond area includes wetlands as defined in the 1987 US Army Corps of Engineers Wetlands Delineation Manual. The road fill at this stream crossing is in the initial phases of failure, as evidenced by water flow emerging through natural ground water pipes and scarps at the outboard edge of the road.

Other roads to be treated as part of this project have similar crossings, but do not impound water.

ALTERNATIVES CONSIDERED

An environmental assessment evaluated two alternatives:

- 1) No Action
- 2) Remove Ah Pah Road and Spurs and Restore Site (Preferred)

Under the No Action alternative, all roads within the project area would be retained. Redwood National and State Parks would continue to maintain the roads to minimize erosion. This consists of annual evaluations of culvert conditions, seasonal inboard ditch

improvements, and occasional brushing to maintain a road corridor. The roads would become more costly to maintain as ongoing road deterioration would necessitate larger repair projects. Culverts would require eventual replacement so as to maintain equipment access to the entire road prism for maintenance.

At the B-Line pond, the road prism would eventually fail. Park geologists estimate failure is imminent and could be as early as the 1995-'96 rainy season. Catastrophic failure of the pond would be very likely, with rapid down-draining and with subsequent mud and debris flows into downstream riparian reaches. Adverse impacts to downstream aquatic resources would be significant.

Under the preferred alternative, selected roads in the project area would be removed. The road benches would be recontoured. Where the roads cross stream channels, the channels would be excavated down to the original (pre-road) configuration. Approximately 2400 lineal feet of stream channel would be restored. Road fill removed from stream channels would be placed in stable areas of the road corridor to conform to original hillslope configuration. Approximately 2.0 miles of road would be removed. Approximately 80,000 cubic yards of road fill would be excavated and placed in stable locations along the road corridor. Work would take an estimated 10 weeks to complete with a hydraulic excavator and two D8 size bulldozers.

The B-Line pond would be drained using siphons and pumps and the road fill would be excavated. The original stream channel grade, width and channel armoring elements would be uncovered and restored. The uncovered channel length would be about 350 feet with a width of about 10 feet, providing 3500 square feet of channel habitat. The final channel grade would average 15 percent with a step/pool morphology. Pool dimensions within the restored channel would be controlled by the orientation and size of logs uncovered during excavation of the channel. Typically, channel excavations in areas of a similar age of logging elsewhere within Redwood National Park have revealed logs of 3 feet diameter and greater. This would provide for pools about 1.0 - 1.5 feet deep and about 5 feet in diameter. If just 10 percent of the 3500 square feet of channel was occupied by pool form, then the restored channel would provide up to 350 square feet of habitat similar to the 390 square feet that currently exists around the margins of the pond. It is expected that more than 10 percent of the restored channel would support pool habitat.

Fill from the excavation would be placed on stable road benches in the vicinity and shaped into the surrounding hillslopes to match original, pre-road topography.

WETLAND FUNCTIONS AND VALUES

The only wetland in the project area with potentially significant wetland functions and values is the B-Line pond. Park staff has determined that the wetland functions and values affected by the project are minimal, as described below.

Hydrology

The wetland is located near the top of the steep headwater of the North Fork of Ah Pah Creek and captures runoff from a 17 acre watershed. The pond traps a minimal amount of sediment from the undisturbed old growth redwood forest above. Because of its location, the pond provides minimal flood control, groundwater recharge or water quality enhancement.

Vegetation

Except for a few shallow areas at the margin of the pond near the road, the pond is too deep to support vegetation. Emergent vegetation is almost non-existent. The banks are steep and thickly vegetated with trees and shrubs typical of the surrounding redwood forest. The following plants were found at the site. Submerged/emergent: *Sparganium* sp., *Callitriche*; adjacent banks: *Mentha* sp., *Veronica americana*, *Ranunculus repens*, *Alnus rubra*, *Sequoia sempervirens*, *Polystichum munitum*, *Vaccinium ovatum*, *V. parvifolium*, *Rubus parviflorus*, *Picea sitchensis*, *Salix* sp., road bed: *Melilotus alba*, *Epilobium* sp., *Prunella vulgaris*, *Lolium perenne*, *Lotus corniculatus*; saturated road bed: *Alopecurus* sp., *Mimulus guttatus*.

Fish and Wildlife

No fish are present in the Pond. The pond provides year-round habitat for a few common amphibian species. One northern red-legged frog (*Rana aurora aurora*) was found. This species is a Category 2 candidate for listing as threatened or endangered under the Endangered Species Act. The red-legged frog is fairly common in Redwood National and State Parks and in the surrounding region. About 300 total larvae of rough-skinned newts and northwestern salamanders were present, especially in the shallow margins of the pond. Both of these species are also common in the region. Aquatic invertebrate larvae were present.

No other wildlife were seen during surveys and other visits, nor is there evidence of other wildlife using the pond.

