



**ENVIRONMENTAL
ANALYSIS**

ENVIRONMENTAL ANALYSIS

SUMMARY

This general plan for Humboldt Redwoods State Park, with all of its sections, addresses every one of the points required by Article 9 (State CEQA Guidelines sections 15120-15132) and, therefore, constitutes an environmental impact report (EIR), as required by Public Resources Code Sections 5002.2 and 21000 et seq. It will be submitted to the California Park and Recreation Commission, which has sole authority for the plan's approval and adoption. However, future projects, based on the provisions of this general plan, may be subject to permitting requirements and approval by other agencies, such as the Department of Fish and Game, Caltrans, or the State Water Resources Control Board.

The tiering process of environmental review is incorporated into this EIR and the discussion of project impacts is commensurate with the level of specificity of this general plan. Accordingly, the plan and EIR constitute the first tier of environmental review. "Tiering" in an EIR prepared as part of a general plan allows agencies to deal with broad environmental issues at the general planning stage, followed by more detailed examination of actual development projects (that are consistent with the plan) in subsequent EIRs or negative declarations. Later EIRs incorporate, by reference, the general discussions from the broader EIR (the general plan) and concentrate solely on the issues specific to the later projects (Public Resources Code Section 21093; State CEQA Guidelines, CCR Section 15152).

The proposals contained in this general plan were developed during the general planning process for Humboldt Redwoods State Park. The plan proposals, also referred to as "the project," provide for additional public and administrative facilities but also contain safeguards that require further data collection, evaluation, and additional specific management planning and resource impact identification prior to new construction or reconstruction. The management zones established in the plan provide readily identifiable boundaries for specific types of activities, programs, and developments, reducing the potential for the introduction of inappropriate activities into prime resource areas. The project affords significantly more protection for natural resources (emphasizing ancient redwoods) by establishing a natural preserve and state wilderness designations in prime resource areas and creating a new state reserve. The requirements that specific plans for trails, resource management, and cultural resources be undertaken prior to development add further protections.

The Notice of Preparation for the general plan was circulated to state and local planning agencies in early 2001. Public meetings were held in 1999 and 2000 to solicit public comments on issues. The public voiced opinions and concerns regarding the following issues:

- Plans for future acquisitions;
- The need for a much improved trail system, especially for equestrian and mountain bike backcountry access;

- Improved communications between the park and local businesses;
- Plans for facility improvements, such as campground improvements;
- Additions of interpretive facilities and programs;
- Improved recreational diversity;
- Continued protection of cultural sites; and
- Protection of redwoods and other natural resources.

In addition, written responses were received from the County of Humboldt Farm Bureau (primarily economic and agricultural issues) and the U.S. Fish and Wildlife Service and the California Department of Fish and Game (primarily endangered species issues).

As a first tier of planning for the park, this general plan cannot address all of these proposals in detail. Although it sets the overall goals for park management and provisions for public use, it does not define development specifics or the methods for attaining resource protection goals. These will be part of future planning steps, such as the layout and design of facilities or specific resource management plans and processes.

The objectives of the Environmental Analysis section are to identify, where possible, the significant environmental impacts of implementing the general plan and to define generalized mitigation criteria and policy-level alternatives. Once the general plan is approved and adopted, the Department will begin preparing management and area development plans as required and as staff and funding allow. These will address such issues as vegetation and fire management, trail management, and site development plans. The area development plans will provide specific information on resources and design considerations, including layout, facilities' configuration, capacities, etc., within designated areas of the park.

Implementation of area development plans will generally be carried out as the first phase of major and minor capital outlay projects. At each planning level (whether a management plan, an area development plan, or major or minor capital outlay project), the plan or project will be subject to further more detailed environmental review to determine if it is consistent with the general plan and to identify any significant environmental impacts and mitigation measures that would be specific to the project. Mitigation generally requires resource specialists to evaluate the scope of work, identify the cause of the impacts, and specify measures to avoid or reduce the impacts to a less-than-significant level. More detailed environmental review will be possible at those levels of planning, where facility size, location, and capacity can be explicitly delineated, rather than at the general plan level.

PROJECT DESCRIPTION

The Plan Section of this general plan constitutes the project description and an overview of changes to existing facilities and new development, resource management actions, and reclassification proposals. If the general plan were fully implemented as written, the following proposals would be carried out:

1. Proposals by management zone:

Primitive Zone

- Subclassify ancient redwood forest as a natural preserve

Backcountry (Non-Mechanized) Zone

- Rehabilitate watershed functions and vegetation
- Subclassify specified ancient redwood forest areas as state wilderness
- Construct hiking and equestrian trails
- Establish a primitive backcountry equestrian camp

Backcountry (Mechanized) Zone

- Rehabilitate watershed functions and vegetation
- Install interpretive exhibits
- Establish viewing areas at appropriate sites within the Bull Creek watershed.

Frontcountry Zone

- Reclassify the Whitemore and Holbrook groves as a state reserve
- Expand the Cuneo Creek and Albee Creek campgrounds;
- Relocate group camping facilities from Williams Grove to a site within this zone;
- Develop trails and trailheads;
- Install a walk-in camp in the Bull Creek watershed;
- Develop camping alternatives, such as RV hook-ups, in existing or new camping areas;
- Develop/improve equestrian day use facilities near existing trailheads;
- Develop an environmental education center;
- Add improvements in the historic core at the Holmgren property for living history programs;
- Develop interpretive/orientation exhibits at the Dyerville Overlook and Logan-Holmgren property to serve as the park's northern and southern gateways; and
- Develop wayside interpretive exhibits

Transportation Zone

- Create a Parkway experience on the Avenue of the Giants
- Install additional park entrance/informational signs
- Create scenic vista points along highway corridors
- Provide wayside orientation and interpretation along the park's roadways

Administration/Operations Zone

- Furnish clear signage and pathways

2. Provide ongoing protection for the park's natural resources by establishing allowable use intensities based on resource monitoring to assess impacts to resources from exceeding the threshold of significance; placing seasonal limitations on uses in specified areas; and relocating some roads and trails, as necessary, to protect and rehabilitate impacted resources.
3. Develop a Trails Plan to evaluate the park's entire road and trail system; design and implement improvements to provide expanded recreational experiences;
4. Purchase land or conservation easements from willing sellers to create habitat linkages connecting the park to nearby lands owned by others; provide buffers to protect the park's upper

watersheds and create management continuity of ancient redwood forest areas near the park's boundaries;

5. Work closely with local jurisdictions and landowners for ongoing resource protection. Continue Department review and comment on timber harvest plans and land use proposals by others in the vicinity of the park; and
6. Continue resource management efforts, including reforestation, landscape rehabilitation, and the introduction and use of fire as a management tool.

DESCRIPTION OF THE ENVIRONMENTAL SETTING

Refer to the general plan's Park Summary for a description of the existing park environment and significant resource values. Additional air quality, aesthetics, and traffic information follow.

AIR QUALITY

Humboldt Redwoods State Park is in Humboldt County, which is part of the North Coast Air Basin (Basin) and North Coast Unified Air Quality Management District. Frequent rains and ocean winds, generally very low levels of commuter traffic, and a small industrial base result in relatively clean air throughout all of Humboldt and surrounding counties. Because of these conditions, Humboldt County is currently in attainment with California standards for carbon monoxide, hydrogen sulfide, and lead (particulate). The Basin is in attainment with California standards for ozone (except portions of Sonoma County), nitrogen dioxide, sulfur dioxide, and sulfates. A pollutant is designated attainment if the state standard for a pollutant was not violated at any site in the area during a three-year period.

The Basin is in nonattainment with California standards for particulate matter (PM10, or particles with an aerodynamic diameter of 10 microns or less). A pollutant is designated nonattainment if there was at least one violation of a state standard for that pollutant in the area. The Basin is currently unclassified for visibility reducing particles (VRPs), but PM10 (which includes dust and smoke particles) is a VRP, indicating a possible reason for concern in this area.

With respect to federal standards, the North Coast Air Basin is in an unclassified/attainment zone for both carbon monoxide and ozone and remains unclassified for particulate matter. (Attainment status for both state and federal standards as of November 16, 2000, per "*Amendments to the Area Designations Standards 2000*," *California Air Resources Board*)

AESTHETICS

As noted in the Park-wide Goals and Guidelines for Aesthetics, the visual and audible qualities of a scenic landscape can be critical to a visitor's perception and experience within the park. Those visitors anticipating the silence and undisturbed natural beauty of a remote wilderness may find their park experience significantly degraded by roadway traffic noise, audible throughout most of the easily accessible areas near main roads, and the evidence of concentrated human activity. However,

relative quiet is attainable within the ancient redwood forest in the Bull Creek watershed that is proposed for wilderness classification.

As noted in the Adjacent Land Uses portion of the Park Summary, much of the park is surrounded by tracts owned by companies involved in active logging practices, including clear-cutting. Buffer areas that currently protect scenic views may not be sufficient to compensate for continued logging activities at or near the park boundaries. The visibility of large tracts of adjacent clear-cut forest from within the park could have a significant impact on visitors' expectations of immersion in an expansive forest that transcends the park boundaries.

TRAFFIC

Two highways, Highway 101 and State Route 254, bisect the park. The first is a four-lane freeway and primary California north-south travel artery that carries commercial, local, and tourist traffic. SR 254's use is comprised mainly of local and seasonal tourist traffic. Average traffic levels fall below recommended maximum traffic volumes, even during peak periods.

There is some minor fluctuation of traffic numbers along the approximately 34 miles of Highway 101 that pass through portions of the park, from just south of Garberville (milepost R11.13) to the freeway's northern junction with the SR 254 exit at Jordon Road (milepost R45.90). However, from milepost R11.13 to milepost 25.01 (Salmon Creek Road), Highway 101 only skirts two relatively small noncontiguous portions of the park. At the Salmon Creek exit, near the southern border of the main body of the park, peak hour traffic is 740 vehicles per hour, the peak month ADT (average daily traffic) is 6,900 vehicles, and the annual ADT is 5,400 vehicles. The highest traffic counts, where Highway 101 passes through or adjacent to the park, occur at the Jordon Road exit, where peak hour traffic is 1,000 vehicles per hour, peak month ADT is 10,400 vehicles, and annual ADT is 7,600 vehicles. All data are from *1998 Caltrans Traffic Volumes*.

The highest traffic counts on SR 254 occur at the Miranda Bridge Road (milepost 4.84). Peak hour traffic is 330 vehicles per hour, Peak month ADT is 2,400 vehicles, and annual ADT is 1,200 vehicles. At the park's Burlington Campground and Visitor Center (milepost 16.84), peak hour traffic is 160 vehicles per hour. Peak month ADT is 1,300 vehicles, and annual ADT is 620 vehicles (*1998 Caltrans Traffic Volumes*). During the summer, the ADT for Mattole Road is approximately 900 vehicles, which falls to about half, or an ADT of 450 vehicles, in the winter (*Humboldt County Data*).

