Park Unit shelves CRLA

Final
Development Concept Plan/
Amendment to the General Management Plan
Environmental Impact Statement

CRATER LAKE

National Park • Oregon

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Environmental Impact Statement

June 1995

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National Park ▪ Oregon

United States Department of the Interior ▪ National Park Service ▪ Denver Service Center

Final
Environmental Impact Statement

Development Concept Plan/
Amendment to the General Management Plan

Crater Lake

National Park ▪ Oregon

This Final Environmental Impact Statement (FEIS) describes and analyzes four alternatives to meet immediate and future needs at Crater Lake National Park in Klamath County, Oregon. Alternative 4, which is the revised Proposed Action, has been developed in response to public and agency comments on the Draft Environmental Impact Statement (DEIS). A decision is needed regarding employee housing; completion of the ongoing redevelopment project at Rim Village; and long-term Park Service and concession maintenance, administration, and storage facilities. The lead agency in this NEPA decision is the U.S. Department of the Interior, National Park Service. The Responsible Official is William C. Walters, Interim Deputy Field Director, Pacific West Field Area (206/220-4000). The purpose and need for action originate from a reevaluation of certain elements of the last planning effort for Crater Lake National Park conducted in 1988. Most improvements called for in 1988 remain valid and are not controversial. These include rehabilitation of Crater Lake Lodge, partial restoration and rehabilitation of landscaping, and replacement of the existing gift store/cafeteria with a new activity center. These actions are planned and approved and do not require further evaluation. The three alternatives that were evaluated in the DEIS remain in the FEIS. These include Alternative 1 - South Entrance Focus, Alternative 2 - Mazama Focus, and Alternative 3 - No Action. Alternative 4 - Proposed Action has been added in response to comments on the DEIS. Alternatives 1 and 2 include (1) removing the visitor parking at Rim Village and constructing a new parking structure 800 feet off the rim, with a shuttle bus system to provide year-round access to Rim Village; (2) creating a new 2,000-foot roadway on which visitors would travel from the parking facility to Crater Lake Lodge in shuttle buses; (3) partially restoring a 1-acre maintenance yard near park headquarters, with the remainder of the site converted to an employee recreation area; (4) developing a 98-person employee dormitory and associated parking, pedestrian path, group campsites, and maintenance building at Mazama Village; (5) removing an existing dormitory at Rim Village, replacing it with another dormitory near the park's South Entrance; and (6) constructing 20 to 30 employee houses at the South Entrance. In addition, Alternative 1 would include moving park headquarters to the South Entrance and developing several support facilities there. Under Alternative 2, park headquarters would remain at Munson Valley, and support facilities would be developed at Mazama Village. Alternative 4, the revised Proposed Action, was developed after new opportunities for locations to place facilities originally proposed at the South Entrance were discovered through public and agency responses to the DEIS. Under Alternative 4, a separate planning effort would take place to determine the most appropriate location for the facilities and functions originally proposed for the South Entrance (as described under Alternatives 1 and 2).

The DEIS was circulated between November 29, 1994, and February 2, 1995. The 30-day no-action period on this FEIS will expire 30 days after the EPA has accepted the document and published a notice of availability in the Federal Register. For more information, contact:

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United States Department of the Interior ▪ National Park Service ▪ Denver Service Center

Summary

INTRODUCTION

This Final Environmental Impact Statement (FEIS) analyzes four alternatives to meet immediate and future needs at Crater Lake National Park. Alternative 4, which is the revised Proposed Action, has been developed in response to public and agency comments on the Draft Environmental Impact Statement (DEIS). A decision is needed to address issues and concerns regarding employee housing; completion of the ongoing redevelopment project at Rim Village; and long-term Park Service and concession maintenance, administration, and storage facilities.

Crater Lake National Park is in southwest Oregon at the southern end of the Cascade Range. The primary resource at the park is Crater Lake itself. The lake is the deepest in the United States and is known for the clarity and intense blue color of its water. The park's entrance station at Mazama Village is 76 miles from Medford and 56 miles from Klamath Falls.

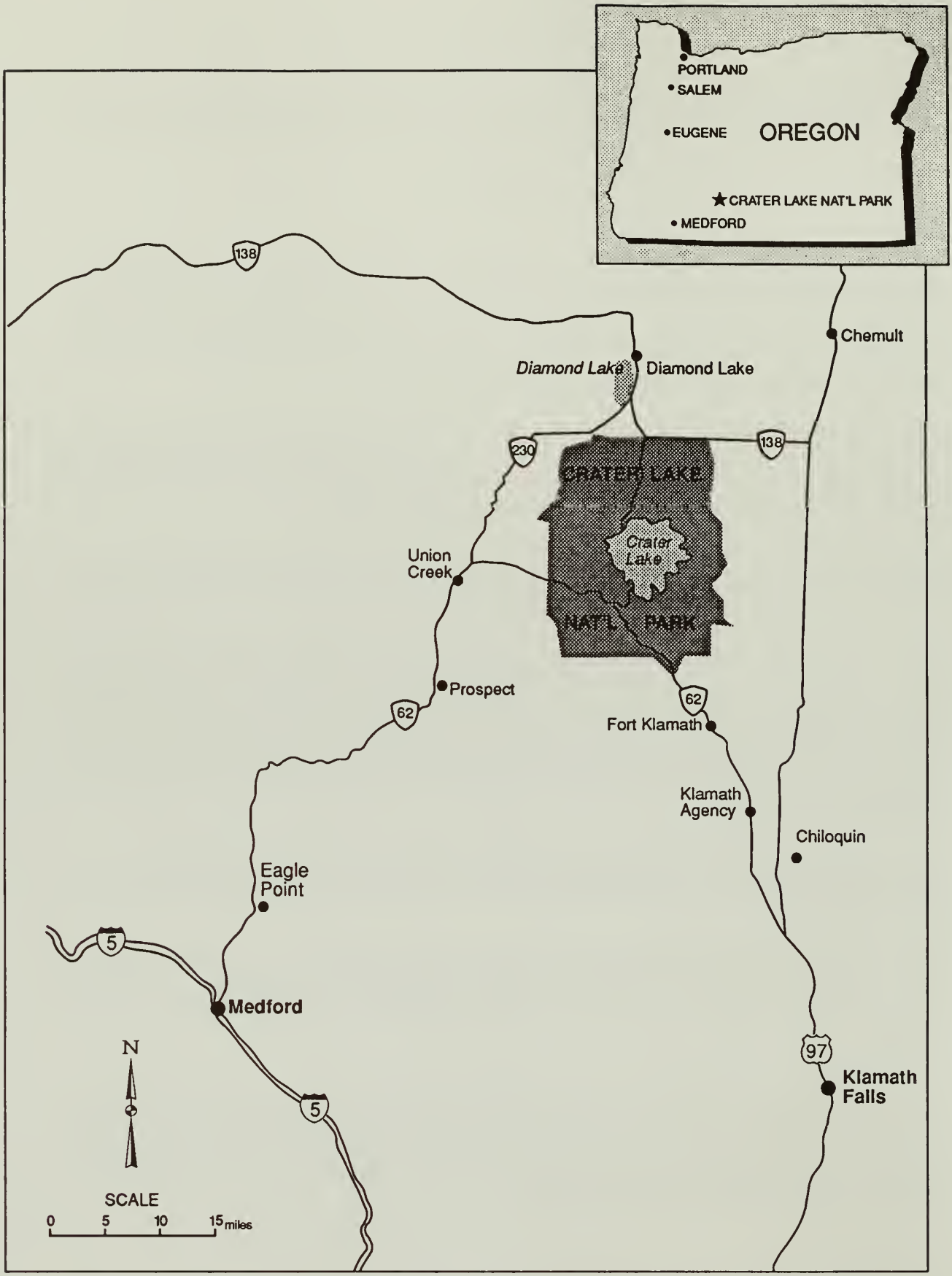
Four areas are being considered within and adjacent to the park to provide an appropriate level of visitor services and facilities, and the necessary administrative and operational facilities of the Park Service and concessioner to support these functions.

Rim Village, the first area, is located on the south edge of Crater Lake and serves as the center of the park for visitor use and interpretation. It contains the historic Crater Lake Lodge, a cafeteria/gift shop, a small visitor contact station, the Sinnott Memorial overlook and museum, historic landscape, parking for approximately 450 cars, a picnic area, an employee dormitory, and a comfort station (restroom). Crater Lake Lodge has been closed since 1988 for rehabilitation and is scheduled to reopen in summer 1995. The Park Service plans to replace the cafeteria/gift shop with a new activity center (see Chapter 2).

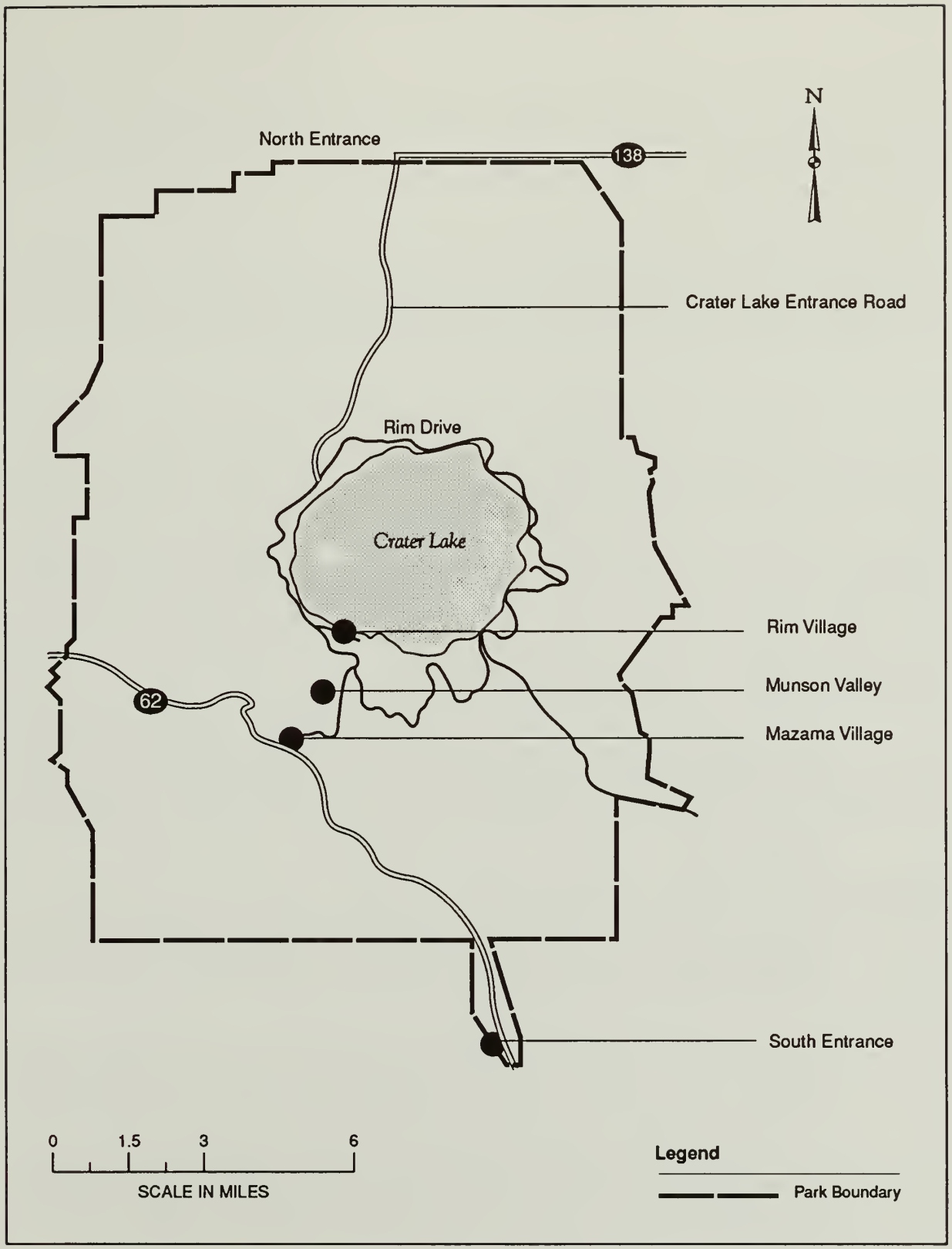
The second area, Munson Valley, is located about 3 miles south of Rim Village and serves as the center of park administration, maintenance, and housing. It also serves as a visitor information and orientation point.

Third, Mazama Village, located about 4 miles south of Munson Valley, serves as another visitor use area in the park. It contains a campground, summer lodging units, and camper services. Services provided include a general store, shower and laundry facilities, telephone, restrooms and a gas station.

The South Entrance, the fourth area under consideration, contains a small maintenance and storage area and is used little by visitors other than as a scenic driving corridor to Mazama Village, the rim, and other destinations. Alternative 4, the revised Proposed Action, leaves open the opportunity to evaluate other areas in which to develop some or all of the project functions previously proposed (in the DEIS) to be provided at the South Entrance.



Crater Lake National Park Regional Map



Crater Lake National Park Project Areas

PURPOSE AND NEED FOR ACTION

This Development Concept Plan/Amendment to the General Management Plan (DCP) and FEIS culminate over 17 years of public involvement, planning, and environmental analysis at Crater Lake National Park. The proposed actions in this DCP would complete a long-term effort to improve Rim Village and provide the infrastructure and support facilities needed within the immediate future (within 5 years) to protect natural resources and provide for visitor enjoyment at the park.

The purpose and need for action originate from a reevaluation of certain elements of the last DCP approved in 1988. Most of the improvements approved in the 1988 DCP remain valid and are not controversial. These include the rehabilitation of Crater Lake Lodge, partial restoration and rehabilitation of landscaping, and replacement of the existing gift store/cafeteria with a new activity center. These actions are planned and approved and do not require further evaluation.

However, since 1988, two improvements called for in the 1988 DCP have been brought into question: (1) parking within Rim Village, and (2) a 60-room, year-round lodge as part of the activity center. The Park Service has determined that both uses are not consistent with the overriding objective to convert Rim Village into a pedestrian-oriented environment and to ensure that the amount and scale of visitor facilities are consistent with the protection of the core resource area of the park.

In addition, the 1988 DCP did not fully address three key elements necessary for visitor services to continue as planned: (1) employee housing, (2) support facilities, and (3) road access to the rim from a new off-rim parking area.

Other issues contribute to the purpose and need for action:

1. There is a need to expand administrative support activities, yet expansion at the present location at Munson Valley would add new development to an existing historic district. Opportunities to site administrative and other facilities elsewhere need to be explored.

2. Employee families living at Munson Valley have limited access to schools and other amenities.

3. The park has no area for group camping. In addition, the existing amphitheater in the Mazama Campground is difficult to access and would not be practical for use by camping groups. A new amphitheater that could accommodate all campers at the Mazama Campground needs to be evaluated.

4. Operating Crater Lake National Park requires many behind-the-scene facilities. Facility maintenance and a major snow-plowing program require heavy equipment, building materials, sand, and tools. These in turn require more space than is currently provided.

5. The park's museum collection has no permanent storage location. Currently the park's museum collection is stored in temporary locations that are inadequate and substandard. About 10,000 objects are in the museum collection, more than 70,000 items in the archives, and more than 8,000 items in the library.

6. A specific alignment for a road to Rim Village needs to be identified, and the issue of removing all parking from the rim and restricting vehicle access to shuttle bus only needs to be addressed.

7. The park concessioner has insufficient storage and maintenance facilities.

ALTERNATIVES

This FEIS presents four alternatives to meet the purpose and need for action. The development of alternatives was guided by the park's enabling legislation, identification of the park's resources, and input received during public scoping. The alternatives differ in the location and extent of certain developments that are proposed to meet the purpose and need for action as described below.

ACTIONS COMMON TO ALTERNATIVE 1, ALTERNATIVE 2, AND ALTERNATIVE 4

Certain elements are common to Alternatives 1, 2, and 4 (the revised Proposed Action). These include completing the long-term goal of creating a more pedestrian-oriented environment at Rim Village. Visitor parking at Rim Village would be removed and a three-level parking structure (two of the levels underground), which would include a restroom and orientation facility, would be constructed approximately 800 feet south of the existing parking facility. Visitors would travel to the rim on a new pedestrian walkway or in shuttle buses on a new 2,000-foot road from the parking facility to the rim development. In the future, the existing employee dormitory at Rim Village would be removed under Alternatives 1, 2, and 4. Under Alternatives 1 and 2, the Rim Village dorm function would be relocated to the South Entrance. Under Alternative 4, it would be relocated following further evaluation of potential sites.

Under Alternatives 1, 2, and 4, the 1-acre Quarry Flat area in Munson Valley would be partially revegetated and converted from its current use as a road maintenance and construction staging area to a recreation area for Park Service and concession employees.

A concession employee dormitory would be constructed at Mazama Village under all three of these alternatives. The proposed site is located across State Route 62 in relation to visitor use areas. Development in this area would include the following:

- a 98-person employee dormitory to meet the immediate need for concession employee housing,
- an access road to the dormitory,
- 15 recreational vehicle sites for employees adjacent to the dormitory,
- a paved pedestrian path from the dormitory building to the Mazama store,
- water system improvements, and

- a 5,000-square-foot concession maintenance building adjacent to the new dormitory to be used as a workshop and tool storage area for concessioner facility maintenance.

In addition, group campsites would be developed near the existing campground.

At the South Entrance, Alternatives 1 and 2 include future development of 20 to 30 employee houses and a second employee dormitory to replace the current dormitory at Rim Village. Alternative 4 calls for further planning to determine the most appropriate location for the functions and facilities originally proposed for the South Entrance under Alternative 1.

ALTERNATIVE 1 - SOUTH ENTRANCE FOCUS

In addition to the elements common to Alternatives 1 and 2, Alternative 1 includes more extensive development at the South Entrance. This would include the relocation of park headquarters administrative functions from Munson Valley to the South Entrance. Several support facilities would be constructed, including a warehouse, museum storage, shuttle bus maintenance facility, fire station, Natural History Association office and storage, sand/plow sheds, and a drop-off facility. This drop-off facility would allow supplies destined for Rim Village to be transferred from large trucks to vans that would be less intrusive at Rim Village.

ALTERNATIVE 2 - MAZAMA FOCUS

Alternative 2 includes developing the shuttle bus maintenance, warehouse, and drop-off facility (for deliveries to Rim Village) at Mazama Village rather than at the South Entrance. This development would take place near the new employee dormitory.

ALTERNATIVE 3 - NO ACTION (CONTINUATION OF THE 1988 DEVELOPMENT CONCEPT PLAN AND AMENDMENT TO THE GENERAL MANAGEMENT PLAN)

Under Alternative 3, the Park Service would implement many of the actions approved in the 1988 DCP. The 1988 DCP included relocating parking away from the rim. Two day-use parking areas would be constructed with a total capacity of approximately 500 cars and recreational vehicles. The main parking area would be located adjacent to the southwest side of the new visitor activity center. A lower parking area would be adjacent to the main park road and connected by walkways to the upper parking area and visitor facilities. A comfort station would be constructed at the lower parking area or, if feasible, the existing rustic comfort station in Rim Village would be relocated there. These new parking areas would be designed to direct visitors to a central arrival point from which they could choose to visit the interpretive facilities, proceed to the rim to view the lake, or use the concessioner services.

While the 1988 DCP did not fully address employee housing, concession employee housing for 60 to 65 people would be provided at Munson Valley at a previously cleared site called Quarry Flat.

ALTERNATIVE 4 - PROPOSED ACTION

Alternative 4, the revised Proposed Action, was developed after new opportunities were discovered through public and agency responses to the DEIS regarding placement of facilities and functions originally proposed at the South Entrance. Under Alternative 4, a separate planning effort would take place to determine the most appropriate location for the facilities and functions originally proposed for the South Entrance (as described under Alternative 1).

ENVIRONMENTAL CONSEQUENCES

IMPACTS ON EARTH RESOURCES (TOPOGRAPHY, GEOLOGY, AND SOILS)

Under Alternatives 1, 2, and 4, the new parking facility and road to Rim Village would require grading and excavating that would, in turn, alter topography in the area. No major change in topography would occur elsewhere, and facilities would not be developed within hazardous or unique geologic features.

Construction activities would result in surface disturbance of the soils and soil compaction on the site. Visitor and employee use would result in localized impacts on soils. No long-term soil impacts would be expected as a result of development activities. Soils in all areas pose no significant problems for development.

Under Alternative 3, the parking facility proposed below Rim Village would require more extensive alteration of topography than would the facility proposed under Alternatives 1, 2, and 4.

IMPACTS ON SURFACE WATER RESOURCES

Development under Alternatives 1 and 2 would increase impervious surfaces at Rim Village, Mazama Village, and the South Entrance. Alternative 3 would increase impervious surface at Rim Village and at Quarry Flat in Munson Valley. Alternative 4 would increase impervious surfaces at Rim Village and Mazama Village. As part of the pedestrian path from the parking facility to Rim Village as proposed in Alternatives 1, 2, and 4, one culvert would be placed in the stream south of the activity center. Alternative 3 may also require a culvert as part of the pedestrian path proposed in the 1988 DCP. The new culvert that would be required would enclose approximately 40 feet of the stream in a pipe.

No impacts on surface waters or floodplains would occur at other areas. The hydrologic connection between the hillside seep and stream adjacent to Quarry Flat could be restored under Alternatives 1, 2, and 4.

IMPACTS ON GROUNDWATER/WATER SUPPLY

Water use at the park, including existing and proposed uses, together with the additional water to be used by the reopening of the Crater Lake Lodge and eventual development of the day use activity center, would total 123,355 gallons per day (gpd) under Alternative 1; 106,939 gpd under

Alternative 2; 84,215 gpd under Alternative 3; and 88,357 gpd under Alternative 4. (Note: Alternatives 1 and 2 include a new well being developed at the South Entrance.)

While water withdrawals from Annie Spring would be within the range of permitted water rights of the park, seasonal water shortfalls may occur within the Annie Creek drainage downstream from Crater Lake National Park. The legal process is underway to determine the quantity of water available for park uses through the Klamath Basin Adjudication. The Park Service is investigating a number of options with Oregon State water laws, should the adjudication determine that the combination of existing federal reserved and prior appropriation water rights is insufficient to meet existing needs, or those proposed in this DCP. Those options being investigated include:

- Locating new water sources, either surface water or subsurface sources (wells), for which appropriate water rights could be obtained.

- Obtaining additional priority water rights through purchase or lease agreement.

Appropriate compliance with the National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA), Section 106, would be completed prior to implementing any of these options.

Bull trout used to migrate from Agency/Upper Klamath Lake to spawning beds in Sun Creek by way of Annie Creek and the Wood River. However, little or no flows from Annie Creek reach the Wood River during drought periods due to water demands in Annie Creek (over 99% of which occur downstream of the park). This low flow has resulted in the disconnection of the Wood River/Annie Creek/Sun Creek migration route.

The Park Service water withdrawals would further reduce water flows. However, the disconnection of the bull trout migration route would continue to occur, with or without water withdrawals by the park. Total National Park Service use under any of the alternatives represents about 4/1,000 of the lowest flow amount reported at Annie Creek as it leaves the park based on low flow estimates provided by Sparks (pers. comm.). Water withdrawal from the park would contribute to the cumulative negative effects on water flows in this drainage system, which have had a significant negative effect on fish migration and bull trout restoration efforts.

IMPACTS ON WATER QUALITY

Under Alternatives 1, 2, and 4, the risk of pollutants entering Crater Lake would be reduced due to removal of the parking lot currently located at the rim. No stream sedimentation would occur due to the well drained nature of soil in the area (assuming that construction would be conducted according to the mitigating measures outlined in Chapter 2). No water quality impacts would occur at Annie Spring, Annie Creek, or the South Entrance.

IMPACTS ON AIR QUALITY

Construction activities would cause short-term and localized emissions of dust and exhaust, but these would quickly disperse to negligible amounts. Air quality would improve at Rim Village under Alternatives 1, 2, and 4 due to removal of parking areas and visitor vehicle access to Rim Village.

Similar improvements would occur under Alternative 3 except that visitor vehicles would still be allowed to drive to the lodge and associated local air pollution would continue.

IMPACTS ON VEGETATION

All alternatives would require the removal of vegetation. To the extent possible, alternatives were designed to minimize impacts on natural vegetation.

At Rim Village, 1.2 acres of mountain hemlock forest and 2.5 acres of pumice flat would be removed under Alternatives 1, 2, and 4, compared to 2.6 acres of mountain hemlock forest and no disturbance of pumice flat under Alternative 3.

Under Alternative 3, the employee dormitory that would be constructed at Munson Valley would be located in a previously cleared area. Impacts on vegetation would be limited to removal of potential hazard trees adjacent to the site.

At Mazama Village, mountain hemlock forest would be avoided. Alternatives 1 and 4 would remove about 12 acres of lodgepole pine forest, compared to about 14 acres under Alternative 2. Under Alternative 3, no areas would be developed at Mazama Village.

At the South Entrance (which includes Forest Service lands), fire, fire suppression, commercial thinning, and road construction have created a patchy distribution of large trees, open areas, snag patches, and areas containing dense stands of lodgepole pine and white fir. Development under either Alternative 1 or 2 would occur in previously disturbed areas and minimize removal of trees greater than 30 inches in diameter. Alternative 1 would involve the eventual development of 26 acres in this area, compared to about 16 acres for Alternative 2. Under Alternatives 3 and 4, no areas would be developed at the South Entrance at this time.

None of the alternatives would impact special-status plant species.

Redevelopment at Rim Village under Alternatives 1, 2, and 4 would result in a beneficial impact through restoring native vegetation. Under Alternative 3, benefits at Rim Village would be similar except that the dormitory would remain on the rim indefinitely. Redevelopment at Quarry Flat would include restoring native vegetation under Alternatives 1, 2, and 4. No benefit would occur at Quarry Flat under Alternative 3 because housing would be placed there.

Development at Rim Village under Alternatives 1, 2, and 4 would require removal of a portion of the plant communities that contain Crater Lake currant and pumice sandwort. These communities or plants are not protected by any laws, but they are considered important features of the park because of their limited distribution in the region.

IMPACTS ON WETLANDS

No wetlands are present within specific sites being considered for construction.

IMPACTS ON WILDLIFE

Impacts on wildlife habitat are directly related to the removal of vegetation. In general, any disturbance of previously undeveloped areas in the park adversely affects wildlife by directly removing habitat. In addition, construction noise and activities and human intrusion after development can cause some animals to avoid otherwise suitable habitat. If trees or other vegetation are cleared during the breeding season (generally May through June), bird nests or mammal dens would be destroyed. Impacts are generally the same between alternatives; however, under Alternative 2, more impacts would occur at Mazama Village and less at the South Entrance. Under Alternative 3, impacts would be limited to Rim Village and Quarry Flat. Under Alternative 4, impacts would occur as under Alternative 1 except that no impacts would occur at the South Entrance at this time. The South Entrance may still be considered at some future date as a possible site for development, but this would require a full NEPA analysis including public involvement.

Development at the South Entrance under Alternatives 1 and 2 would adversely affect elk migration and calving habitat. The portion of the local elk herd that migrates through the South Entrance may shift their movements south where they would have to negotiate a series of barbed-wire fences on private properties before reaching public lands, or they may shift to the north, where they would have to negotiate the steep banks of Annie Creek. Some of these elk may instead avoid crossing this area altogether and opt to travel to summer range within the park or on Forest Service lands west of State Route 62. Because forested habitat would remain around the South Entrance development area, some elk are expected to adjust to the increase in human activity by simply skirting the developed area and traveling at night. Alternatives 3 and 4 would not result in any habitat removal at the South Entrance at this time.

Development at the South Entrance would occur within an area that contains large trees, snags, and multiple canopies that are important to many types of wildlife. However, the disturbed nature of the habitat in the area allows opportunities to minimize removal of snags and large trees. Development would focus on areas already lacking in trees or snags greater than 30 inches in diameter, including Forest Service lands that have been previously thinned or that contain roads.

IMPACTS ON SPECIAL-STATUS ANIMAL SPECIES

No animal species listed as threatened or endangered under the Endangered Species Act are present at any areas being considered for development.

No loss of habitat for state-listed species would occur at Rim Village or Quarry Flat.

Habitat for northern goshawk would be impacted under Alternatives 1, 2, and 4 at Mazama Village and under Alternatives 1 and 2 at the South Entrance. Northern goshawk is a candidate species for listing under the Endangered Species Act. At Mazama Village, potential goshawk nesting habitat was avoided as part of site design. At the South Entrance, large trees and snags that make up northern goshawk nesting habitat would be avoided during the final site design. If construction is planned during the breeding season, nest surveys would be conducted prior to starting work. Habitat for mountain quail, another candidate species, and habitat for state-listed cavity nesting birds would be lost at developed areas in the South Entrance.

About 12 acres of habitat for state-listed sensitive woodpeckers would be lost at Mazama Village under Alternatives 1 and 4, compared to 14 acres under Alternative 2 and no loss under Alternative 3.

California wolverine and Pacific fisher are both federal candidate species. In addition, California wolverine is state-listed as threatened in Oregon. Because these species travel regularly over large distances, they could use any of the areas under consideration for development. In addition, American marten, a related species that is state-listed as sensitive, is present at or near all planning areas. Implementation of Alternatives 1, 2, and 4 would reduce habitat for these species. Alternative 3 would cause a very minor reduction of suitable habitat for these species at and near Rim Village.

Under Alternative 1, habitat for state-listed sensitive woodpeckers and other birds in the South Entrance area would be reduced. Under Alternative 1, development in this area would remove approximately 26 acres of habitat, in contrast to 16 acres under Alternative 2. Sensitive species that would be adversely affected include northern pygmy-owl, Williamson's sapsucker, pygmy nuthatch, and pileated, white-headed, three-toed, and black-backed woodpeckers. No forest at the South Entrance would be removed under Alternatives 3 and 4 at this time.

Bull trout used to migrate from Agency/Upper Klamath Lake to spawning beds in Sun Creek by way of Annie Creek and the Wood River. However, little or no flows from Annie Creek reach the Wood River during drought periods due to water demands in Annie Creek (over 99% of which occur downstream of the park). This low flow has resulted in the disconnection of the Wood River/Annie Creek/Sun Creek migration route.

The Park Service water withdrawals would further reduce water flows. However, the disconnection of the bull trout migration route would continue to occur, with or without water withdrawals by the park. Total National Park Service use under any of the alternatives represents about 4/1,000 of the lowest flow amount reported at Annie Creek as it leaves the park based on low flow estimates provided by Sparks (pers. comm.). Water withdrawal from the park would contribute to the cumulative negative effects on water flows in this drainage system, which have had a significant negative effect on fish migration and bull trout restoration efforts.

IMPACTS ON ECOSYSTEM PROCESSES (FIRE)

Development within or near forests under Alternative 1 would increase the risk of wildfire affecting people and structures. Conversely, increasing the number of people in forested areas also increases the risk of human-caused fire. The park recognizes this risk and would manage fuels and provide emergency fire services to protect new and existing development as well as natural vegetation.

Because of the key role fire plays in ponderosa pine forests at the South Entrance, development in this area would need to include measures to protect buildings from fire while allowing the natural processes to continue. Development would be integrated into the ongoing fire and fuels management program for the South Entrance area.

Because less development would occur with Alternative 2 than under Alternative 1, the risk of human-caused fires in the South Entrance may be lower. The risk of wildfire affecting people and structures would be about the same, although fewer people and structures would be affected. As with

Alternative 1, development at the South Entrance would be integrated into the ongoing fire and fuels management program for the area, including plans developed for Forest Service lands.

Under Alternatives 3 and 4, no development at the South Entrance would take place at this time, and no significant increased risk of wildfire affecting people and structures or increased risk of human-caused fire would occur at the South Entrance.

IMPACTS ON CULTURAL RESOURCES

The areas being considered for development have been surveyed for archeological resources; however, some areas would require additional surveys. The actions at Rim Village would have an effect on the potentially eligible historic designed landscape; however, the Oregon State Historic Preservation Officer has determined that the effect would not be adverse.

IMPACTS ON LOCAL ECONOMY

The types of actions being considered are expected to enhance visitor experience, rather than attracting additional visitors; therefore, the regional tourist industry is not part of the affected environment evaluated in this FEIS. Employees who would move to the South Entrance (Alternatives 1 and 2) would provide a minor benefit to the economy at nearby Fort Klamath.

IMPACTS ON VISITOR EXPERIENCE

Under Alternatives 1, 2, and 4, visitor safety and aesthetic values at Rim Village would improve. Rim Village would become a more natural setting for summer and winter visitors, relatively free of traffic congestion, noise, and smells. In the winter, the snowbank along the edge caused by plowing would no longer exist, allowing visitors to view the lake in a more natural setting. Providing one centralized location for visitors to arrive at the rim would provide opportunities to orient and educate the visitor and allow Park Service staff to better manage traffic flow near the rim.

Under Alternative 3, visitors would still be allowed to drive to Crater Lake Lodge and to the new activity center, once it is constructed. This would create a more congested environment than that of Alternatives 1, 2, and 4. In addition, because the rim would still contain several arrival points, the opportunities and advantages of a single arrival point would not be realized. Development of an employee dormitory at Munson Valley would increase the visible presence of people and development in this area.

Construction activities under any of the alternatives would increase noise and would inconvenience visitors. Under Alternatives 1, 2, and 4, group camping sites and the employee dormitory at Mazama Village would result in more people and associated noise in the area that may disturb other visitors.

Development at the South Entrance under Alternatives 1 and 2 would be placed outside of the visual corridor along State Route 62. Clearing in the area as part of a fuels reduction program may make some buildings partially visible to visitors traveling along State Route 62.

IMPACTS ON EMPLOYEE COMMUTING AND DELIVERY OF SUPPLIES

The concessioner would assign employees to housing most appropriate for their workplaces. The Mazama Village dormitory of Alternatives 1, 2, and 4 would be used by employees working at Mazama Village or Rim Village. The shuttle system would be adapted as appropriate to facilitate employee commuting between Mazama Village, the South Entrance, and Rim Village.

Park Service housing would be placed proximate to work locations. Under Alternatives 1 and 2, employees residing at the South Entrance would also work there. Some employees who currently commute to Munson Valley from outside the park would move into government housing at the South Entrance and eliminate their need to commute long distances to work.

IMPACTS ON LAND USE AND ZONING

Developments at Rim Village, Munson Valley, and Mazama Village would be consistent with zoning designations of the Park Service and adjacent jurisdictions. However, under Alternatives 1 and 2, employee housing and other developed uses on Forest Service lands at the South Entrance would be considered a change in land use designation and would require an amendment to the Forest Plan; development of the South Entrance would conflict with the county's comprehensive plan and would likely prompt the county to conduct additional planning in this area; and development at the South Entrance could result in potential noise, safety, and congestion problems because of logging truck traffic near a residential community.

Contents

Chapter 1. Purpose of and Need for Action

Chapter 2. Project Description and Alternatives

Chapter 3. Affected Environment

Chapter 4. Environmental Consequences

Tables

Figures

Chapter 1

Purpose of and Need for Action

Chapter 1. Purpose of and Need for Action

This chapter describes the underlying purpose and need to which the Park Service is responding in proposing four alternatives. This chapter (1) identifies current planning issues related to the types and locations of facilities needed to meet Park Service objectives, (2) lists the overall planning objectives at the park and site-specific objectives that relate to the need for action, and (3) provides the background of planning leading to the current need for action described in this Development Concept Plan/Amendment to the General Management Plan (DCP) and Final Environmental Impact Statement (FEIS).

1.1 CURRENT PLANNING ISSUES

A decision is needed to address issues and concerns regarding employee housing, completion of the ongoing redevelopment project at Rim Village, and long-term park maintenance, visitor services, administration, and storage facilities. The purpose and need for action originate from a reevaluation of certain elements of the last DCP approved in 1988, known as the 1988 DCP. Most of the improvements approved in the 1988 DCP remain valid and are not controversial. These include the rehabilitation of Crater Lake Lodge, partial restoration and rehabilitation of landscaping, and replacement of the existing gift store/cafeteria with a new day use activity center. These actions are approved and planned and do not require further evaluation. These actions are under various stages of design or construction, with the rehabilitation of Crater Lake Lodge underway and expected to be completed in 1995.[1]

However, since 1988, two improvements called for in the 1988 DCP have been brought into question. First, in 1990, the Park Service decided to reevaluate the original plan to use both rim and remote visitor parking. A conceptual plan was developed that removed all parking from the rim in order to further reduce impacts along the rim, enhance the visitor experience, and reduce the extensive snow removal requirements necessary to clear rim parking areas. The plan included converting Rim Village to a pedestrian-oriented area closed to motorized vehicle traffic. Under this concept, visitors would travel to Rim Village from the parking facility by pedestrian trail or by shuttle bus.

Second, the hotel function of the day use activity center/hotel (approved by the 1988 DCP but not yet developed) has been questioned as inappropriate and inconsistent with Park Service policy. Existing policy encourages the development of overnight lodging and other visitor support facilities outside the park where feasible. Recommendations from the Park Service 1991 75th Anniversary Symposium in Vail, Colorado, further encourage development outside the park whenever possible.

In addition, the 1988 DCP did not fully address future employee housing needs for the Park Service and concessioner, and specific sites need to be identified. To meet the immediate need for housing,

[1] Crater Lake Lodge is expected to be completed prior to the release of this FEIS.

the possibility of locating a new employee dormitory near existing utilities and roads needs to be explored. The major purposes and needs for additional housing are:

- Currently employee housing is adequate for only about 50% of the permanent staff.

- The existing concession dormitory in Rim Village is overcrowded, inaccessible in winter, not designed for winter snowloads, and located near the park's prime resource and within sight of Crater Lake Lodge. It should be removed and housing provided elsewhere.

- The reopening of Crater Lake Lodge will result in more people working in the park who need housing.

- The concessioner currently has no family housing available for its employees.

- At Munson Valley, the current location of employee housing is burdened by extreme and prolonged snowfall. This reduces the ability of the Park Service to recruit and maintain staff.

In addition to the elements of the 1988 DCP that have been refined or reevaluated, the following elements have been identified that further shape and define the need for action:

1. There is a need to expand administrative support activities, yet expansion at the present location (Munson Valley) would add new development to an existing historic district. It would also compound housing, vehicular, and human impacts in an area of the park which is approaching its ecological and operational capacity. Site options locate these functions where construction and operational costs are lower, where employee commute distances can be reduced, and where employee proximity to schools and community services is enhanced. Such opportunities exist in the South Entrance area of the park and may exist at other areas outside of the park where lower snow levels, reduced construction costs, and proximity to existing communities are present. The opportunities to site administrative and other facilities need to be evaluated.