WETLAND MITIGATION AND COMPENSATION

At the B-Line stream crossing, the restoration of the original channel in the area currently buried by the pond and road fill will provide 3500 square feet of defined wetland habitat similar to that of the shallow area of the pond. The pond currently provides 390 square feet of wetland habitat. For the entire project, approximately 2400 lineal feet of perennial and intermittent stream channel will be uncovered and original channel functions restored. Headwater stream channels provide important habitat for macro-invertebrates, herpetofauna and other life forms critical to a healthy diverse ecosystem.

This project involves draining an artificial wetland for which the National Park Service does not normally require mitigation. However, because of the potential impacts to Category 2 candidate species and other amphibians, the project will be performed with consideration of minimizing impacts to the species of concern. The pond will be drained slowly, about 1 foot per day, during the late summer to allow as great an amount of time as possible for amphibians to mature and to escape the lowered water levels. The pools and riffles of the

restored stream channel will not duplicate the deeper standing water habitat in the existing pond, but will provide wetland habitats that benefit a variety of amphibian species.

Redwood National and State Parks has received a Department of the Army nationwide permit for the B-Line pond removal portion of this project (33 CFR Part 330, Appendix A, (B), (26)), pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344.) The parks anticipate receiving a waiver of water quality certification from the California Regional Water Quality Control Board under Section 401 of the Clean Water Act, which is necessary for authorization of the 404 permit.

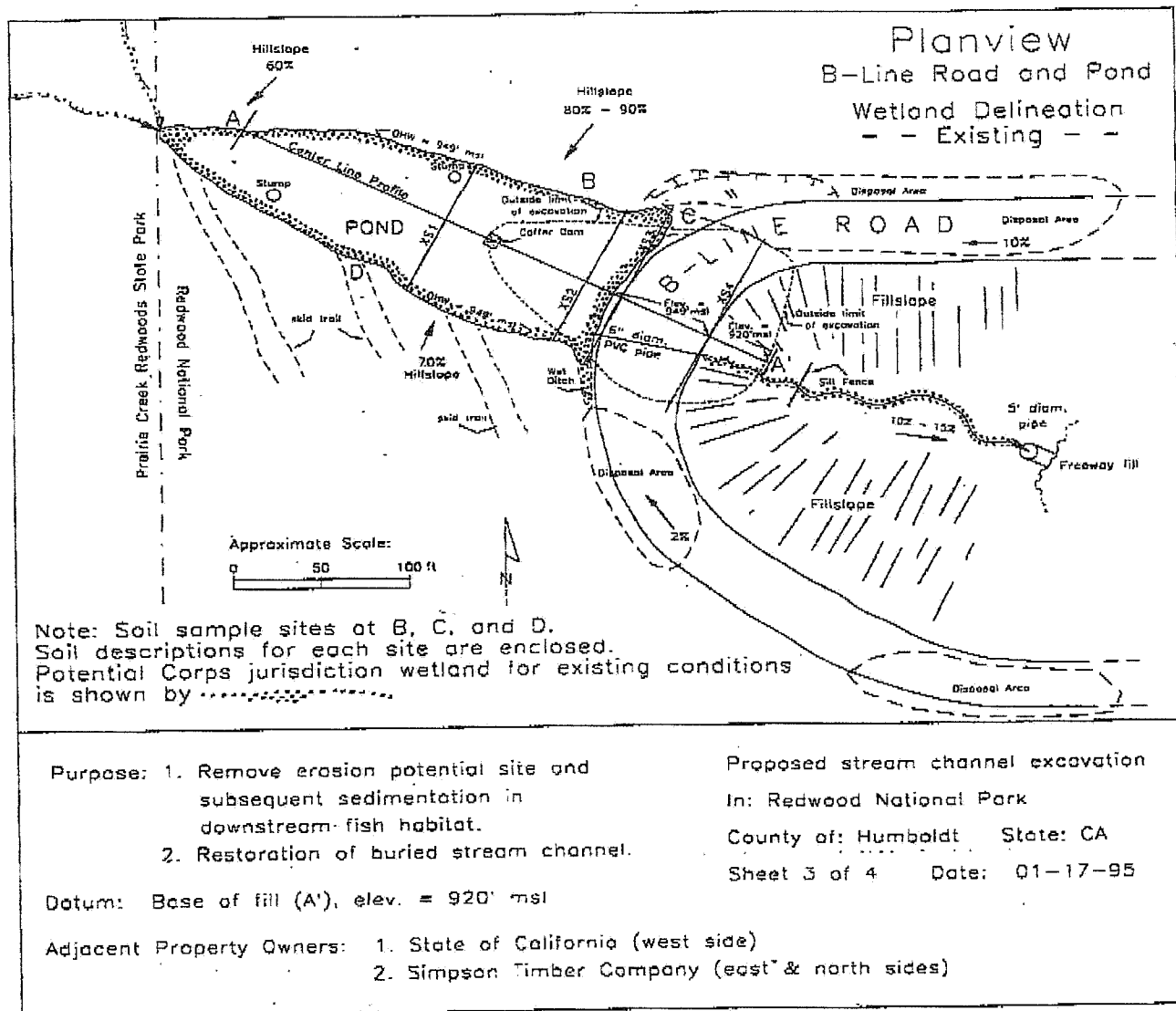


Figure 1. Planview of B-Line Road and Pond existing conditions showing wetland delineation.