GROWTH-INDUCING IMPACTS OF THE PROPOSED ACTION

Owing to the park area's remoteness from large metropolitan areas, its rural character, propensity to flood near rivers and streams, and well-known wet winter weather, it has not undergone the population increases experienced in central and southern California. County projections for future growth are moderate. The *Avenue of the Giants Community Plan* (part of the County General Plan) states "population projections for Avenue of the Giants (area are) at the county-wide population growth of 9% every ten years." (page 2-1) Although the population is growing in communities north and south of the park (see page 40 of this general plan), "population increases (in towns adjacent to the park) do not appear to be a realistic assumption at this time. . . . Additional growth will likely

occur in the rural parcels surrounding the towns (adjacent to the park), outside of the planning area boundaries (the towns' spheres of influence as defined in the county plan). This may stimulate more development in the towns, in terms of providing services to the population living in the surrounding areas."

One of the aims of this general plan has been to assist in attracting more economic benefits from tourism to the surrounding communities. If implemented completely, the general plan could potentially draw more visitation to the park. This would be due to modest, though yet unspecified, increases in capacities for overnight use and the provision of accommodations, such as RV hook-ups or tent cabins, that could invite more visitors who don't wish to tent camp and extend visitation into the shoulder seasons. Improvements subsequent to the Trails Plan and subclassification of large areas of the park as wilderness should raise the park's profile as a destination for backcountry experiences, contributing to the potential for increased overnight use.

Day use and interpretive developments could also encourage more visitation. In fact, some interpretive facilities and programs are specifically designed to appeal to and encourage the visitation of school children, as well as adults. These developments include the proposed environmental education center and improvements in the historic core at the Logan-Holmgren property for living history programs.

General plan recommendations to acquire additional land for new facilities, if future studies document a clear demand, also have the potential to facilitate visitation increases, economic benefits to the nearby communities, and possible resultant population growth.

CUMULATIVE IMPACTS

The proposed project may only have a minor cumulative impact on the area. Proposed developments are not likely to increase the park's simultaneous use substantially or concentrate adverse impacts, given the park's considerable size and the modest nature of the proposals. Although some of the proposed facilities, such as RV hook-ups and the environmental education center, are intended to encourage more off-season visitation, overall park usage is not expected to be appreciably increased.

Potential land acquisitions, because their location, size, or specific use are not yet identified, cannot be evaluated with regard to the cumulative impacts they might have. However, the primary intent for additional acquisitions expressed in the general plan is to protect existing park resources and enhance plant and wildlife habitat. As such, they would have minimal potential for contributing to cumulative adverse impacts. The plan also recommends future land additions for recreational development if no suitable sites exist within the park. Because of the relatively small size of developments projected in the general plan, these are not expected to increase park usage to any appreciable extent.

At this time, there are no known development projects proposed in the immediate vicinity of the park, and the development associated with the adoption of this general plan is not projected to have a measurable impact on the growth of the area. However, population growth within California will create an increased demand for recreational opportunities with or without facility development at Humboldt Redwoods State Park. This increase in the general population of the area, as well as

visitation to the park, will need to be considered as part of subsequent tier CEQA reviews and associated mitigation, including proportional protection for sensitive areas.

SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROPOSED PROJECT

Significant environmental impacts are those commonly associated with visitor use, facility development, and rehabilitation projects. These can include traffic, visual impacts, and disturbance or loss of sensitive species and habitats. The purpose of this section is to identify the impacts of implementing the general plan as a whole, especially those projects that have potential for significance and will require more specific analysis when area development and management plans are prepared in the future. The general plan calls for the preparation of a Trails Plan, Natural Resource Management Plan, including a Fire Management Plan, Cultural Resource Management Plan, Aesthetic Resource Management Plan, and area development plans as required.

Possible future expansion of the Cuneo Creek and Albee Creek campgrounds could involve environmental disruption from the use of heavy equipment, with the potential impacts of dust, noise, and possible damage to cultural resources, which are present at both sites. Both sites are within the Bull Creek watershed, and Mattole Road is the only access. Traffic disturbance on this road could potentially affect not only park traffic, but also that approaching the Avenue or Highway 101 from west of the park. This would occur both at the time of construction and on a continuing basis due to increased public facility use.

The relocation of facilities that are currently causing adverse impacts at sensitive resource sites would remove those particular impacts from those sites. However, relocation also creates the negative impacts of demolition during the time work is being accomplished, interruption of or interference with park usage, and construction impacts at the new sites.

Improvements to the trail system and the trail camps resulting from the Trails Plan would involve short-term construction impacts in the backcountry, where noise and visual disruptions are more apparent than in more developed areas of the park. However, an improved trail system would ultimately result in less erosion, as well as diminished sedimentation into park streams.

Providing RV hook-ups in already developed recreational areas would create short-term construction impacts, but it would reduce noise and soil compaction within the campgrounds over time. To avoid degrading the visitors' experience, construction could be accomplished during the off-season when visitation is low.

The term, thresholds, is used in describing levels of impact. Thresholds are standards that determine if an activity or project will cause a substantial or potentially substantial adverse change within the area affected by the project. If a project or activity could exceed an established threshold, the impact is considered significant. If mitigation can reduce the impact below the threshold, the impact is considered less-than-significant.

This general plan is the first phase of a tiered EIR and, as such, proposed development and associated mitigation are general in nature. As management plans, area development plans, or specific projects are proposed, they will be subject to further environmental review, and project-specific mitigation measures will be developed and implemented.

VISUAL IMPACTS

THRESHOLD

The threshold level for a visual impact consists of a management or development activity that will substantially degrade the existing visual character or quality of a site and/or its surroundings or is incompatible with the character of the park. This includes, but is not limited to, activities that are visually offensive to visitors or park neighbors; encroachment of vehicular traffic and associated facilities into areas of the park that have previously been non-impacted or only marginally impacted visually; and increased visibility of large tracts of adjacent clear-cut forest from viewpoints within the park.

IMPACT

Significant, unless mitigated.

DISCUSSION

Any changes that substantially degrade the visual experience for visitors to the park have the potential to cause significant impacts. The significance of visual impacts are dependent on the expectations and perceptions of the viewers. Inappropriate colors, design, and materials in a natural or historic setting or landscape may be visually offensive. The presence of facilities or numerous visitors would generally be more offensive to those expecting a "wilderness" experience than to those expecting higher levels of service or social interaction.

The following are identified in the plan as facilities that, if developed, could create significant adverse visual impacts within the park:

- Hiking and equestrian trails and support facilities (corrals, trailheads, tables) in the Backcountry (Non-mechanized) Zone, the Backcountry (Mechanized) Zone, and the Frontcountry Zone;
- Interpretive exhibits in the Backcountry (Mechanized) Zone, the Frontcountry Zone, and the Transportation Zone;
- Viewing areas in the Backcountry (Mechanized) Zone, the Frontcountry Zone (specifically the Dyerville area), and the Transportation Zone;
- Overnight facilities, either new, rehabilitated, upgraded, or relocated in the Frontcountry Zone;
- Education/interpretation/orientation facilities in the Frontcountry Zone (specifically at the Logan-Holmgren property, the Dyerville Overlook, and in the Bull Creek watershed);
- Unspecified potential facility improvements and new development in the Frontcountry Zone; and
- Signs for visitor information and direction in the Transportation Zone and the Administration/Operations Zone.

The development of new campsite facilities, including equestrian facilities, could create visual impacts even for those visitors expecting such facilities, if proper design for color, scale, location, style, and architectural mass are not carefully considered. Associated parking areas with reflective

parked automobiles could be obvious human-made intrusions in the natural landscape. Development of interpretive exhibits or an environmental education center could create adverse visual impacts for park visitors or nearby motorists. High-profile directional, informational, and interpretive signs along trails, roads, and highways could also contribute to visual clutter.

MITIGATION

The development of management plans and specific project designs will define aesthetically appropriate design features; limit construction methods and timing; provide resource identification; and identify optimum methods for protecting existing resources. General plan-designated management zones (see Map #6) and proposed reclassification of tracts of the park to more protective wilderness and natural preserve status will also afford additional resource protections, including a significant reduction in opportunities for facilities development in sensitive areas. Throughout the park, emphasis will be placed on reducing visual impacts by careful siting, design, and selection of construction materials. Native plant species will also be used to screen developed parking and campground facilities, buffer intrusive or disruptive views or activities outside park boundaries, and enhance scenic views. Construction and maintenance activities will be timed to decrease their impacts on visitors and adjoining property owners. All plans and projects will be in compliance with local, state, and federal permitting and regulatory requirements and subject to subsequent tier CEQA review and project-specific mitigation.

Responsibility:	The Department of Parks and Recreation (Department staff/Landscape Architect) and other mandated contracting authorities
Monitoring/Reporting:	Completion of required resource evaluations and development plans prior to implementation of specific projects. Subsequent tier CEQA review of all proposed projects.

FINDINGS

Until the uses, locations, and scope of facilities or management plans are specified, the actual level of impact (individual or cumulative) or need for mitigation cannot be determined. However, evaluation at the specificity of this first tier review indicates that the projects proposed in this general plan, subject to subsequent tier review and development of corresponding mitigation measures, can be mitigated to a less-than-significant level.

VEGETATION

THRESHOLD

Direct take or removal of specimens of a sensitive species; substantial reduction disturbance or alteration of critical habitat; introduction of a non-native, invasive species.

IMPACT

Significant, unless mitigated.

DISCUSSION

Currently, five sensitive plant species are known to occur in the park. They are:

- California pinefoot (*Pityopus californicus*)
- heart-leaved twayblade (*Listera cordata*)

- Humboldt County fuchsia (*Epilobium septentrionale*)
- redwood lily (*Lilium rubescens*)
- white-flowered rein orchid (*Piperia candida*).

The California Department of Fish and Game Natural Diversity Database classifies two native plant communities within the park as rare, the Redwood Series (the subtype found on alluvial flats) and the Black Cottonwood Series. These rare plant communities are essential habitat for both rare and locally important wildlife species.

Development of the same facilities identified for Visual Impacts, especially the introduction of new facilities and structures into previously undisturbed areas of the park, could create substantial adverse impacts on vegetation.

Facility rehabilitation and development, including trail construction and resource management have the potential for degrading or removing habitat and individual plants. The plan identifies several potential developments in the Bull Creek watershed, including an environmental education center, viewing areas, and a walk-in camp that, if all were developed, could result in significant cumulative impacts.