2. Employee families living at Munson Valley have no open area for recreation such as group sports.

3. Several groups, such as Boy Scouts and other youth groups, have no place to camp together at the park. In addition, the existing amphitheater in the Mazama Campground is difficult to access and would not be practical for use by camping groups. A new location that could accommodate all campground visitors needs to be evaluated.

4. Operating Crater Lake National Park requires many behind-the-scene facilities. Facility maintenance and a major snow-plowing program require heavy equipment, building materials, sand, and tools. These in turn require more space than is currently provided.

5. The park's museum collection has no permanent storage location. Currently the park's museum collection is stored in temporary locations that are inadequate and substandard. About 10,000 objects are in the museum collection, more than 70,000 items in the archives, and more than 8,000 items in the library.

6. The 1988 DCP called for construction of a new road to connect the proposed day use activity center and Crater Lake Lodge with the new off-rim parking area. This road was originally to be open to private vehicles. A specific alignment for this road needs to be identified as well as addressing the issue of removing all parking from the rim and restricting vehicle access to shuttle bus only.

7. The park concessioner has insufficient storage and maintenance facilities.

1.2 PLANNING DIRECTION AND SITE OBJECTIVES

Several major planning objectives have been developed and refined through (1) the 1988 DCP planning process, (2) subsequent public involvement, and (3) Park Service planning meetings. These objectives have shaped the alternatives and issues addressed in this FEIS. The functional purpose and significant resources of each planning area were also identified to help guide the development of the site-specific objectives.

1.2.1 EXISTING FUNCTIONAL PURPOSE OF EACH PLANNING AREA

- **Rim Village** - to serve as the center of visitor activities along the rim and to provide the public with an enjoyable, educational, and memorable experience.

- **Munson Valley** - to serve as the primary development site in the park for Park Service operational and administrative functions that must be close to resources and visitor use areas.

- **Mazama Village** - to provide for the general public seasonal overnight lodging accommodations and camping, food and other visitor services, away from the park's primary lake rim resource.

- **South Entrance** - to provide a scenic entrance to the park that includes large ponderosa pine bordering State Route 62.

1.2.2 SIGNIFICANT RESOURCES OF EACH PLANNING AREA

- Rim Village is located on the rim of the Crater Lake caldera, which is a unique geologic feature. The lake itself is the primary resource of the park, and Rim Village provides important opportunities for interpretation and visitor enjoyment of the lake and associated features. Rim Village is potentially eligible for listing on the National Register of Historic Places as a historic designed landscape. It contains four buildings listed on the National Register. Rim Drive may also be eligible for listing. Rim Village contains large mountain hemlock trees as well as Crater Lake currant, which has a limited distribution. Pumice sandwort, another plant with a limited distribution, is also present below Rim Village within a pumice flat area.

- Munson Valley contains a network of wetlands and large mountain hemlock and other large conifers. Park headquarters and a visitor information center are located within a historic district. The steep walls of the valley form a scenic backdrop to the historic and other buildings present in the valley.

- Mazama Village is adjacent to Annie Creek, which flows in a steep ravine that contains exposed and erodible soils in places. Large mountain hemlocks are present generally south of the developed area of the village.

- The South Entrance contains large ponderosa pines that present a scenic entrance to the park. The lowland forest type supports wildlife communities that are not present at the higher elevations of the park. Many of these species are cavity nesters and are listed as sensitive species by the Oregon Department of Fish and Wildlife.

1.2.3 GENERAL PARK SERVICE OBJECTIVES

- Improve year-round visitor services.

- Protect ecosystem processes, interrelationships, and components.

- Manage developed areas in ways that minimize impacts on wildlife habitat and corridors.

- Design sites and buildings in ways compatible with the historic and natural environments.

- Comply with the Americans with Disabilities Act (ADA) as part of all new planning and building design.

1.2.4 SITE-SPECIFIC OBJECTIVES

1.2.4.1 Rim Village

- Continue traditional uses and activities, with Rim Village being the focal point for day use activities, visitor services, and overnight lodging.

- Relocate parking areas away from Rim Village to provide a more relaxed, natural setting for summer and winter visitors.

- Provide year-round road access from Munson Valley to Rim Village.

- Provide education and interpretation to the public to promote a better understanding of Crater Lake and associated features, as well as the relationships between the park's natural resources, cultural resources, and visitor use facilities.

- Preserve and enhance the historic setting of Rim Village.

- Limit development to necessary functions that cannot be provided elsewhere.

- Develop facilities in harmony with the natural environment and historic setting of Rim Village.

1.2.4.2 Park Headquarters Area - Munson Valley

- Preserve and enhance the historic structures and setting to convey to the visitor an understanding of the history of the park's architecture and historic landscapes.

- Provide education and interpretation to the public.

- Provide opportunities for park visitors to learn about and appreciate natural and cultural resources.

- Provide year-round road access to this area for (1) visitors who need information and directions, and (2) park headquarters employees.

- Encourage visitors to learn about the developed area's cultural resource values.

1.2.4.3 Mazama Village

- Provide services and facilities related to camping and other services in ways that are (1) appropriate for visitor use and enjoyment of park resources, and (2) consistent with site limitations and natural resource protection.

- Provide facilities, such as employee housing, necessary to support Rim Village development. Facilities shall be sited to minimize their visibility from primary road corridors so that the visitor's experience is one of being within an unspoiled natural forest.

- Protect Annie Creek Canyon to maintain the high quality of both surface and groundwater and to perpetuate the geomorphological and biological characteristics and their inherent visual qualities.

1.2.4.4 South Entrance Area

- Protect stands of late-successional ponderosa pine forest.

- Minimize visual disturbance to the primary road corridor.

1.2.5 PUBLIC ISSUES IDENTIFIED THROUGH SCOPING

At meetings conducted in January and May 1994, the public identified the following issues or concerns regarding development at the park:

- Continue to provide year-round viewing of the lake.
- Rather than add development to the park, relocate new and existing development near and outside the park boundaries.
- The parking structure may be bypassed by many people who will prefer to continue along Rim Drive and view the lake elsewhere.

1.3 BACKGROUND OF PLANNING AT CRATER LAKE NATIONAL PARK

This DCP and FEIS culminate over 17 years of public involvement, planning, and environmental analysis at Crater Lake National Park. The proposed actions in this DCP complete a long-term effort to improve Rim Village and provide the infrastructure and support facilities needed to protect natural resources and provide for visitor enjoyment at the park.

The following sections summarize important documents and National Environmental Policy Act (NEPA) decisions that have shaped the current purpose and need for action and defined the range of alternatives being considered. Full bibliographic information for these documents is included in the "References" section at the end of this FEIS.

1.3.1 1977 GENERAL MANAGEMENT PLAN

The 1977 General Management Plan (GMP) provides the framework for future use and development in Crater Lake National Park. General actions approved by the 1977 GMP that are directly related to the current planning effort include:

- **Rim Village.** Relocate about 185 parking spaces from the rim to an area previously containing cold-water lodging units.
- **Munson Valley.** No change in functions, replace obsolete facilities.
- **Mazama Village:**
  - increase capacity,
  - provide separation for recreation vehicle and tent campers, and
  - relocate camper services from Rim Village to the campground.
- **South Entrance.** Add storage structures with no increase in land use.

1.3.2 1984 ENVIRONMENTAL ASSESSMENT AND 1985 INTERIM DEVELOPMENT CONCEPT PLAN/AMENDMENT TO THE GENERAL MANAGEMENT PLAN

In the spring of 1984, the Park Service held public meetings on a Draft DCP and environmental assessment for the redevelopment of the Mazama Campground/Rim Village corridor in Crater Lake National Park. The draft plan included proposals for new lodging, camper service facilities, and interpretive facilities within this corridor. Following public comment, a Final DCP was adopted.

Actions implemented from the 1984 plan included substantial improvements to Mazama Village, consisting of a camper services store with laundry, showers, and gas station; a general store; and 40 lodging units for overnight visitors.

Actions not implemented from the 1984 plan included removal or modified use of Crater Lake Lodge.

1.3.3 1988 DEVELOPMENT CONCEPT PLAN AND AMENDMENT TO THE GENERAL MANAGEMENT PLAN

In response to additional public comment and changing public needs and desires, the Park Service revised many decisions made in the 1984 DCP with a new plan. Late in 1987, four new alternatives (variations of the 1984 preferred alternative) were presented for public comment in an environmental assessment. The basic concept for all alternatives was that Rim Village would remain the focal point for overnight lodging, day use visitor services, and interpretation.

The 1988 DCP approved several actions:

- Partial restoration and rehabilitation of the landscape at Rim Village to enhance visitor enjoyment and support pedestrian use.
- Building a new year-round day use activity center near the site of the existing cafeteria. Functions would include year-round lodging, interpretation, food service, recreation equipment rental (e.g., cross-country skis), year-round and barrier-free viewing of the lake, and retail sales.
- Replacing some parking at Rim Village with a parking facility located about 0.25 mile below Rim Village. Limited parking would remain behind the day use activity center, and 100 spaces would remain at Crater Lake Lodge.
- Constructing a new road to connect Crater Lake Lodge with the new parking facility.
- Building maintenance facilities, year-round office facility, and some warehouse space at Munson Valley to provide support services for Rim Village.
- Providing concession employee housing at Munson Valley to meet the needs of the reopened lodge and day use activity center. The 1988 DCP left open the possibility of considering alternative locations within and adjacent to the park.
- Providing 40 additional guest rooms at Mazama Village as needed to meet demand.

1.3.4 BRIEFING REPORT - RIM VILLAGE REDEVELOPMENT

In 1992, the House-Senate Appropriation Conference Committee requested that the Park Service review, among other things, proposed improvements stemming from the 1988 DCP. The resulting report contained four significant recommendations (these recommendations are closely tied to current planning issues, which are addressed in the beginning of this chapter). First, the potential site for year-round lodging was proposed at Mazama Village rather than at Rim Village. Second, because the 1988 DCP did not fully address future employee housing needs, the 1993 Briefing Report recommended that concessioner housing be provided at Mazama Village. Third, the South Entrance area of the park was recommended for housing to replace the existing dormitory at Rim Village. Fourth, modest support facilities were recommended for the Mazama Village area.

1.3.5 WINTER USE PLAN

The 1993 Briefing Report contained the Park Service's conclusion that existing winter activities are consistent with the protection of the resource and appropriate for visitor enjoyment. In response to the conference committee's request, the report also announced the intent to prepare a Winter Use Plan and environmental assessment that would outline the types of winter recreation opportunities the park would provide. The Park Service has completed the Winter Use Plan, which adopted a largely status quo alternative endorsing the current mix of cross-country skiing throughout the park and snow machine access from the north entrance to North Junction in the park.

Chapter 2

Project Description and Alternatives

Chapter 2. Project Description and Alternatives

2.1 INTRODUCTION

This Final Environmental Impact Statement (FEIS) evaluates four alternatives to meet immediate and future visitor and employee needs at Crater Lake National Park. The fourth alternative is the revised Proposed Action developed in response to public and agency comments on the DEIS.

Alternatives evaluated in this FEIS include: (1) Alternative 1 - South Entrance Focus, (2) Alternative 2 - Mazama Focus, (3) Alternative 3 (No Action), and (4) Alternative 4 - Proposed Action. Alternative 3 (No Action Alternative) is evaluated as the baseline set of conditions against which environmental impacts are analyzed. Descriptions of these alternatives are provided below. Tables 2-1, 2-2, and 2-3 at the end of this chapter summarize the features of each alternative, environmental consequences of the alternatives, and costs to implement the alternatives, respectively.

Each alternative consists of several immediate actions that would be implemented in the near term (0 to 5 years). Alternatives 1 and 2 also include future actions that would be implemented at some future time (generally greater than 5 years).

The four areas discussed in this FEIS are referred to as "Rim Village, Munson Valley, Mazama Village, and South Entrance". As used in this document, these names refer to specific study areas that encompass locations where development or other activities related to the alternatives may occur. The figures in this chapter show the boundaries of each area as analyzed in this document.

2.1.1 ALTERNATIVE DEVELOPMENT PROCESS

The four alternatives studied in this FEIS are the result of a concerted effort between personnel at Crater Lake National Park, the Denver Service Center, the Pacific Northwest Regional Office, and the public to improve visitor services in the park. The alternatives were developed by an interdisciplinary team from the Denver Service Center, Crater Lake National Park, and Pacific Northwest Regional Office staff and a consultant team composed of landscape architects, design architects, planners, and resource specialists.

Through a series of resource inventories, site visits, internal workshops, and public meetings, the Park Service developed the alternatives to present a reasonable array of management options to meet the purpose and need described in Chapter 1. The team used many of the principles described in Guiding Principles of Sustainable Design (U.S. Department of the Interior, National Park Service 1993).

Maps identifying potential issues and concerns were developed for Rim Village, Munson Valley, Mazama Village, and the South Entrance. Issues mapped included habitat for sensitive plant and animal species, important visual corridors, important visitor use areas, and sensitive features such as creeks, wetlands, and steep slopes. The team also identified climatic conditions such as solar heating, winds, snowfall, and snow duration.

Using these site factors as a focus of discussion, the Park Service met to decide how these factors relate to each other and how they relate to site context, planning objectives, and functions. Through this interactive process, areas unsuitable for development were identified, as well as those areas that may better adapt to change.

During this step, various site locations considered for development were rejected due to serious site constraints. Sites were eliminated if anticipated impacts would exceed acceptable limits of change, as defined in overriding Park Service objectives and policies. The following sections describe program elements considered but rejected as part of the alternative development process.

2.1.1.1 Concession and Park Service Housing - Alternatives Considered but Rejected

- **Former Dump Site.** This site is located at the end of a dirt road midway between Munson Valley and Mazama Village. This area is the site of a former dump which has been filled and leveled. This site was rejected because of poor access, particularly during the winter months.

- **Area East of State Route 62 at Mazama Village.** Siting concession housing here was rejected because of potential conflicts with visitor use. The Park Service has an ongoing objective to separate visitor use areas from employee offices and living areas.

- **Abandoned Annie Spring Campground.** This alternative was rejected because the area is not sufficient to develop the facility without major changes in the visual character near the entrance station. In addition, utilities cannot be efficiently supplied to this site.

2.1.1.2 Parking Facility and Valley Road - Alternatives Considered but Rejected

In 1992, the Park Service evaluated several possible alignments for roads connecting to the proposed parking facility near Rim Village. Several alignments were eliminated due to steep grades and excessive cut requirements.

In January 1992, the Park Service evaluated the remaining three alignments using the following major evaluation criteria:

- impacts on visitor experience during arrival and departure,
- efficiency of snow removal,
- amount of visual, noise, and odor impact on visitors, and
- impacts on vegetation and the amount of cut and fill required.

Based on the January meeting, and a subsequent meeting in March 1992, the Park Service eliminated two of the three alignments because of the unacceptable level of anticipated impacts on resources, visitor experience, and park operations.

2.1.1.3 Other Alternatives Considered but Rejected

- **Development of a 60-Room Year-Round Hotel on Rim.** This facility was rejected as inappropriate and inconsistent with the objective to minimize future development on the rim.

- **No Development.** This alternative was rejected because it would result in a critical housing shortage for employees and would not meet the purpose and need for action.

- **Clustering All Development at Mazama Village.** This alternative was rejected because (1) the purpose and need for action cannot be met entirely at Mazama Village, and (2) the Park Service is following the current planning direction to locate future development outside of or at the borders of the park, rather than at central locations.

- **Build Central Facility Within the Park.** This building was rejected because of its great size and cost. It would be out of character for the park, and some of the intended functions could be located outside the park.

- **Storing the Museum Collection Outside the Park.** Storage outside the park is not feasible because staff must have working access to the materials.

2.1.2 PLANNED AND APPROVED ACTIONS THAT REQUIRE NO FURTHER EVALUATION

The alternatives evaluated in this FEIS are tied to a number of actions that are "planned and approved". For the purpose of this document, "planned and approved" refers to planned actions which have been through a formal planning and compliance process. The last "approved" document addressing design issues in Crater Lake was a Development Concept Plan approved in 1988. These actions remain valid, are not controversial, and are therefore not evaluated in this FEIS. Planned and approved actions are related to the redevelopment of Rim Village. These actions would occur regardless of which alternative is selected. These actions are not evaluated in this FEIS, but they are included here and in the figures to provide a context for the other activities proposed at Rim Village.

Planned and approved actions include:

- A day use activity center will be constructed in roughly the same site as the existing gift store/cafeteria. It will feature indoor, barrier-free, year-round viewing of the lake and will serve as the park's principal interpretive facility, including exhibits, book sales, and an auditorium. It will also provide a food and beverage service and a gift store.

- The Rim Promenade and historic landscape will be partially restored and rehabilitated.

- Parking areas at the rim will be removed and revegetated.

- Crater Lake Lodge is being rehabilitated and will reopen in 1995.

2.2 ALTERNATIVES

Tables and figures showing the features of each alternative are included at the end of this chapter.

2.2.1 ALTERNATIVE 1 - SOUTH ENTRANCE FOCUS

Alternative 1 satisfies the Park Service's immediate need for employee housing by constructing a new dormitory at Mazama Village. Alternative 1 would also implement long-term Park Service objectives by eventually relocating a number of support and administrative functions to the South Entrance. Program elements of Alternative 1 are described below and summarized in Table 2-1.

2.2.1.1 Immediate Actions

Rim Village. Immediate actions at Rim Village under Alternative 1 include:

- A new underground parking structure occupying 2.5 acres would be located away from the rim approximately 800 feet south of the existing parking lot. The parking structure would be located in a pumice flat on the south side of Rim Drive just south of Rim Village. The parking structure would be composed of surface parking for 324 cars and two underground levels for 313 cars, and an adjacent surface lot for recreational vehicles and tour buses.

- Visitors would reach Rim Village from the new parking facility either by traveling on a pedestrian walkway (see below) or by taking a shuttle bus or van. Shuttle service would follow a fixed schedule. To conserve fuel, the schedule would include more frequent trips during peak hours and few trips during periods of low ridership. An on-demand van service would be available outside of scheduled shuttle service hours. Two shuttle bus types would be used: (1) an approximately 25-foot-long shuttle containing 19 seats and space for 2 wheelchairs, and (2) a van-sized shuttle (wheelchair-lift equipped). Four of the larger shuttles and two vans are planned to be in service. Signs and other measures to orient the visitor and to provide shuttle schedules and other information would be developed as an important element of this project.

- A new road approximately 2,000 feet long would be constructed from the parking structure to Crater Lake Lodge. The new road would be designated for shuttle buses, tour buses, maintenance vehicles, snow removal vehicles, and emergency vehicles; visitor vehicles would not be allowed. The road would be designed to minimize cuts, steep grades, and disturbance to existing vegetation.

- A pedestrian walkway including an underpass beneath Rim Drive would be constructed from the parking structure to Rim Village. As with the road, the pedestrian walkway would be designed to minimize disturbances to existing vegetation.

- The existing 400-car parking lot and approximately 100 additional parking spaces at the rim would be removed after completion of the new parking facility. After removal of the parking, the area would be integrated with the planned and approved promenade,

recontoured, and revegetated using native plant species and, to the extent possible, native genotypes.

- The existing picnic area would be changed to a walk-in picnic area only; portions south of the new road to the lodge would be removed. The abandoned portions of the picnic area would be recontoured and revegetated using native plant species, and, to the extent possible, native genotypes.

Munson Valley. Immediate actions at Munson Valley include:

- The Quarry Flat area is a level graveled site, currently used as a construction and materials staging site. It has been disturbed since its development and operation in the 1930s. Under Alternative 1, the Quarry Flat site would be recontoured, revegetated, and ultimately used as an employee recreation area. Prior to completion of the recreation area, the site would be used as an interim staging area for Park Service equipment and construction projects.

Mazama Village. Immediate actions at Mazama Village include:

2 group campsites @ 25 people each

- Two group camping sites would be developed east of State Route 62 approximately 800 feet south of the existing cabin area. Each campsite would be approximately 2.8 acres in size and would accommodate up to 25 people; the campsite area would also include a comfort station, an interpretive amphitheater, and bus parking. The amphitheater would be designed for use by all campground visitors.

- Housing and associated parking for 98 seasonal employees would be developed on a 3.4-acre site southwest of State Route 62 to meet the immediate need for concession employee housing. The dormitory facility would consist of three separate buildings. The central building would occupy approximately 28,000 square feet, consisting of two floors of dormitory-style housing, kitchen, lobby, cafeteria space, and receiving area. The basement would include space for storage and laundry for use by employees, mechanical and electrical facilities, and a janitorial shop. Two additional dormitory buildings would provide the rest of the required housing. Each dormitory would occupy approximately 12,000 square feet.

  Construction of the dormitory facility at the area southwest of State Route 62 would require improvements to the existing water supply system to meet expected storage demands and fire protection requirements. Water service would be provided by upgrading the existing system from the water storage tank to the dormitory site. The new main water lines would be constructed primarily through previously disturbed corridors. Routing for the water system would be south along State Route 62 through a previously cleared corridor that is currently used for an underground power line. This route would cause less tree removal than extending the water line from the campground area to the dormitory site.

  To meet expected water storage requirements, a new 100,000-gallon storage tank would be constructed near the existing storage reservoir at the northern end of the village. In addition, the existing pump station near the Annie Creek bridge on the park highway

leading to Rim Village would be rehabilitated for year-round use (by adding insulation to the existing pumphouse).

Approximately 2,000 feet of gravity sewer line would be required to connect the dormitory facility to the existing sewage lagoons east of the planned dormitory site. To the extent possible, the sewer alignment would be constructed within the electric utility corridor to avoid impacts on vegetation.

- A new 2,000-foot, asphalt-concrete loop road would be constructed from State Route 62 to access the dormitory facility. As part of the road construction, a 190-foot-long, tapered right-turn lane would be provided for vehicles traveling east on State Route 62. The Oregon Department of Transportation would be involved in this element of the project.

- Fifteen seasonal employee recreation vehicle sites would be constructed east of the dormitory facility.

- A 3,200-foot paved pedestrian path would be developed to link the dormitory facility with the cabin area in Mazama Village. Signs and pavement markings would be added to increase the visibility of the crossing.

- A small concession maintenance building (approximately 5,000 square feet) for the concessioner would be constructed in the vicinity of the new dormitory to serve concession facilities at Rim Village and Mazama Village.

South Entrance. There are no immediate actions planned for the South Entrance under Alternative 1.

2.2.1.2 Future Actions

Rim Village. The existing dormitory at Rim Village would be removed as part of the restoration and redevelopment program planned for this area. The dormitory would not be removed until a replacement dormitory is completed at the South Entrance (see below).

Munson Valley. The park headquarters functions (not buildings) would be moved to the South Entrance at a future time. No other future actions are planned for Munson Valley under Alternative 1. The existing historic buildings currently used as park headquarters would remain and would continue to be used by the Park Service operational and maintenance staff as offices and work bases. Visitor information and orientation facilities would be discontinued at Munson Valley when the day use activity center opens at Rim Village. The Steel Information Center would be used for educational purposes.

Mazama Village. No future actions are proposed for Mazama Village under Alternative 1. However, a year-round lodge would be analyzed in the future as part of a separate decision-making process. This action is not analyzed in this document.

South Entrance. Under Alternative 1, selected Park Service administrative and service activities would be relocated to the South Entrance from Munson Valley. The timing of these activities is uncertain and would be subject to the feasibility of utility development and funding. Development

at the South Entrance would be located on both park lands and Forest Service lands adjoining the park boundary, approximately 1,200 feet or more west of State Route 62.

Future actions under Alternative 1 could include:

- Park headquarters (relocated from Munson Valley) would be constructed approximately 300 feet from State Route 62, just south of the park boundary.

- Approximately 1,600 feet of new road would be constructed from State Route 62 to the relocated park headquarters.

- Support facilities would be built south of an existing Forest Service road, approximately 2,000 feet from State Route 62. Support facilities would consist of a warehouse, museum storage and offices, plow shed and shuttle bus maintenance facility, fire station, and sand shed. The existing fire station at Munson Valley would remain.

- In addition, the area would include storage facilities designed as drop-off points for deliveries destined to Mazama Village and Rim Village.

- New utility systems would be developed including a wastewater system, well, power, and telephone.

- Under this alternative, 20 to 30 employee houses and 15 to 20 recreation vehicle sites would be constructed. A 2,600-foot loop road would be constructed north of the existing Forest Service road to provide access to these facilities.

- A second 98-person dormitory would be constructed near the relocated park headquarters to replace the dormitory currently located at Rim Village. The dormitory would be accessed by a new road.

Because this action involves use of Forest Service lands, a long-term written agreement between the Park Service and the Forest Service must be prepared before actions at the South Entrance can be implemented. In addition, the supervisor of the Winema National Forest must co-sign the Record of Decision related to this DCP/EIS and for any subsequent site-specific actions that may take place on Forest Service lands at the South Entrance area.

Some of the future actions proposed at the South Entrance are directly related to future actions proposed elsewhere. Removal of the Rim Village dormitory cannot take place until the dormitory at the South Entrance is completed. Likewise, shifting of park headquarters functions from Munson Valley cannot take place until the new headquarter facilities are completed at the South Entrance.

2.2.1.3 Mitigating Measures

The following measures would be taken to mitigate or minimize impacts that might result from implementation of Alternative 1. All of these measures would be regularly evaluated and monitored by Park Service staff to determine their effectiveness in reducing impacts. Additional mitigation measures would be identified as part of further site-specific analysis completed during preliminary design of new facilities.

Soils. A program to reduce dust and soil loss would be instituted for all demolition, excavation, grading, construction, and other dust-generating and soil-disturbing activities. This program would be monitored by Park Service staff and would include (1) sprinkling unpaved construction areas with water to reduce fugitive dust emissions and covering or seeding disturbed areas, as appropriate; (2) imposing speed limits for construction vehicles in unpaved areas; (3) covering trucks hauling dirt and debris; and (4) covering storage piles of dirt with plastic sheeting to prevent wind and water erosion, as necessary.

Water Supply. The Park Service would continue to develop methods to conserve water in the park. Developments would include water-conserving toilets, lavatory fixtures, and shower fixtures. Lavatory fixtures would be spring loaded for automatic shut-off. Water conservation efforts would be part of the interpretive program of developments. The legal process is underway to determine the quantity of water available for park uses through the Klamath Basin Adjudication. The Park Service is investigating a number of options within Oregon State water laws, should the adjudication determine that the combination of existing federal reserved and prior appropriation water rights is insufficient to meet existing needs, or those proposed in this DCP. Those options being investigated include:

- Locating new water sources, either surface water or subsurface sources (wells), for which appropriate water rights could be obtained.

- Obtaining additional priority water rights through purchase or lease agreement.

Appropriate compliance with NEPA and the NHPA, Section 106, would be completed prior to implementing any of these options.

Water Quality and Surface Water Resources. Best management practices would be used during all construction to minimize potential erosion and sedimentation. These practices include measures listed under "Soils" to reduce dust and erosion, and measures listed under "Vegetation" to restore natural plants at areas exposed during construction.

Air Quality. Measures to minimize soil loss would also minimize dust associated with construction.

Vegetation. Contractors would be required to prepare a clearing and grading plan that minimizes disturbance to vegetation. Areas accessed by heavy equipment would be limited. Walkways and roads would be built first to allow access to development sites.

Construction fencing would be used where possible to limit the area of indirect impacts. Trees that are to be saved would be fenced. If possible, fencing would allow 25 feet of space around tree stems to protect root systems.

Areas incidentally disturbed by construction would be revegetated with native species as soon as possible following disturbance. A site-specific revegetation plan would be prepared for each construction project. Revegetation would proceed according to Park Service policies and guidelines.

To protect the genetic integrity of park stocks, materials used in revegetation would be indigenous species propagated from park genotypes, when possible. Vegetation removed during construction would be salvaged to the extent possible for use in restoring areas disturbed by this project. Temporary erosion control measures such as natural fiber matting might be necessary until

revegetation has occurred. Soil supplements may be necessary to improve growing conditions for new plantings.

Wildlife. To avoid disturbing nesting birds, trees and other vegetation would not be removed during the general breeding season for birds, which ranges from May through June. A wildlife biologist would inspect the site if construction is planned near or within the breeding season and recommend appropriate measures to minimize impacts.

Sites would be cleared in ways that would minimize removal of forest habitats that are important to woodpeckers and other forest wildlife. Trees that can be safely retained would be clearly marked and, when at risk of incidental disturbance, fenced. Sites would be designed and maintained to minimize the future development of hazard trees.

Restoration of vegetation in areas disturbed by construction would incorporate features important to wildlife habitat, including downed logs and other organic debris. If hazard trees require removal, they would be left on the ground where appropriate. In some cases, snags or trees can be made acceptably safe by removing only the upper portions and retaining the first 6 to 12 feet, depending on the site-specific hazard.

Final designs at the South Entrance would include surveys of significant stands of snags and large trees important to cavity-nesting birds and other animals in the area. Wherever possible, areas previously disturbed by logging or areas lacking large trees would be selected for final site design.

To protect elk migration and calving at the South Entrance, the Park Service would develop and implement plans that minimize human encroachment during important periods. In addition, the Park Service would consult with the Oregon Department of Fish and Wildlife to investigate other measures that may reduce impacts on elk.

A solid waste management plan would be designed and implemented to minimize the potential for bear problems. These include installing animal-proof trash receptacles and developing visitor and employee education programs. During construction, contractors would be required to remove food-containing trash receptacles daily from job sites.

Shuttle services would be used for most employee transportation to Mazama Village and Rim Village, in part to minimize vehicle/wildlife collisions at the South Entrance.

Threatened, Endangered, Candidate, and State Sensitive Species. Surveys for sensitive plant and animal species have already been conducted at areas proposed for development. Habitat for sensitive species was an important consideration during the alternative development process. As part of the preliminary design, additional site evaluation would be undertaken for special-status species and other species contained in the Record of Decision for Amendment to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl. The Park Service would comply with the standards and guidelines contained in that Record of Decision.

At the South Entrance, additional surveys for northern spotted owl would be conducted 2 years prior to planned construction.

If construction is to take place at Mazama Village or the South Entrance during the northern goshawk breeding season (from April through July), sites would be surveyed for northern goshawk nest sites

according to methods recommended by the Oregon Department of Fish and Wildlife. If nest sites are found, the Park Service would consult with the U.S. Fish and Wildlife Service to determine appropriate methods to minimize impacts.

Ecological Processes (Fire). The fire management plan for the park would be amended to include specific prescriptions, standards, and guidelines for development at the South Entrance, an area where fire is an important element in the natural system. Buildings would be constructed using low-flammability materials, and vegetation adjacent to buildings would be managed to minimize fuels while providing a natural appearance.

Cultural Resources. Archeological surveys would be completed for all areas prior to ground-disturbing activities. Every effort would be made to avoid any resources through design. If avoidance is not feasible, mitigative measures would be developed in consultation with the State Historic Preservation Officer, Advisory Council on Historic Preservation, and as appropriate, Native Americans.

Should unknown cultural resources be uncovered during construction activities, work would be stopped in the discovery area and the Park Service would consult according to 36 CFR 800.11 and, as appropriate, provisions of the Native American Graves Protection and Repatriation Act of 1990.

Visitor Experience. To protect the scenic beauty of the park, new construction has been proposed in areas that are screened naturally by topography and vegetation. When necessary, revegetation plans would include measures to further screen new facilities. Outdoor night-lighting would be limited to low-wattage, directional lighting, with consideration for solar power.

Several measures would mitigate visual impacts of the new parking facility. Northbound travelers (driving toward Rim Village) tend to look to the right, away from the parking areas because of the rim ridge line and road alignment. A knoll south of the parking area is a major screening element. Southbound traffic would overlook the parking area momentarily. A stone parapet guard rail would partially screen the parking area. Vegetative landscaping and landscape islands are not possible because of snow plowing requirements. Grades at the site would be contoured to match surface profiles with the site. External lighting would be limited to only that amount needed for safety.

At Mazama Village, facilities were designed to minimize impacts to visitor experience. The site southwest of State Route 62 provides maximum separation between nonpublic park facilities and visitor use areas. Topography and vegetation provide visual screening.

Final designs at the South Entrance area would protect the visual integrity of the large ponderosa pine stands present along State Route 62. Siting would include more detailed visual assessments to identify specific locations that would minimize impacts.

Where necessary to reduce noise impacts, barriers would be erected around construction sites and stationary equipment such as compressors. To further reduce noise impacts on visitors, temporary barriers would be placed where needed to keep visitors out of construction areas.

Interpretation provides the best single tool for shaping visitor experience. Using direction provided in Guiding Principles of Sustainable Design (U.S. Department of the Interior, National Park Service 1993), facility development at Rim Village would incorporate passive and active interpretation. Interpretive exhibits would be placed within the new parking structure.

2.2.2 ALTERNATIVE 2 - MAZAMA FOCUS

As with Alternative 1, Alternative 2, the Mazama Focus Alternative, provides for immediate employee housing needs by constructing a new dormitory at Mazama Village. In contrast to Alternative 1, Alternative 2 concentrates most development at Mazama Village. Program elements associated with Alternative 2 are described below and summarized in Table 2-1.

2.2.2.1 Immediate Actions

Rim Village. Development at Rim Village under Alternative 2 would be the same as described for Alternative 1, including removal of the existing parking facilities and construction of a new parking structure approximately 800 feet south of the rim.

Munson Valley. Development at Munson Valley under Alternative 2 would include the Quarry Flat restoration project as described for Alternative 1.

Mazama Village. Development at Mazama Village under Alternative 2 would include two group camping sites, a 98-person dormitory constructed southwest of State Route 62, new roads, a pedestrian path, a 5,000-square-foot maintenance building, and seasonal recreation vehicle campground development (see description for Alternative 1). In addition, the area southwest of State Route 62 would include facilities for shuttle bus maintenance, limited warehouse storage, and drop-off facilities for deliveries to Rim Village.

South Entrance. No immediate actions are planned for the South Entrance under Alternative 2.

2.2.2.2 Future Actions

Rim Village. As with Alternative 1, the existing dormitory at Rim Village would be removed as part of the partial restoration and redevelopment program planned for this area.

Munson Valley. Under Alternative 2 there are no future actions planned for Munson Valley. Park headquarters functions would remain at Munson Valley instead of being relocated to the South Entrance.

Mazama Village. No future actions are planned at Mazama Village. However, a year-round lodge would be analyzed in the future as part of a separate decision-making process. This action is not analyzed in this document.

South Entrance. As with Alternative 1, a second concession dormitory to house 98 people would be constructed at the South Entrance. This dormitory would eventually replace an existing facility on the Crater Lake rim. When constructed, the dormitory would be located just inside the southwest park boundary. The facility would include approximately 1,600 feet of new road, improvements to an existing Forest Service road, and all necessary utilities.

In addition, 20 to 30 employee houses would be constructed.

2.2.2.3 Mitigating Measures

Mitigating measures under Alternative 2 are identical to those described under Alternative 1.

2.2.3 ALTERNATIVE 3 - CONTINUATION OF THE 1988 DEVELOPMENT CONCEPT PLAN AND AMENDMENT TO THE GENERAL MANAGEMENT PLAN (NO ACTION ALTERNATIVE)

Development would occur under Alternative 3, the No Action Alternative. Features of Alternative 3 are summarized in Table 2-1.

2.2.3.1 Immediate Actions

Rim Village. Under Alternative 3, the Park Service would implement the approved parking plan described in the 1988 DCP. Two day-use parking areas would be constructed with a total capacity of approximately 500 cars and recreational vehicles. The main parking area would be located adjacent to the new visitor facilities in the former cabin area. A lower parking area would be adjacent to the main park road and connected by walkways to the upper parking area and visitor facilities. A comfort station could be constructed at the lower parking area. If one is built, the existing rustic comfort station in Rim Village would be relocated to the lower parking area, if feasible. These new parking areas would be designed to direct visitors to a central arrival point from which they could choose to visit the interpretive facilities, proceed to the rim to view the lake, or use the concessioner services.

A walkway would link the lower parking area with the rim and day use activity center, and a new road would provide access between the day use activity center and Crater Lake Lodge. Some parking areas at the rim would be converted to pedestrian use or restored.

Munson Valley. The 1988 DCP includes the approved action of constructing housing for concession employees at Munson Valley. A concession employee dormitory housing 60 to 65 people would be constructed at Quarry Flat (a cleared area currently used as a construction/maintenance staging area).

Mazama Village. No immediate actions are planned.

South Entrance. There would be no additional development at the South Entrance. Maintenance yard and storage functions would continue.

2.2.3.2 Future Actions

No future actions are proposed at any of the four areas.

2.2.3.3 Mitigating Measures

Mitigating measures under Alternative 3 are identical to those described under Alternative 1, except that no measures would be required at Mazama Village or the South Entrance.

2.2.4 ALTERNATIVE 4 - PROPOSED ACTION

Alternative 4 is limited to the actions proposed at Rim Village, Munson Valley, and Mazama Village, as described under Alternative 1. Program elements associated with Alternative 4 are described below and summarized in Table 2-1.

Under Alternative 4, no actions are proposed at the South Entrance at this time. The selection of Alternative 4 would not preclude consideration of future actions proposed under Alternative 1 at some time in the future. However, these actions may be redesigned or considered for other locations. Future decisions regarding the South Entrance would be evaluated through the NEPA process at that time.

2.2.4.1 Immediate Actions

Rim Village. Development at Rim Village under Alternative 4 would be the same as described for Alternatives 1 and 2, including removal of the existing parking facilities and construction of a new parking structure approximately 800 feet south of the rim.

Munson Valley. Development at Munson Valley under Alternative 4 would include the Quarry Flat restoration project as described for Alternatives 1 and 2.

Mazama Village. Development at Mazama Village under Alternative 4 would be the same as described for Alternative 1, including construction of a new camping area, pedestrian path, employee housing, seasonal recreational vehicle campground for employees, new roads, and a new concession maintenance facility.

South Entrance. No actions are proposed for the South Entrance under Alternative 4.