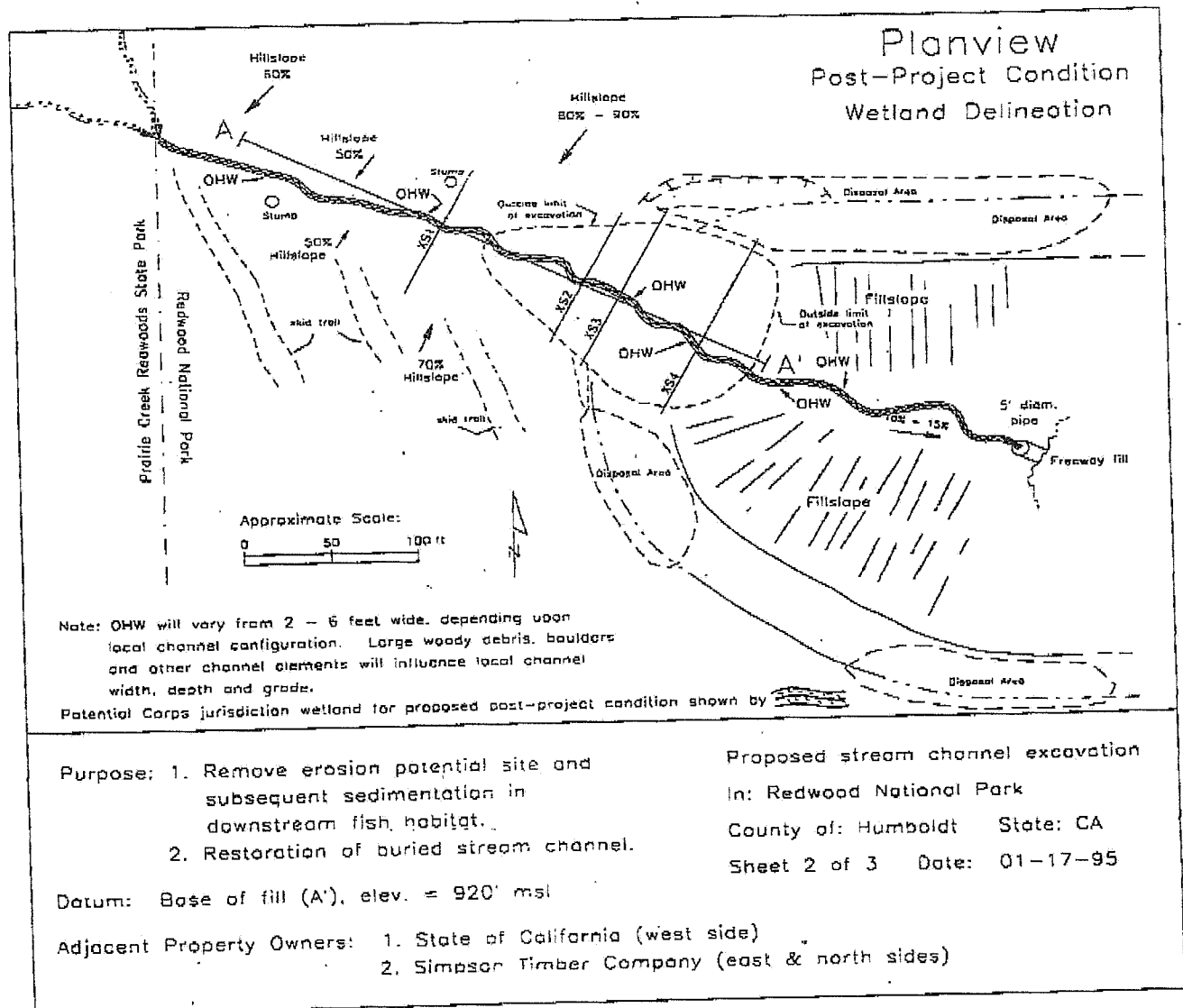


Figure 2. Planview of Post project condition of B-Line Road and post project wetland delineation.