MITIGATION

Prior to implementation of resource management projects and construction of facilities and trails, areas of potential impact will be surveyed for the presence of sensitive species, including endangered, threatened, or rare plant species. If there is a potential for significant impacts (individual or cumulative), proposed facilities, including trails, will be redesigned to avoid impacts, or appropriate mitigation measures will be taken to reduce the impacts to a less-than-significant level. General plan-designated management zones (Map #6) and proposed reclassification of tracts of the park to more protective wilderness and natural preserve status will also afford additional resource protections, including a significant reduction in opportunities for facilities development in sensitive areas. All plans and projects will be in compliance with local, state, and federal permitting and regulatory requirements and subject to subsequent tier CEQA review and project-specific mitigation.

Responsibility:	The Department of Parks and Recreation (Department staff/Resource Ecologist) and other mandated contracting authorities
Monitoring/Reporting:	Completion of required resource evaluations and development plans prior to implementation of specific projects. Subsequent tier CEQA review of all proposed projects.

FINDINGS

Until the uses, locations, and scope of facilities or management plans are specified, the actual level of impact (individual or cumulative) or need for mitigation cannot be determined. However, evaluation at the specificity of this first tier review indicates that the projects proposed in this general plan, subject to subsequent tier review and development of corresponding mitigation measures, can be mitigated to a less-than-significant level.

WILDLIFE

THRESHOLD

Direct take or removal of individuals of a sensitive species; actions that reduce, disturb, or alter critical habitat, cause a fish or wildlife population to drop below self-sustaining levels, reduce the number or restrict the range of a rare, threatened, or endangered species, or threaten to eliminate an animal community.

IMPACT

Significant, unless mitigated.

DISCUSSION

Of 21 special status species known to inhabit the park, six are on the federal threatened list: marbled murrelet (*Brachyramphus marmoratus*), bald eagle (*Haliaeetus leucocephalus*), northern spotted owl (*Stix occidentalis caurina*), coho salmon (*Oncorhynchus kisutch*), steelhead (*Oncorhynchus mykiss*), and chinook salmon (*Oncorhynchus tshawytscha*).

Four special status amphibians, the southern torrent salamander (*Rhyacotriton variegatus*), the tailed frog (*Ascaphus truei*), the northern red-legged frog (*Rana aurora aurora*), and the foothill yellow-legged frog (*Rana boylei*) are present in the park. One special status reptile, the northwestern pond turtle (*Clemmys marmorata marmorata*) is also present. In addition, 13 bird species recognized by the Department of Fish and Game as Species of Special Concern may occur in the park.

Development of the same facilities identified for Visual Impacts, especially the introduction of new facilities and structures into previously undisturbed areas of the park, could create substantial adverse impacts on wildlife.

Facilities development, resource management, and the (even unintentional) disturbance of roosting and nesting sites by public use have the possibility of affecting these species. Proposed facilities development, which is primarily focused in the Frontcountry and Transportation zones, has the most potential for significantly impacting murrelet nesting sites, the majority of which have been identified in these areas. The general plan proposes several potential developments in the Bull Creek watershed, including an environmental education center, viewing areas, and a walk-in camp that, if all were developed, could result in significant cumulative impacts. While public use impacts can be appreciably reduced or eliminated by placing facilities away from known nesting sites and habitat, overall public impacts cannot be controlled for all species because some animals' ranges, such as that of the bald eagle, may include the entire park. The cumulative impact of lost habitat throughout the state, including lands near the park, has been significant.

MITIGATION

Prior to construction of facilities and trails, site-specific areas of potential impact will be surveyed for the presence of endangered, threatened, or animal Species of Special Concern. If there is a potential for impact, state and federal permitting agencies will be consulted for guidance on approved/recommended mitigation measures. In accordance with general plan guidelines, facilities, including trails, will be designed according to established protocols. The Department will seek consultation with appropriate agencies with the intent of achieving less than significant impacts to

listed species. Additional research on impacts to species and construction technology will help to achieve this. Facilities, including trails, will be relocated or designed to avoid impacts. Potential cumulative impacts will be assessed. Nesting or spawning periods can be avoided with proper scheduling of facility construction or resource management activities. General plan-designated management zones (Map #6) and proposed reclassification of tracts of the park to more protective wilderness and natural preserve status will also afford additional resource protections, including a significant reduction in opportunities for facilities development in sensitive areas. All plans and projects will be in compliance with local, state, and federal permitting and regulatory requirements and subject to subsequent tier CEQA review and project-specific mitigation.

Responsibility: The Department of Parks and Recreation (Department staff/Resource Ecologist) and other mandated contracting authorities

Monitoring/Reporting: Completion of required resource evaluations and development plans prior to implementation of specific projects. Subsequent tier CEQA review of all proposed projects.

FINDINGS

Until the uses, locations, and scope of facilities or management plans are specified, the actual level of impact (individual or cumulative) or need for mitigation cannot be determined. However, evaluation at the specificity of this first tier review indicates that the projects proposed in this general plan, subject to subsequent tier review and development of corresponding mitigation measures, can be mitigated to a less-than-significant level.

CULTURAL RESOURCES

THRESHOLD

Substantial loss or destruction of historic fabric or structure(s) that eliminate important examples of major periods of California history or prehistory; addition or alterations, including non-historic additions and repairs, that adversely impact or substantially alter the visual continuity of a cultural resource or landscape.

IMPACT

Significant, unless mitigated.

DISCUSSION

The park contains significant and potentially significant prehistoric and ethnographic sites, historic and ethnohistoric resources, and cultural landscapes. These include, but are not limited to, such features as archeological sites, homesteads, CCC-era structures, mill sites, and historic roads and trails. Because the park has not been completely surveyed, there is the potential for undiscovered prehistoric and historic sites to be found during facilities construction or maintenance operations.

The following are identified in the plan as potential facilities that could create significant adverse impacts on cultural resources within the park:

- Hiking and equestrian trails and support facilities (corrals, trailheads, tables) in the Backcountry (Non-mechanized) Zone, the Backcountry (Mechanized) Zone, and the Frontcountry Zone;

- Interpretive exhibits in the Backcountry (Mechanized) Zone, the Frontcountry Zone, and the Transportation Zone;
- Overnight facilities, either new, rehabilitated, upgraded, or relocated in the Frontcountry Zone;
- Education/interpretation/orientation facilities in the Frontcountry Zone (specifically at the Logan-Holmgren property and in the Bull Creek watershed);
- Unspecified potential facility improvements and new development in the Frontcountry Zone; and
- Rehabilitation of areas where the landscape has been disrupted.

Adaptive reuse of historic structures can involve modification, replacement, or removal of historic fabric, such as walls, doors, windows, hardware, and utilities, or can introduce non-historic elements (access ramps, furniture, heaters, etc.) to a structure. Interpretive/education/orientation facilities and trails and their associated facilities, such as picnic sites, placed near or in historic landscapes can potentially increase traffic from public use and raise the threat of vandalism, while decreasing historic ambiance. Interpretive panels and exhibits can also detract from a historic site.

MITIGATION

General plan-designated management zones (see Map #6) and proposed reclassification of tracts of the park to more protective wilderness and natural preserve status will afford additional resource protections, including a significant reduction in opportunities for facilities development. Prior to construction or significant repairs, implementation of interpretive programs (including living history), or adaptive reuse of historic structures or sites, site-specific cultural resource surveys will be conducted. These surveys will cover areas proposed for development or where other surface-disturbing activities might occur to determine potential impacts on cultural resources. All construction, maintenance, or improvements of historic structures will be in conformance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (1995, Weeks and Grimmer). Additionally, all development and resource management plans will be subject to compliance with PRC 5024.5 review requirements. If there is a potential for impacts, facilities, including trails and interpretive exhibits, will be relocated and programming changed to avoid impact. All plans and projects will be in compliance with local, state, and federal permitting and regulatory requirements and subject to subsequent tier CEQA review and project-specific mitigation.

Responsibility:	The Department of Parks and Recreation (Department staff/Cultural Specialist) and other mandated contracting authorities
Monitoring/Reporting:	Completion of required resource evaluations and development plans prior to implementation of specific projects. Subsequent tier CEQA review of all proposed projects.

FINDINGS

Until the uses, locations, and scope of facilities or management plans are specified, the actual level of impact (individual or cumulative) or need for mitigation cannot be determined. However, evaluation at the specificity of this first tier review indicates that the projects proposed in this general plan, subject to subsequent tier review and development of corresponding mitigation measures, can be mitigated to a less-than-significant level.

SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROJECT IS IMPLEMENTED

Evaluation at the specificity of this first tier review indicates that the impacts from projects proposed in this general plan (given the current baseline) can be mitigated to a less-than-significant level. However, cumulative effects from conditions and actions outside the park boundaries (and outside the control of the Department), along with community growth and increased visitation of areas in and around park properties, may increase the baseline to the point where implementation of proposed projects could result in a cumulatively significant environmental impact. For this reason, all plans and projects will be required to be in compliance with local, state, and federal permitting and regulatory requirements and subject to subsequent tier CEQA review and project-specific mitigation. Until the uses, locations, and scope of facilities or management plans are specified, the actual level of impact (individual or cumulative) cannot be determined. While there may be significant, unavoidable environmental impacts that occur over the life of the proposed general plan, it is not anticipated that these will occur as a result of the implementation of any of the proposed projects within this general plan.

SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES IF THE PROJECT IS IMPLEMENTED

No significant irreversible changes to the natural environment are projected from the adoption and implementation of this general plan. While any facilities development may be considered a long-term commitment of resources, impacts can be reversed through removal of facilities and discontinued use.

The Department will continue to rehabilitate and relocate some roads and trails where impacts have become unacceptable, due to erosion or stream sedimentation. Some road segments may be historic. Careful determination of the significance of historic roads, in accordance with the proposed Cultural Resources Management Plan, will be undertaken as part of future rehabilitation efforts.

EFFECTS FOUND NOT TO BE SIGNIFICANT

As a first tier of planning and environmental analysis, the following impacts were found not to be significant. In future planning and environmental analysis, they will be considered in more detail.

1. No significant noise impacts from future development or resource management allowed for in this general plan were projected. There will be temporary noise increases during future construction. However, there would be no immediate sensitive receptors, as construction normally would be limited to outside the breeding periods of sensitive animal species and the busy tourist season.
2. While the area of Humboldt Redwoods State Park is geologically active and experiences frequent groundshaking and landslides, the general plan does not permit development of permanent facilities in known risk areas and requires geologic studies prior to development. The change in risk after implementation of the general plan would be dependent upon where visitors

might be during the occurrence of a seismic event. Maximum risk would be assumed to be on trails or roads on steep slopes. As this risk exists now and might be expected to lessen with future trail improvements, the impact is not considered to be significant.

3. Soil erosion is not expected to increase from implementation of the general plan. In fact, the District's landscape rehabilitation efforts have repaired and will continue to lessen damage to slopes and drainages, as well as stream sedimentation.
4. Currently, utilities are sufficient to meet existing demand. Future development could be limited by the supply of water, sewage treatment feasibility, electric supply, etc. Until details are available regarding the kinds, locations, and sizes of future facilities, any determinations regarding infrastructure needs and availability would be speculative.