2.2.4.2 Future Actions

Alternative 4 focuses on meeting immediate project needs and does not consider future actions described under Alternatives 1 and 2 at this time. However, the analysis of Alternative 4 assumes that the existing dormitory at Rim Village would be removed.

2.2.4.3 Mitigating Measures

Mitigating measures under Alternative 4 include those described under Alternative 1.

TABLE 2-1. SUMMARY OF ALTERNATIVES

Alternative 1 South Entrance Focus	Alternative 2 Mazama Focus	Alternative 3 No Action	Alternative 4 Proposed Action
RIM VILLAGE			
Immediate Actions ▪ 3-level parking structure (2 levels underground) approximately 800 feet south of existing parking lot located on 2.5-acre site ▪ Shuttle service (scheduled) and van service (on demand) between new parking facility and Rim Village ▪ New road (approximately 2,000 feet long) from parking structure to Crater Lake Lodge for use by shuttle buses, maintenance vehicles, and emergency vehicles ▪ Pedestrian walkway from parking structure to Rim Village ▪ Removal of existing rim parking lot; area to be integrated with promenade, recontoured, revegetated ▪ Conversion of picnic area to walk-in picnic area only; removal and revegetation of portions south of new road to lodge **Future Actions** ▪ Removal of existing dormitory as part of rim redevelopment	**Immediate Actions** ▪ Same as Alternative 1 **Future Actions** ▪ Same as Alternative 1	**Immediate Actions** ▪ Parking plan in 1988 DCP implemented, including 2 day-use parking areas, walkway between lower parking and day use activity center, and road between day use activity center and lodge ▪ Redevelopment of some parking areas at rim **Future Actions** ▪ None planned	**Immediate Actions** ▪ Same as Alternative 1 **Future Actions** ▪ Same as Alternative 1

TABLE 2-1. CONTINUED

Alternative 1 South Entrance Focus	Alternative 2 Mazama Focus	Alternative 3 No Action	Alternative 4 Proposed Action
MUNSON VALLEY			
Immediate Actions • Partial restoration of Quarry Flat and development as a recreation area for employees **Future Actions** • Park headquarters functions moved to South Entrance	**Immediate Actions** • Same as Alternative 1 **Future Actions** • None planned (park headquarters functions would remain at present location)	**Immediate Actions** • Housing for 60 to 65 concession employees at Quarry Flat **Future Actions** • None planned	**Immediate Actions** • Same as Alternative 1 **Future Actions** • None proposed

TABLE 2-1. CONTINUED

Alternative 1 South Entrance Focus	Alternative 2 Mazama Focus	Alternative 3 No Action	Alternative 4 Proposed Action
MAZAMA VILLAGE			
Immediate Actions ▪ Two group camping sites with comfort station, interpretive amphitheater, and bus parking east of State Route 62 ▪ Housing for 98 seasonal employees southwest of State Route 62 (3 separate buildings) ▪ Infrastructure development for dormitory, including construction of 100,000-gallon storage tank near existing reservoir, and 2,000 feet of gravity sewer line ▪ Construction of 2,000-foot loop road and improvements from State Route 62 to new dormitory ▪ Construction of 15 seasonal RV sites east of dormitory facility ▪ Construction of 3,200-foot paved pedestrian path from dormitory building to existing lodging units ▪ Construction of 5,000-square-foot concession maintenance building adjacent to dormitory **Future Actions** ▪ None	**Immediate Actions** ▪ Facility for shuttle bus maintenance, warehouse, drop-off facilities for deliveries ▪ Other features same as Alternative 1 **Future Actions** ▪ None planned	**Immediate Actions** ▪ None planned **Future Actions** ▪ None planned	**Immediate Actions** ▪ Same as Alternative 1 **Future Actions** ▪ None proposed

Table 2-1. Continued

Alternative 1 South Entrance Focus	Alternative 2 Mazama Focus	Alternative 3 No Action	Alternative 4 Proposed Action
South Entrance			
Immediate Actions ▪ None planned **Future Actions** ▪ Relocation of park headquarters functions to South Entrance ▪ New headquarters constructed just south of park boundary ▪ Construction of approximately 1,600 feet of new road from State Route 62 to park headquarters ▪ Construction of support facilities including warehouse, museum storage, shuttle bus maintenance facility, fire station, and sand shed ▪ Storage facilities for drop-off of deliveries to Mazama Village/Rim Village ▪ Construction of 20 to 30 employee houses and 15 to 20 RV sites, plus 2,600-foot loop road for access ▪ Second 98-person dormitory near the relocated park headquarters to replace dormitory removed from Rim Village; new access road to dormitory	**Immediate Actions** ▪ None planned **Future Actions** ▪ Park headquarters functions remain at Munson Valley ▪ Construction of second 98-person dormitory and access road ▪ Construction of 20 to 30 employee houses	**Immediate Actions** ▪ No additional development ▪ Continued maintenance yard/storage functions **Future Actions** ▪ None planned	**Immediate Actions** ▪ None planned **Future Actions** ▪ Future planning would evaluate the South Entrance as well as other sites for facilities and functions listed as future actions under Alternative 1

TABLE 2-2. SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Alternative 1 South Entrance Focus	Alternative 2 Mazama Focus	Alternative 3 No Action	Alternative 4 Proposed Action
EARTH			
Extensive excavation, cut, and fill for construction of parking facility and new road to Rim Village.	Same as Alternative 1.	Parking structure is placed north of Rim Drive and would require extensive alteration to slope below Rim Village.	Same as Alternative 1.
Minor local impacts on soils from construction and use.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
SURFACE WATER			
Impervious surfaces increased at Rim Village, Mazama Village, and South Entrance. No impacts from stormwater runoff expected.	Same as Alternative 1.	Impervious surfaces increased below Rim Village, along new road to lodge, and at Quarry Flat at Munson Valley. No impacts from stormwater runoff expected.	Similar to Alternative 1, but no impacts at South Entrance.
Potential restoration of hydrologic connection between hillside seep and stream adjacent to Quarry Flat.	Same as Alternative 1.	No potential to restore this connection.	Same as Alternative 1.
Approximately 40 feet of a stream near Rim Village would be placed within a culvert as part of the new pedestrian walkway.	Same as Alternative 1.	As part of the pedestrian walkway, a culvert may be required in the upper portion of a drainage swale.	Same as Alternative 1.
No impacts on surface water or floodplains would occur at other areas.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
GROUNDWATER/WATER SUPPLY			
Facility development and removal proposed under Alternative 1 would require a net 10,000 gpd increase in water use from Annie Spring.	Facility development and removal proposed under Alternative 2 would require a net 11,300 gpd increase in water use from Annie Spring.	Facility development that would be carried out under Alternative 3 would require a net 5,850 gpd increase in water use from Annie Spring.	Facility development and removal proposed under Alternative 4 would require a net 10,000 gpd increase in water use from Annie Spring.

TABLE 2-2. CONTINUED

Alternative 1 South Entrance Focus	Alternative 2 Mazama Focus	Alternative 3 No Action	Alternative 4 Proposed Action
During the interim period that the Rim Village dormitory would remain open, the increased demand on Annie Spring would be about 15,500 gpd.	During the interim period that the Rim Village dormitory would remain open, the increased demand on Annie Spring would be about 16,800 gpd.	Does not apply.	During the interim period that the Rim Village dormitory would remain open, the increased demand on Annie Spring would be about 15,500 gpd.
Park water use would remain within the amount permitted, but water shortfalls may occur downstream that may affect the right of the park to withdraw water from Annie Creek. A new source of water would be located should the ongoing legal process determine federal water rights are insufficient to meet existing or proposed needs.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
Total park water demand at Annie Spring would increase 88% over existing uses when Alternative 1 is considered cumulatively with the reopening of Crater Lake Lodge and the development of the planned and approved day use activity center.	Total park water demand at Annie Spring would increase 91% over existing uses when Alternative 2 is considered cumulatively with the reopening of Crater Lake Lodge and the development of the planned and approved day use activity center.	Total park water demand within the park would increase 79% over existing uses when Alternative 3 is considered cumulatively with the reopening of Crater Lake Lodge and the development of the planned and approved day use activity center (this equates to a 79% increase in water withdrawn from Annie Creek, since that would remain the sole source of water for the park at this time).	Total park water demand at Annie Spring would increase 88% over existing uses when Alternative 4 is considered cumulatively with the reopening of Crater Lake Lodge and the development of the planned and approved day use activity center.
Total park water use, including water from a proposed well at the South Entrance, would increase 163% over the existing level of use.	Total park water use, including water from a proposed well at the South Entrance, would increase 127% over the existing level of use.	Total park water use would increase 79% over existing use.	Total park water use would increase 88% over the existing level of use.

TABLE 2-2. CONTINUED

Alternative 1 South Entrance Focus	Alternative 2 Mazama Focus	Alternative 3 No Action	Alternative 4 Proposed Action
The cumulative water demand of existing, proposed, and planned developments (Crater Lake Lodge and day use activity center) would cause no more than a 5.6% reduction in flow of Annie Creek (2.6% over the current reduction).	The cumulative water demand of existing, proposed, and planned developments (Crater Lake Lodge and day use activity center) would cause no more than a 5.7% reduction in flow of Annie Creek (2.7% over the current reduction).	The cumulative water demand of existing, proposed, and planned developments (Crater Lake Lodge and Day Use Activity Center) would cause no more than a 5.4% reduction in flow of Annie Creek (2.4% over the current reduction).	The cumulative water demand of existing, proposed, and planned developments (Crater Lake Lodge and day use activity center) would cause no more than a 5.6% reduction in flow of Annie Creek (2.6% over the current reduction).
Water withdrawal could reduce aquatic life in Annie Creek. The effects may be relatively minor because a relatively small amount of water is being removed. Below the point of water withdrawal, the effect would be less and less significant as more and more tributaries augment the stream flow.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
Considered individually, water withdrawals from Annie Creek would have little or no effect on the status of bull trout in the Wood River System. All water withdrawals (99% of which occur down stream of the park) have and will continue to seriously reduce habitat for bull trout and other organisms.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
WATER QUALITY			
Reduced risk of pollutants entering Crater Lake.	Same as Alternative 1.	Similar to Alternatives 1 and 2 - up to 100 vehicles parking at lodge could contribute some pollutants to lake.	Same as Alternative 1.

TABLE 2-2. CONTINUED

Alternative 1 South Entrance Focus	Alternative 2 Mazama Focus	Alternative 3 No Action	Alternative 4 Proposed Action
No stream sedimentation would occur due to the well drained nature of soil in the area (assuming that construction would be conducted according to the mitigating measures outlined in Chapter 2).	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
No water quality impacts to Annie Spring, Annie Creek, or at the South Entrance.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
AIR QUALITY			
Minor, short-term and localized (occurring in a small area) dust and equipment emissions due to construction activities; emissions would quickly disperse.	Similar to Alternative 1, with fewer construction-generated emissions at the South Entrance.	Similar to Alternative 1, with less construction-related emissions generated at Mazama and the South Entrance but more generated at Munson Valley.	Same as Alternative 1.
Improved air quality at Rim Village due to removal of parking areas and visitor vehicle access to Rim Village.	Same as Alternative 1.	Same as Alternative 1 except visitor vehicles would still be allowed to drive to the lodge and associated local air pollution would result.	Same as Alternative 1.
VEGETATION			
Approximately 41 acres of vegetation removed or disturbed at the four areas. Development at the South Entrance would focus on areas already lacking in trees or snags greater than 30 inches in diameter, including Forest Service lands that have been previously thinned or that contain roads.	Approximately 34 acres of vegetation removed or disturbed. Development at the South Entrance would focus on areas already lacking in trees or snags greater than 30 inches in diameter, including Forest Service lands that have been previously thinned or that contain roads.	Approximately 3 acres of vegetation removed or disturbed.	Approximately 16 acres of vegetation removed or disturbed.

TABLE 2-2. CONTINUED

Alternative 1 South Entrance Focus	Alternative 2 Mazama Focus	Alternative 3 No Action	Alternative 4 Proposed Action
No impact on special-status plant species.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
Beneficial impact through restoring 4 acres of vegetation at Rim Village and Munson Valley (Quarry Flat).	Same as Alternative 1.	Similar to Alternative 1 but 3 acres restored.	Same as Alternative 1.
Local loss of Crater Lake currant and pumice sandwort.	Same as Alternative 1.	Local loss of Crater Lake currant. Pumice sandwort not affected because parking would be built in a mountain hemlock stand rather than at the pumice flat.	Same as Alternative 1.
WETLANDS			
No impacts on wetlands.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
WILDLIFE			
Minor, short-term habitat loss due to noise and activities during construction.	Similar to Alternative 1, but more impacts at Mazama Village and less at South Entrance.	Similar to Alternative 1, but no impacts at South Entrance.	Similar to Alternative 1, but no impacts at South Entrance at this time.
Potential impacts on breeding wildlife if vegetation is removed during the breeding season (May - June).	Same as Alternative 1.	Similar to Alternative 1, but no impacts at Mazama Village or South Entrance.	Similar to Alternative 1, but no impacts at South Entrance at this time.
Direct loss of approximately 41 acres of habitat.	Direct loss of approximately 34 acres of habitat.	Direct loss of approximately 3 acres of habitat.	Direct loss of approximately 16 acres of habitat.
Animals displaced through human activity and encroachment.	Similar to Alternative 1, but more impacts at Mazama Village and less at South Entrance.	Similar to Alternatives 1 and 2, but no impacts at Mazama Village or South Entrance.	Similar to Alternative 1, but no impacts at South Entrance at this time.
Potential increase in vehicle/wildlife collisions at South Entrance.	Same as Alternative 1.	No increase in vehicle/wildlife collisions.	No increase in vehicle/wildlife collisions at this time.

TABLE 2-2. CONTINUED

Alternative 1 South Entrance Focus	Alternative 2 Mazama Focus	Alternative 3 No Action	Alternative 4 Proposed Action
Loss of elk calving and migration habitat at South Entrance; elk migration corridors shifted.	Similar to Alternative 1, but with a lower level of development at the South Entrance.	No loss of elk calving and migration habitat at South Entrance.	No loss of elk calving and migration habitat at South Entrance at this time.
Potential increase in negative interactions between people and bears or cougars.	Same as Alternative 1.	Potential increase in negative interactions between people and bears or cougars at Munson Valley at site of new dormitory.	Similar to Alternative 1, but no impacts at South Entrance at this time.
Aggressive scavenger species could increase in developed areas and reduce the numbers of other species.	Same as Alternative 1.	Similar to Alternatives 1 and 2 but limited to Rim Village and Quarry Flat.	Similar to Alternative 1, but no impacts at South Entrance at this time.
SPECIAL-STATUS ANIMAL SPECIES			
Potential loss of habitat suitable for northern goshawk nesting at the South Entrance and potential foraging habitat at Mazama Village. At Mazama Village, potential goshawk nesting habitat was avoided as part of site design. At the South Entrance, large trees and snags that make up northern goshawk nesting habitat would be avoided during the final site design. If construction is planned during the breeding season, nest surveys would be conducted prior to starting work.	Similar to Alternative 1 only less development would occur in the South Entrance.	No loss of potential nesting habitat for northern goshawk.	Similar to Alternative 1 but no impacts at the South Entrance at this time.
Loss of approximately 26 acres of potential habitat for mountain quail.	Loss of about 16 acres of potential habitat for mountain quail.	No loss of habitat for mountain quail.	No impacts at the South Entrance at this time (the most likely habitat for mountain quail).
Incremental loss of habitat for wide-ranging carnivores - California wolverine and Pacific fisher.	Same as Alternative 1.	No significant loss of habitat for wide-ranging carnivores.	Similar to Alternative 1, but no impacts at the South Entrance at this time.

TABLE 2-2. CONTINUED

Alternative 1 South Entrance Focus	Alternative 2 Mazama Focus	Alternative 3 No Action	Alternative 4 Proposed Action
Loss of habitat for American marten.	Moderately less loss of habitat for American marten than under Alternative 1.	Minor loss of habitat for American marten.	No impacts at the South Entrance at this time which has greater habitat potential.
No loss of habitat for state-listed sensitive species at Rim Village or Quarry Flat.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
Loss of 12 acres of habitat for state-listed sensitive woodpeckers at Mazama Village.	Loss of 14 acres of habitat for state-listed sensitive woodpeckers at Mazama Village.	No loss of habitat for sensitive woodpeckers.	Same as Alternative 1.
Moderate loss of habitat for state sensitive cavity-nesting birds at South Entrance.	Similar to Alternative 1.	No loss of habitat for cavity-nesting birds at South Entrance.	No loss of habitat for cavity-nesting birds at South Entrance at this time.
Water withdrawal would add incrementally to existing problems with bull trout habitat.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
ECOSYSTEM PROCESSES (FIRE)			
Increased risk of wildfire damaging human structures and injuring people.	Similar to Alternative 1, but less development and associated increased risk at the South Entrance.	No significant increased risk of wildfire damaging human structures and injuring people.	Similar to Alternative 1 but no risk at South Entrance at this time.
CULTURAL RESOURCES			
No adverse effects on archaeological resources expected; Oregon State Historic Preservation Officer has determined that the actions at Rim Village would have an effect on the potentially eligible historic designed landscape, but that the effect would not be adverse.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.

TABLE 2-2. CONTINUED

Alternative 1 South Entrance Focus	Alternative 2 Mazama Focus	Alternative 3 No Action	Alternative 4 Proposed Action
LOCAL ECONOMY			
No impact on local economy.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
VISITOR EXPERIENCE			
Improved visitor safety and redevelopment of aesthetic values at Rim Village.	Same as Alternative 1.	Similar to Alternative 1; however visitors could drive to Crater Lake Lodge and day use activity center.	Same as Alternative 1.
Improved sense of arrival and opportunities for interpretation and orientation at Rim Village.	Same as Alternative 1.	Little or no improvement.	Same as Alternative 1.
Reduced vehicle noise and emissions at Rim Village.	Same as Alternative 1.	Similar to Alternative 1; however visitors could drive to Crater Lake Lodge and day use activity center.	Same as Alternative 1.
Increased noise and visitor inconvenience during construction.	Similar to Alternative 1, with potential greater impacts on visitors at Mazama Village.	Similar to Alternative 1, although amount of construction would be less.	Same as Alternative 1.
Increased opportunities for tour groups by providing 2 group campsites.	Same as Alternative 1.	No group camping opportunities.	Same as Alternative 1.
Noise and congestion from use of group camping sites.	Same as Alternative 1.	No increased noise from group camping.	Same as Alternative 1.
Potential visitor disturbance from the employee dormitory at Mazama Village.	Same as Alternative 1.	Potential visitor and Park Service employee disturbance from the employee dormitory at Munson Valley.	Same as Alternative 1.
Minor change in view corridor at South Entrance.	Same as Alternative 1.	No impact at South Entrance.	No impact at South Entrance at this time.

TABLE 2-2. CONTINUED

Alternative 1 South Entrance Focus	Alternative 2 Mazama Focus	Alternative 3 No Action	Alternative 4 Proposed Action
EMPLOYEE COMMUTING AND DELIVERY OF SUPPLIES			
The concessioner would assign employees to housing most appropriate for their workplaces. The Mazama Village dormitory would be used by employees working at Mazama Village or Rim Village. Those working at Rim Village would commute via personal vehicles. If appropriate, the shuttle system would be adapted to facilitate employee commuting between Mazama Village and Rim Village. A shuttle system would be developed for the South Entrance.	Same as Alternative 1.	Concession employees would commute from the employee dormitory at Munson Valley to workplaces at Rim Village and Mazama Village. Employees staying at the Rim Village dormitory would continue walking, driving, or riding bicycles to work sites at Rim Village.	Similar to Alternative 1, but no shuttle at South Entrance at this time.
Fewer large delivery trucks at Mazama Village and Rim Village (would drop off at South Entrance). Increase costs of fuel and labor.	Fewer large delivery trucks at Rim Village (would drop off at Mazama Village). Increased costs of fuel and labor.	Same level of truck traffic at Rim Village and Mazama Village.	About the same level of truck traffic at Rim Village and Mazama Village.
LAND USE AND ZONING			
Employee housing and other developed uses on Forest Service lands at the South Entrance would be considered a change in land use designation and would require an amendment to the Forest Plan.	Same as Alternative 1.	Alternative 3 would be consistent with zoning designations of the Park Service and adjacent jurisdictions.	Alternative 4 would be consistent with zoning designations of the Park Service and adjacent jurisdictions.
Development of the South Entrance would conflict with the county's comprehensive plan and would likely prompt the county to conduct additional planning in this area.	Same as Alternative 1.	No conflict with existing plans.	No conflict with existing plans.

TABLE 2-2. CONTINUED

Alternative 1 South Entrance Focus	Alternative 2 Mazama Focus	Alternative 3 No Action	Alternative 4 Proposed Action
Development at the South Entrance could result in potential noise, safety, and congestion problems because of logging truck traffic near a residential community.	Same as Alternative 1.	No conflict between logging and residential uses.	No conflict between logging and residential uses.

TABLE 2-3. 1995 ESTIMATED COSTS (IN THOUSANDS OF DOLLARS)

Development Item	Alternative 1			Alternative 2			Alternative 3			Alternative 4		
	Gross Const.	Const. Planning	Total	Gross Const.	Const. Planning	Total	Gross Const.	Const. Planning	Total	Gross Const.	Const. Planning	Total
RIM DEVELOPMENT												
New parking area (500 cars)							1,095	209	1,304			
Walkway (parking area to rim, 8' wide, asphalt)	38	7	45	38	7	45	38	7	45	38	7	45
Parking at lodge (100 spaces)							219	42	261			
Lower off-rim parking structure with waiting area	16,600	3,168	19,768	16,600	3,168	19,768				16,600	3,168	19,768
RV/bus parking	370	71	441	370	71	441				370	71	441
Access road (parking area to lodge) 0.43 mi.	1,038	198	1,236	1,038	198	1,236	1,038	198	1,236	1,038	198	1,236
Lower parking area comfort station	993	189	1,182	993	189	1,182				993	189	1,182
Lower parking area waiting area	233	45	278	233	45	278	233	45	278	233	45	278
Shuttle bus system	673	128	801	673	128	801				673	128	801
Rim dormitory demolition	113	22	135	113	22	135				113	22	135
Rim Development Total	20,058	3,828	23,886	20,058	3,828	23,886	2,623	501	3,124	20,058	3,828	23,886
MUNSON VALLEY DEVELOPMENT												
Housing for 67 concession employees							6,082	1,161	7,243			
Restore Quarry Flat for low dev. rec.	17	3	20	17	3	20				17	3	20
Park headquarters relocation	1,401	267	1,668							1,401	267	1,668
Munson Valley Development Total	1,418	270	1,688	17	3	20	6,082	1,161	7,243	1,418	270	1,688
MAZAMA VILLAGE DEVELOPMENT												
40 additional cabin units							3,458	660	4,118			
40 unit year-round lodge w/food service				3,285	627	3,912						
2 group camping sites	26	5	31	26	5	31				26	5	31
Concession dormitory with kitchen and food service	8,139	1,553	9,692	8,139	1,553	9,692				8,139	1,553	9,692
Maintenance facility (bus and general)				1,556	297	1,853						

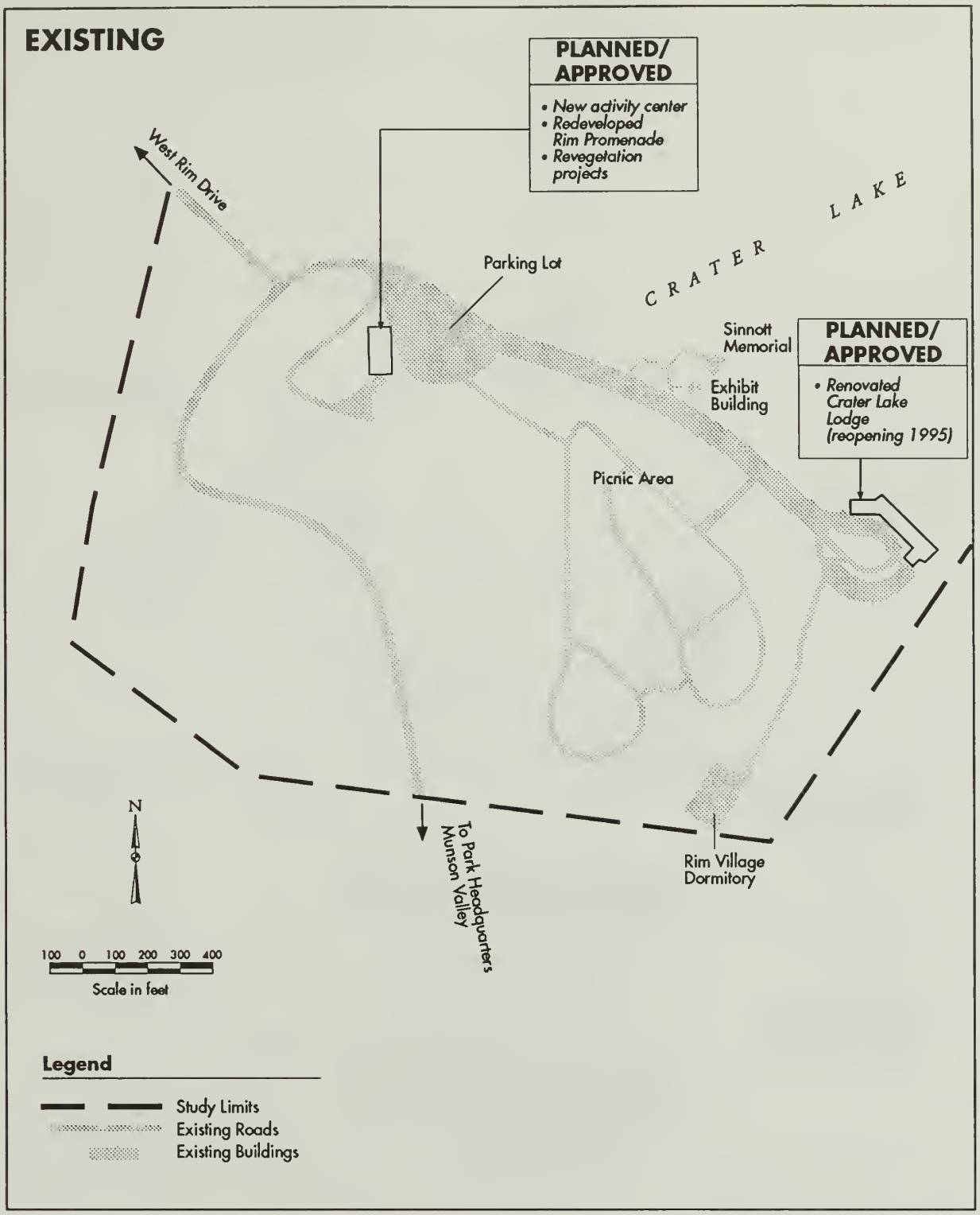
TABLE 2-3. CONTINUED

Development Item	Alternative 1			Alternative 2			Alternative 3			Alternative 4		
	Gross Const.	Const. Planning	Total	Gross Const.	Const. Planning	Total	Gross Const.	Const. Planning	Total	Gross Const.	Const. Planning	Total
Warehouse (limited)				202	39	241						
Waste management and recycling facility				519	99	618						
Employee RV sites (15)	454	87	541	454	87	541				454	87	541
Water storage upgrade	433	83	516	433	83	516				433	83	516
Water distribution and pumphouse upgrades				339	65	404						
Employee parking garage (30 cars)	457	87	544	457	87	544				457	87	544
Pedestrian underpass (State Route 62) - (if needed)	297	57	354	297	57	354				297	57	354
Pedestrian walkway (1,800 lf)	42	8	50	42	8	50				42	8	50
Loop road (2,000 lf)	427	81	508	427	81	508				427	81	508
State Route 62 turn lane (1,300 lf)	150	29	179	150	29	179				150	29	179
Gravity sewer (2,000 lf)	86	17	103	86	17	103				86	17	103
Mazama Village Development Total	10,511	2,007	12,518	16,412	3,134	19,546	3,458	660	4,118	10,511	2,007	12,518
SOUTH ENTRANCE DEVELOPMENT												
Concession dormitory (Phase II) with kitchen and food service	8,139	1,553	9,692	8,139	1,553	9,692						
Park headquarters (see Munson Valley above)												
Support offices	700	134	834									
Warehouse	202	39	241									
Bus maintenance facility	1,556	297	1,853									
Waste management/recycling facility	519	99	618									
Employee housing (30)	2,896	553	3,449									
Employee RV sites (15)	454	87	541									
Plowshed	576	110	686									
Greenhouse	519	99	618									

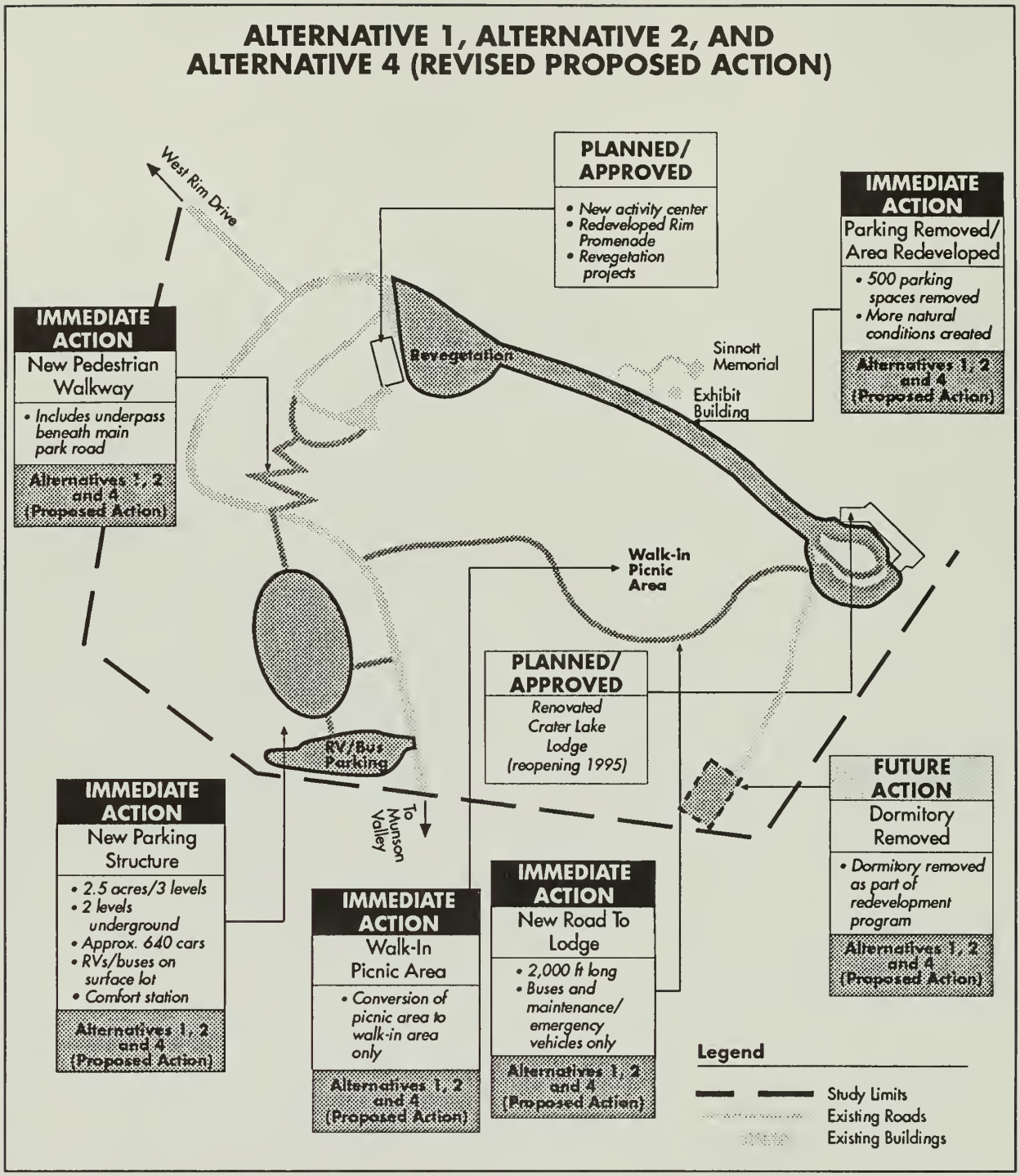
TABLE 2-3. CONTINUED

Development Item	Alternative 1			Alternative 2			Alternative 3			Alternative 4		
	Gross Const.	Const. Planning	Total	Gross Const.	Const. Planning	Total	Gross Const.	Const. Planning	Total	Gross Const.	Const. Planning	Total
Firehouse (wildfire and limited structural)	519	99	618									
Sand shed	58	11	69									
Water system	1,009	193	1,202									
Sewage system	432	83	515									
Electrical system	360	69	429									
Access road (1,600 lf)	341	65	406									
South Entrance Development Total	18,280	3,491	21,771	8,139	1,553	9,692	0	0	0	0	0	0
Grand Totals	29,481	5,629	35,110	25,241	4,818	30,059	3,458	660	4,118	11,201	2,138	13,339

IMPORTANT: This estimate, based on minimal detail, includes a 10% increase for undetermined appurtances and design-related studies. This estimate is for FY95 construction. Escalate costs for future years at 4% per year.

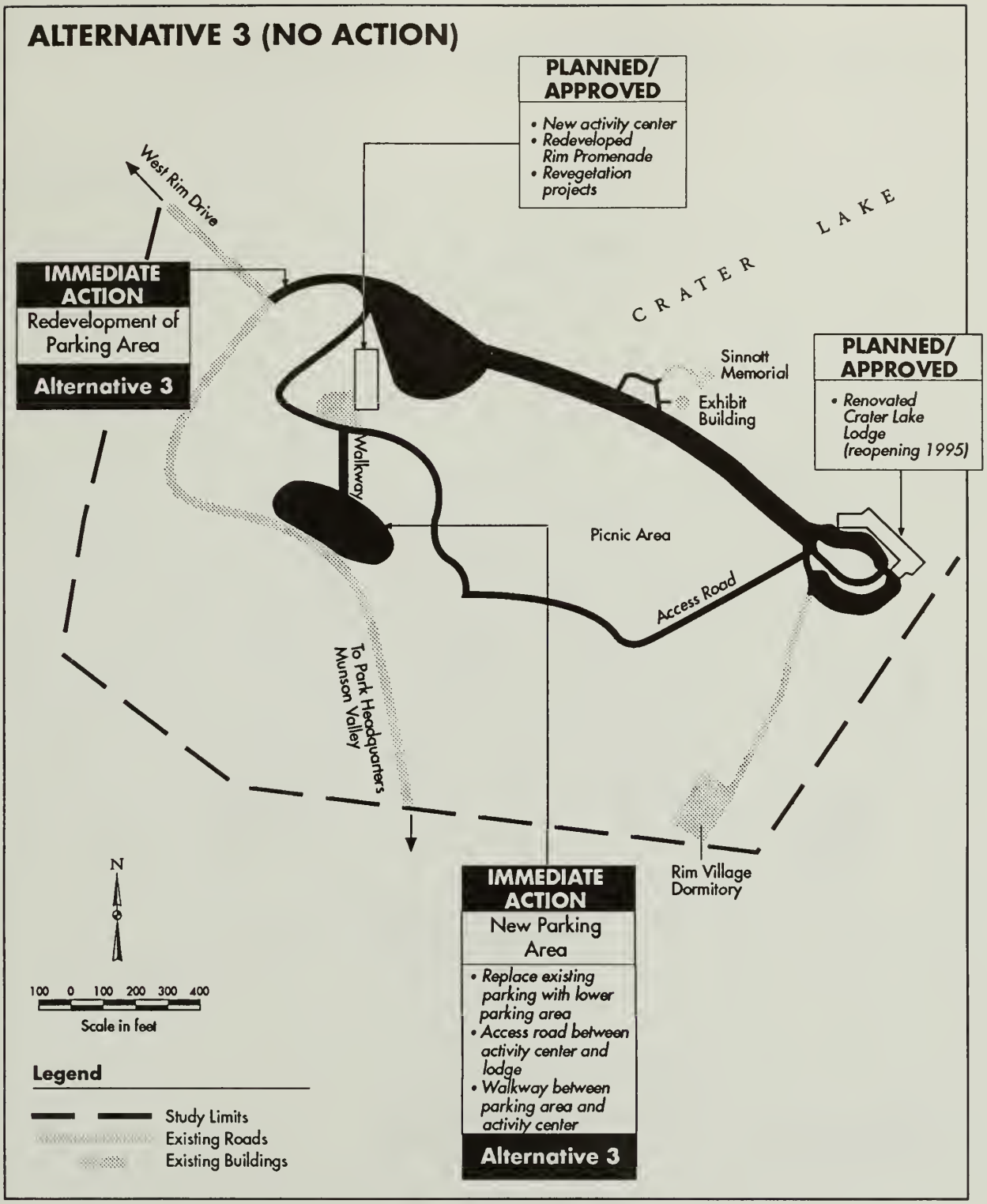


Rim Village: Features of Existing Conditions



Rim Village: Features of Alternatives 1, 2, and 4

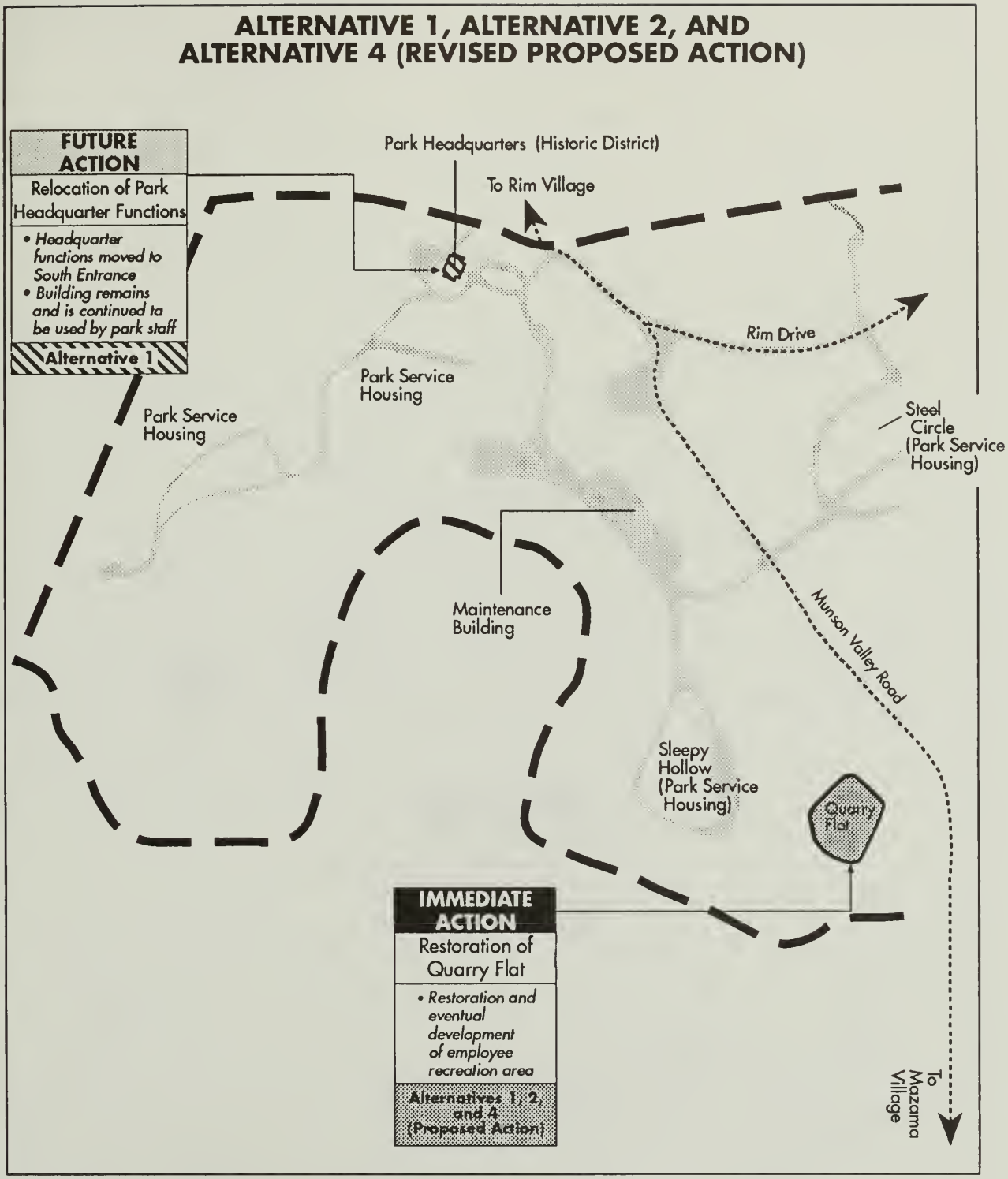
Immediate actions under Alternatives 1, 2, and 4 are the same at Rim Village. New parking structure (shown conceptually) and road tie into previously approved activity center, rim redevelopment project, and renovation of Crater Lake Lodge.