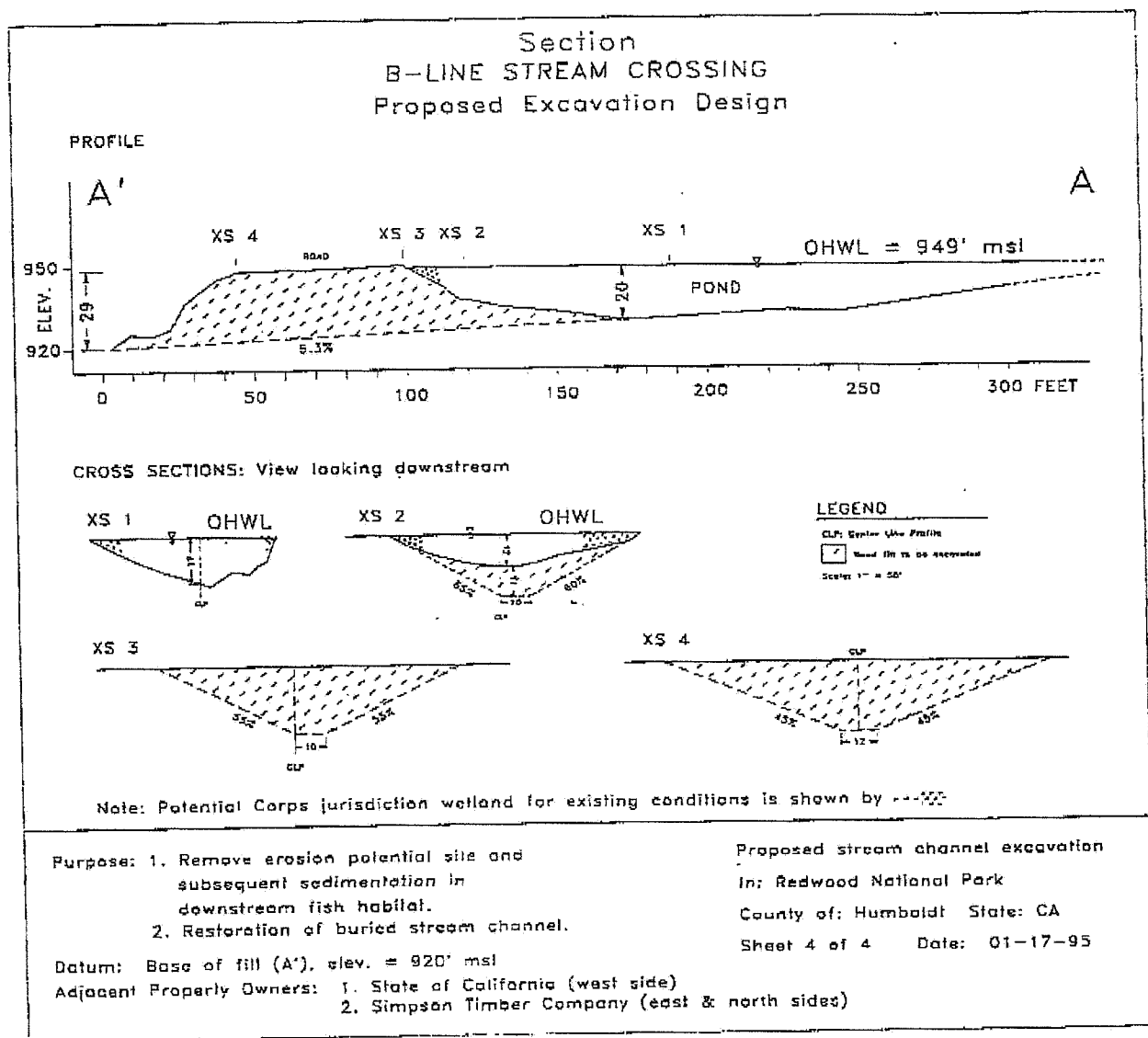


Figure 3. Section view of B-Line Stream crossing and pond showing proposed excavation design.

Recommended:



8/17/95

Date

Richard C. Sermon, Acting Superintendent
Redwood National and State Parks

Concur:

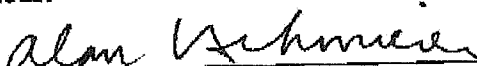


8-14-95

Date

Dan Kimball, Chief, Water Resources Division
National Park Service

Concur:

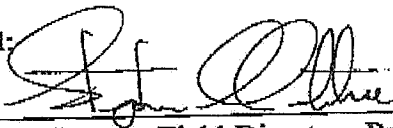


8/30/95 MCK

Date

Alan C. Schmierer, Pacific Great Basin SSO Environmental Compliance Officer
National Park Service

Approved:



8/30/95

Date

for Stanley T. Albright, Field Director, Pacific West Area
National Park Service

Statement of Findings - Removal of Ah Pah Road and Spurs and Site Restoration
Redwood National and State Parks Humboldt County, California

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