ALTERNATIVES TO THE PROPOSED PROJECT

Two alternatives were considered during development of proposals for this general plan in addition to a "no project" alternative. Alternatives 1 and 2 were presented at the second public involvement meeting.

- Alternative 1:** Meet minimal requirements for operating the park efficiently; improve and augment current services to the level necessary to meet existing and projected visitor needs
- Alternative 2:** Allow the park to achieve its maximum potential
- Alternative 3:** No Project

ALTERNATIVE 1

MEET MINIMAL REQUIREMENTS FOR OPERATING THE PARK EFFICIENTLY; IMPROVE AND AUGMENT CURRENT SERVICES TO THE LEVEL NECESSARY TO MEET EXISTING AND PROJECTED VISITOR NEEDS

Description

Alternative 1 contains the same proposed projects, studies, and scope as the proposed plan, with the exception of the proposals to reclassify portions of the park as wilderness, natural preserve, and a state reserve. The potential impacts of the projects and associated levels of significance are equivalent to the proposed plan and implementation of the projects are equally feasible in both the proposed plan and this alternative.

Evaluation

Although Alternative 1 incorporates all the development projects of the proposed plan, exclusion of the proposed reclassifications would result in a general plan that does not adequately address the primary purpose of the park. As noted in the Plan Section of this document, "[T]he purpose of Humboldt Redwoods State Park is to protect, preserve, and perpetuate the outstanding natural and aesthetic values of the ancient redwood forests and their associated ecosystems found in the lower Eel River watershed" Lacking proposals for reclassifications, Alternative 1 offers no special protection for the park's most unspoiled ancient forests and their related ecosystems beyond those

afforded by State Park classification. It is likely that public use of these areas over time would degrade sensitive natural resources, especially in the unspoiled Rockefeller Forest north of Mattole Road.

Although no natural preserve or wilderness areas would be established, this alternative would institute special land use zoning and ongoing monitoring to assure increased awareness of resource sensitivities. Monitoring the condition of natural resources, posting regulations more frequently, and providing buffers and connections to habitat linkages would all aid in maintaining and rehabilitating the park's landscape, even though they would not provide the comprehensive protection of the proposed plan. Resource rehabilitation projects would be able to proceed under this alternative, but only with the protections offered by project-specific mitigations, resulting from the separate CEQA evaluation of each project. However, lack of special protection could potentially allow expanded access and the development of facilities in sensitive resource areas.

ALTERNATIVE 2

ALLOW THE PARK TO ACHIEVE ITS MAXIMUM POTENTIAL

Description

Alternative 2 contains all of the key components of the proposed plan. Additionally, it expands the scope of the plan to include the following proposals:

1. Create cultural preserves for especially significant cultural resource areas; restore or reconstruct significant historic structures, where feasible; and acquire adjacent lands to protect significant cultural resources.
2. Add recreational facilities in new locations, including camping along the Avenue of the Giants and Mattole Road; expand shoulder-season use through the installation of alternative shelters, such as tent cabins, and/or small, rustic cabins; expand availability of RV hook-ups.
3. Develop satellite visitor centers and nature interpretive centers throughout the park to educate the public about various natural and cultural resource topics. Consider reconstruction of the existing Visitor Center at an alternative site, such as the Dyerville Overlook, Logan-Holmgren property, or newly acquired property, should it ever be destroyed.
4. Acquire lands and/or conservation easements to provide maximum protection of the park's viewsheds, including views along the Eel River and adjacent flood plains (excluding parcels located in established communities). Establish a scenic parkway-river-freeway corridor through the park and seek formal designation of the Avenue of the Giants as a Scenic Highway.

The potential impacts of the projects common to both this alternative and the proposed plan, and associated levels of significance, are equivalent. Both plans are feasible, although full implementation of this alternative would require a much greater financial commitment, which could limit or delay actual execution of the projects. The inclusion of additional projects also increases the potential for significant environmental impacts, especially cumulatively, in conjunction with other projects or changes in baseline conditions existing when the projects are implemented. A greater

number of visitor facilities and enhanced services will inevitably result in increased park attendance and expanded impacts. Additional projects, especially in previously undisturbed or minimally disturbed areas, also increase the potential for contact with and damage to sensitive resources. This, in turn, decreases the likelihood that all impacts associated with the full implementation of this alternative could be mitigated to a less-than-significant level.

Evaluation

Alternative 2 includes a greater number of potential new recreational and interpretive facilities than the proposed plan. These include small day use facilities, trailheads, interpretive exhibits, and camping areas. Additional interpretive centers are identified for interpreting Native American and Euroamerican history at the Logan-Holmgren property and Native American and pioneer history in the Bull Creek area. Separate nature centers are identified at unspecified locations to interpret the Eel River and ancient redwood forests.

As noted above, the increased impacts from the additional projects (both individually and cumulatively) and the contribution of those impacts to baseline conditions existing in both the park and local communities are the primary concerns relating to implementation of this alternative. Of particular importance are the cumulative impacts from developments accessed via Mattole Road, especially those that could result in significantly increased traffic loads and impacts to vegetation and wildlife habitat. Construction of new facilities along the Avenue/freeway corridor would also have adverse short-term visual, dust, and noise impacts. However, these projects would conceivably result in improved orientation and interpretation for visitors, almost all of whom enter the park from the north or south. This should lead to less environmental degradation, due to improved visitor understanding of and respect for park resources, less frequent use of undesignated trails, and better adherence to park regulations. All plans and projects would be required to be in compliance with local, state, and federal permitting and regulatory requirements and subject to subsequent tier CEQA review and project-specific mitigation.

ALTERNATIVE 3

NO PROJECT

Description

If no general plan is implemented for Humboldt Redwoods State Park, the existing situation will continue for park development, operation, and management. Development within the park would be restricted to projects that address public health and safety issues; repair, replace, or rehabilitate an existing facility; provide a temporary facility, so long as no permanent commitment of resources is made; or emergency measures for the immediate protection of public health and safety or a natural or cultural resource [PRC 5002.2(c)]. The reclassification of portions of the park as wilderness, natural preserve, and a state reserve would not be implemented.

Evaluation

Under the No Project Alternative, the park's undamaged ancient forests and their related ecosystems might not receive the high level of protection they merit. No special protection for sensitive natural resources would be provided, beyond that afforded by State Park classification, project-specific CEQA review, and permitting requirements. Over time, random public use could be expected to

degrade particularly sensitive natural and cultural resource areas, in spite of current efforts to rehabilitate areas damaged by clear-cutting, restore trails, and provide natural resource stewardship programs. However, as noted above, repairs to roads and other facilities and rehabilitation of resource damage, such as the areas of compacted soil in Burlington Campground and streams degraded by sediment, could proceed.

Under the No Project Alternative, cultural resource protection would be limited to those measures necessary to stabilize, rehabilitate, and/or protect an existing structure. Development of a systematic assessment process to determine cultural/historical significance and future treatment of cultural resources within the park would be unlikely because implementation of new programs would require adoption of a general plan.

The No Project Alternative would make it difficult for the District to seek funds for recreational and interpretive improvements that could enhance the visitor experience at the park's current level of use or anticipate future needs. Because visitation has remained relatively stable, there is no immediate pressure to expand facilities at the park. However, with no general plan, the Department would not have the authority in place to increase facilities, should the need arise. Because new facilities are not an option, development of a procedure for assessing the actual demand for additional facilities and determining where and how they should be provided would probably not occur.

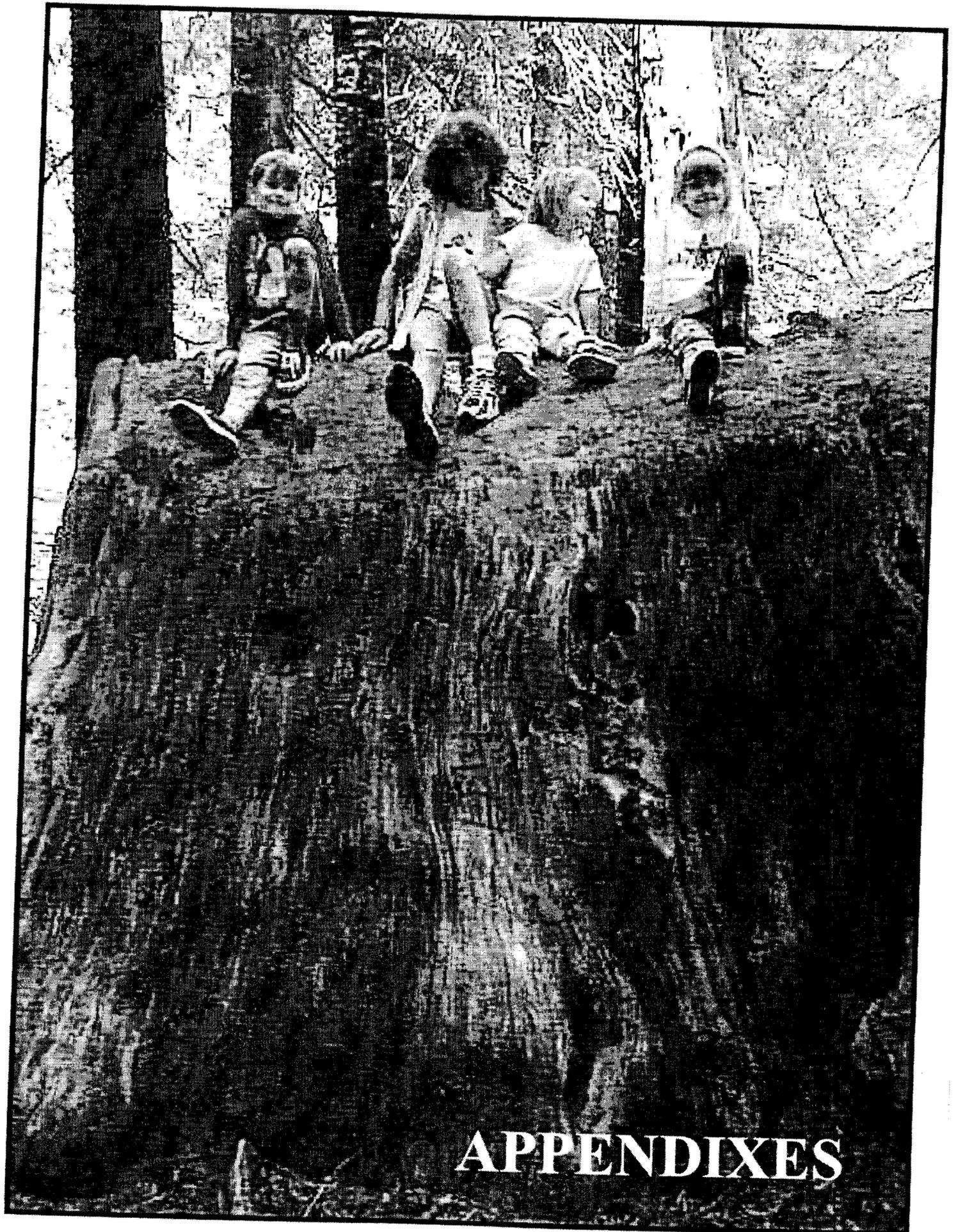
Under the No Project Alternative, development of the park's trail system would generally be limited to routine maintenance and rehabilitation plans, and it is not likely to receive the holistic planning it needs. Opportunities to create a higher quality visitor experience in the backcountry could be missed because projects would be limited to existing trails, with work accomplished piecemeal, and may lack a clear connection to a park-wide trail system. The possibilities for regional trail links could also be lost.