Rim Village: Features of Alternative 3 (No Action)

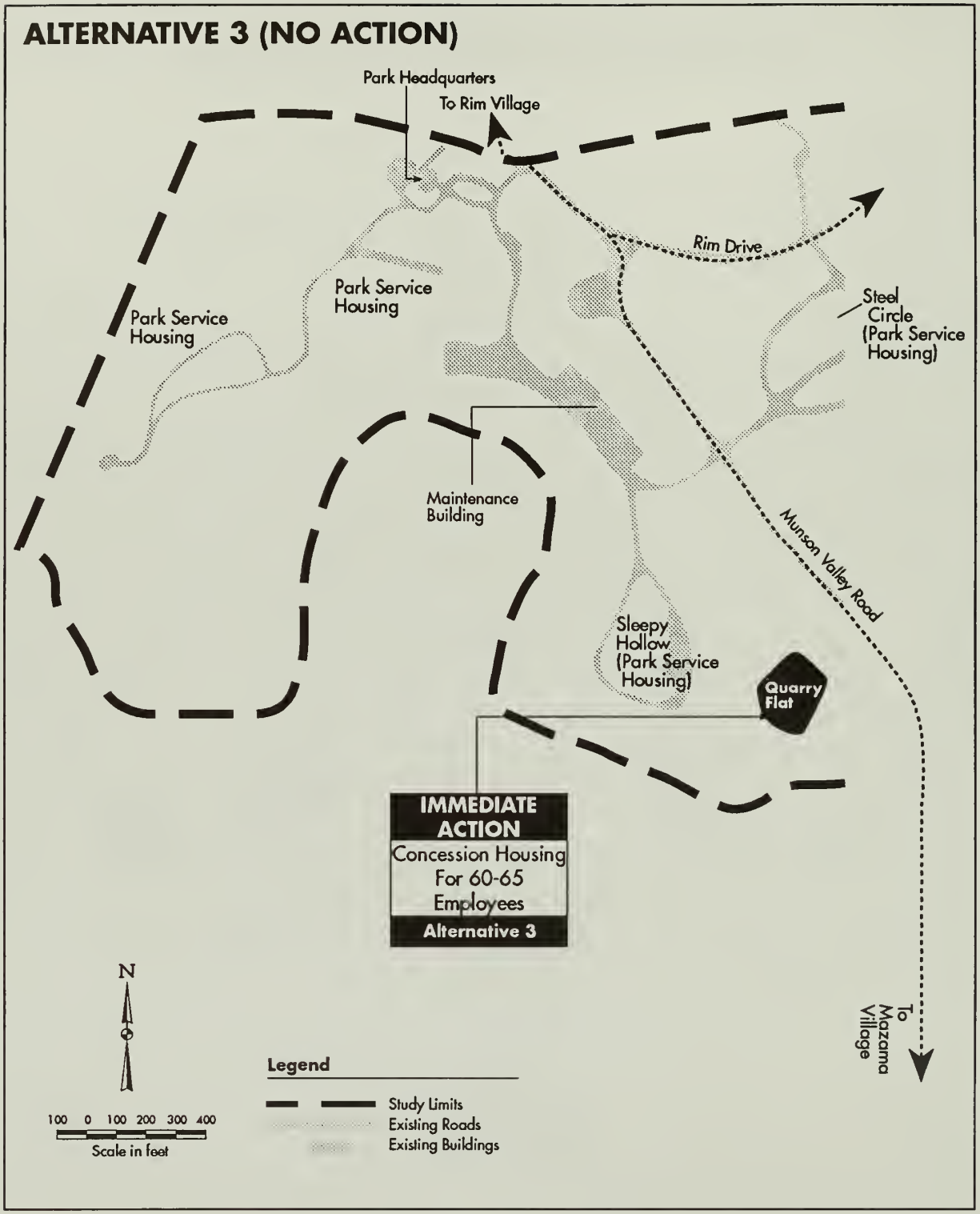
Unlike Alternatives 1, 2, or 4, Alternative 3 would allow vehicle access to the rim. The parking facility approved in the 1988 DCP could be constructed.

Munson Valley: Features of Existing Conditions

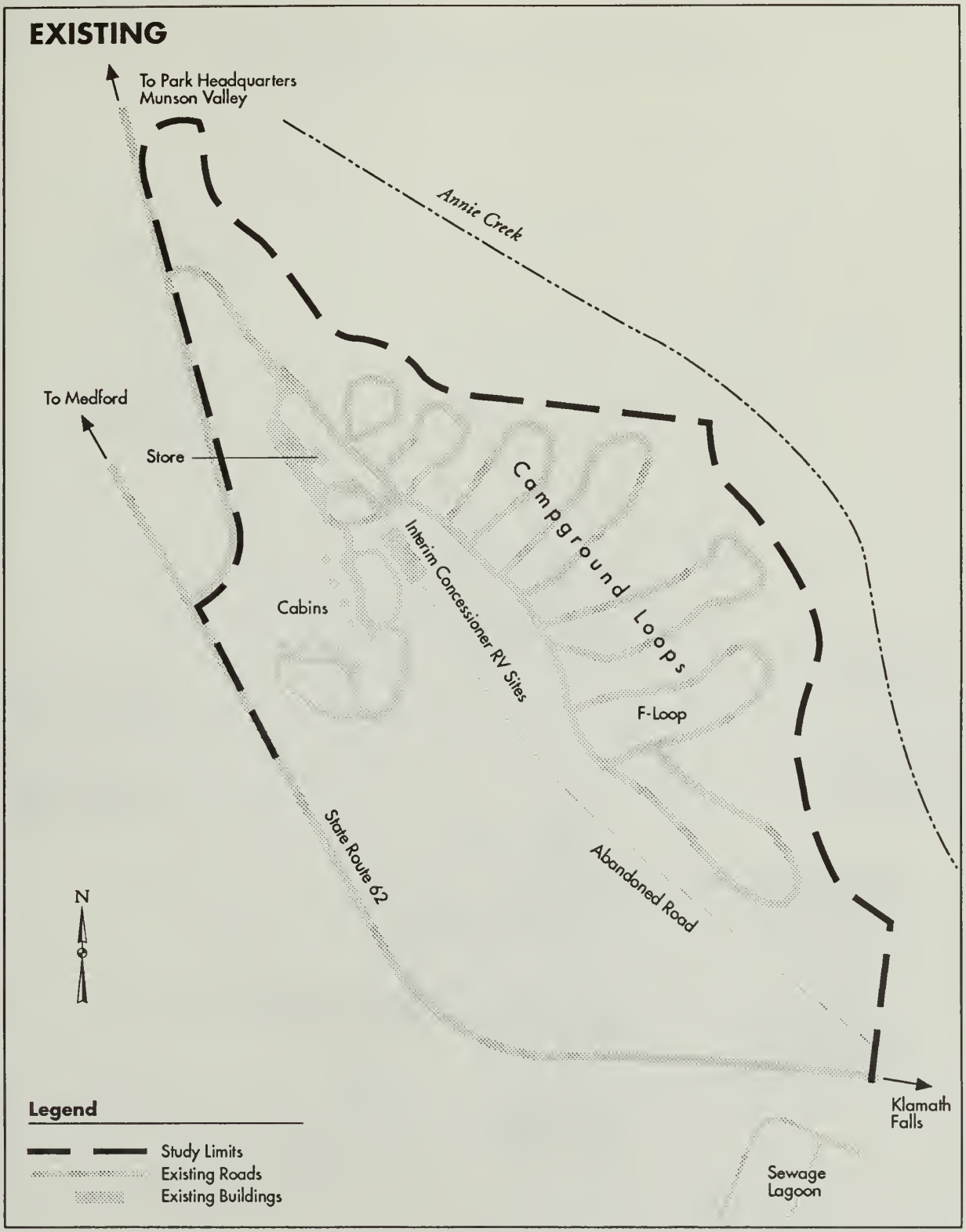


Munson Valley: Features of Alternatives 1, 2, and 4

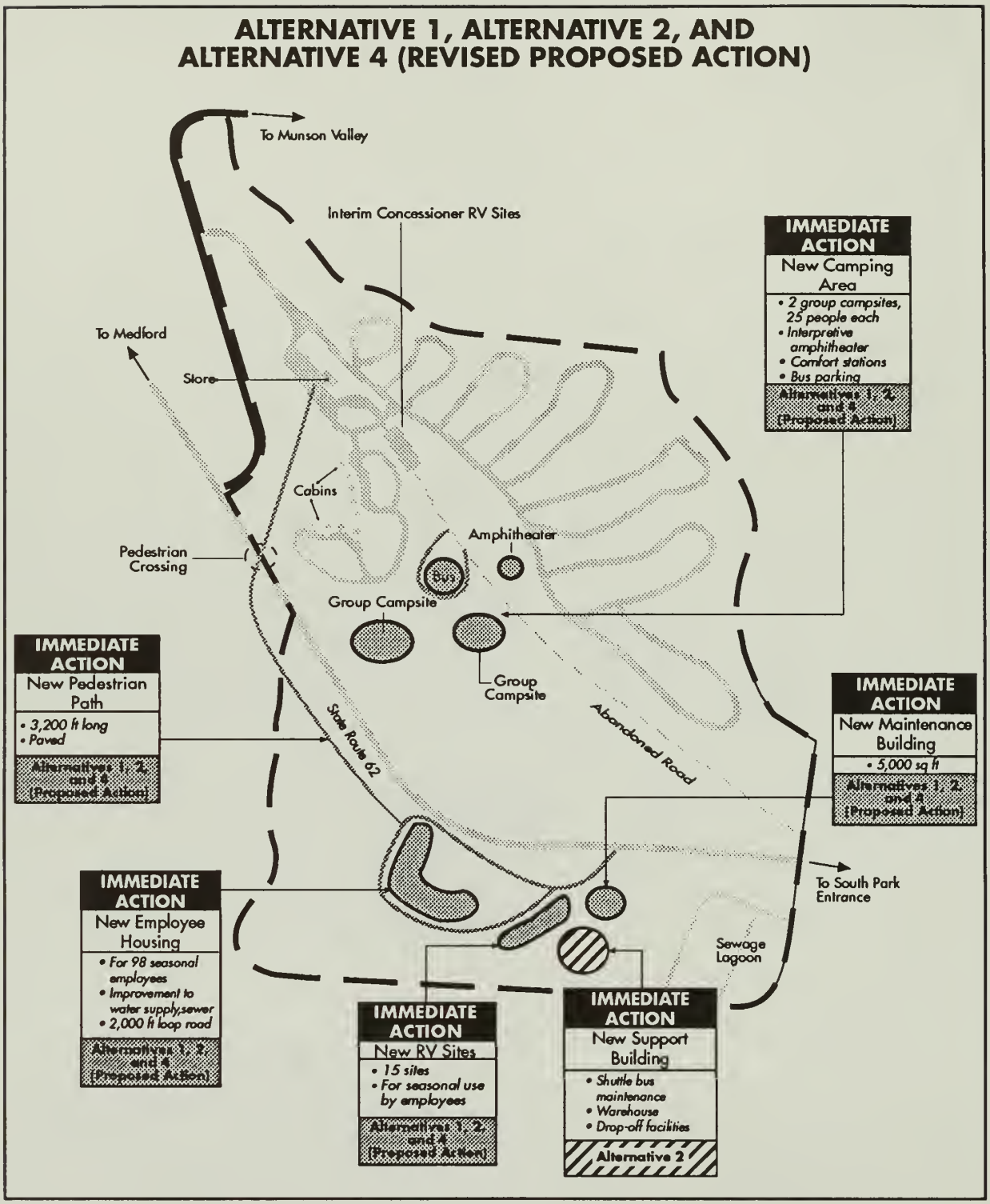
Alternatives 1, 2, and 4 differ in relocation of Park Headquarters (Alternative 1 only).



Munson Valley: Features of Alternative 3 (No Action)

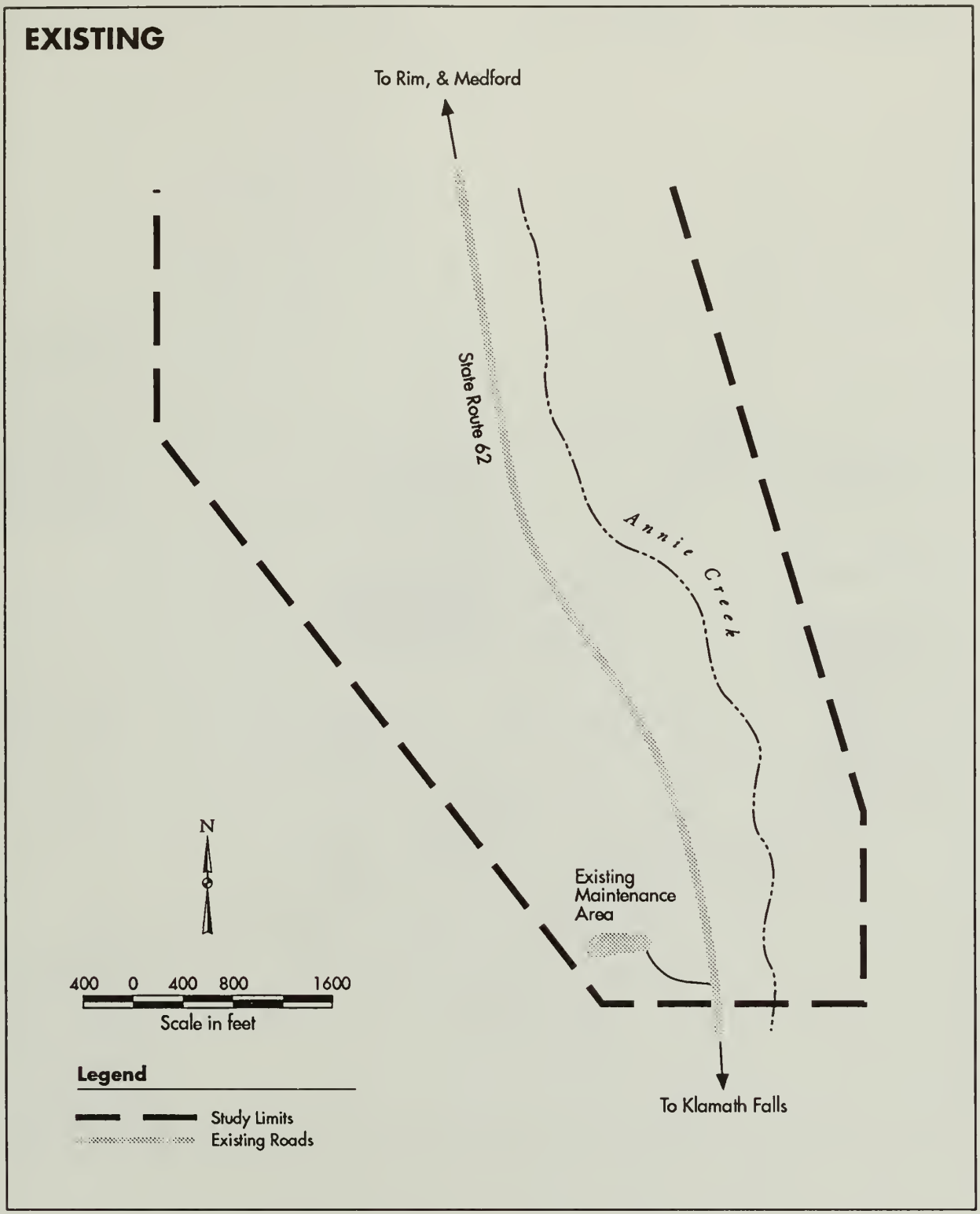


Mazama Village: Features of Existing Conditions

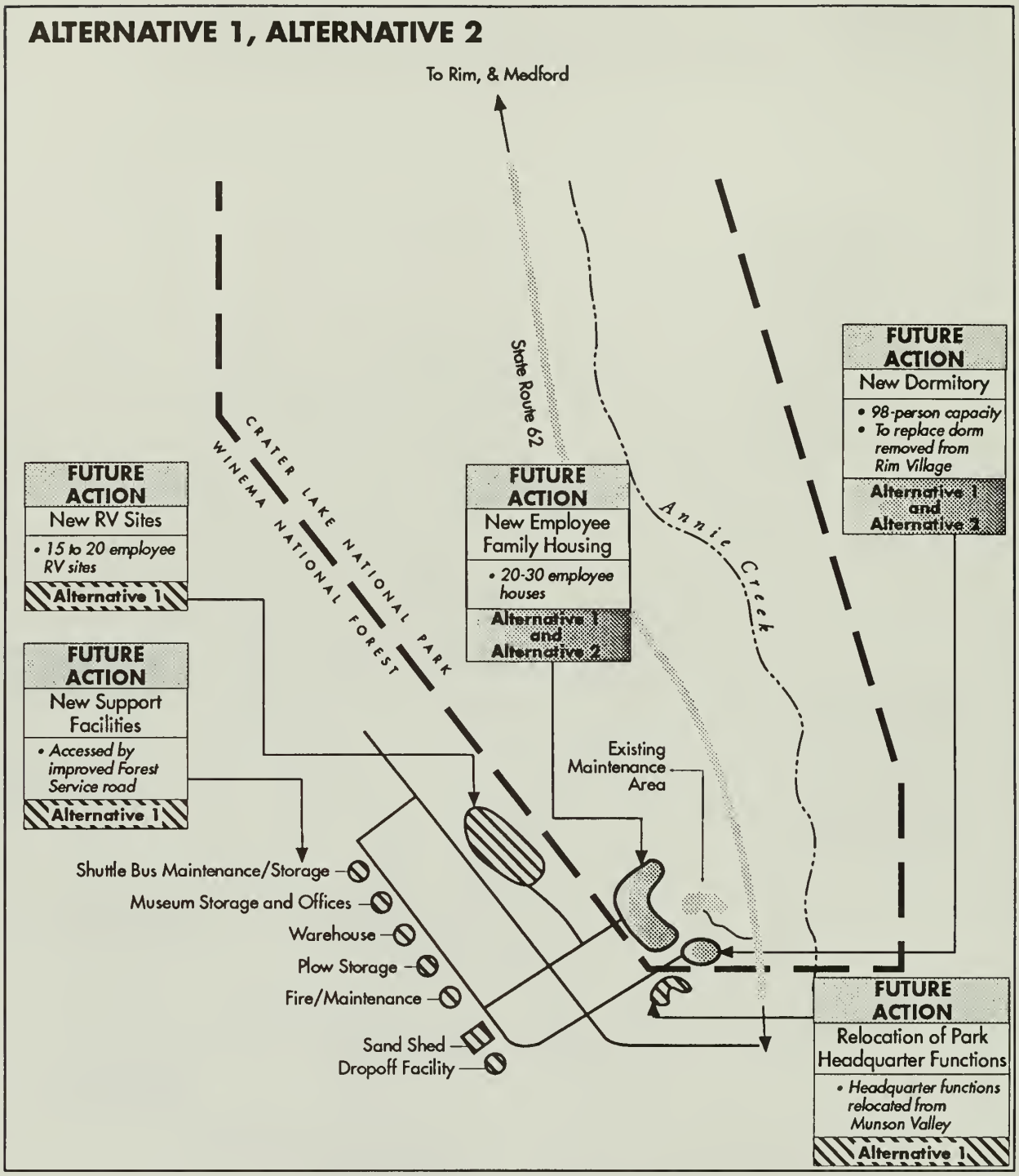


Mazama Village: Features of Alternatives 1, 2, and 4

Alternative 1 is essentially the same as Alternatives 2 and 4. Alternative 2 has a support building for bus maintenance, etc.



South Entrance: Features of Existing Conditions



South Entrance: Features of Alternative 1 and Alternative 2

A common feature of Alternative 1 and Alternative 2 is construction of 20-30 employee houses and a new 98-person dormitory to replace the one removed at Rim Village.

Note: This is only a conceptual layout. Actual location of facilities will require a more detailed siting and design analysis. Utilities, sewer, and water treatment facilities will also be required, but are not shown here.

Chapter 3

Affected Environment

Chapter 3. Affected Environment

3.1 INTRODUCTION

3.1.1 CRATER LAKE NATIONAL PARK

Crater Lake National Park is in southwest Oregon at the south end of the Cascade Range. The primary resource at the park is Crater Lake itself. The lake is the deepest in the United States and is known for the clarity and intense blue color of its water. Crater Lake is surrounded by the jagged, steep-walled cliffs of a collapsed volcano. These cliffs range from 500 to 2,000 feet above the lake's surface. Together with the sky-blue lake, these cliffs create the spectacular scenic beauty which is the central feature of Crater Lake National Park.

The park's entrance station at Mazama Village is 76 miles from Medford and 56 miles from Klamath Falls. The park can be reached by State Route 62 or from the north by State Route 138. Winter access is maintained only from the south and west on State Route 62, through the Munson Valley headquarters area and up to the Rim Village area.

July and August are the most popular months to visit Crater Lake. June and September can also be popular, depending on road openings in June and weather conditions in the fall. Winter use, particularly on weekends, has been increasing because of the popularity of winter sports.

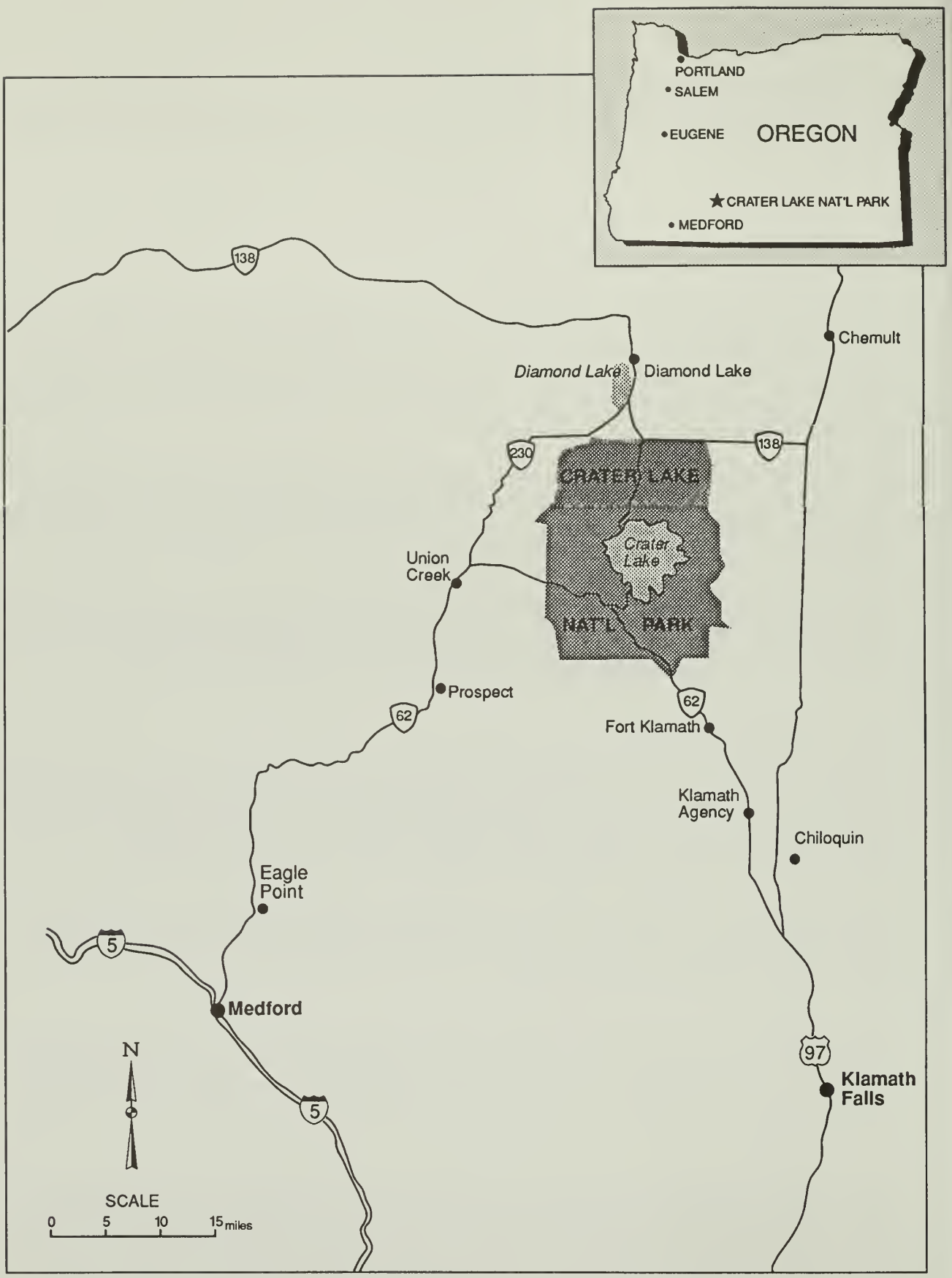
3.1.2 THE STUDY AREAS

Four areas are being considered within and adjacent to the park to provide an appropriate level of visitor services and facilities, and the necessary administrative and operational facilities of the Park Service and concessioner to support these functions. These four areas, described in further detail below, include Rim Village, Munson Valley, Mazama Village, and the South Entrance.

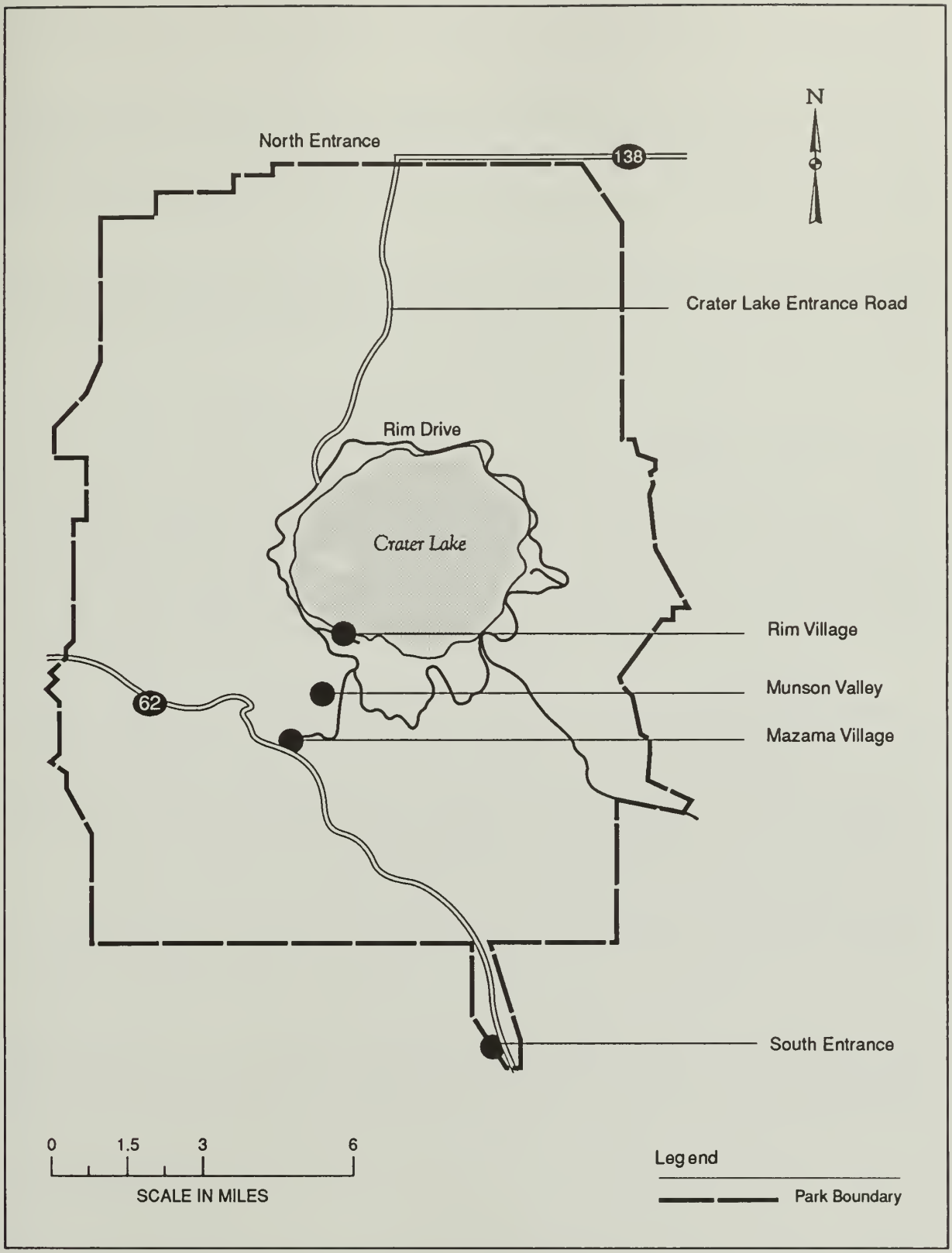
Rim Village, at an elevation of 7,100 feet on the south edge of Crater Lake, has traditionally functioned as a summer operation. Interpretive activities are provided from a small visitor center near the rim and at the Sinnott Memorial, which is about 25 feet below the rim. The Sinnott Memorial offers visitors a spectacular view of the lake.

Other development at Rim Village includes the historic Crater Lake Lodge, a cafeteria/gift shop, parking for approximately 450 cars, a picnic area, an employee dormitory, and a comfort station (restroom). Crater Lake Lodge has been closed since 1989 for rehabilitation and is scheduled to reopen in 1995. The cafeteria/gift shop is planned to be replaced by a new day use activity center (see Chapter 2).

Munson Valley is located about 3 miles south of Rim Village and serves as the center of Park Service administration, maintenance, and housing. It also serves as a visitor interpretation and orientation point. Park headquarters are located in a historic complex of buildings at the central portion of the Munson Valley development area. Visitor information services are provided within this complex. Munson Valley contains three housing areas for Park Service employees: older lodging units and houses on the slopes above park headquarters; the Steel Circle housing area across the highway and



Crater Lake National Park Regional Map



Crater Lake National Park Project Areas

south of park headquarters; and the newest housing development at Sleepy Hollow, located west of park headquarters. Storage and maintenance facilities are located south of park headquarters.

Mazama Village, located about 4 miles south of Munson Valley, is the second main visitor use area. It contains a campground, summer lodging units, and camper services. Services provided include a general store, shower and laundry facilities, telephone, restrooms, and gas station. The Annie Spring entrance station is the first place where visitors arriving from State Route 62 can meet Park Service staff. Because of this, a key function of Mazama Village is to orient and welcome the visitor to the park.

The South Entrance provides a dramatic entry to the park. Towering, orange-barked ponderosa pines form a scenic corridor that contrasts sharply with the open pastures south of the park. Currently, few visitors use this area other than those traveling to Mazama Village and the rim. The Park Service maintains a small maintenance and storage area here.

3.1.3 CHAPTER CONTENTS

This chapter describes environmental baseline conditions of the four areas in Crater Lake National Park. "Baseline conditions" are defined as environmental conditions prior to implementation of a proposed action. The detail of the discussion in this chapter is commensurate with the level of impact anticipated.

In this chapter, environmental elements will be discussed for each area in the following order:

- Rim Village,
- Munson Valley,
- Mazama Village, and
- South Entrance.

As used in this document, these names refer to specific study areas that encompass locations where development or other activities related to the alternatives may occur. The figures in Chapter 2 show the boundaries of each area as analyzed in this document.

3.2 EARTH RESOURCES

This section describes the topography, drainage patterns, geologic features, and soil conditions at the four areas under consideration for the alternatives.

3.2.1 TOPOGRAPHY

The topography of Crater Lake National Park ranges in elevation from approximately 4,400 feet at the South Entrance to approximately 8,100 feet at the peaks surrounding Crater Lake. Crater Lake is surrounded by steep-walled cliffs which range from 500 to 2,000 feet in height above the lake's surface. The top of these cliffs is referred to as the rim.

The four areas are located on the southern slope of the ancient Mount Mazama volcano from the caldera rim to the southern entrance of the park. Rim Village is at approximately 7,100 feet on the south rim. Within the Rim Village area, slopes of approximately 5 to 30% extend downward from the rim. The northern boundary of Rim Village is the caldera rim, where steep slopes extend down to the lake.

Although there are no significant streams in the Rim Village area, two small intermittent drainages carry surface water from the western portion of the area. These intermittent drainages are in the upper portion of the Castle Creek Watershed and begin immediately west of the road connecting Rim Drive to park headquarters. The most southern drainage is north and adjacent to the proposed lower parking garage.

Munson Valley is about 3 miles south of Rim Village at an elevation of 6,410 feet. It includes the area known as Quarry Flat which is a 1-acre cleared area currently used as a staging area for road maintenance and other equipment and materials. Steep slopes immediately west of Quarry Flat are covered with a mosaic of rocks, talus, and wet meadow, as well as willow scrub associated with hillside seeps. A small drainage associated with the seeps runs through the southern edge of Quarry Flat, eventually connecting with Lower Munson Creek.

Mazama Village is located approximately 4 miles south of Munson Valley at an elevation of 6,350 feet. Although the site topography is relatively flat, steep forested slopes are located immediately south of the area proposed for the employee dormitory. Annie Creek Canyon lies immediately east of Mazama Village and drains to the south.

The South Entrance is approximately 9 miles south of Mazama Village. The South Entrance is generally flat, with elevations gently sloping to the south from 4,520 to 4,400 feet. Annie Creek Canyon continues south along the eastern side of the South Entrance, parallel with State Route 62 and beyond the southern border of the South Entrance.

3.2.2 GEOLOGY

Crater Lake lies inside the collapsed top of an ancient volcano called Mount Mazama, which last erupted approximately 6,850 years ago (Williams and Bacon 1984). This volcano is one in a north-

south chain of large cones built during the last few hundred thousand years along the crest of the Cascade Range (Schaffer 1983).

Geologic maps of Crater Lake represent conditions after the last eruption. Rim Village is located on a complex of andesitic bedrock (bedrock containing andesite, a volcanic rock); glacial debris; and pyroclastic material (Walker and MacLeod 1991). Munson Valley, near the base of the surrounding slopes, is also composed of volcanic rocks, remnant glacial material, and ash.

The southern portion of the park, including Mazama Village and the South Entrance, has been mapped as Mazama ash flow from the Holocene (10,000 years ago to the present) (Walker and MacLeod 1991). This ash flow is a result of the enormous eruption that blew away the top of the mountain and sent ash flows sweeping down the slopes of the volcano, burying the existing land surfaces, stream channels, glacial deposits, soils, and vegetation of that time. This ash flow filled what is now called Annie Creek Valley and portions of Munson Valley, and continued into the Wood River Valley, the former lakebed of Upper Klamath Lake. Mazama Village and the South Entrance are located on this ash flow.

The geologic map of Oregon distributed by the U.S. Geological Survey does not show any faults within the Crater Lake National Park boundary (Walker and MacLeod 1991). The closest fault is approximately 3 miles southwest of the South Entrance along Seven Mile Creek.

3.2.3 SOILS

Soils were evaluated based on site investigations. In addition, affected areas near Rim Village were surveyed by borings and laboratory testing.

The soils near Rim Village developed on the surface of Mazama pumice, alluvium (stream deposits), and glacial debris. In general, the soils contain poorly defined soil horizons (layers of soil distinguishable from adjacent layers). Most of the soils are excessively drained, being able to drain 6 to 20 inches of water per hour.

In Munson Valley, the foundation material is made up of fragmented crystalline and volcanic flow rock with silty, residual soil resulting from weathering of the rock. At Quarry Flat, soils are compacted due to past and ongoing use of the site.

Mazama Village is located in a plateau west of and parallel to the Annie Creek drainage. The plateau soils are generally a clean, pumice, silty sand containing some fragments of rock less than 24 inches in diameter. The fragments are dispersed and pose no problems in excavation. The soil is well drained. At the area southwest of State Route 62, erosion is essentially non-existent and, in terms of soil capabilities, the area is ideal for building.