Land use management would not become systematized within the park under the No Project Alternative, nor would a methodical approach to acquisition be developed as an aid for solving management problems and increasing public involvement.

The No Project Alternative also fails to address the emerging problem of clear-cutting within the vistas available from some of the park's most popular viewpoints. Neither does this alternative offer a means to improve communication with local residents, business people, park user groups, and representatives of local agencies or to involve them in the planning process. Members of these groups have expressed their appreciation of the additional public contact that has been initiated by development of the general plan.

REFERENCES

References have been incorporated into the text, above.



APPENDIXES

Appendix A

CEQA REVIEW: PUBLIC COMMENTS AND DPR RESPONSES

As a part of the public review process required by the California Environmental Quality Act, the preliminary of a general plan/draft environmental impact report document is made available for public review and comment for a minimum of 45 calendar days. For the review process, each plan is assigned a unique number by the State Clearinghouse, located in the Governor's Office of Planning and Research.

The State Clearinghouse number assigned to the preliminary general plan for Humboldt Redwoods State Park is No. 2001022063.

At the close of the review period, all public comments that are received in writing, comments from individuals, organizations, and other public agencies are evaluated by the Department's general planning staff, who then prepare written responses. The California Park and Recreation Commission reviews these materials as part of the process of evaluating and approving a general plan.

Those comments and the resultant departmental responses are retained by the Department as part of the public record under the cover of the Final Environmental Impact Report for the Humboldt Redwoods General Plan, Volume 2. Those persons wishing to examine these materials should contact the Department at its Sacramento Headquarters or at the office of the North Coast Redwoods District.

The Humboldt Redwoods State Park General Plan is Volume 1 of the Final General Plan. It contains the Summary of Existing Conditions; Goals and Guidelines for park development and use; Environmental Analysis (in compliance with Article 9 and Article 11 Section 15166 of the California Environmental Quality Act); and Maps, Figures, and Charts relating to the General Plan. Volume 2 is the Final Environmental Impact Report for the General Plan and contains the Project Description, Comments and Responses (comments received during public review of the general plan and DPR response to those comments); and the Notice of Determination (as filed with the State Office of Planning and Research), documenting the completion of the CEQA compliance requirements for this project. Together, these two volumes constitute the complete Final General Plan for Humboldt Redwoods State Park.

The final step of the CEQA process is the filing of the Notice of Determination by the Department with the Office of Planning and Research. Accompanying that document is a Statement of Findings and Mitigation Monitoring from the general plan.

Appendix B
GEOLOGY OF HUMBOLDT REDWOODS
STATE PARK

*prepared by Patrick Vaughan,
North Coast Redwoods District Engineering Geologist*

Humboldt Redwoods State Park is located within the Coast Ranges. These are a generally northwest-trending chain of coastal mountains formed by the interactions of tectonic plates and marine and terrestrial cycles of deposition and erosion. The North American, Gorda and Pacific tectonic plates meet about ten miles west of the park to form the Mendocino Triple Junction (MTJ), the most seismically active area in the continental United States. Immediately north of the MTJ, rocks are largely compressed and folded by west-northwest-striking low-angle faults, while to the south the rocks are sliced, locally folded and laterally displaced by high-angle faults of the northwest trending San Andreas Fault system. The park lies at the transition between these two deformation styles.

Rocks of the Franciscan Complex within this portion of the Coast Ranges Province form generally north-northwest to west-northwest trending belts. These belts of rock are younger to the west because they were progressively scraped off of the seafloor and attached to the North American continent as the Pacific Ocean seafloor was thrust under the North American plate. The Coastal Belt (Pliocene to Late Cretaceous) of the Franciscan Complex underlies most of the park, although exposures of slightly older (early Tertiary to late Cretaceous) Central Belt rocks are exposed south of Miranda. The weakly metamorphosed Central Belt rocks within the park consist of metasandstone, meta-argillite, and melange, a matrix of clayey, sheared argillite and fine-grained sandstone.

The Coastal Belt is further subdivided into tectonostratigraphic terranes, which are defined by the complex relationships of their rock types, deformation characteristics and topographic expression. Yager terrane (approximately Eocene to Paleocene) underlies most of the park, although small areas of Coastal terrane (Pliocene to Late Cretaceous) are mapped near Big Hill and Peavine Ridge on the north side of the park. A predominantly highly sheared, broken and locally highly folded melange of sandstone, argillite and minor conglomerate comprises the Coastal terrane. The Yager terrane (consisting primarily of the Yager Formation) has mostly rhythmically bedded argillite and arkosic sandstone rocks and locally contains fossil dinoflagellates, spore and pollen. Within the park most of this terrane unit has some degree of shearing.

Locally overlying rocks of the Franciscan Complex are younger, overlapping marine and non-marine rocks (late Pleistocene to middle Miocene). These rocks are weakly lithified, massive to thinly bedded siltstone, sandstone, and diatomaceous mudstone that locally contain ash beds, some of which include rocks of the Wildcat Group. The northern end of the Avenue of the Giants and Holbrook and Whittemore groves have these rocks. Quaternary deposits mantle most of the bedrock units and include landslide deposits (Holocene to Pleistocene), river terrace deposits (Holocene to Pleistocene), colluvium (Holocene to Pleistocene), and alluvium (Holocene).

Seismicity in the region is extremely high. The park would be strongly affected by groundshaking generated by rupture of the Cascadia subduction zone, which terminates at the MTJ. This zone is capable of magnitude 9 earthquakes. Depending on site-specific characteristics, potential seismic hazards in the park include liquefaction, landsliding, and strong to violent, possibly amplified, groundshaking. Other active faults (exhibiting movement within the last 11,000 years) that would produce strong groundshaking in the park include the northern segment of the San Andreas Fault, capable of magnitude 7.9 earthquakes; the Maacama Fault, capable of magnitude 7.1 earthquakes; and the Little Salmon Fault, capable of magnitude 7.3 earthquakes. Other potentially active faults, smaller active faults or faults that are less clearly active in the immediate region include the Garberville Fault zone, the Russ Fault, the Whale Gulch-Bear Harbor Fault zone, and the Goose Lake Fault. The Garberville synform and antiform trend northwestward through the western and eastern sides of the park, respectively.

Slopes that had been historically marginally stable were destabilized by intensive land use practices in the upper Bull Creek watershed and other watersheds within and outside of the park in the early to mid-Twentieth Century. Sediment and debris from these destabilized slopes has exacerbated flooding and impacted fisheries, riparian vegetation, and structures. The park watersheds are in varying stages of continued decay and recovery from this earlier intensive land use. Recovery within the Bull Creek watershed is currently being promoted by landform rehabilitation efforts.

Appendix C PLANT LIST

Sensitive Plant Species (July 2000)
Occurring, or for which Suitable Habitat Exists, within
Humboldt Redwoods State Park

Species	Common Name	Status*	Probability In Humboldt Redwoods SP
<i>Astragalus agnicidus</i>	Humboldt milk-vetch	CNPS List 1, FSC, CE	Possible
<i>Astragalus rattanii</i> var. <i>rattanii</i>	Rattan's milk vetch	CNPS List 4	Possible
<i>Boschniakia hookeri</i>	Small ground-cone	CNPS List 2	Possible
<i>Cypripedium californicum</i>	California lady's-slipper	CNPS List 4	Possible
<i>Cypripedium fasciculatum</i>	Clustered lady's-slipper	CNPS List 4, FSC	Possible
<i>Cypripedium montanum</i>	Mountain lady's-slipper	CNPS List 4	Possible
<i>Epilobium septentrionale</i>	Humboldt County fuchsia	CNPS List 4	Present
<i>Erigeron biolettii</i>	Streamside daisy	CNPS List 3	Possible
<i>Hemizonia congesta</i> ssp. <i>tracyi</i>	Tracy's tarplant	CNPS List 4	Likely
<i>Iliamna latibracteata</i>	California globe mallow	CNPS List 4	Possible
<i>Lilium kelloggii</i>	Kellogg's lily	CNPS List 4	Possible
<i>Lilium rubescens</i>	Redwood lily	CNPS List 4	Present
<i>Listera cordata</i>	Heart-leaved twayblade	CNPS List 4	Present
<i>Lycopodium clavatum</i>	Running-pine	CNPS List 2	
<i>Monardella villosa</i> ssp. <i>globosa</i>	Robust monardella	CNPS List 1B	Likely
<i>Monotropa uniflora</i>	Indian pipe	CNPS List 2	Possible
<i>Montia howellii</i>	Howell's montia	CNPS List 2, FSC	Likely
<i>Perideridia gairdneri</i> ssp. <i>gairdneri</i>	Gairdner's yampah	CNPS List 4, FSC	Possible
<i>Piperia candida</i>	White-flowered rein orchid	CNPS List 4	Present
<i>Pityopus californicus</i>	California pinefoot	CNPS List 4	Present
<i>Pleuropogon refractus</i>	Nodding semaphore grass	CNPS List 4	Possible
<i>Ribes laxiflorum</i>	Trailing black currant	CNPS List 4	Possible
<i>Sidalcea malachroides</i>	Maple-leaved checkerbloom	CNPS List 1B	Likely
<i>Sidalcea oregana</i> ssp. <i>eximia</i>	Coast checkerbloom	CNPS List 1B	Possible
<i>Usnea longissima</i>	Methusaleh's beard	Tracked by CNDD	Likely
<i>Wyethia longicaulis</i>	Humboldt County wyethia	CNPS List 4	Possible

*Status Codes: CE = California Endangered; FSC = Federal Species of Concern; CNPS List 1B = Plants rare, threatened, or endangered in California and elsewhere; CNPS List 2 = Plants rare, threatened, or endangered in California, but more common elsewhere; CNPS List 3: = Plants about which we need more information; CNPS List 4 = Plants of limited distribution, a watch list.