Soils at the South Entrance are similar to but more shallow than those at Mazama Village. Drainage is good and the erosion potential is low. Conditions are excellent for construction.

3.3 SURFACE WATER RESOURCES

Precipitation occurs primarily from late fall to early spring, developing a snowpack over the winter. The accumulated snowpack begins to melt in early summer. Precipitation and much of the meltwater from the snowpack sink quickly into the porous volcanic soils, contributing to subsurface groundwater. As the groundwater moves through the soil, a portion of it is slowly released through evaporation, plant uptake, seeps, and numerous springs in the area.

Seeps and springs are the headwaters for the intermittent and perennial streams originating on the outer slopes of the rim and in the valleys below the rim. Large wetland complexes are associated with seeps and streams in Munson Valley. Self-perpetuating populations of fish are known to occur in 10 streams within the park (U.S. Department of the Interior, National Park Service 1984). Brook trout, brown trout, and rainbow trout are listed as resident populations in Annie Creek (Forsberg 1994). Bull trout is the only native fish known to occur in Annie Creek historically.

Annie Spring, located near Mazama Campground, currently provides the sole water supply for the park. Water is pumped from the spring to storage facilities at each of the three developed areas: Rim Village, Munson Valley, and Mazama Village. At current employee and visitation levels, the spring provides adequate water supply for park facilities (Century West Engineering Corporation 1994).

Two intermittent streams and one palustrine emergent wetland associated with one of the streams were identified in Rim Village in the 1993 wetlands study (Jones & Stokes Associates 1993c). The headwaters of one stream and the associated wetland are located west of Rim Drive at the entrance to Rim Village. The stream begins at the outlet from the culvert under Rim Drive. The second stream originates below Rim Drive in a drainage located south of the day use activity center site. Upslope from Rim Drive, the drainage is a swale which lacks a defined bed and bank and therefore is not classified as a water of the United States. The two intermittent streams flow generally west from the study area into Dutton Creek, which continues westward into the Rogue River system. Floodplains associated with these small streams are narrow, extending no more than a few feet beyond the mean high water line.

Several springs and streams originate within Munson Valley and along the slopes above the valley. Munson Creek originates at Munson Springs, which are located near the head of the valley. The other streams in the valley are tributaries to Munson Creek which flows into Annie Creek downstream of Mazama Village. Stream channels in the valley vary between well defined channels contained between narrow, steep banks and shallow meandering and braided channels which flow through extensive riparian wetland complexes (Jones & Stokes Associates 1993c). Floodplains appear to be contained within the steep banks of well defined channels or occur within the boundaries of associated wetlands in broader systems.

Mazama Village is located in an area with relatively flat topography. No springs, streams, or wetlands occur within the study area. However, Annie Spring is located north of the area and Annie Creek flows through the deep, steep-sided canyon immediately east of the area. Annie Creek joins with the Wood River and eventually flows into the Klamath River system south of the park.

The South Entrance is relatively flat and has no streams, springs, or wetlands.

3.4 GROUNDWATER/WATER SUPPLY

Information regarding groundwater characteristics in the park is sparse. Most of the available information was developed during evaluations of areas for potential wells. A significant water table is estimated to be approximately 2,000 feet below the surface in Munson Valley. While perched water tables are likely to occur at shallower depths, they are not expected to be large enough to provide a reliable water supply. Existing wells in the vicinity of the South Entrance vary from 600 to 900 feet deep, indicating that a significant groundwater table is located well below the surface. (Century West Engineering Corporation 1994.)

The domestic water supply for Crater Lake National Park is Annie Spring, which has supplied high-quality water to the park since 1975. The source of water for Annie Spring is shallow groundwater originating as snowmelt; the spring's output is reduced during years when the winter snowpack is low. (Century West Engineering Corporation 1994.)

A U.S. Geological Survey stream gauging station is located on Annie Creek under the Munson Valley Road bridge near Mazama Village, where the water supply system's pump stations are located. The gauging station provides daily streamflow measurements. The lowest flow in the last 16 years occurred in 1992 at 710,000 gallons per day (gpd), or 1.1 cubic feet per second (cfs) (Century West Engineering Corporation 1994). This low flow was the result of a physical blockage that occurred at Annie Spring, which has since been removed. The average low flow, which provides the best estimate of current flow levels, is approximately 1,565,000 gpd, or 2.4 cfs.

Several tributaries downstream of Annie Spring add significantly to the stream's flow. The Oregon Department of Water Resources monitors flows within Annie Creek as it leaves the park. During drought years, the lowest flows recorded are about 35 cfs (Sparks pers. comm.), or about 14 times the average low flow at the Annie Spring pump station.

The water supply system pumps water to the existing developed areas at Rim Village, Munson Valley, and Mazama Village. Two pump stations, the Annie Spring-Mazama pump station and the Annie Spring-Headquarters pump station, are located under the main park road bridge crossing Annie Creek just north of the Mazama Campground. The headquarters pump delivers water to Munson Valley and to Rim Village via an additional pump located at the headquarters utility building. (Century West Engineering Corporation 1994.)

The system currently provides adequate flow to meet existing demands. Crater Lake National Park currently has a water use permit for 103,400 gpd (0.160 cfs) from Annie Spring. The average summer day demand is 46,945 gpd (0.073 cfs), less than half the permitted rate. (Century West Engineering Corporation 1994.) However, seasonal water shortfalls may occur within the Annie Creek drainage downstream from Crater Lake National Park. The legal process is underway to determine the quantity of water available for park uses through the Klamath Basin Adjudication. The Park Service is investigating a number of options within Oregon State water laws, should the adjudication determine that the combination of existing federal reserved and prior appropriation water rights is insufficient to meet existing needs, or those proposed in this DCP. Those options being investigated include:

- Locating new water sources, either surface water or subsurface sources (wells), for which appropriate water rights could be obtained.

- Obtaining additional priority water rights through purchase or lease agreement.

Appropriate compliance with NEPA and the National Historic Preservation Act (NHPA), Section 106, would be completed prior to implementing any of these options.

3.5 WATER QUALITY

Crater Lake National Park is undeveloped in most areas and 90% of the park is being proposed for wilderness. Thus, most water resources within the park can be expected to have excellent water quality. Any existing or future impacts to water quality are expected to be associated with developments and human activity. Most development has occurred within Rim Village, Munson Valley, and Mazama Village. At this time, two areas of focus for protecting water quality are Crater Lake, because of its unique color which is due to its extremely clear, unpolluted water, and Annie Spring, which is currently the sole source of water for park developments. Water quality is also important within all other natural aquatic systems in the park.

As described in the "Groundwater/Water Supply" section, major groundwater aquifers in the area are estimated to be very deep, from 600 to 2,000 feet below the surface. At these depths, the water quality of major groundwater aquifers is not expected to be at risk from surface developments in the park. Therefore, groundwater quality is not discussed in this document.

Crater Lake is the prime resource of the park, in large part because of the deep blue color of the lake which is due to the extremely clear water. Sources of pollutants which could currently enter Crater Lake are (1) runoff from the parking areas, and (2) snow from parking and road surfaces which is blown over the caldera edge during plowing operations (U.S. Department of the Interior, National Park Service 1988a).

Munson Valley has numerous springs, streams, and wetlands. Intermixed within the complex of aquatic systems is a complex of buildings (housing, park headquarters, maintenance facilities, and seasonal and year-round employees) and associated roads. Runoff drains quickly into the local porous soils, which may filter pollutants such as sediments, as well as oils and greases from automobiles and machinery such as snowplows.

Most existing development in Munson Valley is located on relatively level areas, minimizing the horizontal movement of water. However, some roads and the maintenance area are located within short distances of streams. It should be expected that some pollutants from the roads and maintenance area are reaching surface waters. Wetlands associated with streams typically serve to remove pollutants through sedimentation and biochemical degradation. The large wetland complex downstream of the Munson Valley developments probably provides water quality improvement functions due to the presence of dense emergent vegetation and the wetlands' large size, which results in a long detention time. Long detention times allow for greater pollutant removal. Therefore, any pollutants entering surface waters in this area are likely removed, protecting downstream water resources.

No springs, streams, or wetlands occur within the Mazama Village area. However, Annie Spring is located north of the area and Annie Creek flows through the deep, steep-sided canyon a short distance east. The only potential source of pollutants which may enter Annie Creek is the road crossing the stream north of the Mazama Campground. The bridge would constitute a very minor source of pollutants.

The South Entrance is relatively flat and has no springs, streams, or wetlands. Annie Creek is located approximately 0.1 mile east of State Route 62.

3.6 AIR QUALITY

Crater Lake National Park has very low air pollution levels. The park is designated as a Class I area under the Clean Air Act 42 USC 7401 (seq). Class I designation gives the park superintendent and the Federal Land Manager (the Assistant Secretary of the Interior of Fish and Wildlife and Parks) an affirmative responsibility to protect the park's air quality related values, including visibility, from adverse impacts of air pollution.

One factor that contributes to the clean air in Crater Lake National Park is that there are no significant upwind pollution sources. Industrial emissions from the Medford and Klamath Falls areas are carried south/southwest by the prevailing winds (Lynn pers. comm.). In addition, the high elevation of the park contributes to its clean air.

Under existing conditions, visitors to Rim Village must cross a parking lot and two lanes of traffic to access lake viewing areas. Traffic congestion and resulting exhaust emissions during the summer season affect air quality in this area; however, pollutants are localized and probably detract minimally from the visitor experience.

Traffic-related emissions are minimal in Munson Valley. Air quality in this area of the park is excellent year-round.

As with Rim Village, traffic-related emissions are higher at Mazama Village than in other areas of the park, yet they are localized and occur in negligible concentrations. Thus, these emissions have no significant effect on the overall air quality in the area.

There currently is no development in the South Entrance except for a storage yard. This area is used primarily as a road corridor leading to and from the park. Therefore, visitor use of the area is limited, and resulting traffic-related emissions are negligible.

3.7 VEGETATION

This section describes vegetation types and special-status plant species at the four areas. This section is based on information provided in the Vegetation and Special-Status Species Report prepared for the four areas (Jones & Stokes Associates 1993b). This reference provides a more detailed description of the botanical resources at the four areas. Scientific names of plant species mentioned in text are included in Appendix A.

3.7.1 FLORISTIC SETTING AND SPECIAL-STATUS PLANT SPECIES

Vegetation at the park grades from a mixed conifer forest dominated by ponderosa pine at the South Entrance to a high-elevation mountain hemlock forest at Rim Village. Lodgepole pine, sugar pine, white fir, and Shasta red fir are other common coniferous species.

During preliminary research and field investigations, 12 special-status plant species that could potentially occur in the four areas were identified. Only 1 of the 12 special-status plant species was found during field investigations (Jones & Stokes Associates 1993b). One population of Kruckeberg's swordfern, an ONHP list 4 species, was located in the southern portion of Munson Valley on an east-facing talus slope, west of Quarry Flat.

3.7.2 RIM VILLAGE

Vegetation at Rim Village is dominated by evenly spaced stands of pure mountain hemlock forest that are generally composed of one age class and size of tree and that have an open understory. Some large, mature trees that are representative of late-successional forest are found in the area. Dense canopies inhibit groundcover growth and regeneration of conifer seedlings. Understory species that do occur include Crater Lake currant and woodrush.

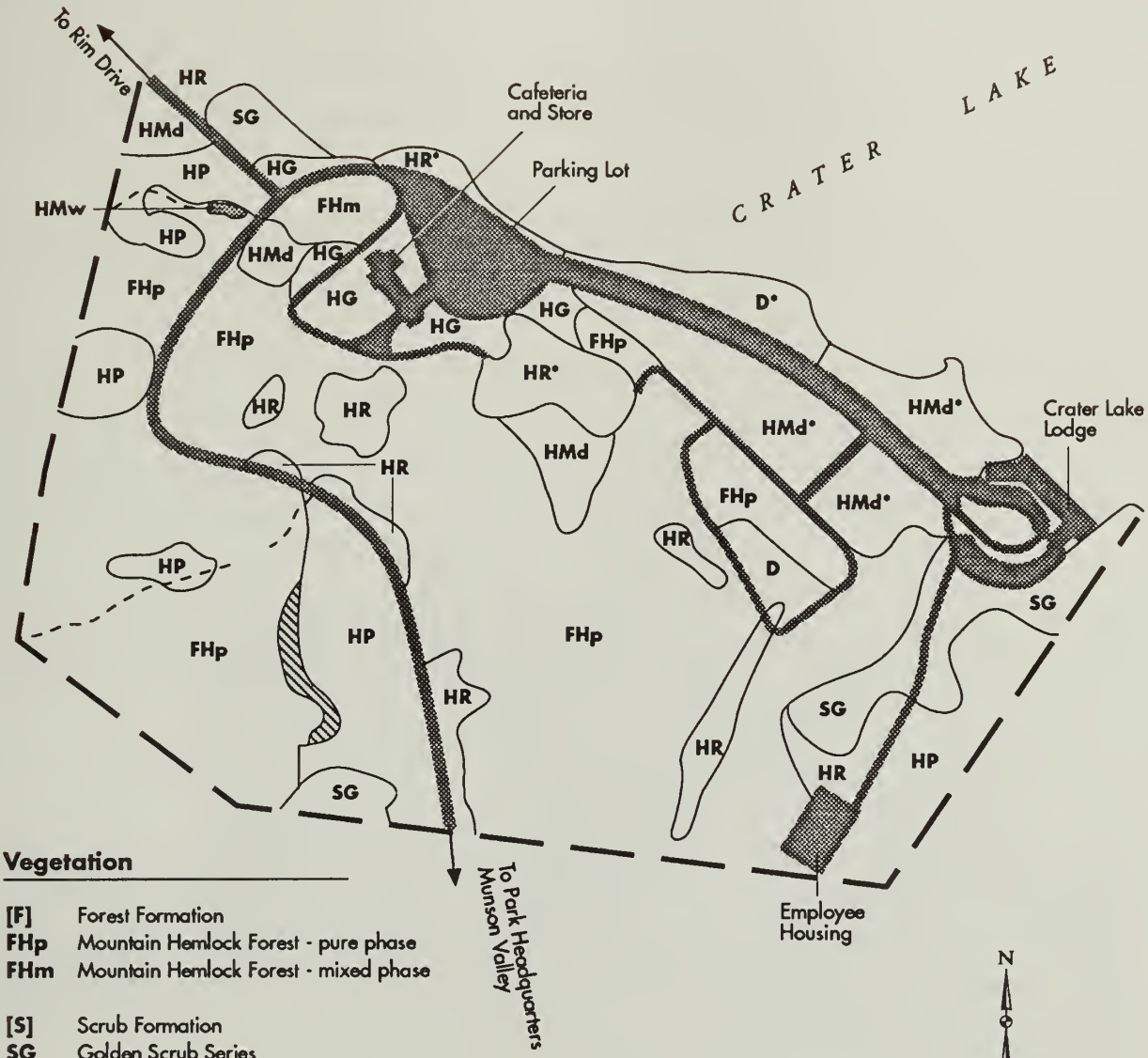
Other vegetation types include a mixed mountain hemlock community, goldenbush scrub, grassland, meadows, and pumice flat. Shasta red fir and white bark pine seedlings and saplings grow along the caldera and in other openings in the forest canopy.

3.7.2.1 Unique Communities

For the purposes of this FEIS, unique communities are defined as relatively undisturbed natural communities that are uncommon in a geographic region. Unique communities are recognized here primarily because of their current reduced extent, the importance of ensuring that species that depend on them do not become threatened, and their role in maintaining biodiversity. Unique communities as defined here are not specifically protected by state or federal law.

The following unique communities were identified at Rim Village:

- **Mountain Hemlock - Crater Lake Currant Understory.** The Crater Lake currant is located at Rim Village. Although this species is not considered a special-status plant species as defined in this report, Crater Lake currant has a restricted distribution that



Vegetation

[F]	Forest Formation
FHp	Mountain Hemlock Forest - pure phase
FHm	Mountain Hemlock Forest - mixed phase
[S]	Scrub Formation
SG	Golden Scrub Series
[H]	Herbaceous Formation
HG	Grassland Series
HMd	Meadow - dry phase
HMw	Meadow - wet phase
HP	Pumice Flat Series
HR	Rock Outcrop Series (dominated by herbaceous species)

Other

D	Disturbed Native Vegetation or Barren Soil
•	Saplings of Shasta Red Fir and Whitebark Pine Present in the Vegetation Type

Snags

Vegetation Types Considered Jurisdictional Wetlands

Legend

Study Limits

Waters of the U.S.

Roads and Buildings

Vegetation Types for Rim Village

centers on Crater Lake National Park (Messinger pers. comm. in Jones & Stokes Associates 1993b). Crater Lake currant occurs in the Cascade Range, southern Oregon, from Douglas County to Klamath and Jackson Counties (Abrams 1944 in Jones & Stokes Associates 1993b).

This community of large, mature mountain hemlock with Crater Lake currant in the understory is considered a unique community because of the limited distribution of Crater Lake currant and the occurrence of the currant with the stand of mature mountain hemlock.

- **Pumice Flat.** Populations of an herbaceous plant species, pumice sandwort, associated with the pumice flat vegetation type were found at several locations at Rim Village. Pumice sandwort inhabits sparsely vegetated pumice flats and rocky areas dominated by an assortment of forbs. This species is not considered a special-status plant species, but the distribution of the species is apparently restricted to the Crater Lake region, Mount McLoughlin, and Mount Jefferson (Peck 1941 in Jones & Stokes Associates 1993b).

  The pumice flat vegetation type also represents potential habitat for pumice grape-fern, a Category 1 candidate for federal threatened or endangered listing and a Forest Service sensitive species. This plant, however, was not observed in the pumice flat vegetation type at Rim Village.

3.7.3 MUNSON VALLEY (QUARRY FLAT)

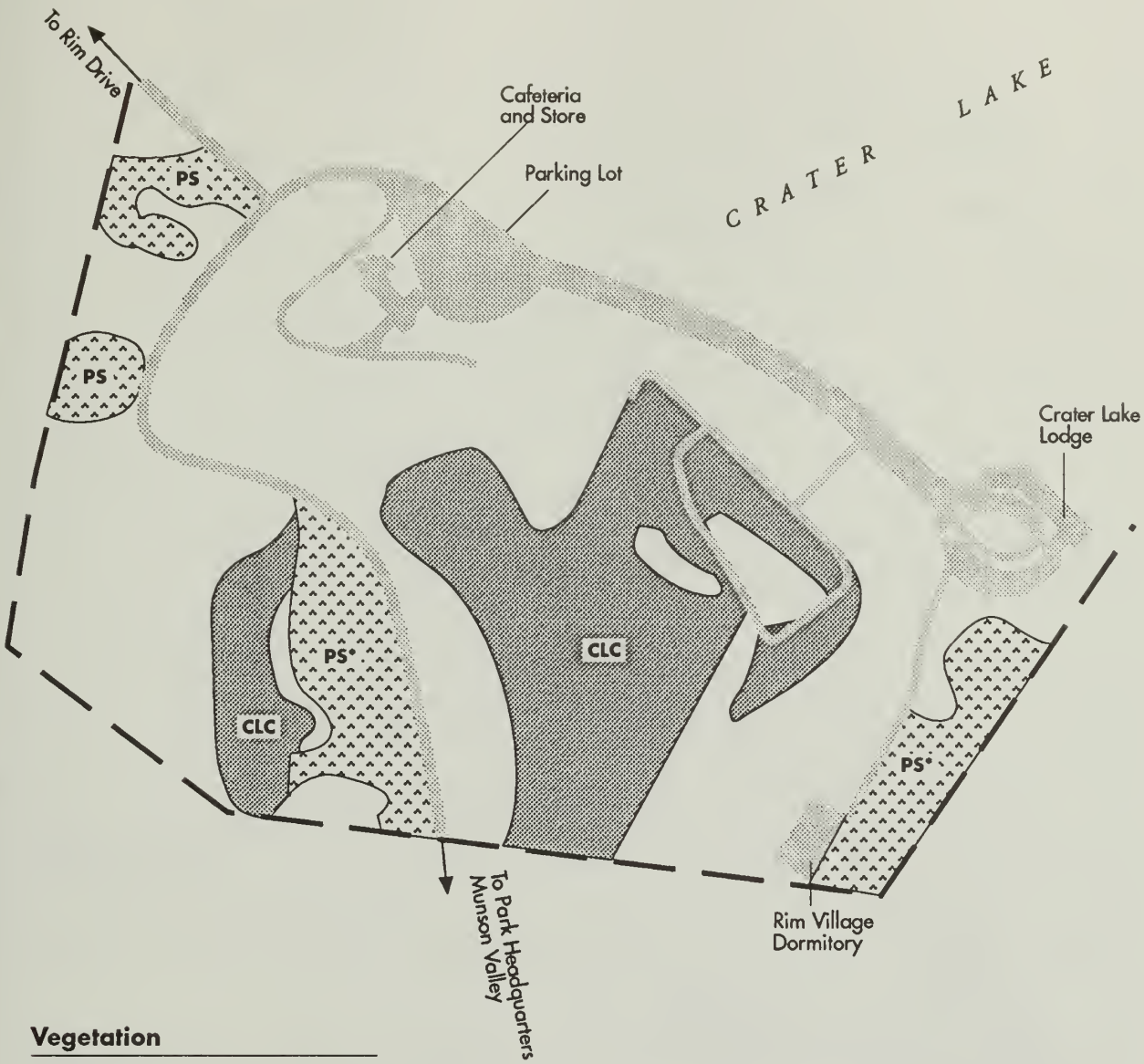
The dominant vegetation types at Munson Valley are mixed mountain hemlock forest, mixed lodgepole pine forest, willow scrub, and wet meadow. Mountain hemlock dominates the forest vegetation type, with lodgepole pine and white fir as subdominant species. Munson Valley also includes Quarry Flat, an unvegetated staging area for storing road construction equipment and materials. Quarry Flat was most likely an upland, mixed mountain hemlock forest or dry meadow area before the site was cleared and leveled for other uses. Prior to its use as a staging area, it had been used as a ballfield area by Park Service employees and visitors.

Located on rocky slopes west of Quarry Flat is a large willow scrub and wet meadow area dominated by Eastwood's willow, mountain alder, arrowleaf groundsel, false-hellebore, showy sedge, primrose monkeyflower, and straight-leaf rush.

3.7.4 MAZAMA VILLAGE

Coniferous forest covers most of the Mazama Village area. The dominant forest vegetation types are pure lodgepole pine forest, mixed lodgepole pine forest, and mixed mountain hemlock forest. These forests are present in a variety of age classes at this area. The mixed mountain hemlock forest contains many large, mature mountain hemlock characteristic of late-successional forest. In addition to the large mountain hemlock, lodgepole pine, red fir, and white fir are also found in the overstory.

Pure and mixed lodgepole pine forest includes Shasta red fir and mountain hemlock. The understory consists of seedlings and saplings of the same species, as well as an herbaceous layer dominated by grasses. Occasional whitebark pine saplings are found in the northwest portion of the area. Grassland



Vegetation

PS — Pumice Sandwort Populations (Arenaria pumicola)

PS* — [Also Potential Habitat for Pumice Grape-fern (Botrichium pumicola)]

CLC — Scattered Crater Lake Currant (Ribes erythrocarpum)

Legend

Study Limits

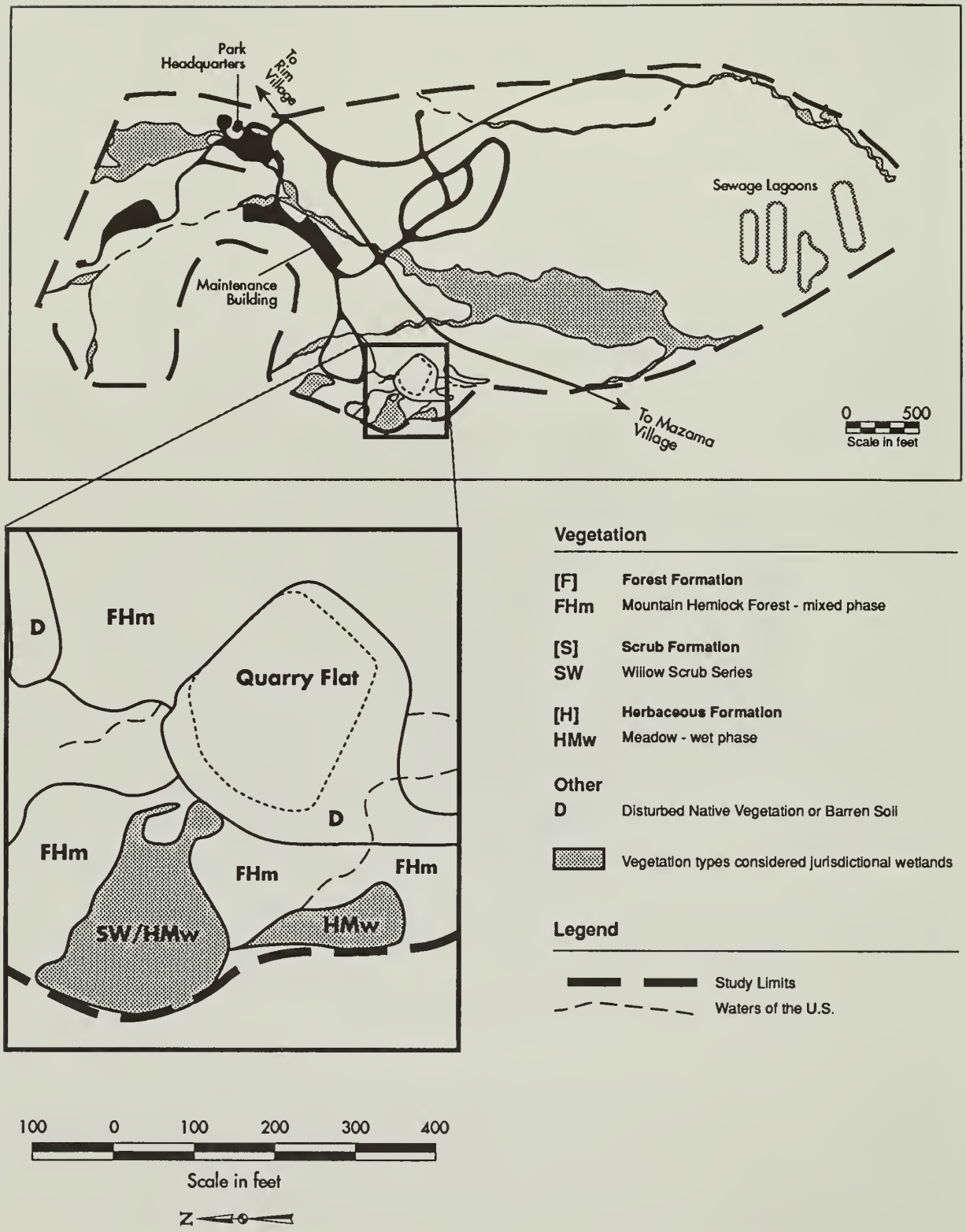
Existing Roads and Buildings

N

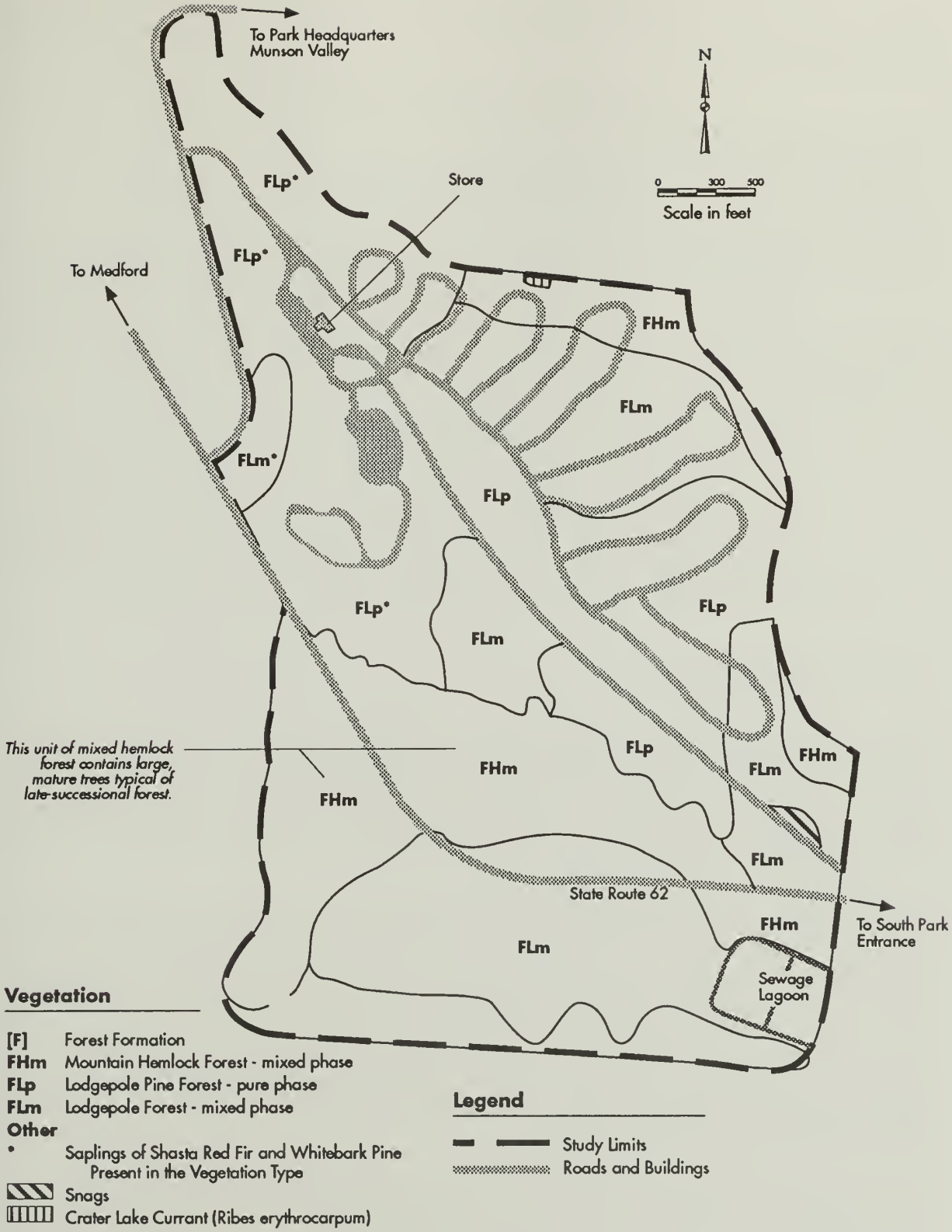
100 0 100 200 300 400

Scale in feet

Distribution of Crater Lake Currant and Pumice Sandwort in Rim Village



Vegetation Types for Munson Valley (Quarry Flat)



Vegetation Types and Distribution of Crater Lake Currant in Mazama Village

occurs in isolated areas around the Mazama Campground and is the dominant understory in much of the lodgepole pine forest.

3.7.4.1 Unique Communities

The following unique communities were identified at Mazama Village:

- **Mountain Hemlock - Crater Lake Currant Understory.** The Crater Lake currant is located on the north boundary of Mazama Village adjacent to the existing C-loop campground site. Although this species is not considered a special-status plant species as defined in this report, Crater Lake currant has a restricted distribution that centers on Crater Lake National Park (Jones & Stokes Associates 1993b). Crater Lake currant is associated with the mixed phase of the mountain hemlock forest in this area.

- **Late-Successional Mountain Hemlock Forest.** The southern portion of Mazama Village contains approximately 54 acres of large, mature hemlock trees mixed with occasional lodgepole pine, Shasta red fir, and white fir. Some snags and decaying logs are found in this late-successional forest. This community is considered a unique community because of (1) its habitat value for northern goshawk (a federal candidate) for cavity nesters, and for other dependent wildlife, and (2) because of the limited occurrence of late-successional forest in the southern Cascade mountains.

3.7.5 SOUTH ENTRANCE

Mixed coniferous forest is the vegetation type at this area. Dominant canopy species include ponderosa pine, lodgepole pine, and white fir. Other canopy species that are less common include Shasta red fir, sugar pine, Douglas-fir, and mountain hemlock. Understory species in the more dense forest include Scouler's willow, cream bush, dwarf bramble, snowbrush ceanothus, and service berry. In the more open forest, the shrub layer is sparse and an herbaceous layer of forb and grass species is present.

Natural conditions and management practices in and around this area have created a mosaic of vegetation patterns within the mixed conifer forest. Natural disturbances (such as fire) and land management practices (such as prescribed burning and fire suppression, and, on Forest Service lands, clear cutting, commercial thinning, and selective tree removal) are factors for the variation in age of trees, stand density, and species composition. The eastern third of the area contains an open canopy with ponderosa pine and white fir. The western two-thirds of the area contains a dense overstory of mixed conifers, a midstory of conifer saplings, and a dense to sparse shrub understory. Areas with large, mature ponderosa pine are found in the northeastern and northwestern to north-central portions of the South Entrance.

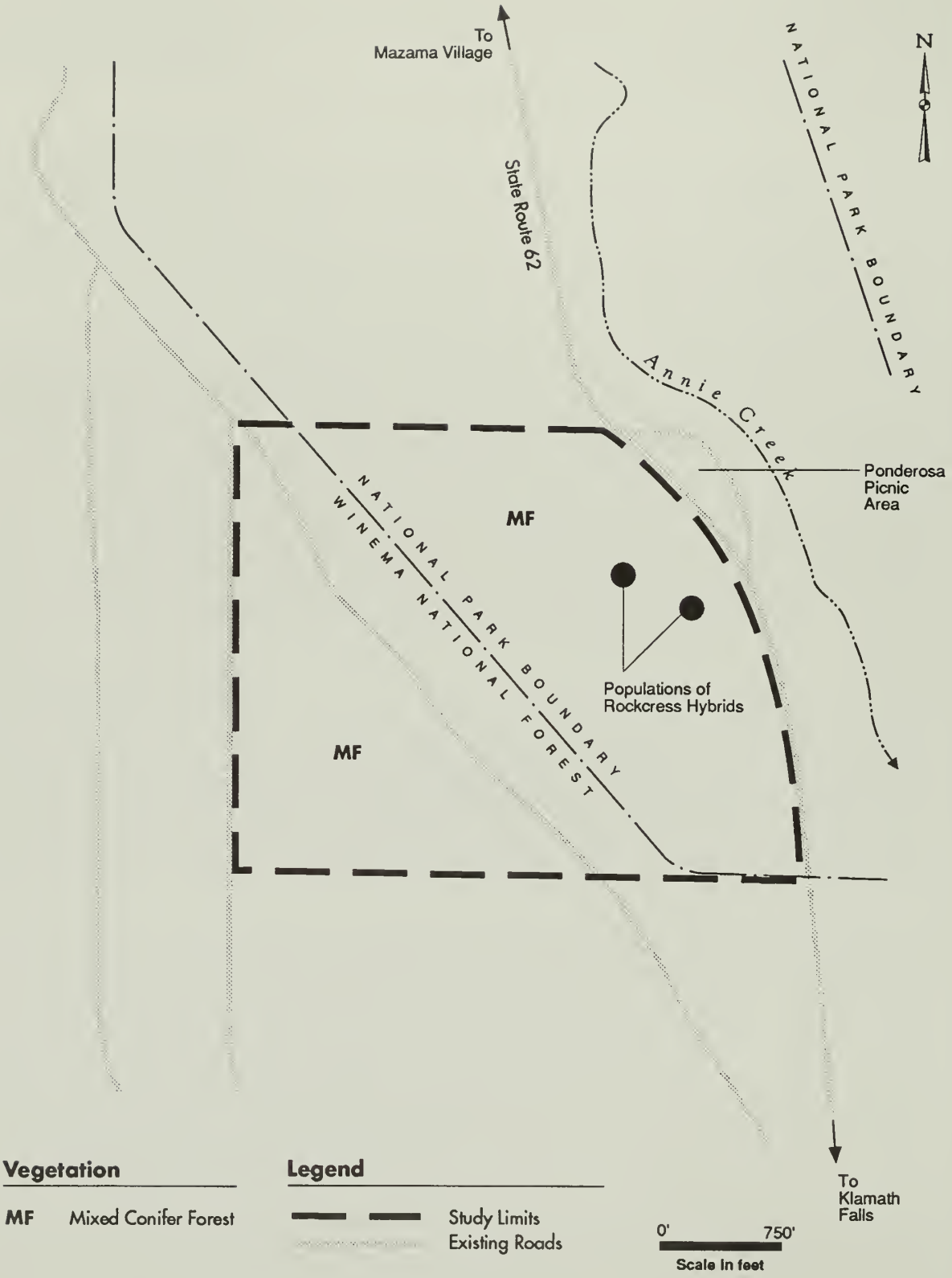
Landsat vegetation maps produced by the Winema National Forest in 1988 identify areas of late-successional forest in the South Entrance area, with most of the acreage located in Crater Lake National Park. Field botanical surveys conducted in 1993 for the Park Service indicated that although large, mature trees do exist in the areas described above, the diversity of conditions and ongoing management practices preclude describing this area as a unique community (as defined earlier in this section).

3.7.5.1 Unique Communities

The following unique communities were identified at the South Entrance:

- **Habitat for Mixed Conifer - Rockcress Hybrid (Arabis suffrutescens var. suffrutescens x A. suffrutescens var. horizontalis).** Two populations of rockcress hybrid were found at the South Entrance. The hybrid rockcress is considered as an intermediate species between the common woody rockcress (*Arabis suffrutescens* var. *suffrutescens*) and the special-status Crater Lake rockcress (*Arabis suffrutescens* var. *horizontalis*), a C2 federal candidate species.

  The botanical investigations conducted as part of this EIS concluded that the hybrid populations could have taxonomic and evolutionary importance and, although not considered as a special-status plant species, should be identified as a unique feature of the forest community (Jones & Stokes Associates 1993b).



Vegetation Type and Location of Rockcress Hybrids in the South Entrance

3.8 WETLANDS

Rim Village contains one small wetland, totaling approximately 0.04 acre. The wetland is classified as seasonal palustrine emergent using the U.S. Fish and Wildlife Service classification system (Cowardin et al. 1979). It is dominated by showy sedge and false-hellebore. The wetland is supported by runoff from surrounding uplands and a road with a culvert that directs water to the wetland.

No wetlands were found on the Quarry Flat site. Hillside seeps that support scrub-shrub and emergent wetlands are located on the slopes west of Quarry Flat. These wetlands are dominated by Eastwood's willow, mountain alder, arrowleaf groundsel, false-hellebore, showy sedge, primrose monkeyflower, and straight-leaf rush.

Quarry Flat was evaluated to determine the extent of historical wetlands before clearing and leveling occurred. The lack of evidence of wetland soil indicators underneath the staging area does not preclude the existence of any historic wetlands. However, if wetlands were present, they were limited to very narrow and possibly discontinuous stringers along low-flow channels. Most of the area was likely upland forest or dry meadow before the site was disturbed. (Jones & Stokes Associates 1993c.)

Other wetlands, including a large wetland associated with Munson Creek, are found in the Munson Valley area. These wetlands, however, are 500 to 2,500 feet north and east of Quarry Flat and would not be affected by the project described in this document.

No wetlands or other waters are present at Mazama Village or the South Entrance. Annie Creek, which would qualify as "other waters", is outside of these areas and was not evaluated for associated wetland communities.

3.9 WILDLIFE

Wildlife is one of the key natural resources protected by the national park system. Crater Lake National Park provides a large block of relatively undisturbed habitat that supports healthy populations of native wildlife species.

The most frequently seen animals in the park include Cascades golden-mantled ground squirrel, Townsend's chipmunk, Clark's nutcracker, and gray jay. These species are common throughout the park, but most visitors see them at Rim Village, at Mazama Campground, or while driving between these two areas. Other commonly observed animals include ravens, Stellar's jays, pikas, marmots, and hares. Black-tailed deer, elk, black bear, porcupine, and red fox are also seen with some regularity.

Because of harsh winters, only a few birds remain in the park year-round, and many of the other types of wildlife retreat into dormancy. Few species nest near Rim Village because of the extended period of snow. During spring and fall migration, many bird species stop at the park to feed and rest.

The South Entrance area is used as a migration corridor for some elk that use the park and vicinity. The Oregon Department of Fish and Wildlife (ODFW) has identified that most elk present in the South Entrance area generally winter on the west side of the Cascades in the upper and middle forks of the Rogue River (Waterbury pers. comm.). From mid-March through late April, elk migrate from these wintering areas eastward through the Dry Creek and Sevenmile Creek drainage to the Wood River Valley. While in the valley, they feed heavily in the pasturelands, including those areas near the South Entrance.

The elk begin to disperse from the pasturelands to calving areas during mid-May. The areas that they disperse to include the Sun Pass State Forest; the elk that disperse to this area are suspected to use the South Entrance as a movement corridor from pastureland in the Fort Klamath Valley. Elk still use the area west of State Route 62 and, therefore, not all elk that use the Fort Klamath Valley migrate through the South Entrance. After spring feeding in the Fort Klamath area, many elk move north into the park or west onto Forest Service lands. These elk do not use the South Entrance as a travel corridor.

Based on studies of elk at Crater Lake National Park (Jenkins et al. 1988), most elk use near the South Entrance occurred west of Annie Creek as recently as 1986. According to that study, "the majority of radio-collared elk summered from the south slopes of Goose Nest Mountain throughout the west side of the park north to State Route 62." Goose Nest Mountain is located approximately 3 miles west of the South Entrance.

Within the past few years, however, the number of elk that move east across State Route 62 to Sun Pass State Forest has increased. This increase has occurred since the ODFW and Oregon Department of Forestry established a road closure within Sun Pass State Forest, located immediately east of the South Entrance area. These elk move east during spring to calve and then return west later in the year, possibly beginning after July 1, when the roads are reopened in the state forest.

The major route used by these elk to access state forest lands is apparently at the South Entrance, based on natural and human-built barriers to the north and south. To the north, Annie Creek forms a steep canyon that is likely to be impassible to elk. To the south, fences along State Route 62 are

difficult for elk to cross (Hardy pers. comm.). In addition to eastward movements during spring and westward movements during fall, some elk may move back and forth across State Route 62, using the South Entrance area as a movement corridor.

It is not known whether this increased movement across the South Entrance area of the park represents (1) an increase in the elk population, (2) a shift in use, or (3) a combination of increased population and shift in use. In any case, the situation is not fully understood and is likely continuing to change.

Black bears are fairly common in the park, particularly in the park's lower elevations. At Mazama Campground, black bears occasionally become a problem. Cougars are rarely seen in the park but are likely present at low densities.

Scientific names of animal species mentioned above are included in Appendix A.

3.10 SPECIAL-STATUS ANIMAL SPECIES

3.10.1 THREATENED AND ENDANGERED SPECIES

Peregrine falcon (endangered), bald eagle (threatened), and northern spotted owl (threatened) are present in the park but are not likely to regularly use any of the four areas for breeding, foraging, or shelter. No other threatened or endangered wildlife species are present at the park. The following summarizes conclusions presented in a report on threatened, endangered, and sensitive animals prepared as part of the early planning for this document (Jones & Stokes Associates 1993a):

- **Peregrine Falcon.** Peregrine falcons are likely to forage along the entire caldera and have been frequently observed off the Rim Village area near the lodge and near Sinnott Memorial (S. Stonum pers. comm.). However, the actual Rim Village area does not contain habitat typical of peregrine falcons. Most habitat and reported activity are from within the caldera.

- **Bald Eagle.** Bald eagles are unlikely to rely on any of the four areas as primary habitat. Bald eagles do occur intermittently near the lake, and they can potentially show up anywhere in the park, but none of the areas contains typical habitat. Bald eagles potentially occur along Annie Creek, but no nest sites are known in this area. Several bald eagle foraging perches are situated within one-half mile south of the South Entrance, on Forest Service land adjacent to private pasturelands in the Fort Klamath Valley.

- **Northern Spotted Owl.** Northern spotted owls are found within dense, multi-storied forests in the park at elevations up to 6,550 feet (Crater Lake Natural History Association 1993, L. Stonum pers. comm.). Because spotted owls can occur in a wide variety of habitats during nonbreeding periods or during dispersal, spotted owls could travel through any forested area of the park. However, none of the areas considered in this document contain habitat similar to that in which northern spotted owls have been found in the park, and only the South Entrance contains potential breeding habitat.

  The South Entrance contains potential spotted owl habitat that is presently unoccupied. The forest is more open than typical spotted owl habitat, but it does contain the multiple-canopy layer that is found in most northern spotted owl use areas. Surveys conducted by the Forest Service and the Park Service have determined spotted owls to be absent. A northern spotted owl nest is reported 1.75 miles west of the area (Hardy pers. comm.). This distance is greater than the 1.2-mile buffer distance recommended by the U.S. Fish and Wildlife Service. The South Entrance area does not contain any designated Late Successional Reserves (LSR) or otherwise designated spotted owl habitat (Hardy pers. comm.).

3.10.2 FEDERAL CANDIDATE AND STATE-LISTED SENSITIVE SPECIES

Because the park contains a large block of relatively undisturbed habitat, several state-listed sensitive species are present. In general, most state-listed species have very specific habitat requirements.

Many of the species present in the park require wetlands, streams, late-successional forest, or ponderosa or lodgepole pine forests.

At Rim Village, the pumice flat area proposed for the new parking structure supports few if any sensitive species. Potentially, Swainson's hawks, a state sensitive species, may forage in this area as they pass through the park during migration. Northern goshawk, a federal candidate species, could forage in the area proposed for the new road to the lodge and the pedestrian walkway.

At Quarry Flat, most of the area has been cleared and graded and contains little wildlife habitat value. Because of this, the area does not contain significant habitat for listed species. Cascade frogs, a federal candidate species, are common in the seeps above the Quarry Flat area, but they are not likely to regularly venture into the cleared area being considered for development.

Undeveloped portions of Mazama Village are likely to be used by northern goshawks. As with most large predatory birds, northern goshawks live at relatively low densities, even in highly suitable habitat. Marshall (1992) reported territories to average larger than 10 square miles. Therefore, northern goshawks use Mazama Village as part of much larger territories. The mountain hemlock forest at Mazama contains snags and trees affected by mistletoe that are typical of northern goshawk nesting habitat. The areas being considered for development contain lodgepole pine forest that is less suitable for nesting.

Mountain quail, another federal candidate species, may also be present at Mazama Village. However, none have been reported in the area. Three state sensitive woodpeckers use the forest types present at Mazama Village: pileated, three-toed, and black-backed woodpeckers.

California wolverine and Pacific fisher are both federal candidate species. In addition, California wolverine is state-listed as threatened in Oregon. Both are members of the weasel family (*Mustela*). Because these species travel regularly over large distances, they could use any of the four areas as part of much larger home ranges. These species avoid areas with human activity or development; therefore, Rim Village, Quarry Flat, and Mazama Village are not likely to be regularly used. The South Entrance is less developed and has a greater potential to be used by these species.

Because of large-scale loss of natural habitats throughout both species' ranges, the entire park may contain foraging habitat and travel corridors important to their distribution and abundance in Oregon. These species require large areas of relatively undisturbed habitats that are uncommon outside of national parks and designated wilderness areas.

Another member of the weasel family, American marten, is a state-listed sensitive species that may be present at any of the four planning areas.

The South Entrance is less developed than the other planning areas and contains a highly variable, mixed-conifer forest typical of northern goshawk habitat. The forest includes large ponderosa pine and burned areas. Both of these features are used by a group of state-listed sensitive birds that typically nest in tree holes and feed on insects found in decaying wood. These birds include northern pygmy-owl, flammulated owl, Williamson's sapsucker, pygmy nuthatch, and pileated, white-headed, three-toed, and black-backed woodpeckers. Portions of the South Entrance contain dense stands of white fir and lodgepole pine and areas that have been thinned or cleared. These are less suitable or, in some cases, unsuitable for state sensitive species.

The bull trout is a candidate for listing under the Endangered Species Act. Bull trout in the Klamath Basin are suspected to be a separate species from other Oregon bull trout (Oregon Department of Fish and Wildlife 1993). The species is known to be present within Sun Creek, where the Park Service has conducted an active restoration effort (Crater Lake Natural History Association 1993). An interagency team of Klamath Basin biologists and the ODFW are developing strategies to reestablish bull trout in Annie Creek within and downstream of the park boundary. Bull trout may be present within Annie Creek, however: (1) brook trout are abundant in the creek, and hybridization with introduced brook trout is known to seriously impact bull trout populations (Marshall 1992), (2) spot checks along the river have found no bull trout (Brock pers. comm.), and (3) there are no recent records of bull trout occurrences in the creek (Forsberg 1994).

Historically, bull trout migrated up Annie Creek from Agency/Upper Klamath Lake to their spawning grounds on Sun Creek (Waterbury pers. comm.). This use is highly unlikely now due to (1) extensive water withdrawals primarily downstream of the park that have resulted in a disconnection of the Wood River/Annie Creek/Sun Creek migration route, and (2) diversion dams that are barriers to fish migration (Sparks pers. comm.). The historic use of this portion of Annie Creek by bull trout has not been observed for 30 to 40 years (Waterbury pers. comm.).

3.11 ECOSYSTEM PROCESSES (FIRE)

Fire is an integral part of the natural cycle of forest growth and regeneration in the Oregon Eastern Cascades. Before the advent of fire suppression in the early 1900s, wildfires played a major role in shaping the forests of the province, including lands now in Crater Lake National Park. Fire has been one of the primary disturbance mechanisms affecting natural forests in the central-western Cascade Range of Oregon for at least 10,000 years (U.S. Forest Service 1990).

Intensive fire suppression efforts in the last 60 years have resulted in fuel accumulations and shifts in tree species composition. These changes may have made forests more susceptible to large, severe fires and to epidemic attacks of insects and diseases. Development within this region must consider fire management and the stability of forest stands (Agee 1993 in U.S. Department of Agriculture 1994).

Fire suppression has changed the natural system of forest stand dynamics at Crater Lake National Park in two major ways. First, the ponderosa pine forests in the South Entrance area are being invaded and replaced by white fir. In more fire-dominated conditions, ponderosa pines would be present in more park-like conditions with little understory. Second, shifts in tree species composition are occurring in places. Fire suppression has caused some lodgepole pine forest to be replaced by mountain hemlock, Shasta red fir, and noble fir. In other areas, the lodgepole pine has become dense and slow growing. Lodgepole pine is an early colonizer of burned areas in the park. As fire is suppressed, so is the opportunity for lodgepole pine to colonize new areas.

Fire suppression has also increased the risk of intense fires at the South Entrance. Fuels have built up over the years and dense stands of white fir have developed. In response to this increased fire hazard, the Park Service has implemented some limited fire management, including controlled burns and fuel reduction programs. Some fires in that area burned very hot, killing even the fire-tolerant ponderosa pine. These areas now contain large amounts of snags and downed woody material. This material has dried and become highly flammable, and these areas potentially could burn again.

Most of the natural fires at Crater Lake National Park are caused by lightning. Typically, these fires are set by storms that cover a wide area on a single day and set multiple fires. Lightning fires are equally likely to occur at any altitude with equal frequency of storms and equal fuel conditions. As lightning strikes high areas more often than low areas, lightning-set fires are more likely to be set along and near the tops of ridges.

3.12 CULTURAL RESOURCES

3.12.1 PREHISTORY

Three cultural resources surveys examined the present project areas, including surveys of the Rim Village area (Minor and Musil 1989), the Mazama Village area (Bergland 1985a), and the Munson Valley, Mazama Village, and South Entrance areas (Sullivan 1994). Forest Service lands at the South Entrance have not been surveyed and will require surveys prior to final design. No archeological resource sites have been recorded in areas where development is planned. Thus, no national register-listed or eligible archeological resources are known for the proposed development areas.

Prehistoric occupation of the Crater Lake National Park area could date to more than 10,000 years ago when large mountain glaciers began to recede and hunters followed big game into southwestern Oregon (Mairs et al. 1994:139-141). The explosion of Mount Mazama, about 6,850 years before present, left the area around it temporarily uninhabitable. Until Euro-Americans arrived in the area, prehistoric populations from the eastern and western sides of the Cascade Mountains used the park area, at times more intensively and at other times less intensively. These uses included hunting, traveling to trade materials such as obsidian (volcanic glass used to make some stone tools), gathering resources such as huckleberries, and practicing traditional spiritual activities in the higher elevations and around Crater Lake.

Archeological survey has been conducted in the park since the mid-1960s, and to date less than 1% of the land area has been examined (Mairs et al. 1994:122). An archeologist working for the Park Service has, however, made some predictions about the places in which archeological sites are likely to occur (Bergland 1985b). These include the location of small base camps, indicated by scatters of stone tools, near water sources; the location of rock features such as cairns or piles, stacks, and rings that are probably associated with spiritual activities, on mountain peaks and high ridges; and the location of hunting sites, indicated by isolated tools such as projectile points, throughout the park.

Prehistoric remains that have been found near the project areas include a possible source area for chunks of obsidian raw material (site record number 35KL804) found near the Crater Lake Lodge on the rim of the lake (Minor and Musil 1989). Although many of the isolated artifacts found in the park do not have precise locational information, the snapped-off upper end of a projectile point (record number 853) came from "the highway below the visitor facilities at the rim of the caldera" (Mairs et al. 1994:124). Analysis has shown that the point's source is Newbury Crater, located northeast of the park. A hydration reading, used to estimate the dates of obsidian artifacts, suggests that the projectile point dates to the late prehistoric period.

Five finds have come from the park headquarters area in Munson Valley, consisting of one whole projectile point (record number 860), the base of another projectile point (record number 861), a flake (stone chip resulting from toolmaking; no record number), one-half of a split nodule (or chunk; record number 2012), and four stone pieces (record number 863) that may not have resulted from human activities (Mairs et al. 1994:125-126). All of the artifacts are of obsidian, and the source of the whole projectile point, which is of a late period style, is Newbury Crater.

The locations of these prehistoric remains relative to the project areas is unclear, and none of them has been recommended as eligible for listing on the National Register of Historic Places.

3.12.2 ETHNOGRAPHIC RESOURCES

Three Indian groups bordered the Crater Lake area on the west: Molala, Upper Umpqua, and Takelma. The Klamath lived to the east. (Mairs et al. 1994:67.) Their lifeways, before Euro-American contact disrupted them, involved yearly seasonal movements from lower-elevation winter villages to hunt and gather a variety of fish, plant, and animal resources throughout their territories. Use of the Cascade Mountains such as the Crater Lake National Park area included establishing warmer-season camps to hunt animals, gather plant products such as huckleberries, and conduct traditional spiritual activities.

Spirit quests took Indian people to isolated places regarded as possessing the powers of certain physical forces and animals that, when acquired, brought success in such activities as gambling, romance, and curing (Mairs et al. 1994:40-43). Questers retreated alone to particular places to fast, stay awake for long periods, undertake certain physical activities, and pray, waiting for an answering vision. The activities could include running, stacking rocks into high piles, and swimming in water bodies considered to possess a sought-after power.

A recent overview of the park considers Crater Lake to have been an important place of power and danger, highly regarded as a spirit quest site (Mairs et al. 1994:69-73). This study refers to the lake as an important sacred place or landscape; such sites are called "traditional cultural properties" by cultural resource managers, although the boundaries of Crater Lake as a traditional cultural property have yet to be defined and documented. Parts of the lake are associated with mythical events and characters, and parts may be used for contemporary spirit quest rituals, although the Winema National Forest archeologist believes that contemporary Klamath Indian traditional religious practitioners are not using Crater Lake for their activities (Budy pers. comm.).

The Park Service has established communications with the Klamath-Modoc-Yahooskin Cultural Committee at Chiloquin and met the new tribal chairman. The Park Service provided the Klamath Tribe an opportunity to comment on the DEIS; the Tribe did not choose to comment. There are no known ethnographic resources in the project area. The Park Service will conduct consultation during the design process to learn about possible Native American cultural resources in the project areas, potential project impacts on them, and possible mitigation measures. No specific information is currently available on Native American concerns regarding cultural resources that might be associated with the project areas.

3.12.3 HISTORY

3.12.3.1 Background

The historic resources documented thus far within Crater Lake National Park are primarily associated with the withdrawal and development of the area as a national park. Most buildings, structures and districts within the park represent the activities of one of two entities: the Park Service or the park's concessioners.

3.12.3.2 Rim Village

Four buildings within Rim Village were listed on the National Register of Historic Places for their rustic architecture: Crater Lake Lodge (1981), Sinnott Memorial Building (1988), and Comfort Stations No. 68 and 72 (1988). In addition, the Park Service has determined that Rim Village is potentially eligible to the national register as an historic designed landscape. An evaluation is now underway based on the study The Rustic Landscape of Rim Village, 1927-1941, prepared by the Park Service, Pacific Northwest Region, 1990. Also underway is a preliminary national register determination of eligibility for Rim Drive. While the segment of road between Munson Valley and Rim Village has been modified over the years, it is being considered in the context of Rim Drive as a system.

3.12.3.3 Munson Valley

In 1988, the Munson Valley Historic District was listed on the National Register of Historic Places. This nomination designated 18 buildings that contribute to the significance and eligibility of the district. Subsequent landscape analyses have expanded upon the significance of this area as a designed landscape (Mark 1990) and have established its historical significance under national register criteria A, B, C and D (Cultural Resources Division, Pacific Northwest Region 1991:27-28).

The most recent assessment of this district continues to exclude the Sleepy Hollow area from the district boundaries with the following proviso:

> . . . the new development at Sleepy Hollow contains design elements and characteristics based on historic precedent; future preservation work for Munson Valley may include the area as part of the project boundary (Cultural Resources Division, Pacific Northwest Region 1991:3).

The only other previously documented historic resource located in Munson Valley is an archeological site (FS No. 93-1-H) that consists of a scatter of historic debris (Sullivan 1994). It is speculated that this site may represent a refuse disposal area, possibly associated with ECW/CCC crews working in the park during the 1930s and early 1940s. This site has not been evaluated for eligibility to the National Register of Historic Places under criterion D. This site is outside of the area being considered for development.

3.12.3.4 Mazama Village

Some remnants of a historic military wagon road are located in the Mazama Village area as well as in other areas of the park. Soldiers from Fort Klamath built the road in the summer of 1865 to improve transportation routes in the region. Under the command of Captain Franklin B. Sprague, about 20 men from Company I, First Oregon Volunteer Infantry, built a new wagon route across the Cascade Range to improve the road from Jacksonville to Fort Klamath. The new road followed Union Creek off the Rogue River then down along Annie Creek, providing an easier route over which to haul supplies to Fort Klamath. During the road's construction, soldiers "rediscovered" Crater Lake and gave it more publicity than had resulted from earlier explorations. Captain Sprague concluded correctly that the lake was the crater of an extinct volcano.

Although much of the route of the original wagon road has been built over with modern highways or has lost its identity through other disturbance, portions of the old road are visible in some places. A general reconnaissance survey of the wagon road during 1994 found a 2-mile-long segment located in the general Mazama Village area; however, it is located well away from any proposed construction. A noncontiguous section of the old road only a few feet long is located near, but not in, a proposed construction area associated with the proposed Mazama Village dormitory.

The only other previously documented cultural resource in the Mazama Village area was the Annie Spring Residence (Crater Lake Building Number 129). This building was evaluated for its architectural merit in 1984 and was recommended ineligible to the National Register of Historic Places since it did not "contribute to the thematic nomination" (Erigero 1984-1985:10 [Item 8]). The building was removed in 1987.

3.12.3.5 South Entrance

No historical resources have been recorded during previous inventories of land administered by the Park Service in the vicinity of the South Entrance (Sullivan 1994). This area does not figure prominently in the administrative or concessioner development of Crater Lake National Park. However, the lands adjacent to the park boundary that are administered by the Forest Service apparently have not been inventoried. The Forest Service has recorded some historical/cultural resources in this vicinity (Budy pers. comm.), indicating that survey of proposed facility sites is needed.

3.13 LOCAL ECONOMY

While Crater Lake National Park plays a major role in the recreation industry of southern Oregon, the developments planned under this DCP are not intended to result in more visitors to the park. Rather, the developments are intended to better facilitate existing visitor use, as well as to improve the Park Service's operational and management facilities. Therefore, the regional recreation industry is not considered an element of the affected environment. This discussion focuses on the economic effects of park operation on surrounding communities.

Permanent and seasonal employees in the park provide a minor economic benefit to surrounding communities in terms of spending in services and retail products. The Park Service houses 45 permanent employees, with an additional 65 to 75 seasonal employees. In addition, the concessioner houses 11 full-time employees and up to 130 seasonal employees, increasing to 160 after the reopening of Crater Lake Lodge.

Three towns are present near Crater Lake National Park:

- Fort Klamath is located south of the park's south entrance and has a population of approximately 200.

- Prospect is located 35 miles from Rim Village and has a local population of approximately 200.

- Chiloquin, located 38 miles south of Rim Village, has a population of approximately 760.

In addition, residences are present in low densities throughout private lands near the park.

The major sectors of the economic base in these communities and surrounding areas are:

- agriculture (primarily ranching);
- logging and wood processing and manufacturing;
- real estate;
- services, recreation, and tourism; and
- government.

3.14 VISITOR EXPERIENCE

This section discusses how visitors currently use and experience Crater Lake National Park. For the purpose of this discussion, the term "visitor experience" refers to each visitor's interaction with elements of the natural and built environments and how these interactions affect visitors' thoughts, perceptions, or feelings about the park and their experience.

This section addresses the common visitor experience by focusing on how elements of the built environment interact with and facilitate the enjoyment of the natural environment. This is of particular importance because the planning and design of park facilities are important in creating a positive and memorable experience for park visitors.

Park visitation exceeded 500,000 in 1962 and peaked in 1977 at 617,000. From 1970 through 1980, annual visitation averaged 537,000. It declined somewhat to an average of 473,000 from 1981 through 1991, and recently continued this downward trend in 1993 to 420,000.

3.14.1 RIM VILLAGE

Rim Village is the hub of visitor activity year-round. During the summer season, observation areas along the rim and the Sinnott Memorial Overlook provide visitors an unobstructed view of Crater Lake. In addition, Rim Village serves as a staging area for hiking trails, including the Garfield Peak Trail. The Park Service maintains a visitor contact station, picnic area, and comfort stations, and park rangers lead interpretive talks on a variety of subjects. The park concessioner provides cafeteria and dining room food service and a gift shop. The rehabilitated historic Crater Lake Lodge will reopen in 1995 with 71 overnight guest rooms.

During the winter season, Rim Village remains the focal point for many visitor activities; however, high snow levels reduce lake viewing opportunities. People must view the lake from a culvert placed perpendicular to the caldera edge. Visitors with disabilities currently have no safe viewpoint during the winter. The concessioner maintains cafeteria-style food service and a gift shop. The Park Service provides guided interpretive snowshoe tours from Rim Village, and a small interpretive display is located in the cafeteria. No lodging is available during the winter season.

Under existing conditions, visitors to Rim Village must cross a parking lot and two lanes of traffic to access lake viewing areas. Existing safety concerns, in addition to the traffic noise and exhaust emissions, detract from the experience. During the winter, motor vehicle noise and exhaust emissions are less noticeable. Lower visitor numbers reduce traffic/pedestrian conflicts; however, slippery road conditions create additional safety concerns for Rim Village pedestrians.

In general, the visitor experience at Rim Village is centered on Crater Lake viewpoints and Park Service interpretive services. For most visitors, the experience is enhanced through the provision of food and lodging services. Buildings are designed to reflect a rustic theme which complements the natural environment. However, Rim Village is currently oriented toward motor vehicle access, which conflicts with the quiet and serenity experienced in other parts of the park.

3.14.2 MUNSON VALLEY

Munson Valley is primarily a Park Service administration, maintenance, and housing area, rather than a visitor use area. The visitor experience in Munson Valley is focused on the Steel Center interpretive facility, where most visitor contact with Park Service interpretive staff in this area occurs. The Crater Lake Natural History Association operates a sales outlet in this building. During the summer season, visitors can also access the Castle Crest Wildflower Trail from Munson Valley. The Sager, Steel, and Canfield buildings at the park headquarters area reflect a rustic historic theme characteristic of the park. However, development in this area has affected the view corridor because many buildings are visible from the roadway. No concessioner services are available in Munson Valley. Conflicts between pedestrians and traffic are minimal.

3.14.3 MAZAMA VILLAGE

In addition to Rim Village, Mazama Village serves as a focal point for summer visitors. Mazama Village is closed during the winter season. Development is partially screened from view by mature lodgepole pine and shrub vegetation. Visitor activities are oriented toward tent and recreational vehicle camping. Other activities include hiking along the Annie Creek and Godfrey Glen Trails.

Visitor services include overnight lodging in the Mazama cabins during the summer season. A camper store and gasoline station are also available. Park rangers provide evening interpretive programs. Kiosks and interpretive displays are located throughout the area. Buildings in Mazama Village have been designed to complement the natural environment surrounding the site. The view corridor has not been significantly affected because most development has occurred away from the main road. Traffic circulation minimizes pedestrian conflicts, with most vehicles traveling one way through campground loops. Vehicle noise and exhaust emissions are minimal because traffic volumes are low and vehicles travel at low speeds.

3.14.4 SOUTH ENTRANCE

The South Entrance provides a dramatic entry to the park. Towering, orange-barked ponderosa pines form a stunning corridor that contrasts sharply with the open pastures south of the park. Currently, few visitors use this area other than those traveling to Mazama Village and the rim. The Park Service maintains a small maintenance and storage area here. Three picnic areas are located along State Route 62 between the southern park boundary and Mazama Village.

3.15 EMPLOYEE COMMUTING AND DELIVERY OF SUPPLIES

Concession employees who stay at the Rim Village dormitory either drive, walk, or ride bicycles to their workplaces in Rim Village. Those who work at Mazama Village drive to work. A few concession employees live outside the park and commute.

Most Park Service employees live and work at Munson Valley. Those who work at Rim Village typically drive to the rim. Many employees are required to travel extensively throughout the park and beyond. Most report to duty stations at Munson Valley and commute to job sites in Park Service vehicles. About 20 Park Service employees currently commute to work from their homes outside the park.

Supplies to Mazama Village and Rim Village are brought directly by a variety of delivery vehicles, ranging from vans to large trucks.

3.16 LAND USE AND ZONING

Land use designations within the park are made through the General Management Plan (GMP), as amended. The GMP is amended through actions such as the one being considered in this FEIS. The 1988 GMP identified five areas as development zones:

- Rim Village,
- Munson Valley,
- Mazama Campground,
- Lost Creek Campground, and
- South Entrance maintenance and storage yard.

The Winema National Forest Plan provides the land use designation for the portions of the South Entrance on Forest Service lands. Currently, this plan identifies the South Entrance as suitable for timber harvest. It does not identify administrative or residential uses for this area.

The Klamath County Comprehensive Plan identifies the portion of the South Entrance planning area that is on Forest Service lands as commercial forest lands. While the county does not maintain regulatory authority on federal lands, the county has developed plans to maintain compatibility between federal and nonfederal land management. The comprehensive plan identifies residential developments as "urban" and identifies that such uses occur within state-acknowledged rural service areas. The South Entrance is not designated as a rural service area.

Chapter 4

Environmental Consequences

Chapter 4. Environmental Consequences

4.1 INTRODUCTION

This chapter identifies and compares environmental impacts associated with each alternative. Alternative 4, the revised Proposed Action, is presented last. The purpose of this section is to form the scientific and analytical basis for comparison of environmental impacts and their significance.

As in the other chapters of this document, the four areas of the park under consideration are generally discussed in the following order:

- Rim Village,
- Munson Valley,
- Mazama Village, and
- South Entrance.

As used in this document, these names refer to specific study areas that encompass locations where development or other activities related to the alternatives may occur. The figures in Chapter 2 show the boundaries of each area as analyzed in this document.

4.1.1 DEFINITION OF TERMS

For the purpose of this Final Environmental Impact Statement (FEIS), impacts are defined as follows:

- **Direct Impacts.** Impacts that are caused by an action and occur at the same time and place as the action.
- **Indirect Impacts.** Impacts that are caused by an action and occur in the future or at another location, yet are reasonably foreseeable in the future (e.g., changing land use patterns resulting in growth-inducing impacts with related impacts on air and water quality or human activities that occur off-site as a result of new development).
- **Cumulative Impacts.** Impacts resulting from incremental impacts of an action, when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over time.
- **Short-Term Effects.** Impacts occurring over relatively short periods (e.g., dust from temporary construction activities).
- **Long-Term Effects.** Impacts occurring over relatively long periods (e.g., the permanent removal of vegetation or the alteration of geologic features).

4.1.2 IMPACT TOPICS DISMISSED FROM FURTHER CONSIDERATION

The following topics are not discussed further in this FEIS because they would not affect or be affected by any of the alternatives:

- **Seismic Hazards.** Project facilities would not be located on active faults, based on the geologic map of Oregon (Walker and MacLeod 1991). The possibility that a seismic event may occur is considered an existing hazard. The Crater Lake area is seismically active, but tremors and earthquakes typical for the area are small and can usually be sensed only by delicate instruments (U.S. Department of the Interior, National Park Service 1977). Structures would be constructed according to the regional standards for earthquake resistance.

- **Climate.** None of the alternatives would have significant effects on temperature, wind, precipitation, or other weather conditions and patterns.

- **Regional Economy.** The types of activities being considered at Crater Lake National Park would not significantly affect regional employment, industries, or tax bases.

4.2 ALTERNATIVE 1 - SOUTH ENTRANCE FOCUS

4.2.1 IMPACTS ON EARTH RESOURCES - ALTERNATIVE 1

4.2.1.1 Applicable Regulations, Policies, and Past Planning Objectives

Park Service policy is to (1) protect fragile geologic features, and (2) actively seek to understand and preserve the soil resources of parks and to prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil.

4.2.1.2 Methods

Impacts were determined through site surveys, examination of topographic maps and aerial photographs, and an evaluation of the project as it relates to the geologic and soil setting.

4.2.1.3 Analysis

Development of the parking facility would require a large amount of excavation and grading and would alter the topography at the pumice flat area where it is proposed. Development of the new roadway to the rim would require cut and fill, as well as retaining walls. This would permanently alter the existing topography on the slope below Rim Village.

These alterations would take place on Mount Mazama, which is a unique geologic feature. However, the scope of this impact is relatively minor based on the small scale of alteration in relation to the entire mountain.

Implementation of Alternative 1 would not disturb or eliminate other unique geologic or topographic features identified in the Crater Lake General Management Plan (GMP) discussion on geologic features of the park (U.S. Department of the Interior, National Park Service 1977). Other developments planned would occur on relatively flat areas and development would not require extensive alteration of topography.

Soils are generally well suited to development at all areas under consideration. Construction activities would result in surface disturbance of the soils and soil compaction on the site. Visitor and employee use would result in localized impacts on soils.

4.2.1.4 Cumulative Impacts

Changes in topography near Rim Village would add to the previous impacts of development at Rim Village and along Rim Drive.

4.2.1.5 Conclusions

- Development of the new parking facility and road to Rim Village would require grading and excavating that would in turn alter topography in the area.
- Construction activities would result in surface disturbance of the soils and soil compaction on the site.
- No long-term soil impacts would be expected as a result of development activities under Alternative 1.

4.2.2 IMPACTS ON SURFACE WATER - ALTERNATIVE 1

4.2.2.1 Applicable Regulations, Policies, and Past Planning Objectives

Most surface water resources are regulated by the U.S. Army Corps of Engineers (Corps). The jurisdictional limits of the authority of the Corps under the Clean Water Act apply to those surface waters which meet the definition of "waters of the United States" as defined in 33 CFR Part 328 (51 FR No. 219, November 13, 1986). Streams in Crater Lake National Park meet those definitions.

Dredging and filling of waters of the United States are regulated by Section 404 of the Clean Water Act. The 404 permit program is administered by the Corps. Placement of any type of fill within the boundaries of waters of the United States would require consultation with the Corps to determine if a permit would be required.

Park Service policy directs parks to perpetuate surface and groundwaters as integral components of park aquatic and terrestrial ecosystems. Floodplains are managed under Park Service implementing guidelines for Executive Order 11988, "Floodplain Management".

4.2.2.2 Methods

Surface water resources in the four areas include springs, streams, and wetlands as described in Chapter 3. Impacts on wetlands are addressed in a separate section with the exception of impacts on wetland hydrology. Impacts resulting from water use are also described in a separate section. Impact issues evaluated include changes to the quantity, location, and extent of surface waters. Impacts were determined from site surveys, examination of topographic maps of the area, and information provided by Park Service personnel.

Locations of surface water resources were compared with the locations and extent of activities associated with Alternative 1. The jurisdictional boundaries of streams were defined by the ordinary high water mark, which was identified by a visible water line on the banks.

4.2.2.3 Analysis

Construction of buildings, roads, parking, and associated developments would convert otherwise porous areas to impervious surfaces. Thus, Alternative 1 would increase impervious surfaces at Rim Village (including the new parking area). However, due to the porous nature of the soils, stormwater runoff impacts would be minimal because stormwater is expected to infiltrate quickly into the soil. Where soils are not porous, or where potential erosion problems exist, standard best management practices will be followed as appropriate for specific soil types.

Construction of the proposed developments at Rim Village would not be located near or impact the stream and associated wetland located west of the Rim Village entrance. Construction activity involved in removing the large parking area at the rim is planned to avoid disturbing the stream, associated wetland, and the small floodplain of the stream. The existing culvert would be maintained.

The new underground parking structure, which would be constructed east of the stream channel below Rim Drive, would not encroach on the stream or its floodplain. The pedestrian pathway between the new parking area and the day use activity center would cross the stream channel south of Rim Drive. Construction of the pedestrian pathway would require a minor amount of fill within the narrow floodplain of the stream. To maintain sufficient flow through the stream during high-precipitation events, a 24-inch culvert would be installed. The Corps would be consulted to determine if a permit would be required for this activity.

The new culvert that would be required would enclose approximately 40 feet of the stream in a pipe. This would not significantly alter the hydrology of the stream. Placing the stream in the culvert would be conducted according to Park Service guidelines for implementing Executive Order 11988, which outlines floodplain management requirements for federal agencies. The culvert would reduce the amount of riparian habitat associated with the stream by approximately 1% since the stream continues for 3,000 to 4,000 feet before reaching its confluence with Dutton Creek. Riparian habitat could be further reduced through incidental trampling caused by people venturing to the stream.

The new access road to the lodge would be constructed immediately west of the drainage swale above Rim Drive but would not encroach on the swale. This upper portion of the drainage was not identified as a water of the United States in the 1993 Wetland Delineation Report (Jones & Stokes Associates 1993c) because a defined bed and bank are lacking. An additional 24-inch culvert would be installed under the new road to allow runoff from the adjacent slope to the northwest to continue to drain through the swale.

No indirect impacts, such as changes in the quantity of surface water or movement of surface water through the site, are expected as a result of the proposed developments at Rim Village.

Construction activities associated with removing the existing dormitory at Rim Village would not impact surface water resources due to the distance between the dormitory and surface water features.

At Munson Valley, a beneficial impact would be the restoration of the hydrologic connection between the hillside seep and stream adjacent to Quarry Flat. Specific restoration plans have not yet been developed. Although original conditions are not fully known, it appears that the seep located on the hillside immediately west of Quarry Flat may have originally flowed into the creek at the southwest corner of Quarry Flat. Recontouring could include extending the channel to the base of the seep, resulting in creation or restoration of a small amount of streamside habitat.

Construction of the dormitory facility at Mazama Village would require improvements to the existing water supply system to provide (1) needed storage, (2) water for fire protection, and (3) water for the dormitory. These improvements would not require instream work because they would tie into improvements already planned and approved under a separate planning process.

The new storage tank would be constructed in the vicinity of the existing tank, which is located upslope from and west of the main park road and Annie Spring. This storage tank would provide adequate water volume to meet all of the needs for peak flow, emergency flow, and fire protection should they all occur simultaneously. Because the proposed storage tank site is relatively level, is well drained, and contains no nearby surface water features, construction of the tank would not affect surface waters.

Based on the nearly level topography of sites proposed for development at Mazama Village, the porous nature of the soils, and the distance to other proposed developments, no indirect impacts such as runoff or associated erosion to Annie Creek would occur. Protection of Annie Creek was a major design issue during development of Alternatives 1, 2, and 4, and facilities were sited to avoid impacts on the creek.