Appendix D WILDLIFE LIST

**Sensitive Terrestrial and Aquatic Vertebrate Species (January 2001)
Occurring, or for which Potential Habitat Exists, within
Humboldt Redwoods State Park**

Type	Species	Common Name	Status*	Probability in HRSP	
Amphibians	<i>Rhyacotriton variegatus</i>	Southern torrent salamander	CSC, CP, FSS	Present	
	<i>Ascaphus truei</i>	Tailed frog	CSC, CP	Probable	
	<i>Rana aurora aurora</i>	Northern red-legged frog	CSC, CFP, FSS	Present	
	<i>Rana boylei</i>	Foothill yellow-legged frog	CSC, CP, FSS, BLM	Present	
Birds	<i>Accipiter striatus</i>	Sharp-shinned hawk	CSC	Present	
	<i>Accipiter cooperi</i>	Cooper's hawk	CSC	Present	
	<i>Accipiter gentilis</i>	Northern goshawk	CSC, FSS	Possible	
	<i>Aquila chrysaetos</i>	Golden eagle	CSC, CFP	Present	
	<i>Elanus leucurus</i>	White-tailed kite	CFP	Present	
	<i>Haliaeetus leucocephalus</i>	Bald eagle	FT, CE, CFP	Present/rare	
	<i>Pandion haliaetus</i>	Osprey	CSC	Present	
	<i>Falco peregrinus</i>	Peregrine falcon	CE, CFP	Possible	
	<i>Bonasa umbellus</i>	Ruffed grouse	CSC	Present	
	<i>Brachyramphus marmoratus</i>	Marbled murrelet	FT, CE	Present	
	<i>Strix occidentalis caurina</i>	Northern spotted owl	FT, CSC, FSS, BLM	Present	
		<i>Chaetura vauxi</i>	Vaux's swift	CSC	Present
		<i>Progne subis</i>	Purple martin	CSC	Present
		<i>Empidonax traillii</i>	Willow flycatcher	CE, FSS	Present/rare
		<i>Dendroica petechia brewsteri</i>	Yellow warbler	CSC	Present
		<i>Icteria virens</i>	Yellow-breasted chat	CSC	Present/rare
Mammals	<i>Corynorhinus townsendii townsendii</i>	Townsend's big-eared bat	CSC, FSS	Probable	
	<i>Antrozous pallidus</i>	Pallid bat	CSC, FSS	Probable	
	<i>Myotis evotis</i>	Long-eared myotis	BLM	Probable	
	<i>Myotis thysanodes</i>	Fringed myotis	BLM	Probable	
	<i>Myotis loecultus (- M. lucifugus occultus)</i>	Occult little brown bat	CSC	Probable	
	<i>Myotis yumanensis</i>	Yuma myotis	CSC, BLM	Probable	
	<i>Arborimus albipes</i>	White-footed vole	CSC	Probable	
	<i>Arborimus pomo</i>	Red tree vole	CSC	Probable	
	<i>Martes americana humboldtensis</i>	Humboldt marten	CSC, FSS	Possible	
	<i>Martes pennanti pacifica</i>	Pacific fisher	CSC, FSS	Probable	
	<i>Puma concolor</i>	Mountain lion	CFP	Probable	
Reptiles	<i>Clemmys marmorata marmorata</i>	Northwestern pond turtle	CSC, CFP, FSS	Present	
Fishes	<i>Oncorhynchus kisutch</i>	Coho salmon – So. Oregon/No. California ESU	FT, CSC	Present	
	<i>Oncorhynchus mykiss</i>	Steelhead – Northern California ESU	FT	Present	
	<i>Oncorhynchus tshawytscha</i>	Chinook salmon	FT	Present	

*Status Codes: FE = Federal Endangered; FT = Federal Threatened; FC = Federal Candidate; FSS = U.S. Forest Service Sensitive; CE = California Endangered; CT = California Threatened; CFP = California Fully Protected; CP = California Protected; CSC = California Species of Concern; BLM = BLM Sensitive.

Appendix E1
CALTRANS TRAFFIC VOLUME DATA -- for the year 2000
For State Highway 101

District	Route	County	PostMile		Description	Back		Ahead		
			Prefix	Mile		Peak Hr	Peak Mo	Peak Hr	Peak Mo	AADT
1	101	HUM	R	17.91	JCT. RTE. 254 NORTHEAST	1100	9700	930	8400	6500
1	101	HUM	R	22.44	FRENCH ROAD	930	8400	820	7600	5900
1	101	HUM		25.01	SALMON CREEK ROAD	820	7600	830	7800	6100
1	101	HUM		27.94	JCT. RTE. 254 MYERS FLAT	830	7800	840	8000	6300
1	101	HUM		33.22	WEOTT, NEWTON ROAD	840	8000	540	7200	6000
1	101	HUM		35.11	JCT. RTE. 254 SOUTH	540	7200	750	7400	5700
1	101	HUM		35.7	SOUTH FORK ROAD	750	7400	820	8100	6200
1	101	HUM	R	39.67	REDCREST	820	8100	870	8700	6500
1	101	HUM	R	43.32	BARKDULL ROAD	870	8700	900	9000	6700
1	101	HUM	R	45.9	JCT. RTE. 254 SOUTHWEST, JORDAN ROAD	900	9000	980	10000	7300

Annual Average Daily Traffic Northbound: 6,320
Annual Average Daily Traffic Southbound: 6,340

Source: California Department of Transportation Website

Appendix E2
CALTRANS TRAFFIC VOLUME DATA -- for the year 2000
For the Avenue of the Giants -- State Route 254

District	Route	County	Post Mile	Description	Back Peak Hr	Peak Mo (South)	AADT	Ahead Peak Hr	Peak Mo (North)	AADT
1	254	HUM	0	JCT. RTE. 101						
1	254	HUM	4.84	MIRANDA BRIDGE ROAD	180	1350	670	190	1400	690
1	254	HUM	12.33	JCT. RTE. 101: MYERS FLAT	250	1950	960	160	1250	630
1	254	HUM	16.84	BURLINGTON STATE PARK	160	1250	630	160	1300	620
1	254	HUM	18.29	WEOTT						
1	254	HUM	18.8	WEOTT, NORTH	160	1200	590	160	1200	590
1	254	HUM	24.21	ENGLEWOOD PARK: DYERVILLE, NORTH	60	440	220	85	610	300
1	254	HUM	46.53	JCT. RTE. 101, JORDAN ROAD	85	610	300			

Annual Average Daily Traffic Northbound: 755
 Annual Average Daily Traffic Southbound: 562

Source: California Department of Transportation Website

Appendix F

PLANNING INFLUENCES

SYSTEM-WIDE PLANNING INFLUENCES

- Americans with Disabilities Act of 1990, Title II and III
- Federal Endangered Species Act
- Federal Migratory Bird Treaty Act
- Bald and Golden Eagle Protection Act
- National Environmental Protection Act (NEPA)
- National Park Wild and Scenic Rivers System
- Secretary of the Interior's Standards for the Treatment of Historic Properties, revised in 1992
- U.S. Army Corps of Engineers
- U.S.G.S., Biological Resources Division
- California Department of General Services, Division of the State Architect, Access Compliance
- California Endangered Species Act
- California Environmental Quality Act (CEQA)
- California Native Plant Protection Act
- Natural Communities Conservation Planning Act
- California Fish and Game Code
- Clean Water Act, Section 404
- California Public Resources Code:

Section 5019.53	State Park Classification
Section 5019.68	State Wilderness Classification
Section 5019.71	Natural Preserve Classification
Section 5024	Preserving and Maintaining all State-owned Historical Resources
Section 5024.1	California Register of Historic Resources
Section 5097.9	Native American Heritage: Cultural and Sacred Sites Free Exercise of Religion; Cemeteries, Place of Worship on Ceremonial Sites
Section 5097.99	Felony Possession of Native American Human Remains and Artifacts
Section 5097.991	Repatriation
Section 5020.1(g)	Native American Heritage and Department of Parks and Recreation Gathering Policy
- Resource Management Directives of the Department of Parks and Recreation:

#1	Definition of the resources and values of the State Park System
#2	Attributes of an effective State Park resource manager
#3	State Park acquisition objectives
#4	Location and design of development in State Parks

- #7 Resource analysis and boundary recommendations for State Parks and Reserves
- #8 Establishment of State Wildernesses in State Park units
- #9 Boundaries and allowed developments in Wildernesses and Natural Preserves
- #11 Establishment of Cultural Preserves
- #24 Primary objective of the Department of Parks and Recreation
- #25 Program for identification, description, and evaluation of all resources
- #26 Identification and management of environmental and human-related factors influencing State Park lands
- #27 Establishment of Natural Preserves
- #28 Visitor use impacts on resources
- #31 Environmental resource management techniques
- #32 Resource management programs
- #33 Vegetation landscaping
- #34 Exotic vegetation control
- #35 Maintenance of natural wildlife habitat
- #37 Conservation of soils and erosion control
- #42 Allowable uses to protect water features
- #50 Statewide inventory of known archeological sites and liaison with the Native American Community and others
- #51 Preservation of Native California Indian resources
- #52 Coordination with the Native California Indian community
- #53 Human remains
- #54 Identification, evaluation, and description of historic resources
- #55 Criteria for determination of significant historic resources
- #57 Inventory of significant cultural resources
- #58 Protection of cultural resources
- #59 Approval for underground work
- #61 Adaptive use of historic structures
- #64.a Priorities for preservation, rehabilitation, and reconstruction
- #64.b Guidelines for preservation and/or restoration of existing historic features
- #64.c Preservation, restoration, and reconstruction of historic features within the primary period of a unit
- #64.d Restoration and preservation of historic features outside the primary period for a unit
- #74 Operation of recreational facilities

- California Code of Regulations
- California State Park and Recreation Commission Statements of Policy
- Policies, Rules, Regulations, and Orders of the California State Park and Recreation Commission and the California Department of Parks and Recreation
- California Department of Parks and Recreation Operations Manual (DOM)

- California Department of Parks and Recreation Administrative Manual (DAM)
- California State Park System Plan
- Statewide Trails Plan
- California Hostel Plan
- Park Concessions Policies
- California State Parks Access to Parks Guidelines

REGIONAL PLANNING INFLUENCES

The policies and plans of agencies and organizations in the Humboldt Redwoods State Park region affect the park in various ways. These agencies represent government on many levels, from the local to the federal.

COUNTY AND LOCAL AGENCIES

Humboldt County

Humboldt County General Plan, Volume I: Framework Plan, and Volume II: Communities, 1999

The Avenue of the Giants Community Plan, which has become a part of the county's general plan, contains specific policies related to private lands within the spheres of influence of the communities around the park.

Humboldt County Farm Bureau

This organization represents interests desiring to preserve the rural heritage of southern Humboldt County by keeping lands with prime agricultural soils around and within the park for agricultural uses.

STATE AGENCIES

California Department of Forestry and Fire Protection (CDF)

This agency cooperates with the Department and local volunteer organizations to provide fire suppression and emergency services to the park and surrounding areas. It also administers reviews of timber harvest plans in the region.

California State Board of Forestry

This board creates the regulations that are in the Forest Practices Act and are implemented by CDF in the review of timber harvest plans.