Because no surface water resources are located within or adjacent to the South Entrance, Alternative 1 would not impact the hydrology of any surface water resources. Annie Creek is located across State Route 62 and over 1,500 feet away from proposed developments at the South Entrance. Because of this distance, development of the South Entrance would not affect Annie Creek.

4.2.2.4 Cumulative Impacts

Placement of a culvert within a small stream as part of the pedestrian pathway at Rim Village would result in a small increase in the number of culverts in the park. Considered collectively with past development at Crater Lake National Park, Alternative 1 would not result in significant cumulative impacts on surface waters because (1) porous soils in the area result in very little runoff of stormwater, and (2) no evidence of significant change in site hydrology was observed during the 1993 inventory (Jones & Stokes Associates 1993c) as a result of previous developments.

4.2.2.5 Conclusions

- Impervious surfaces would increase at Rim Village (including the new parking area) and at Mazama Village. No impacts to surface water resources are expected from stormwater runoff.

- One culvert would be placed in the stream south of the day use activity center. The new culvert that would be required would enclose approximately 40 feet of the stream in a pipe.

- The hydrologic connection between the hillside seep and stream adjacent to Quarry Flat could be restored.

- No impacts on surface waters would occur at other areas.

Other surface waters, including seeps, streams, and wetlands would not be affected by Alternative 1. In addition, no development would occur in floodplains. No wetlands are present at Mazama Village or the South Entrance.

4.2.3 IMPACTS ON GROUNDWATER/WATER SUPPLY - ALTERNATIVE 1

4.2.3.1 Applicable Regulations, Policies, and Past Planning Objectives

Park Service policy directs that park waters, either surface waters or groundwaters, will be withdrawn for consumptive use only where such withdrawal is absolutely necessary for the use and management of the park and when studies show that it will not significantly alter natural processes and ecosystems. All water withdrawn from a park for domestic use will be returned to the park watershed system once it has been treated to a degree that assures there will be no impairment of park resources.

4.2.3.2 Methods

The analysis of groundwater/water supply resources is based on the assumptions and use rates used by Century West Engineering Corporation in its Park Water System Study for Crater Lake National Park (1994). Century West Engineering Corporation had calculated expected water demand for previously considered actions which were slightly different than the current alternatives. All calculations and analysis are based on the average summer daily demand, which represents the use rates of most concern relative to water rights and potential environmental consequences. The numbers in this document are rough estimates only. The actual demand will depend on final facility design and use, including capacity, types of fixtures, and results of any conservation measures or programs.

4.2.3.3 Analysis

Tables 4-1 and 4-2 present the average summer daily water demand to be supplied from Annie Spring (Table 4-1) and from a well at the South Entrance (Table 4-2) under Alternative 1.

This analysis addresses the direct water use resulting from Alternative 1. In other words, only the direct water needs for the actions being considered under Alternative 1 are evaluated. See the Cumulative Impacts Section (which follows this section) for an assessment of all water use in the park, including existing and planned and approved facilities. Some numbers provided in Tables 4-1 and 4-2 have been rounded in the text.

- **How much more water would Alternative 1 require to be withdrawn from Annie Spring (the current source of water for the park)?** The actions planned under Alternative 1 would require a net increase of about 10,000 gallons per day (gpd) from Annie Spring (21,000 gpd from new facilities minus 11,000 gpd from removal of the Rim Village dormitory). This amounts to a 21% increase over existing demand at Annie Spring.

Table 4-1. Average Summer Daily Water Demand to be Supplied by Annie Spring
Alternative 1 - South Entrance Focus

Development	Water Demand (gpd)
Rim Village	
Existing facilities	18,151
New parking garage comfort stations	7,000
Removal of dormitory facility (future action)	-11,000
Average Summer Daily Demand	14,151
Munson Valley	
Existing facilities: headquarters, housing, and maintenance	13,369
Average Summer Daily Demand	13,369
Mazama Village	
Existing facilities: campgrounds, cabins, store, and gas station	15,425
98 seasonal employee housing	11,242
2 group camping sites	1,250
15 seasonal RV sites	1,500
Average Summer Daily Demand	29,417
Existing + Proposed Average Summer Daily Water Demand at Annie Spring	56,937
Existing Average Summer Daily Water Demand at Annie Spring	46,945
Increase Over Existing Average Summer Daily Demand	9,992
Amount Existing + Proposed Water Demand Would Be Below Permitted Water Rights (103,400 gpd)	46,463
Reopening of Crater Lake Lodge	17,360
Planned and Approved Day Use Activity Center (with removal of existing gift store/cafeteria)	14,060
Cumulative Projected Water Demand: Existing + Alternative 1 + Lodge + Day Use Activity Center	88,357
Amount Cumulative Projected Water Demand Would Be Below Permitted Water Rights	15,043
gpd = gallons per day	

Table 4-2. Average Summer Daily Water Demand at South Entrance to Be Supplied by a Well - Alternative 1

Development	Water Demand (gpd)
Park Headquarters and support facilities (future action)	13,369
10% increase in park administration from proposed developments	1,337
2nd 98-person dormitory facility (future action)	11,242
30 employee houses	6,000
15 seasonal RV sites	1,500
Limited support facilities: shuttle bus maintenance (future action)	1,550
Average Summer Daily Demand	34,998

gpd = gallons per day

During the interim period when the dormitory at Rim Village would remain open, it would be operated at approximately half its current occupancy and would require about half its current water demand from Annie Spring. About 15,500 gpd would be required during this interim period. This amount would drop back to 10,000 gpd once the South Entrance dormitory was completed and the Rim Village dorm was closed.

- **How much more water would the park be using?** Alternative 1 would require the direct use of about 45,000 gpd. This includes the 10,000 gpd to be taken from Annie Spring and the 35,000 gpd to be taken from a well at the South Entrance.

- **Would water use at Annie Spring exceed the current permitted amount?** The total amount of existing plus proposed water use from Annie Spring would be 46,463 gpd below the permitted amount (or 40,963 gpd below the permitted amount during the interim period when the Rim Village dormitory would remain in operation). However, seasonal water shortfalls may occur within the Annie Creek drainage downstream from Crater Lake National Park. The legal process is underway to determine the quantity of water available for park uses through the Klamath Basin Adjudication. The Park Service is investigating a number of options within Oregon State water laws, should the adjudication determine that the combination of existing federal reserved and prior appropriation water rights is insufficient to meet existing needs, or those proposed in this DCP. Those options being investigated include:

  - Locating new water sources, either surface water or subsurface sources (wells), for which appropriate water rights could be obtained.

  - Obtaining additional priority water rights through purchase or lease agreement.

  Appropriate compliance with NEPA and the NHPA, Section 106, would be completed prior to implementing any of these options.

While no immediate actions are planned for the South Entrance under Alternative 1, several future actions are planned which have been estimated to require approximately 35,000 gpd, which is planned to be provided by a well. Previous feasibility studies by the Park Service (Frank and Harris 1969, Werrell 1992 in Century West Engineering Corporation 1994) indicate that a successful well might be established at a depth of 600 to 800 feet. The water use permit must be modified before a new well can be constructed. Additional studies would be conducted prior to developing the site to ensure that a well would not impact the existing aquifer.

4.2.3.4 Cumulative Impacts

This section identifies the collective impacts of water withdrawal from (1) actions proposed under Alternative 1, (2) existing facilities, and (3) the planned and approved reopening of Crater Lake Lodge and the day use activity center.

- **Assuming all existing, planned, and proposed actions under Alternative 1 were complete, how much more water would be withdrawn from Annie Spring (the current source of water for the park)?** The projected net increase in water demand

at Annie Spring would be 41,400 gpd. This amounts to an 88% increase over existing demand at Annie Spring.

About 46,900 gpd over the existing 46,945 gpd demand would be required during the interim period when the dormitory at Rim Village would remain open.

- **How much more water would the park be using?** The total water use in the park would increase from about 47,000 gpd to 123,400 gpd (88,400 at Annie Spring and 35,000 gpd at the South Entrance). This is about 76,400 gpd more than is currently being used (a 163% increase).

- **Would water use at Annie Spring exceed the current permitted amount?** The total amount would be 15,043 gpd below the permitted amount (or 9,453 gpd below during the interim period when the Rim Village dormitory would remain in operation). See the previous analysis section for more information regarding water rights.

Water withdrawn from Annie Spring under Alternative 1 could affect the upper 5,000-foot reach of Annie Creek (upstream of the confluence with Goodbye Creek). The existing water withdrawal rate at Annie Spring reduces the streamflow in the upper reach of Annie Creek by 3.0%. This is based on the average flow rate in August (1,573,000 gpd) estimated from water flow data in 1990, 1991, and 1993 (1992 was not used because of a blockage that restricted streamflow). The total projected water withdrawal rates above existing rates caused by Alternative 1 could reduce flows in the upper reach of Annie Creek by an additional 0.6% for a total average reduction in streamflow of 3.6%.

The projected maximum cumulative water demand at Annie Spring which would be caused by development of Alternative 1, the reopening of Crater Lake Lodge in 1995, and the development of the planned and approved day use activity center at Rim Village could reduce the average August streamflows by a total of 5.6% (2.6% over the current reduction).

This withdrawal would reduce habitat for fish and aquatic organisms during the low flow periods of August and September. The consequences of habitat loss due to water withdrawal could include reductions in abundance, biomass, reproductive success, and survival of aquatic life. The magnitude of this reduction cannot be fully predicted because of the complex nature of the system. The effects are expected to be relatively minor because the amount of water to be removed represents only a small portion of the total low-flow volume. Below the point of water withdrawal, the effect would be less and less significant as more and more tributaries augment the streamflow.

As described in Chapter 3, bull trout used to migrate from Agency/Upper Klamath Lake to spawning beds in Sun Creek by way of Annie Creek and the Wood River. However, little or no flows from Annie Creek reach the Wood River during drought periods due to water demands in Annie Creek (over 99% of which occur downstream of the park). This low flow has resulted in the disconnection of the Wood River/Annie Creek/Sun Creek migration route.

The Park Service water withdrawals would further reduce water flows. However, the disconnection of the bull trout migration route would continue to occur, with or without water withdrawals by the park. Total National Park Service use under this alternative represents about 4/1,000 of the lowest flow amount reported at Annie Creek as it leaves the park based on low flow estimates provided by Sparks (pers. comm.). Water withdrawal from the park would contribute to the cumulative negative

effects on water flows in this drainage system, which have had a significant negative effect on fish migration and bull trout restoration efforts.

4.2.3.5 Conclusions

- Facility development and removal proposed under Alternative 1 would require a net 10,000 gpd increase in water use from Annie Spring.

- During the interim period when the Rim Village dormitory would remain open, the increased demand on Annie Spring would be about 15,500 gpd.

- Park water use would remain within the amount permitted, but water shortfalls may occur downstream that may affect the right of the park to withdraw water from Annie Creek. A new source of water would be located should the ongoing legal process determine that federal water rights are insufficient to meet existing or proposed needs.

- Total park water demand at Annie Spring would increase 88% over existing uses when Alternative 1 is considered cumulatively with the reopening of Crater Lake Lodge and the development of the planned and approved day use activity center.

- Total park water use, including water from a proposed well at the South Entrance, would increase 163% over the existing level of use.

- The cumulative water demand of existing, proposed, and planned developments (Crater Lake Lodge and day use activity center) would cause no more than a 5.6% reduction in the flow of Annie Creek (2.6% over the current reduction).

- Water withdrawal could reduce aquatic life in Annie Creek. The effects may be relatively minor because a relatively small amount of water would be removed. Below the point of water withdrawal, the effect would be less and less significant as more and more tributaries augment the streamflow.

- Considered individually, water withdrawals from Annie Creek would have little or no effect on the status of bull trout in the Wood River system. All water withdrawals (99% of which occur downstream of the park) have and will continue to seriously reduce habitat for bull trout and other organisms.

4.2.4 IMPACTS ON WATER QUALITY - ALTERNATIVE 1

4.2.4.1 Applicable Regulations, Policies, and Past Planning Objectives

The Park Service seeks to restore, maintain, or enhance the quality of all surface and ground waters within the parks consistent with the Clean Water Act (33 USC 1251 et seq.).

4.2.4.2 Methods

Developments were evaluated for impacts, both harmful and beneficial, to the water quality of surface water resources.

4.2.4.3 Analysis

The potential for stormwater runoff and contaminated snow to reach the lake would be reduced by the removal of the large parking area currently located at the rim. Removal of the parking area would also eliminate the need for blowing potentially contaminated snow over the edge of the rim.

Because of the porosity of the soils in the park, very limited soil erosion problems are expected (U.S. Department of the Interior, National Park Service 1984). Construction areas which could contribute sediments to water resources include the pedestrian walkway between the lower parking area and the day use activity center, and the new access road to the lodge. However, implementation of best management practices would effectively avoid such impacts.

Restoration of Quarry Flat would require grading and recontouring the site. Temporary erosion and sedimentation of loose soils from disturbed and unvegetated surfaces during or following construction may impact the stream in the southwest corner of Quarry Flat. However, implementation of best management practices to control erosion would minimize or eliminate erosion problems.

Because no construction activities would occur in the vicinity of Annie Spring or Annie Creek, water quality would not be impacted.

No surface water resources are within or near the South Entrance. Therefore, there would be no impacts on the water quality of any water resources.

Increased sewage and laundry facilities would not impact water quality because the existing wastewater treatment facility at Mazama Village is capable of treating this increased flow to attain the federal water quality standards.

4.2.4.4 Cumulative Impacts

Alternative 1 would not result in cumulative impacts because Alternative 1 and other planned or approved actions at the park are not expected to have water quality impacts.

4.2.4.5 Conclusions

- The risk of pollutants entering Crater Lake would be reduced due to removal of the parking lot currently located at the rim.
- No stream sedimentation would occur due to the well drained nature of soil in the area.
- No water quality impacts to Annie Spring, Annie Creek, or at the South Entrance would occur.

4.2.5 IMPACTS ON AIR QUALITY - ALTERNATIVE 1

4.2.5.1 Applicable Regulations, Policies, and Past Planning Objectives

The park is designated as a Class I area under the Clean Air Act (42 USC 7401 seq). Class I designation gives the park superintendent and the Federal Land Manager (the Assistant Secretary of the Interior of Fish and Wildlife and Parks) an affirmative responsibility to protect the park's air quality related values, including visibility, from adverse impacts of air pollution.

4.2.5.2 Methods

Air quality impacts were evaluated qualitatively based on existing information, expected impacts for similar types of development activities, and professional judgement about the significance of such impacts.

4.2.5.3 Analysis

Under Alternative 1, short-term air quality impacts would occur from construction activities. Emissions would consist primarily of dust generated during grading, as well as nitrogen oxides and reactive organic gas emissions generated from construction equipment. These emissions would be short term and would affect only areas very near construction sites.

After completion of rim redevelopment activities, air quality in Rim Village would improve because vehicle access to the rim would be limited to shuttle buses.

4.2.5.4 Cumulative Impacts

None expected.

4.2.5.5 Conclusions

- Minor, short-term dust and equipment emissions would occur due to construction activities.
- Overall air quality at Rim Village would improve due to removal of parking areas and vehicle access to Rim Village.

4.2.6 IMPACTS ON VEGETATION - ALTERNATIVE 1

4.2.6.1 Applicable Regulations, Policies, and Past Planning Objectives

The Park Service identifies and promotes the conservation of federally listed threatened, endangered, or candidate species within park boundaries and their critical habitats. As necessary, visitor access to and use of critical habitats are controlled to preserve sensitive species. The Endangered Species Act requires that federal agencies consult with the U.S. Fish and Wildlife Service regarding species listed under the act. The Park Service is conducting this consultation concurrently with this NEPA analysis.

4.2.6.2 Methods

Vegetation impacts were determined based on site surveys (Jones & Stokes Associates 1993b), analysis of aerial photographs, and an evaluation of development activities as they relate to the overall vegetation setting. The acreages of impact were estimated from facility layouts printed on 1 inch = 100 feet maps of the four areas.

4.2.6.3 Analysis

Construction near Rim Village would cause a minor reduction of the Crater Lake currant and pumice sandwort whose distributions center around Crater Lake National Park and southern Oregon, respectively. Pumice sandwort occurs in pumice flat vegetation and Crater Lake currant occurs in mountain hemlock forest. Both of these communities are identified as unique communities, as defined in Chapter 3. Impacts on these two communities are described in the following paragraphs.

Approximately 2.5 acres of pumice flat vegetation would be removed during construction of the new parking structure at Rim Village (Table 4-3). Vegetation which would be permanently removed includes small herbaceous or woody-stemmed plants, including pumice sandwort. As mentioned in Chapter 3, pumice sandwort is a species with a limited distribution in southern Oregon that is associated with the pumice flat vegetation type.

Approximately 1.2 acres of mountain hemlock forest containing Crater Lake currant would be removed during construction of a new access road and pedestrian walkway between the parking structure and Crater Lake Lodge. A low number of large, mature mountain hemlock trees would likely be removed; exact quantities cannot be determined until the construction design is finalized.

At Mazama Village, development is proposed within 12 acres of lodgepole pine forest. This forest type is composed of trees generally less than 14 inches in diameter. Mature mountain hemlock or other large trees are scattered but infrequently found in areas that would be cleared.

At the South Entrance (which includes Forest Service lands), fire, fire suppression, commercial thinning, and road construction have created a patchy distribution of large trees, open areas, snag patches, and areas containing dense stands of lodgepole pine and white fir. Alternative 1 would involve the eventual development of 26 acres in this area. Final site selection would focus on areas that have been thinned or that contain dense stands of white fir or lodgepole pine. Siting and clearing

TABLE 4-3. ACRES OF VEGETATION DISTURBED OR REMOVED UNDER ALTERNATIVE 1

Area	Vegetation Type					
	MH	LP	MC	PF	DM	Totals[a]
RIM VILLAGE						
Parking structure				2.5		
Road to rim and walkway	1.2				0.2	
Total	1.2	0.0	0.0	2.5	0.2	3.8
MAZAMA VILLAGE						
2 group campsites		7.0[b]				
Employee dormitory and road		3.4				
Water/Sewer		0.6				
15 RV sites		0.2				
Pedestrian path		0.7				
Maintenance building		0.2				
Total	0.0	12.1	0.0	0.0	0.0	12.1
SOUTH ENTRANCE						
Park headquarters			2.5			
New roads			3.5			
Support facilities			5.0			
Employee houses (assuming 30) and 15 to 20 RV sites			13.0			
Employee dormitory			1.6			
Total	0.0	0.0	25.6[c]	0.0	0.0	25.6
Grand Total	1.2	12.1	25.6	2.5	<0.2	41.5

Notes:

MH = mountain hemlock forest
LP = lodgepole pine forest
MC = mixed conifer forest
PF = pumice flat
DM = dry meadow
[a] includes future action impacts
[b] disturbance mostly limited to shrubs and groundcover - most large trees would remain
[c] site-specific designs would focus in areas lacking trees greater than 30" in diameter, including areas on Forest Service land that have been thinned or that contain roads

plans would minimize removal of trees greater than 30 inches in diameter. Large ponderosa pine would be avoided.

Additional trees adjacent to developed areas would be lost following construction. Construction activities and increased human use can damage tree roots or impede their ability to obtain water, nutrients, or gasses. This can in turn cause trees to die or otherwise become a hazard. Trees that are so affected may fall over or may be identified as hazard trees and be removed or pruned. In addition, the opening of the canopy for development would increase the vulnerability of remaining trees to falling during wind storms.

Because no special-status plant species were found in the four areas, no impacts on threatened and endangered or other sensitive plant species would occur. Populations of the rockcress hybrid at the South Entrance would be avoided.

At Rim Village, approximately 3.0 acres of vegetation would be restored after the existing parking lot and road between the parking lot and Crater Lake Lodge are removed. Removal of the dormitory and road to the dormitory, described as a future action for this alternative, would provide the opportunity to restore an additional 0.7 acre of pumice flat and shrub vegetation. About 0.3 acre would be restored at Quarry Flat.

4.2.6.4 Cumulative Impacts

Under Alternative 1, approximately 41 acres of vegetation would be removed or disturbed. This impact would add to the previous disturbance that has occurred in Crater Lake National Park and throughout the region. However, implementation of Alternative 1 would not threaten the existence of plant species or communities found in the Crater Lake region.

4.2.6.5 Conclusions

- Approximately 41 acres of vegetation would be removed or disturbed. Disturbance of mixed conifer forest would be minimized by careful site selection at the South Entrance.
- No impact to special-status plant species would occur.
- Approximately 4 acres of native vegetation at Rim Village and Munson Valley (Quarry Flat) could be restored.
- A total of 1.2 acres containing Crater Lake currant and 2.5 acres containing pumice sandwort would be removed.

4.2.7 IMPACTS ON WETLANDS - ALTERNATIVE 1

4.2.7.1 Applicable Regulations, Policies, and Past Planning Objectives

Dredging and filling of wetlands is regulated by Section 404 of the Clean Water Act. The 404 permit program is administered by the Corps. Placement of any type of fill within the boundaries of wetlands would require consultation with the Corps to determine if a permit would be required.

4.2.7.2 Methods

Potential impacts on wetlands were determined by field survey, review of wetland maps for the project area, and an assessment of the development actions considered under Alternative 1.

4.2.7.3 Analysis

Implementation of Alternative 1 would not result in fill or alterations of wetlands present at Rim Village and Munson Valley (Quarry Flat). No wetlands are present at Mazama Village or the South Entrance.

4.2.7.4 Cumulative Impacts

None expected.

4.2.7.5 Conclusions

- No impacts on wetlands would result from implementation of Alternative 1.

4.2.8 IMPACTS ON WILDLIFE - ALTERNATIVE 1

4.2.8.1 Applicable Regulations, Policies, and Past Planning Objectives

Park Service policy is to perpetuate the native animal life as part of the natural ecosystems of parks. Management emphasizes minimizing human impacts on natural animal population dynamics. The native animal life is defined as all animal species that, as a result of natural processes, occur or occurred on lands now designated as a park. Any species that have moved onto park lands directly or indirectly as the result of human activities are not considered native.

4.2.8.2 Methods

Wildlife impacts were determined through habitat surveys, aerial photograph interpretation, review of applicable literature, and consultations with Park Service staff and the Oregon Department of Fish

and Wildlife. Direct surveys for birds, small mammals, or other wildlife were not conducted as part of this analysis.

4.2.8.3 Analysis

Alternative 1 would result in the long-term removal of up to 3.8 acres of habitat at Rim Village, 12 acres at Mazama Village, and 26 acres at the South Entrance. If trees or other vegetation are cleared during the breeding season (generally May through June), bird nests or mammal dens could be destroyed.

At Rim Village, the areas proposed for development support a few small mammals and birds, but because of the high elevation and the relatively small area affected, few if any species would be significantly impacted. Construction of the new parking structure would remove a potential foraging area for red-tailed hawk, horned lark, Cassin's finch, dark-eyed junco, and chipping sparrow. The loss of 2.5 acres of such habitat is minor in relation to that which is available throughout the park.

At Quarry Flat, most of the area has been cleared and graded and contains little wildlife habitat value. Because of this, the proposed development of an employee recreation area and interim use of the area for storage would not affect wildlife. Vegetation restoration could increase the habitat value of the area.

Habitat impacted at Mazama Village would be lodgepole pine and mountain hemlock forest. A variety of animals are common in this habitat. In relation to the regional distribution of these habitat types and associated species, this impact is small scale and local and would not result in a major decline in populations in the park or region. This impact would add to previous habitat loss caused by development of the Mazama store area, the campground, road construction, lodging units, sewage lagoons, and other facilities.

Development of about 26 acres at the South Entrance would cause a local loss of low-elevation forest containing large trees, snags, multiple canopies, and other features of late-successional forest. The level of development would reduce local habitat values at the South Entrance. This impact, considered individually, would not result in a major decline in populations in the park or in the region because (1) impacts would be small scale and local, (2) similar habitat exists throughout the lower elevations of the park and surrounding Forest Service land, and (3) development would occur in areas that do not contain a significant amount of snags or large trees. Final site selection would focus on areas that have been thinned or that contain dense stands of white fir or lodgepole pine. Siting and clearing plans would minimize removal of trees greater than 30 inches in diameter. Large ponderosa pine would be avoided.

In addition to direct loss of habitat, increased activities associated with development could adversely affect some wildlife. People and noise would cause large animals, such as deer and elk, to avoid developed areas. Other smaller mammals and some birds may also avoid otherwise suitable habitat near developed facilities.

Employees and their families living in government housing would explore and walk in habitats adjacent to developed areas. This would disturb some wildlife and remove habitat through trampling, soil compaction, and the creation of informal trails.

Vehicle/wildlife collisions are an expected impact of development at the South Entrance. The number of vehicle trips per day is estimated at between 100 and 300, depending on the use of shuttle services. The park would use shuttle services for most employee transportation to Mazama Village and Rim Village to minimize traffic at the South Entrance.

Development at the South Entrance would reduce habitat for elk spring foraging, spring and summer migration, and calving. The reduction would include the direct loss of approximately 26 acres of habitat and the indirect loss of habitat caused by human disturbance (elk may avoid otherwise suitable habitat that is near human developments).

This loss of habitat would cause some elk to shift foraging patterns during early spring. A portion of the elk that forage in the Wood River Valley use forested lands in and near the South Entrance as resting and protective habitat. Other forested lands are available west and south of the South Entrance. The number of elk that currently use the South Entrance area would be reduced and the number that use other forested areas would likely increase.

Development at the South Entrance would also interfere with a migration route used by some of the Wood River Valley elk herd. As described in Chapter 3, the South Entrance forms a relatively narrow passage to the Sun Pass State Park, where some of the Wood River Valley elk herd travel to calve. The reaction to South Entrance development by elk that calve in Sun Pass State Park cannot be fully predicted. Some may adjust to the increase in human activity by simply skirting the developed area and traveling at night, using the same general route that exists now (forested habitat would remain around all sides of the development). Others may instead avoid crossing this area altogether and opt to travel to summer range within the park or on Forest Service lands west of State Route 62. However, it is possible that some may shift their movements south where they would have to negotiate a series of barbed-wire fences on private properties before reaching public lands, or some may shift their movements north where they would have to negotiate the steep banks of Annie Creek.

During the spring use period, elk move on a daily basis between foraging areas south of the South Entrance to hiding and thermal cover within the South Entrance. Development in this area could disrupt these movements and cause elk to use less favorable habitats.

The direct loss of habitat through construction and indirect loss through noise and disturbance would remove elk calving habitat. The actual amount of elk calving that occurs in the South Entrance is unknown. A known calving area is located about 6 miles east of the South Entrance. This area is protected by road closures from November 1 through June 30 each year and would not be affected by Alternative 1.

The loss of habitat and interference in one of the migration routes used by elk may reduce the overall productivity of the Wood River elk herd to some degree. However, the herd is expected to remain viable because other calving areas are present and used where elk do not cross the South Entrance. In addition, the development is not expected to form a complete barrier to elk movements. Sufficient habitat would be present around the development to allow some elk to continue to move through the South Entrance area on their way to Sun Pass State Park.

Development in areas used by bear or cougar would increase the risk of negative interactions between these animals and humans. At Mazama Village, bears have been a problem in the campground and could be an occasional problem at new facilities. The risk of negative interactions at the South

Entrance would increase because this area is not currently developed or regularly used by people. Bears are known to be fairly common in the area (Hardy pers. comm.) and would likely remain in the area following development. A facilities and waste management plan would be developed to minimize the potential for bear problems.

Cougars would likely avoid developed areas, but development in the South Entrance would pose a minor risk of incidents involving cougar. While attacks by cougars remain extremely rare, reported incidents have increased as development enters areas where cougars are present.

During construction of facilities, noise, machinery, and workers would cause some animals to avoid otherwise suitable habitat near construction sites. This impact is likely to be minor because many animals tolerate nonthreatening disturbance, including construction activity. For example, many species of birds can be observed in the park near roads, the Mazama Campground, and other developed areas.

Developed areas could increase aggressive scavenger species that may in turn displace or otherwise harm other wildlife species. Common aggressive species in the park include raven, Clark's nutcracker, gray jay, and Steller's jay. These species can reduce other bird species by competing for food and nest sites as well as by preying on young and eggs.

4.2.8.4 Cumulative Impacts

The loss of habitat resulting from Alternative 1, together with other similar losses that have occurred within the park, would result in the cumulative effect of reduced wildlife habitat value along the State Route 62 and Rim Drive corridors.

4.2.8.5 Conclusions

- Minor, short-term habitat loss would occur due to noise and other activities during construction.
- Potential impacts on breeding wildlife would occur if vegetation is removed during the breeding season (May-June).
- Approximately 41 acres of habitat would be lost.
- Animals would be displaced through human activity and encroachment.
- Vehicle/wildlife collisions at the South Entrance could increase.
- Elk calving and migration habitat could be lost at the South Entrance; elk migration corridors could be shifted.
- Negative interactions between humans and bears or cougars could increase.
- Scavenger species could increase in developed areas and reduce other bird species.

4.2.9 IMPACTS ON SPECIAL-STATUS ANIMAL SPECIES - ALTERNATIVE 1

4.2.9.1 Applicable Regulations, Policies, and Past Planning Objectives

The Endangered Species Act requires that federal agencies consult with the U.S. Fish and Wildlife Service regarding species listed under the act. The Park Service is conducting this consultation concurrently with this NEPA analysis. Oregon also has a state Endangered Species Act that requires consultation with the Oregon Department of Fish and Wildlife during planning for actions that may adversely affect state-listed threatened or endangered species.

Under state statutes, the Sensitive Species Rule (OAR 635-100-040) requires that the state maintain a list of species that may become threatened or endangered in the future. The Sensitive Species List is intended as an early warning system and does not mandate protection measures (Oregon Department of Fish and Wildlife 1993).

Park Service policy is to identify all locally and state-listed threatened, endangered, rare, declining, sensitive, or candidate species that are native to and present in the parks (U.S. Department of the Interior, National Park Service 1988b). The Park Service considers these species and their critical habitats during planning activities and, in Oregon, consults the Oregon Department of Fish and Wildlife, which is responsible for state-listed species. The significance of locally or state-listed species is determined through an analysis of the species' population status throughout their native ranges and throughout the national park system.

4.2.9.2 Methods

Impacts on special-status animal species were determined through habitat surveys, literature review, examination of park records, and consultation with park staff and Oregon Department of Fish and Wildlife biologists. Acres impacted were determined in conjunction with the vegetation impact analysis (using 1 inch = 100 feet maps showing proposed developments).

4.2.9.3 Analysis

Because no federally or state-listed threatened or endangered species regularly use areas considered for development, Alternative 1 is not likely to adversely affect such species or their designated habitats.

Because Crater Lake National Park contains a large block of high-quality wildlife habitat, virtually all areas of the park contain habitat for some state-listed species. In many cases, state-listed species are actually fairly common, but because they specialize in habitats that are declining (such as late-successional forest), they are at risk.

Under Alternative 1, about 12 acres of northern goshawk habitat at Mazama Village and about 26 acres of habitat at the South Entrance would be removed. Direct disturbance at Mazama Village would be limited to lodgepole pine forest, which is suitable for foraging habitat but not typical nesting habitat.

Northern goshawks are likely to use habitat at Quarry Flat (in Munson Valley) and Rim Village only occasionally; therefore, loss of habitat in these areas would not affect northern goshawks. Construction of the new road to the lodge and the pedestrian walkway at Rim Village would decrease the suitability of the area for northern goshawks by directly removing habitat and by increasing human presence. However, because the area is not likely to be a major use area for northern goshawk, this impact would be minor.

The loss of northern goshawk habitat that would occur under Alternative 1 is not likely to affect northern goshawk populations either at the regional level or at the park level. Only a minor fraction of an average territory size would be impacted at Mazama Village and the South Entrance. These impacts would be local and would cause resident northern goshawks to adjust their home ranges. The impact is a minor reduction in the overall capacity of the park to support northern goshawks. Such impacts are significant if considered collectively with all other minor reductions in habitat that occur throughout the region. However, individually, the loss of habitat is minor.

Mountain quail have been reported in low densities near the South Entrance (Hardy pers. comm.), and the development of facilities in that area would reduce the suitability of that area to support mountain quail. The loss of about 26 acres of this habitat is minor in relation to the amount of habitat present in the area. Mountain quail use clearcuts and selectively harvested forestland, and this habitat is common in the area.

Mountain quail may use the areas at Mazama Village where the dormitory and group campsites would be developed. However, mountain quail have not been reported at Mazama Village and are not likely to regularly occur there. Therefore, the proposed developments at Mazama Village are not likely to affect this species.

California wolverine and Pacific fisher are both federal candidate species. In addition, California wolverine is state-listed as threatened in Oregon. Because these species travel regularly over large distances, they could use any of the four areas as part of much larger home ranges. These species avoid areas with human activity or development; therefore, Rim Village, Quarry Flat, and Mazama Village are not likely to be regularly used. The South Entrance is less developed and has a greater potential to be used by these species.

Because of large-scale loss of natural habitats throughout both species' ranges, the entire park may contain foraging habitat and travel corridors important to their distribution and abundance in Oregon. These species require large areas of relatively undisturbed habitats that are uncommon outside of national parks and designated wilderness areas.

Alternative 1 would result in small-scale and localized reduction of habitat. However, this reduction in habitat is not likely to significantly affect the long-term survival of either species because (1) most developments are proposed near areas of previous development, and (2) the habitat that would be lost represents a small portion of the average home range size of these species. Because little development is present at the South Entrance, impacts in this area could be more significant than those at the other areas. California wolverines or Pacific fishers that may travel through these areas would likely avoid any developed areas.

Development at all areas would reduce habitat for American marten, a state-listed sensitive species in Oregon. This species is present throughout the park, and the reduction of habitat would be minor in relation to the amount of habitat available elsewhere.

At Rim Village, the areas proposed for development support few, if any, sensitive species, and development would not significantly impact such species. Construction of the new parking structure would remove a potential foraging area for migrating Swainson's hawks, but the loss of 2.5 acres of such habitat is minor in relation to that which is available to migrating hawks.

At Quarry Flat, most of the area has been cleared and graded and contains little wildlife habitat value. Because of this, the proposed development of an employee recreation area and interim use of the area for storage would not significantly affect federally or state-listed species. Restoring vegetation could increase habitat for Cascade frog, a federal candidate species.

A total of 12 acres of potential habitat for three state-listed sensitive woodpecker species (pileated, three-toed, and black-backed woodpeckers) would be removed or disturbed at Mazama Village. This acreage includes all immediate and future actions. In relation to the regional distribution of these species, this impact is small scale and local; it would not result in a major decline in populations in the park or region.

Development of about 26 acres at the South Entrance would cause a local loss of habitat for northern pygmy-owl, Williamson's sapsucker, pygmy nuthatch, and pileated, white-headed, three-toed, and black-backed woodpeckers. This impact, considered individually, would not result in a major decline in populations in the park or in the region because:

1. Impacts would be small scale and local. Cavity-nesting birds are most affected by large-scale timber harvest that removes habitat at the watershed and landscape level, rather than by small-scale development.

2. Suitable habitat for these species exists throughout the lower elevations of the park and surrounding Forest Service land. The 26-acre loss of habitat would represent a minor fraction of habitat available elsewhere.

Nevertheless, the loss of habitat for such species is not a desired consequence of any action at the park. Because site-specific designs have not yet been completed, the Park Service should carefully consider these species when selecting specific locations for development.

4.2.9.4 Cumulative Impacts

The loss of habitat resulting from Alternative 1, together with other similar losses that have occurred within the park, would result in the cumulative effect of reduced wildlife habitat value along the State Route 62 and Rim Drive corridors.

Most special-status animal species that would be adversely affected by this alternative are in regional decline due in large part to logging and land use changes. The level of development proposed at Crater Lake National Park is minor at a regional scale, but would nevertheless contribute to this overall decline.

As described in Chapter 3, bull trout (a federal candidate species) used to migrate from Agency/ Upper Klamath Lake to spawning beds in Sun Creek by way of Annie Creek and the Wood River. However, little or no flows from Annie Creek reach the Wood River during drought periods due to

water demands in Annie Creek (over 99% of which occur downstream of the park). This low flow has resulted in the disconnection of the Wood River/Annie Creek/Sun Creek migration route.

The Park Service water withdrawals would further reduce water flows. However, the disconnection of the bull trout migration route would continue to occur, with or without water withdrawals by the park. Total Park Service use under this alternative represents about 4/1,000 of the lowest flow amount reported at Annie Creek as it leaves the park (Sparks pers. comm.). Water withdrawal from the park would contribute to the cumulative negative effects on water flows in this drainage system, which have had a significant negative effect on fish migration and bull trout restoration efforts.

4.2.9.5 Conclusions

- There would be a localized loss (12 acres at Mazama Village and 26 acres at the South Entrance) of habitat for northern goshawk.
- There would be a minor loss of potential habitat (26 acres at the South Entrance) for mountain quail.
- There would be a loss of habitat for wide-ranging carnivores - California wolverine and Pacific fisher.
- No habitat for state-listed sensitive species at Rim Village or Quarry Flat would be lost.
- There would be a minor loss of habitat (12 acres) for state-listed sensitive woodpeckers at Mazama Village.
- There would be a moderate loss of habitat for cavity-nesting birds at the South Entrance.
- Water withdrawal from Annie Creek would add incrementally to the existing problems with bull trout habitat.

4.2.10 IMPACTS ON ECOSYSTEM PROCESSES (FIRE) - ALTERNATIVE 1

4.2.10.1 Applicable Regulations, Policies, and Past Planning Objectives

Fire and fuels management at Crater Lake National Park are carried out through a detailed Wildland Fire Management Plan. The authorities for implementing Wildland Fire Management Plans are found in the National Park Service Organic Act (16 USC 1. August 25, 1916), the 1976 Authorities Act (16 USC 1a), and further clarified in the National Parks and Recreation Act of 1978. The Park Service Wildland Fire Management Guidelines (NPS-18) summarize the statutes which authorize the funding for fire management activities.

4.2.10.2 Methods

The risk of fire was determined through site surveys and review of the park's Wildland Fire Management Plan.

4.2.10.3 Analysis

Development within or near forests under Alternative 1 would increase the risk of wildfire affecting people and structures. Conversely, increasing the number of people in forested areas also increases the risk of human-caused fire. The park recognizes this risk and would manage fuels and provide emergency fire services to protect new and existing development as well as natural vegetation.