California Department of Transportation (Caltrans)

Caltrans owns and maintains the freeway and its associated right-of-way through the park. It also owns the Avenue of the Giants' roadbed and portions of the underlying land within the park along the Avenue of the Giants. The Department and Caltrans coordinate for the management and maintenance of these roads.

California Department of Fish and Game

This agency provides information and administers laws that protect rare, threatened, and endangered plant and animal species. It also consults with the Department on plan proposals affecting these species.

FEDERAL AGENCIES

National Park Service (NPS) and the California Department of Parks and Recreation (DPR).

Redwood National and State Parks General Management Plan/General Plan, 1999. This plan, a joint effort of DPR and the NPS, was nearly complete when work first began on the Humboldt Redwoods State Park General Plan. Portions of the joint plan have served as models for some of the proposals in this plan.

National Marine Fisheries Service

Consultation with this agency regarding proposals affecting fish species found within the park is required by law.

U.S. Fish and Wildlife Service

Consultation with this agency is also required by law regarding proposals affecting spotted owls, marbled murrelets, and other federally listed wildlife species found within the park.

U.S. Forest Service (USFS), Six Rivers National Forest

As a major land holder with integral ties to the economic structure of Humboldt County, the USFS provided funding for community action plans throughout Humboldt County.

U.S. Bureau of Land Management (BLM), Kings Range National Conservation Area

The BLM is extending its ownership eastward from the Kings Range to Humboldt Redwoods State Park. It recently acquired land around Gilham Butte as an initial segment of a planned Corridor from the Redwoods to the Sea habitat linkage.

Monthly statistics are recorded for people using the visitor center.

HUMBOLDT REDWOODS STATE PARK
Visitor Center Attendance
1995 - 1999

Month	1995	1996	1997	1998	1999
JAN	623	923	114	1,442	1,500
FEB	1,217	950	1,162	852	1,592
MAR	2,383	3,636	3,840	2,424	2,762
APR	4,573	4,231	4,231	4,173	3,870
MAY	6,566	6,451	6,953	6,011	6,252
JUNE	10,190	9,644	10,114	9,581	9,696
JULY	15,610	15,630	16,750	39,283	14,943
AUG	16,969	16,633	16,606	17,513	16,985
SEPT	10,067	8,152	8,108	10,243	6,872
OCT	6,187	5,651	5,517	5,555	4,170
NOV	1,695	1,708	2,560	2,398	1,600
DEC	1,331	981	2,329	1,585	880
Totals:	77,411	74,590	78,284	101,060	71,122

Received from Alan Wilkinson, District Interpretive Specialist,
 January 4, 2000, who said "I double checked the July 1998 number,
 and that was what the park submitted. I cannot explain."

Appendix G

**HUMBOLDT REDWOODS STATE PARK
VISITATION STATISTICS**

Park visitation statistics are recorded by the districts in accordance with methods set forth in the Department's Operations Manual. They are compiled and kept at Sacramento Headquarters. Camping use is paid, so figures shown are a direct calculation. Day use figures are derived through observation, by counting cars and calculating the average number of people in each car, once during the busy season and again during the off-season. Park staff apply these factors during the different use seasons to estimate park attendance. Traffic counters are also utilized to detect traffic movements as an aid in determining visitor access at various locations in the park. The apparent inconsistency of data is because the Department's methods of classifying visitors changed over the decade.

Annual Attendance from 1990/91 through 1998/99

Fiscal Year	Free Day Use Vehicles	Free Day Use Groups/persons	Paid Day Use Vehicles	Paid Day Use Groups/persons	Total day Use	Camping Use	Camping-Other than Sites	Camping Groups/persons	Total Camping Use	Total Attendance
1990/91	779,921		7,322		787,243	73,350				860,593
1991/92	749,090		5,198		754,288	75,446				829,734
1992/93	666,224		3,534		669,758	67,065				736,823
1993/94					626,702	63,776				690,478
1994/95	566,489		23,393		589,882	68,594				658,476
1995/96	548,940		1,780		550,721	87,161				637,882
1996/97	497,590	80	3,099	643	501,412	60,955	523	6,765	67,955	569,367
1997/98	452,670		1,971	804	455,445	54,392	514	6,266	61,172	516,617
1998/99	508,285		2,335	1,200	511,820	51,882	394	6,085	58,361	570,181

Appendix H

TRAILS PLAN: SUGGESTED OBJECTIVES

As stated in the Department's Response to CEQA Comments, the proposed Trails Plan will consider the feasibility of a trail along the Avenue of the Giants as part of an integrated trail system for the park. The District will invite participation from the public at the time the plan is prepared. The Avenue Parkway proposals for thematic treatments of such elements as railings, barriers, and interpretive media to present a continuity and unifying quality to the Avenue, as well as a possible speed limit, should also be part of these deliberations.

A. Increasing visitor's enjoyment and safety by:

- Providing more loop trails for each of the park's trail user groups;
- Evaluating and proposing a backcountry trail system that provides longer hikes with overnight camping opportunities;
- Working with local support groups to evaluate the potential for a multi-use trail along the Avenue of the Giants or other possible routes to connect Avenue communities;
- Exploring the possibility with Caltrans of using the existing Avenue of the Giants roadbed for a trail at specified times;
- Where feasible, developing bicycle paths to connect park facilities and attractions;
- Providing trail access to areas within the ancient redwood forest that possess the low noise levels and sense of solitude to provide a high quality experience for persons with reduced mobility, consistent with the protection and preservation of resource values; and
- Evaluating current backcountry roads to determine which need to be retained in order to provide critical safety and fire response, access for resource management projects, or essential linkages in the trail system.

B. Expanding park trail links with trails on surrounding lands by:

- Coordinating with other land management agencies to develop a unified regional plan and trails system;
- Coordinating with other land management agencies to evaluate a possible trail link to the Corridor from the Redwoods to the Sea, including the desired access through the park and potential for trailhead/staging facilities;
- Coordinating with other agencies and private landowners for possible future conversion of existing railroad corridors to trails; and
- Assessing the possibilities of developing connections from the park's trail system to surrounding trails through acquisitions or easements.

C. Assuring that the trail system maintains a high level of protection for the park's resources by:

- Avoiding loss of trees, important habitats, and soil stability in any ancient redwood, Douglas fir, or hardwood forest areas or other significant ecosystems within the park;
- Evaluating the suitability of historic road alignments for future trail use. A road exhibiting all the characteristics of a good trail alignment should be considered for road-to-trail conversion

if its route meets the needs of the trails plan. Historic road alignment and interpretation of cultural significance must be considered;

- Where feasible, relocating trail camp facilities away from historically significant sensitive natural resource areas;
- Avoiding construction of new trails where the long-term cumulative impacts of trail development and use will have significant long-term adverse impacts on sensitive natural resources and rare species; and

Avoiding cumulative impacts of road grading on native soil and growing area loss. Develop best management practices for backcountry road re-engineering and maintenance activities that will be used as guidelines for park personnel.

Appendix I

DEFINITIONS OF CLASSIFICATIONS

State Park Definition: Public Resources Code, Section 5019.53.

State parks consist of relatively spacious areas of outstanding scenic or natural character, oftentimes also containing significant historical, archaeological, ecological, geological, or other such values. The purpose of state parks shall be to preserve outstanding natural, scenic, and cultural values, indigenous aquatic and terrestrial fauna and flora, and the most significant examples of such ecological regions of California as the Sierra Nevada, northeast volcanic, great valley, coastal strip, Klamath-Siskiyou Mountains, southwest mountains and valleys, redwoods, foothills and low coastal mountains, and desert and desert mountains.

Each state park shall be managed as a composite whole in order to restore, protect, and maintain its native environmental complexes to the extent compatible with the primary purpose for which the park was established.

Improvements undertaken within state parks shall be for the purpose of making the areas available for public enjoyment and education in a manner consistent with the preservation of natural, scenic, cultural, and ecological values for present and future generations. Improvements may be undertaken to provide for recreational activities including, but not limited to, camping, picnicking, sightseeing, nature study, hiking, and horseback riding, so long as such improvements involve no major modifications of lands, forests, or waters. Improvements which do not directly enhance the public's enjoyment of the natural, scenic, cultural, or ecological values of the resource, which are attractions in themselves, or which are otherwise available to the public within a reasonable distance outside the park, shall not be undertaken with state parks.

State parks may be established in either the terrestrial or underwater environments of the state.

State Wilderness Definition: PRC Sec. 5019.68

State wildernesses, in contrast with those areas where man and his own works dominate the landscape, are hereby recognized as areas where the earth and its community of life are untrammelled by man and where man himself is a visitor who does not remain. A state wilderness is further defined to mean an area of relatively undeveloped state-owned or leased land which has retained its primeval character and influence or has been substantially restored to a near-natural appearance, without permanent improvements or human habitation, other than semi-improved campgrounds, or structures which existed at the time of classification of the area as a state wilderness and which the State Park and Recreation Commission has determined may be maintained and used in a manner compatible with the preservation of the wilderness environment, or primitive latrines, which is protected and managed so as to preserve its natural conditions, and which:

(a) Appears generally to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable.

(b) Has outstanding opportunities for solitude or a primitive and unconfined type of recreation.

(c) Consists of at least 5,000 acres of land, either by itself or in combination with contiguous areas possessing wilderness characteristics, or is of sufficient size as to make practicable its preservation and use in an unimpaired condition.

(d) May also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

State wildernesses may be established within the boundaries of other state park system units.

Natural Preserves: PRC Sec. 5019.71

Natural preserves consist of distinct areas of outstanding natural or scientific significance established within the boundaries of other state park system units. The purpose of natural preserves shall be to preserve such features as rare or endangered plant and animal species and their supporting ecosystems, representative examples of plant or animal communities existing in California prior to the impact of civilization, geological features illustrative of geological processes, significant fossil occurrences or geological features of cultural or economic interest, or topographic features illustrative of representative or unique biogeographical patterns. Areas set aside as natural preserves shall be of sufficient size to allow, where possible, the natural dynamics of ecological interaction to continue without interference, and to provide, in all cases, a practicable management unit. Habitat manipulation shall be permitted only in those areas found by scientific analysis to require manipulation to preserve the species or associations which constitute the basis for the establishment of the natural preserve.

State Reserve Definition: PRC Sec. 5019.65:

State reserves consist of areas embracing outstanding natural or scenic characteristics of statewide significance. The purpose of a state reserve is to preserve its native ecological associations, unique fauna or floral characteristics, geological features, and scenic qualities in a condition of undisturbed integrity. Resource manipulation shall be restricted to the minimum required to negate the deleterious influence of man.

Improvements undertaken shall be for the purpose of making the areas available, on a day use basis, for public enjoyment and education in a manner consistent with the preservation of their natural features. Living and nonliving resources contained within state reserves shall not be disturbed or removed for other than scientific or management purposes.

State reserves may be established in the terrestrial or underwater environments of the state.



Appendix J
HUMBOLDT REDWOODS STATE PARK
GENERAL PLAN
GLOSSARY OF TERMS

Adaptive Use: Use of a historic structure for a purpose other than that for which it was originally intended. For example, a historic house might be adapted for use as a visitor center. This may require alterations to a structure's interior, while maintaining the original exterior appearance.

Aesthetics: In this general plan, the term, aesthetics, refers to the visual, audible, and other sensory factors within the park setting and its surrounding landscape that, taken together, establish the park's character or sense of place.

Alluvial Flats: Level areas formed by the deposition of sediments, such as fine mud, sand, or gravel, from an adjacent stream.

Alluvium: A general term for all detrital deposits resulting from the operations of modern rivers, thus including the sediments laid down in river beds, flood plains, lakes, fans at the foot of mountain slopes, and estuaries.

Anadromous: A term describing a life cycle in which adult fish travel upriver from the sea to spawn in fresh water, usually returning to the area where they were born. Salmon and shads are examples of anadromous fish.

Ancient Redwood Forest: Forests dominated by redwood trees in the canopy that are 200 years or older, sometimes with co-dominants of other species. They are characterized by deep, multilayered canopies, a range of tree ages and sizes (consisting of both rapid-growing and slow-growing individuals), abundant shade-tolerant species, numerous large, standing snags and downed logs of various sizes and states of decay, and abundant tree cavities. (*Franklin et al 1981; Franklin 1982; Old-Growth Definition Task Group 1986; Morrison 1988; Norse 1990, Noss 2000*)

Biodiversity: Biological diversity in an environment as indicated by numbers of different species of plants and animals, as well as the relative abundance of all the species within a given area.

Buffer: Land that protects natural and/or cultural resource values within the park from adverse effects from incompatible activities on land outside the park. For example, maintaining forest for a distance over a ridge will protect trees on the ridgetop from blow-downs.

Canopy: The top layer of a forest or wooded ecosystem consisting of overlapping leaves and branches of trees, shrubs, or both.

Classification: Official designations of units of the State Park System. Classifications are established by the State Parks and Recreation Commission at the recommendation of Department

staff and are based on the sensitivity and kind of the unit's most important resources and what types of use the unit will receive from the public.

Co-dominants: Two or more species that jointly are the most prevalent or significant species within a plant community.

Colluvial disruption: Rock debris moving downslope to the foot of a hill or mountain by gravity creep.

Connectivity: A measure of how spatially continuous a corridor or matrix is. A high level of habitat connectivity is an important quality for wildlife, as an example.

Conservation easement: Acquisition of rights and interests to a property to protect identified conservation or resource values. Easements may apply to entire parcels of land or to specific parts of the property. Most are permanent, although term easements pose restrictions for a limited number of years. Land protected by a conservation easement remains on the tax rolls and is privately owned and managed; landowners who donate conservation easements are generally entitled to tax benefits.

Corvids: Birds of the family Corvidae, including crows, ravens, jays, and magpies.

Cultural resource: A resource that exists due to human activities. Cultural resources can be prehistoric (dating from before Euroamerican settlement) or historic (dating from post-Euroamerican contact).

Cultural significance: To be significant, a cultural resource must have a high degree of integrity and be especially meaningful to the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural history of California. It should have the potential to yield important information and to contribute to interpreting the broad currents of the park's prehistory and history. Cultural resources 50 years and older may be significant by age alone.

Database: A large collection of data organized especially for rapid search and retrieval (as by a computer).

Demographic: Having to do with a particular characteristic of a segment of the public at large; may be connected to the group's age, the region where the group resides, a particular recreational interest, economic status, etc.

Deposition: The laying down of potential rock-forming material; sedimentation.

Ecosystem: A community consisting of all biological organisms (plants, animals, insects, etc.) in a given area interacting with the physical environment (soil, water, air) to function together as a unit of nature.

Endemic: Indigenous to, and restricted to, a particular area (endemic plant or animal).

Ethnographic: A multi-format group of materials gathered and organized by an anthropologist,

folklorist, or other cultural researcher to document human life and traditions. In this general plan, the term refers to information relating to the lifeways of the Lolangkok Sinkyone peoples during the prehistoric period.

Ethnohistoric: An equivalent body of knowledge gathered and organized by an anthropologist, folklorist, or other cultural researcher to document the life and traditions of indigenous peoples during the historic (post-contact) period.

Euroamerican: A general term used to designate people from the eastern United States who came to California during the mid-1800s. Most were of European stock or arrived directly from Europe. There were also many who originated in other parts of the world, but "Euroamerican" has been used to describe the immigrants as a whole.

Exacerbate: To make more violent or severe.

Extirpate: Totally eliminate.

Fault: A fracture or fracture zone along which there has been displacement of the sides relative to one another parallel to the fracture

Fire pre-suppression: Various human activities aimed at preventing wildfires from occurring.

Fire suppression: Various human activities aimed at preventing wildfires from growing and spreading.

Forbs: Any herbaceous (non-woody) plant having broad leaves, and therefore excluding grasses and grasslike plants.

Geomorphic: Of, or pertaining to, the figure of the earth or the form of its surface; resembling the earth.

Habitat linkage: A linear habitat embedded in unsuitable habitat (the matrix), that connects two or more larger blocks of suitable habitat and which is proposed for conservation on the grounds that it will enhance or maintain the viability of wildlife populations in the habitat block by permitting wide-ranging animals to travel, migrate, and meet mates; plants to propagate; genetic interchange to occur; populations to move in response to environmental changes and natural disasters; and individuals to recolonize habitats from which populations have been locally extirpated. Habitat linkages are necessary for the preservation of several animal and plant species that use ecosystems within Humboldt Redwoods State Park.

Herbaceous layer: Resembling an herb – a green, leafy plant that does not produce persistent woody tissue. Herbaceous plants form the lowest layer of vegetation in most plant communities.

Indigenous: Native, originating or growing naturally in a specific region.

Late successional/late seral: A late seral or late successional stage is a latter stage in the process of ecological succession. Ecological succession is the sequential change in ecosystems or communities where one replaces another in a given area, which involves changes in the plant and animal species composition. Transitory communities are called seral or pioneer stages, and the terminal stabilized system is known as the climax.

Living history program: Programs that combine authentic activities, objects, and historic persona in replica attire to recreate an event through which visitors gain insights into the history of a site, occurrence, and/or period. Living history has become an important interpretive medium for many historic parks.

Mitigate: To ameliorate, alleviate, or avoid, to the extent reasonably feasible.

Monitor: To watch, keep track of, or check for a special purpose. For example, to identify a trend over time, or to record the long-term effects of an action.

Morphology: (As used in this context) Form and structure of a plant that is atypical.

Mycology: The study of fungi.

Natural Preserve: A subclassification within a unit of the State Park System that requires Parks and Recreation Commission approval. Its main purpose is to maintain such features as rare or endangered plants and animals and their supporting ecosystems in perpetuity.

Natural resource: A resource that exists as a product of natural processes.

Perennial: Present at all seasons of the year; a plant whose life cycle lasts for more than two years.

Prehistoric: See "cultural resource," above.

Prescribed fires: A method of forest management in which relatively small, controlled fires are set under favorable conditions to prevent build-up of large quantities of brush or dead wood and, thereby, prevent more destructive crown fires during dry seasons that may rage out of control. Also called controlled fires (controlled burning).

Preservation: Managing a resource so that no further degradation from natural or human impacts can occur.

Prime Resource: A park's prime resource is that feature that a park was created to protect. At Humboldt Redwoods State Park, the ancient redwood forest ecosystem and high quality second growth redwood forest constitute the prime resource.

Reconstruction: Completely rebuilding a structure or other cultural feature that has reached the point where no original material is in a sound enough condition to be retained.

Reforestation: Replanting areas to re-establish a natural plant regime. At Humboldt Redwoods State Park, planting redwood trees in areas where they once grew but have been cleared; should include appropriate ground cover and other tree and shrub species that would naturally occur in the specific area being planted.

Rehabilitation: Making the land useful again after a disturbance, involving the recovery of ecosystem functions and processes in a degraded habitat. Rehabilitation does not necessarily reestablish the pre-disturbance condition, but it does entail establishing geological and hydrologically stable landscapes that support the natural ecosystem mosaic.

Resource stewardship: The careful and responsible management of resources that are entrusted to one's care

Restoration (natural): Re-establishment of the structure and function of ecosystems. Ecological restoration is the process of returning an ecosystem as closely as possible to pre-disturbance conditions and functions. Implicit in this definition is that ecosystems are naturally dynamic. It is, therefore, not possible to recreate a system exactly. The restoration process reestablishes the general structure, function, and dynamic but self-sustaining behavior of the ecosystem.

Restoration (cultural): Returning a cultural resource to an intact state as it appeared during a selected historic period, enlarging upon whatever original material still exists in a sound enough state to retain.

Retrofit: Incorporating improvements into a structure during preservation, rehabilitation, or other necessary changes to its fabric that will permit it to meet legal criteria for safety or other conditions that were not required at the time of its original construction or when work was most recently performed on it.

Riparian: Riparian lands are comprised of the vegetative and wildlife areas adjacent to perennial and intermittent streams and are delineated by the existence of plant species normally found near fresh water.

Sedimentary rocks: Rocks formed by the accumulation of sediment in water (aqueous deposits) or from air (eolian deposits). The sediment may consist of rock fragments or particles of various sizes.

Seismic: Caused by or subject to earthquakes or earth vibrations.

Shoulder season: The months of the year immediately before and after the park's busy recreational season. In the general plan, this term generally refers to April and October but could also shade into late March or early November, depending upon the activities under discussion.

Subcanopy: Secondary layer of a forest or wooded ecosystem, below the canopy.

Subclassification: A separate classification for a portion of a unit of the State Park System. These are established by the State Parks and Recreation Commission at the recommendation of Department staff. Natural Preserves, Cultural Preserves, and Wildernesses are subclassifications.

Subdominant: An important species within a community, but one that is less prevalent, smaller, or of less importance than the dominant species.

Substrate: The surface upon which a plant is growing, often with unique or uncommon chemistry.

Tectonic: Of, pertaining to, or designating the rock structure and external forms resulting from the deformation of the earth's crust. As applied to earthquakes, it is used to describe shocks not due to volcanic action or to collapse of caverns or landslides.

Watershed: The total area of land surface from which a river system collects its water.

Wilderness: Within state parks, this is a subclassification requiring approval by the State Parks and Recreation Commission. It provides protection for plants and animals and their supporting ecosystems while also encouraging recreational use. Its provisions include no permanent facilities other than "semi-improved campgrounds" and possible retention of structures existing when the land was designated. No mechanical equipment may be used in a wilderness (including bicycles), and there is a 2000-foot no-fly zone above it.

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