Because of the key role fire plays in ponderosa pine forests at the South Entrance, development in this area would need to include measures to protect buildings from fire while allowing the natural processes to continue. Development would be integrated into the ongoing fire and fuels management program for the South Entrance area. Development at the South Entrance area may complicate or conflict with current Forest Service fire management practices. The Park Service would need to develop cooperative fire management plans to avoid potential problems.

4.2.10.4 Cumulative Impacts

None expected.

4.2.10.5 Conclusions

- Development near forested areas would increase the risk of people being injured and structures being damaged by fire.

4.2.11 IMPACTS ON CULTURAL RESOURCES - ALTERNATIVE 1

4.2.11.1 Applicable Regulations, Policies, and Past Planning Objectives

The Park Service complies with the NHPA; the Advisory Council on Historic Preservation's implementing regulations, 36 CFR Part 800, Protection of Historic Properties; the service-wide programmatic agreement of August 15, 1990, among the Advisory Council on Historic Preservation, the Council of State Historic Preservation Officers, and the Park Service; and Park Service NPS-28: Cultural Resource Management Guideline.

Alternative 1 and Alternative 2 include the same elements at Rim Village. These elements reflect the general concept for Rim Village established in the 1988 DCP which was the subject of extensive consultation between the State Historic Preservation Officer and the Advisory Council on Historic Preservation between 1983 and 1986. The current DCP proposes minor changes from the 1988 plan related to parking, pedestrian walkways, and access road locations.

4.2.11.2 Methods

Under Section 110 of the NHPA, all federal agencies must carry out their programs according to national historic preservation policy. Section 106 of the NHPA requires federal agencies to consider the effects of their actions on historic properties and seek comments from the Advisory Council on Historic Preservation. The purpose of Section 106 is to avoid unnecessary harm to historic properties.

The methodology for assessing impacts on cultural resources involves several steps: (1) identifying the location of a proposed action, (2) comparing that location with the location of resources listed on or eligible for listing on the National Register of Historic Places, (3) identifying the extent and type of impact of the proposed action on national register listed or eligible properties, and (4) assessing those effects according to procedures established in 36 CFR Part 800, Protection of Historic Properties.

A proposed undertaking is considered to have an "effect" on a historic property if it may in any way change the characteristics that qualify that property for inclusion on the National Register of Historic Places. If the undertaking would diminish the integrity of the property, it is considered to have an "adverse effect". Historic properties for the purpose of the regulations are those prehistoric or historic districts, sites, buildings, structures, or objects included on, or eligible for inclusion on, the National Register of Historic Places.

4.2.11.3 Analysis

Based on the results of previous cultural resources field surveys, no impacts to prehistoric cultural resources are expected from Alternative 1.

Construction of a new water tank and water lines for the Mazama dormitory complex will be located in the general area of a short section of the historic military wagon road built in 1865. This section of road would not be affected, however, because it is located away from the construction area in a rugged setting. As a precaution, the historic road segment, which is only a few feet long, would be barriered off using snow fence to prevent inadvertent damage.

Surveys will be needed of a few project areas whose locations were not determined at the time of survey; the same is true for project areas where final design and construction needs require the use of any additional land outside previously surveyed areas. For example, cultural resources surveys will need to be conducted on Forest Service lands at the South Entrance.

Winema National Forest has conducted surveys and recorded some historic resources in the vicinity of the South Entrance (Budy pers. comm.), indicating that additional survey of proposed facility sites will be needed before the evaluation of potential impacts can be completed. The ground surface within the park boundary was partially obscured by fallen timber at the time of the survey, and the existence of historic archeological sites in the vicinity indicates that archeological monitoring should accompany land-clearing activities before construction starts (Budy and Sullivan pers. comms.).

The Park Service has established communications with the Klamath-Modoc-Yahooskin Cultural Committee at Chiloquin and met the new tribal chairman. The Park Service provided the Klamath Tribe an opportunity to comment on the DEIS; the Tribe did not choose to comment. There are no

known ethnographic resources in the project area. The Park Service will conduct consultation during the design process to learn about possible Native American cultural resources in the project areas, potential project impacts on them, and possible mitigation measures. No specific information is currently available on Native American concerns regarding cultural resources that might be associated with the project areas.

Some conditions suggest that impacts would not be expected, at least in the Munson Valley and Mazama Village areas. These conditions include the possible use of Crater Lake itself and of high-elevation areas, such as mountain and ridge tops, for spiritual activities, and the concomitant avoidance of developed areas. The Munson Valley and Mazama Village areas lie away from Crater Lake, lack mountain and ridge tops, and have existing development. The potential for impacts is less clear for the rim area because of its proximity to Crater Lake, although the improvements are designed to decrease vehicle traffic at the rim along with visual effects and the potential for chemical pollutants. The potential for impacts at the South Entrance area is also less clear because it is currently much less developed.

The actions at Rim Village would have an effect on the potentially eligible historic designed landscape; however, the Oregon State Historic Preservation Officer has determined that the effect would not be adverse.

The proposed site of the new parking structure and the bus/recreational vehicle parking lot is located outside the potentially eligible historic district boundaries. Therefore, construction of these facilities would not physically impact resources (buildings, structures, or landscape elements) that contribute to the significance of the area.

Although removal of the large parking area, revegetation using natural plantings, and construction of the 2,000-foot roadway would affect the potentially eligible district, the effect would not be adverse.

The relocation of park headquarters from Munson Valley to the South Entrance should not affect the previously designated Munson Valley Historic District. The park would maintain the buildings, structures, and landscape elements in the historic district in a manner that is consistent with historic usage.

Use of the Quarry Flat area in Munson Valley for employee recreation, interim use for staging, and restoration of some of the site contours and vegetation are unlikely to affect the Munson Valley Historic District because the site is located well south of the historic district boundary.

No historic resources are present in the vicinity of Mazama Village or the South Entrance (Sullivan 1994). However, lands that are administered by the Forest Service have not been inventoried for cultural resources. The Winema National Forest has recorded some historic resources in this vicinity (Budy pers. comm.), indicating that additional survey of proposed facility sites is needed before the evaluation of potential impacts can be completed.

Should unknown cultural resources be uncovered during construction activities, work would be stopped in the discovery area and the Park Service would consult according to 36 CFR 800.11 and, as appropriate, provisions of the Native American Graves Protection and Repatriation Act of 1990.

4.2.11.4 Cumulative Impacts

None expected.

4.2.11.5 Conclusions

- No impact to prehistoric resources is expected.
- No impacts to Native American cultural resources are expected.
- The actions at Rim Village would have an effect on the potentially eligible historic designed landscape; however, the Oregon State Historic Preservation Officer has determined that the effect would not be adverse. No impact on historic resources is expected at other areas.

4.2.12 IMPACTS ON LOCAL ECONOMY - ALTERNATIVE 1

4.2.12.1 Applicable Regulations, Policies, and Past Planning Objectives

The local and regional economic and social context are important considerations for developing park management or operations.

4.2.12.2 Methods

Local communities were identified and evaluated for potential impacts that may result from development within the park. The magnitude of economic benefits was determined by comparing the projected increase in people associated with each alternative to existing populations and recreational use of surrounding communities.

4.2.12.3 Analysis

Under Alternative 1, development near the South Entrance would increase the number of people living near Fort Klamath. This would result in a minor increase in retail sales. This increase would probably not be sufficient to significantly affect employment within Fort Klamath.

4.2.12.4 Cumulative Impacts

None expected.

4.2.12.5 Conclusions

- No impact on the local economy would occur.

4.2.13 IMPACTS ON VISITOR EXPERIENCE - ALTERNATIVE 1

4.2.13.1 Applicable Regulations, Policies, and Past Planning Objectives

The Park Service organic act directs the Park Service to provide for public enjoyment while leaving resources unimpaired for future use. To the extent practicable, the Park Service encourages people to come to the parks and to pursue inspirational, educational, and recreational activities related to the resources found in these special environments. Visitors are to be given appropriate information to encourage safe and lawful use of the parks and to minimize any resulting adverse impacts on park resources. Park development and services are to be presented in a way that allows the visitor to be aware of them and to use them while not detracting from the environment or from the visitor's experience at the park. Preservation of natural and historic settings for public enjoyment is a major element of the Park Service mission.

4.2.13.2 Methods

Impacts were determined from discussions with park personnel and park designers, existing information related to the park (e.g., Crater Lake Winter Use Plan), and personal knowledge of the park.

4.2.13.3 Analysis

Removal of visitor vehicles, removal of the employee dormitory, and partial restoration and rehabilitation of the landscape at Rim Village would significantly improve the quality of the visitor experience. Rim Village would be restricted to pedestrian use only, and visitors would travel within the rim area from walkways. The area would be free of vehicular congestion and associated visitor safety concerns. Interpretive activities and year-round views of the lake would be accessible to all visitors.

The entrance experience of visitors to Rim Village would change. Visitors would no longer be able to drive to Rim Village. They would have to leave their cars. Visitors may feel a greater sense of arrival because of this. The process of leaving their cars and either walking or taking a shuttle to the rim could increase the anticipation of seeing the lake and would provide a greater sense of arrival once entering Rim Village. In addition, information would be provided at the parking facility to orient visitors to services and interpretation opportunities at Rim Village. Shuttle bus drivers could also help orient and educate visitors.

Currently, traffic circulation patterns detract from the visitor experience by exposing pedestrians to traffic-related noise and exhaust fumes. Removal of visitor vehicles from the rim would enhance the visitor experience by reducing traffic-related noise and exhaust.

The parking garage and the access road would disrupt the northbound view corridor and increase the visual presence of human development. This would detract from the natural setting below Rim Village.

Most construction would occur during the peak visitor season. During construction, visitors may be exposed to construction noises and heavy truck traffic and may also be inconvenienced by minor traffic revisions or by limited access to certain areas. The sights and sounds of construction would seem out of place and may be intrusive and irritating to some people.

Relocating park headquarters functions would cause a minor reduction in Park Service presence at the historic headquarters area, but the overall visual character and visitor opportunities would remain essentially unchanged.

Development of two additional group camping sites would increase opportunities within the park for overnight camping. Camping groups could adversely affect other campers at Mazama Village by increasing noise and congestion. Because Mazama Village is already a center of visitor use, the amount of noise and congestion caused by group camping may be negligible when compared to existing conditions. Park Service and concession staff would monitor use of group campsites to prevent unacceptable noises or activities.

Impacts on Mazama Village visitors resulting from off-duty employee activities could occur under this alternative. Dormitory activities would likely cause minimal disturbances because the facility would be located across the entrance road from lodging and camping areas. This level of separation was an important consideration when developing alternatives.

Impacts on the north/south view corridor along the entrance road could occur with construction of a dormitory, driveway, and pedestrian walk west of Mazama Village. Because the dormitory would be constructed in the area west of State Route 62, it is unlikely the facility would be seen by visitors entering the park since they would be focusing their attention on the entrance station. Visitors leaving the park would be more likely to notice the dormitory; however, the facility would be set back from the entrance road and screened by existing vegetation. It is unlikely that new development in the area would be noticed by most visitors; therefore, it would not have an adverse effect on the visitor experience.

Development at the South Entrance would be set back from the visual corridor along State Route 62. Visitors entering or leaving the park at this point would see the access road entrance and sign. Current plans are to place all facilities outside of the line of sight of State Route 62; however, some facilities may be partially visible through the trees. Fire management methods employed in this area may reduce some visual screening. The corridor of large ponderosa pine would not be altered.

4.2.13.4 Cumulative Impacts

None expected.

4.2.13.5 Conclusions

- Visitor safety would be improved and aesthetic values increased at Rim Village.
- There would be an improved sense of arrival and opportunities for interpretation and orientation at Rim Village.

- Vehicle noise and emissions at Rim Village would be reduced.
- The visual corridor south of Rim Village would be disrupted.
- Noise and visitor inconvenience would increase during construction.
- No impacts on visitor experience would occur at Munson Valley.
- Opportunities for tour groups would increase.
- Noise and congestion from use of group camping sites may occur.
- There would be minimal potential visitor disturbance from the employee dormitory at Mazama Village.
- No impacts on the view corridor would occur from construction of new facilities at Mazama Village.
- There would be potential pedestrian/vehicle hazards at the crossing of the entrance road near the Mazama store.

4.2.14 IMPACTS ON EMPLOYEE COMMUTING AND DELIVERY OF SUPPLIES - ALTERNATIVE 1

4.2.14.1 Applicable Regulations, Policies, and Objectives

Park Service policy is to conduct activities in a manner that ensures that energy is used in a wise and economical manner. Park personnel and visitors may be provided with in-park transportation or trails and walks for nonmotorized transportation as energy-conserving alternatives (U.S. Department of the Interior 1988).

4.2.14.2 Methods

Park Service and concessioner employee commuting were evaluated qualitatively based on a functional analysis of the alternatives.

4.2.14.3 Analysis

The concessioner would assign employees to housing most appropriate for their workplaces. The Mazama Village dormitory would be used by employees working at Mazama Village or Rim Village. Those working at Mazama Village would commute via the new pedestrian path constructed as part of the employee dormitory. Those working at Rim Village would commute via personal vehicle. If appropriate, the shuttle system would be adapted to facilitate employee commuting between Mazama Village and Rim Village. A shuttle system would be developed for the South Entrance.

Park Service housing would be placed proximate to work locations. Employees staying at the South Entrance would also work there. Some employees who currently commute to Munson Valley from outside the park would move into government housing at the South Entrance and eliminate their need to commute long distances to work.

Some shipments of food and supplies destined for Rim Village would be transferred from larger trucks to small delivery vans at the South Entrance. This would cause a moderate increase in fuel, time, and expense required for deliveries to Mazama Village and Rim Village.

4.2.14.4 Cumulative Effects

None expected.

4.2.14.5 Conclusions

- Transfer of goods from larger trucks to small delivery vans at the South Entrance would cause a moderate increase in fuel, time, and expense required for deliveries to Rim Village.

4.2.15 IMPACTS ON LAND USE AND ZONING - ALTERNATIVE 1

4.2.15.1 Methods

Impacts were determined through analysis of existing plans and policies regarding land use at areas proposed for development.

4.2.15.2 Analysis

Land use designations within the park are made through the General Management Plan (GMP), as amended. The GMP is amended through actions such as the one being considered in this FEIS.

Development of housing and related facilities on Forest Service lands near the South Entrance was not included in the Winema National Forest Plan. Use of this area for employee housing and other developed uses would be considered a change in land use designation and would require an amendment to the Forest Plan. Such a change would be subject to NEPA review.

The Klamath County Comprehensive Plan identifies Forest Service lands at the South Entrance as commercial forest lands. While the county has no regulatory authority on federal lands, the county has developed plans to maintain compatibility between federal and nonfederal land management. Development of this area would conflict with the county's comprehensive plan and would likely prompt the county to conduct additional planning in this area.

In addition to conflicts with existing plans, development at the South Entrance could result in potential compatibility issues regarding logging truck traffic near a residential community. The Forest

Service road that would serve as the main access road to developments at the South Entrance is a major haul route for logging trucks. While the amount of traffic varies with timber sale activity, the roadway serves as a main access point to commercial forest lands. Employees living in this area may be disturbed by the noise caused by truck traffic. In addition, joint use of this road for residents and commercial forestry may not be compatible in terms of safety and traffic flow.

4.2.15.3 Cumulative Effects

No cumulative impacts on land use and zoning are expected.

4.2.15.4 Conclusions

- Employee housing and other developed uses on Forest Service lands at the South Entrance would be considered a change in land use designation and would require an amendment to the Forest Plan.
- Development of the South Entrance would conflict with the county's comprehensive plan and would likely prompt the county to conduct additional planning in this area.
- Development at the South Entrance could result in potential noise, safety, and congestion problems because of logging truck traffic near a residential community.

4.2.16 UNAVOIDABLE ADVERSE EFFECTS - ALTERNATIVE 1

The new parking structure at Rim Village would require extensive excavation in 2.5 acres of pumice flat. The pedestrian walkway would require a 40-foot culvert in a small stream.

Water use from Annie Spring, the park's current water source, would increase from 46,900 to 56,900 gallons per day. This would reduce flows in a 5,000-foot section of Annie Creek by a total of 3.6%, or 0.6% more than the reduction caused by existing use.

Up to 41 acres of vegetation and wildlife habitat would be removed or disturbed. Up to 26 acres of these 41 acres would be in the South Entrance and on adjacent Forest Service land. Development in the South Entrance would focus on areas that have been previously disturbed by fire, fire suppression, and timber harvest. The South Entrance area is used by elk for calving and migration, and development would cause some elk to shift movement patterns and avoid some traditional use areas. Elk productivity would decrease.

Visitors would experience temporary inconveniences and noise due to construction activities. Following construction, Mazama Village would be used by more people, including group campers and up to 98 concession employees.

4.2.17 RELATIONSHIP OF SHORT-TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY - ALTERNATIVE 1

Alternative 1 consists of long-term projects. This alternative would complete the Park Service's long-term improvement goals for Rim Village and would meet the long-term employee housing and support facility needs.

4.2.18 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES - ALTERNATIVE 1

Under Alternative 1, developed areas could not be restored to previous conditions within a reasonable time. The vegetation types that would be removed require a long time to return to mature conditions, ranging from decades to several hundred years. Implementation of Alternative 1 would require the irretrievable commitment of resources, including use of land, construction materials, energy, and funding.

4.3 ALTERNATIVE 2 - MAZAMA FOCUS

For Alternative 2 - Mazama Focus, the discussion of applicable regulations and policies, as well as methods used in assessing impacts, are the same as those described for Alternative 1 and are not repeated here.

4.3.1 IMPACTS ON EARTH RESOURCES - ALTERNATIVE 2

4.3.1.1 Analysis

Development under Alternative 2 at Rim Village is the same as that under Alternative 1; therefore, impacts would be the same. Development of the parking facility would require a large amount of excavation and grading and would alter the topography at the pumice flat area. Development of the new roadway to the rim would require cut and fill, as well as retaining walls. This would alter the existing topography on the slope below Rim Village.

As with Alternative 1, soils are generally well suited to development at all areas under consideration, and no significant impacts would occur. Construction activities would result in surface disturbance of the soils and soil compaction on the site. Visitor and employee use would result in localized impacts on soils.

4.3.1.2 Cumulative Impacts

Alteration of topography near Rim Village would be additive to the previous impacts of development at Rim Village and along Rim Drive.

4.3.1.3 Conclusions

- Development of the new parking facility and road to Rim Village would require grading and excavating that would in turn alter topography in the area.
- No long-term soil impacts would be expected as a result of development activities under Alternative 2.
- Construction activities would result in surface disturbance of the soils and soil compaction on the site.

4.3.2 IMPACTS ON SURFACE WATER RESOURCES - ALTERNATIVE 2

4.3.2.1 Analysis

Proposed immediate and future development at Rim Village under Alternative 2 would be the same as described for Alternative 1.

Although more development would occur at Mazama Village under Alternative 2 than with Alternative 1, this development would not impact adjacent surface water resources for the same reasons as discussed under Alternative 1. In brief, the level topography of development areas, the porous nature of the soils, and the distance of proposed developments to Annie Creek would preclude sedimentation or other impacts to the stream.

No surface water resources are located within or adjacent to the South Entrance. Therefore, as with Alternative 1, Alternative 2 would not directly, indirectly, or cumulatively impact the hydrology of any surface water resources.

4.3.2.2 Cumulative Impacts

Placement of a culvert within a small stream as part of the pedestrian pathway at Rim Village would result in a small increase in the existing number of culverts in the park. No other cumulative effects are expected.

4.3.2.3 Conclusions

- Impervious surfaces would increase at Rim Village (including the new parking area) and at Mazama Village. No impacts on surface water resources are expected from stormwater runoff.

- One culvert would be placed in the stream south of the day use activity center. The new culvert that would be required would enclose approximately 40 feet of the stream in a pipe.

- The hydrologic connection between the hillside seep and stream adjacent to Quarry Flat could be restored.

- No impacts on surface waters would occur at other areas.

Other surface waters, including seeps, streams, and wetlands would not be affected by Alternative 2. In addition, no development would occur in floodplains. No wetlands are present at Mazama Village or the South Entrance.

4.3.3 IMPACTS ON GROUNDWATER/WATER SUPPLY - ALTERNATIVE 2

4.3.3.1 Analysis

Tables 4-4 and 4-5 present the average summer daily water demand to be supplied from Annie Spring (Table 4-4) and from a well at the South Entrance (Table 4-5) under Alternative 2.

This analysis addresses the direct water use resulting from Alternative 2. In other words, only the direct water needs for the actions being considered under Alternative 2 are evaluated. See the Cumulative Impacts Section (which follows this section) for an assessment of all water use in the park, including existing and planned and approved facilities. Some of the numbers provided in Tables 4-4 and 4-5 are rounded in text.

- **How much more water would Alternative 2 require to be withdrawn from Annie Spring (the current source of water for the park)?** The actions planned under Alternative 2 would require a net increase of about 11,300 gpd from Annie Spring (22,300 gpd from new facilities minus 11,000 gpd from removal of the Rim Village dormitory). This amounts to a 24% increase over existing demand at Annie Spring.

  During the interim period when the dormitory at Rim Village would remain open, it would be operated at half its current occupancy and would require about half its current water demand from Annie Spring. About 16,800 gpd would be required during this interim period. This amount would drop back to 11,300 gpd once the South Entrance dormitory was completed and the Rim Village dorm was closed.

- **How much more water would the park be using?** Alternative 2 would require the direct use of about 28,542 gpd. This includes the 11,300 gpd to be taken from Annie Spring and the 17,242 to be taken from a well at the South Entrance.

- **Would water use at Annie Spring exceed the current permitted amount?** The total amount of existing plus proposed water use from Annie Spring would be 45,123 gpd below the permitted amount (or 39,623 gpd below during the interim period when the Rim Village dormitory would remain in operation). However, seasonal water shortfalls may occur within the Annie Creek drainage downstream from Crater Lake National Park. The legal process is underway to determine the quantity of water available for park uses through the Klamath Basin Adjudication. The Park Service is investigating a number of options within Oregon State water laws, should the adjudication determine that the combination of existing federal reserved and prior appropriation water rights is insufficient to meet existing needs, or those proposed in this DCP. Those options being investigated include:

  - Locating new water sources, either surface water or subsurface sources (wells), for which appropriate water rights could be obtained.

  - Obtaining additional priority water rights through purchase or lease agreement.

Appropriate compliance with NEPA and the NHPA, Section 106, would be completed prior to implementing any of these options.

Table 4-4. Average Summer Daily Water Demand to be Supplied by Annie Spring Alternative 2 - Mazama Focus

Development	Water Demand (gpd)
Rim Village	
Existing facilities	18,151
New parking garage comfort stations	7,000
Removal of dormitory facility (future action)	-11,000
Average Summer Daily Demand	14,151
Munson Valley	
Existing facilities: headquarters, housing, and maintenance	13,369
Average Summer Daily Demand	13,369
Mazama Village	
Existing facilities: campgrounds, cabins, store, and gas station	15,425
98 seasonal employee housing	11,242
2 group camping sites	1,250
15 seasonal RV sites	1,500
Limited maintenance facilities, warehouse storage, and drop-off facilities	1,340
Average Summer Daily Demand	30,757
Existing + Proposed Average Summer Daily Water Demand at Annie Spring	58,277
Existing Average Summer Daily Water Demand at Annie Spring	46,945
Increase Over Existing Average Summer Daily Demand	11,332
Amount Existing + Proposed Water Demand Would Be Below Permitted Water Rights (103,400 gpd)	45,123
Reopening of Crater Lake Lodge (1995)	17,360
Planned and Approved Day Use Activity Center (with removal of existing gift store/cafeteria)	14,060
Cumulative Projected Water Demand: Existing + Alternative 2 + Lodge + Day Use Activity Center	89,697
Amount Cumulative Projected Water Demand Would Be Below Permitted Water Rights	13,703
gpd = gallons per day	

Table 4-5. Average Summer Daily Water Demand at South Entrance to Be Supplied by a Well - Alternative 2

Development	Water Demand (gpd)
Park Headquarters and support facilities (future action)	–
10% increase in park administration from proposed developments	–
2nd 98-person dormitory facility (future action)	11,242
30 employee houses	6,000
15 seasonal RV sites	–
Limited support facilities: shuttle bus maintenance (future action)	–
Average Summer Daily Demand	17,242
gpd = gallons per day	

Because development at the South Entrance would be less under Alternative 2 than Alternative 1, only about 17,200 gpd would be required, compared to approximately 35,000 gpd under Alternative 1. As with Alternative 1, a new well would be constructed to provide water at the South Entrance. The water use permit must be modified for such a well to be constructed. Additional studies would be conducted prior to developing the site to ensure that a well would not impact the existing aquifer.

4.3.3.2 Cumulative Impacts

This section identifies the collective impacts of water withdrawal from (1) actions proposed under Alternative 2, (2) existing facilities, and (3) the planned and approved reopening of Crater Lake Lodge and the day use activity center.

- **Assuming all existing, planned, and proposed actions under Alternative 2 were complete, how much more water would be withdrawn from Annie Spring (the current source of water for the park)?** The projected net increase in water demand at Annie Spring would be 42,800 gpd. This amounts to a 91% increase over existing demand at Annie Spring.

  About 48,300 gpd over the existing 46,945 gpd would be required during the interim period when the dormitory at Rim Village would remain open.

- **How much more water would the park be using?** The total water use in the park would increase from about 47,000 gpd to 106,900 gpd (89,700 gpd at Annie Spring and 17,200 at the South Entrance). This is about 60,000 gpd more than is currently being used (a 127% increase).

- **Would water use at Annie Spring exceed the current permitted amount?** The total amount would be 13,703 gpd below the permitted amount (or 8,203 gpd below during the interim period when the Rim Village dormitory would remain in operation). See the previous analysis for more information regarding water rights.

The cumulative effect of increased water withdrawal rates above existing rates caused by Alternative 2 could reduce flows in the upper reach of Annie Creek by 3.7% (compared with 3.6% under Alternative 1 and 3.0% under existing conditions) for average August streamflows.

The projected maximum cumulative water demand, which would be caused by development of Alternative 2, the reopening of the Crater Lake Lodge in 1995, and the development of the planned and approved day use activity center at Rim Village, could reduce the average August streamflows by 5.7% (2.7% over the current reduction).

This withdrawal would reduce habitat for fish and aquatic organisms during the low flow periods of August and September. The consequences of habitat loss due to water withdrawal could include reductions in abundance, biomass, reproductive success, and survival of aquatic life. The magnitude of this reduction cannot be fully predicted because of the complex nature of the system. The effects may be relatively minor because the amount of water to be removed represents only a small portion of the total low-flow volume. Below the point of water withdrawal, the effect would be less and less significant as more and more tributaries augment the streamflow.

As described in Chapter 3, bull trout used to migrate from Agency/Upper Klamath Lake to spawning beds in Sun Creek by way of Annie Creek and the Wood River. However, little or no flows from Annie Creek reach the Wood River during drought periods due to water demands in Annie Creek (over 99% of which occur downstream of the park). This low flow has resulted in the disconnection of the Wood River/Annie Creek/Sun Creek migration route.

The Park Service water withdrawals would further reduce water flows. However, the disconnection of the bull trout migration route would continue to occur, with or without water withdrawals by the park. Total Park Service use under this alternative represents about 4/1,000 of the lowest flow amount reported at Annie Creek as it leaves the park based on low flow estimates provided by Sparks (pers. comm.). Water withdrawal from the park would contribute to the cumulative negative effects on water flows in this drainage system, which have had a significant negative effect on fish migration and bull trout restoration efforts.

4.3.3.3 Conclusions

- Facility development and removal proposed under Alternative 2 would require a net 11,300 gpd increase in water use from Annie Spring.

- During the interim period when the Rim Village dormitory would remain open, the increased demand on Annie Spring would be about 16,800 gpd.

- Park water use would remain within the amount permitted, but water shortfalls may occur downstream that may affect the right of the park to withdraw water from Annie Creek. A new source of water would be located should the ongoing legal process determine that federal water rights are insufficient to meet existing or proposed needs.

- Total park water demand at Annie Spring would increase 91% over existing uses when Alternative 2 is considered cumulatively with the reopening of Crater Lake Lodge and the development of the planned and approved day use activity center.

- Total park water use, including water from a proposed well at the South Entrance, would increase 127% over the existing level of use.

- The cumulative water demand of existing, proposed, and planned developments (Crater Lake Lodge and day use activity center) would cause no more than a 5.7% reduction in the flow of Annie Creek (2.7% over the current reduction).

- Water withdrawal could reduce aquatic life in Annie Creek. The effects may be relatively minor because a relatively small amount of water would be removed. Below the point of water withdrawal, the effect would be less and less significant as more and more tributaries augment the streamflow.

- Considered individually, water withdrawals from Annie Creek would have little or no effect on the status of bull trout in the Wood River system. All water withdrawals (99% of which occur downstream of the park) have and will continue to seriously reduce habitat for bull trout and other organisms.

4.3.4 IMPACTS ON WATER QUALITY - ALTERNATIVE 2

4.3.4.1 Analysis

As with Alternative 1, the potential for stormwater runoff and contaminated snow to reach the lake would be greatly reduced by the removal of the large parking area currently located at the rim.

Development and associated impacts on water quality at Rim Village would be the same under Alternative 2 as under Alternative 1, with no significant impacts.

At Munson Valley, retaining park headquarters functions would not require construction or other activities that could cause erosion or sedimentation impacts.

At Mazama Village, additional construction would increase the risks of erosion and sedimentation; however, best management practices would minimize the potential for such impacts. These practices include installation of erosion control materials and revegetation with native plants as soon as possible following construction. In addition, the level topography of the site, the porous nature of the soils, and the distance of the proposed developments to Annie Creek preclude water quality impacts to the stream. As in Alternative 1, the existing wastewater treatment facility is capable of handling increased sewer and laundry waste water.

At the South Entrance, no surface water resources are present. Annie Creek is located between 1,500 and 2,000 feet away from the area proposed for construction of a future employee dormitory. Therefore, water quality would not be affected.

4.3.4.2 Cumulative Impacts

None expected.

4.3.4.3 Conclusions

- The risk of pollutants entering Crater Lake would be reduced (same as Alternative 1).
- No impacts on water quality would occur at Annie Spring, Annie Creek, or at the South Entrance (same as Alternative 1).

4.3.5 IMPACTS ON AIR QUALITY - ALTERNATIVE 2

4.3.5.1 Analysis

As with Alternative 1, short-term air quality impacts would occur from construction activities. Emissions would consist primarily of dust generated during grading, as well as nitrogen oxides and reactive organic gas emissions generated from equipment. These emissions would be short term and would affect only areas very near construction sites.

4.3.5.2 Cumulative Impacts

None expected.

4.3.5.3 Conclusions

- Minor, short-term dust and equipment emissions would occur due to construction activities.
- Overall air quality at Rim Village would improve due to removal of parking areas and vehicle access to Rim Village.

4.3.6 IMPACTS ON VEGETATION - ALTERNATIVE 2

4.3.6.1 Analysis

Approximately 34 acres of vegetation within the four areas would be removed or disturbed (compared to 41 acres under Alternative 1). Vegetation types that would be affected by Alternative 2 are pure and mixed mountain hemlock forest (1.2 acres), pure and mixed lodgepole pine forest (14 acres), mixed conifer forest (16 acres), pumice flat (2.5 acres), and dry meadow (0.2 acre). As described in Alternative 1, disturbance of mixed conifer forest at the South Entrance would take place in areas that have been thinned or that otherwise contain few large trees.

Table 4-6 summarizes the amount of vegetation to be removed or disturbed at the four areas for Alternative 2. Additional trees adjacent to developed areas would be lost following construction. Construction activities and increased human use can damage tree roots or impede their ability to obtain water, nutrients, or gasses. This can in turn cause trees to die or otherwise become a hazard. Trees that are so affected may fall over or may be identified as hazard trees and be removed or pruned. In addition, the opening of the canopy for development would increase the vulnerability of remaining trees to falling during wind storms.

Because no special-status plant species were found in the four areas, no impacts on threatened, endangered, or other sensitive plant species would occur.

Restoration of native vegetation at the Rim Village and Munson Valley (Quarry Flat) areas would increase the amount of vegetated area by 4.0 acres as described under Alternative 1.

Construction near Rim Village would cause a minor reduction of the Crater Lake currant and pumice sandwort whose distributions center around Crater Lake National Park and southern Oregon, respectively.

Table 4-6. Acres of Vegetation Disturbed or Removed under Alternative 2

Area	Vegetation Type					
	MH	LP	MC	PF	DM	Totals[a]
Rim Village						
Parking structure				2.5		
Road to rim and walkway	1.2				0.2	
Total	1.2	0.0	0.0	2.5	0.2	3.9
Mazama Village						
2 group campsites		7.0[b]				
Employee dormitory and road		3.4				
Water/Sewer		0.6				
15 RV sites		0.2				
Pedestrian path		0.7				
Maintenance building		0.2				
Shuttle bus maintenance, warehouse, drop off facilities		1.7				
Total	0.0	13.8	0.0	0.0	0.0	13.8
South Entrance						
New roads			1.3			
Employee houses (assuming 30)			13.0			
Employee dormitory			1.6			
Total			15.9[c]			15.9
Grand Total	1.2	13.8	15.9	2.5	<0.2	33.6

Notes:

MH = mountain hemlock forest
LP = lodgepole pine forest
MC = mixed conifer forest
PF = pumice flat
DM = dry meadow
[a] includes future action impacts
[b] disturbance mostly limited to shrubs and groundcover - most large trees would remain
[c] site-specific designs would focus in areas lacking trees greater than 30" in diameter, including areas on Forest Service land that have been thinned or that contain roads

4.3.6.2 Cumulative Impacts

The disturbance of 34 acres would add to the previous disturbance that has occurred in Crater Lake National Park and throughout the region.

4.3.6.3 Conclusions

- Approximately 34 acres of vegetation would be removed or disturbed.
- No impacts on special-status plant species would occur (same as Alternative 1).
- There would be a beneficial impact through restoring vegetation (same as Alternative 1).
- A local loss of Crater Lake currant and pumice sandwort would occur (same as Alternative 1).

4.3.7 IMPACTS ON WETLANDS - ALTERNATIVE 2

4.3.7.1 Analysis

Construction activities at Rim Village and Munson Valley (Quarry Flat) would not fill or otherwise alter wetlands. No wetland impacts would occur at Mazama Village or the South Entrance because wetlands do not occur at these areas.

4.3.7.2 Cumulative Impacts

None expected.

4.3.7.3 Conclusions

- No impacts on wetlands would occur (same as Alternative 1).

4.3.8 IMPACTS ON WILDLIFE - ALTERNATIVE 2

4.3.8.1 Analysis

Because more facilities would be developed at Mazama Village under Alternative 2, the effects of noise, machinery, and workers during construction would be proportionately greater at Mazama Village than with Alternative 1. Impacts, however, would be local and short term.

As with Alternative 1, if trees or other vegetation are cleared during the breeding season (generally May through June), bird nests or mammal dens could be destroyed.

Alternative 2 would result in the long-term removal of 34 acres of habitat (compared to 41 acres under Alternative 1). As with Alternative 1, this impact, considered individually, represents a small fraction of the amount of habitats present in the park and the region.

Because actions at Rim Village and Quarry Flat do not differ between Alternative 2 and Alternative 1, impacts would be the same. Continued operation of park headquarters at Munson Valley under Alternative 2 would have no significant effect on wildlife.

Under Alternative 2, 1.7 acres more habitat would be impacted at Mazama Village than under Alternative 1 (1.7 acres of mixed lodgepole pine forest directly removed for the additional support facilities).

As with Alternative 1, this impact is small scale and local and would not result in a major decline in populations in the park or region. This impact would add to previous habitat loss caused by development of the Mazama store area, the campground, road construction, lodging units, sewage lagoons, and other facilities.

Under Alternative 2, 16 acres of low-elevation forest would be impacted at the South Entrance, compared to 26 acres for Alternative 1. The level of development would be more localized than in Alternative 1, and direct impacts on habitat would be proportionately less.

Because site-specific designs have not yet been completed for the South Entrance, the Park Service would carefully consider protecting habitat values by using methods described in Guiding Principles of Sustainable Design (U.S. Department of the Interior, National Park Service 1993).

Even though Alternative 2 would directly impact less habitat than Alternative 1, the indirect impacts of disturbance would still adversely affect some wildlife. People and noise would cause large animals, such as deer and elk, to avoid developed areas. Other smaller mammals and some birds may also avoid otherwise suitable habitat near developed areas.

Employees and their families living in government housing would explore and walk in habitats adjacent to developed areas. This would disturb some wildlife and remove habitat through trampling, soil compaction, and the creation of informal trails.

Vehicle/wildlife collisions are an expected impact of development at the South Entrance. The number of vehicle trips per day is estimated at between 100 and 300, depending on the use of shuttle services. The park would use shuttle services for most employee transportation to Mazama Village and Rim Village to minimize traffic at the South Entrance.

As described under Alternative 1, the direct loss of habitat through construction and indirect loss through noise and disturbance would remove elk calving habitat and would interfere with one of the migration routes used by elk. Development at the South Entrance could cause elk to shift their movements within or use of important spring foraging habitat in the Fort Klamath Valley. Because less development would take place at the South Entrance under Alternative 2 than under Alternative 1, these impacts would be proportionately less. The actual amount of elk calving that occurs in the South Entrance is unknown. A known calving area is located about 6 miles east of the South Entrance. This area is protected by road closures and would not be affected by Alternative 2.

Development in areas used by bear or cougar would increase the risk of negative interactions between these animals and humans. The risk of negative interactions at the South Entrance would increase less than with Alternative 1. However, because this area is not currently developed or regularly used by people, development of employee housing in this area could cause problems with bears. A facilities and waste management plan would be developed to minimize the potential for bear problems.

While development would be less in the South Entrance under Alternative 2 than under Alternative 1, development of a dormitory would still pose a minor risk of incidents involving cougar. While attacks by cougars remain extremely rare, reported incidents have increased as development enters areas where cougars are present.

Developed areas could increase aggressive scavenger species that may in turn displace or otherwise harm other wildlife species. Common aggressive species in the park include raven, Clark's nutcracker, gray jay, and Steller's jay. These species can reduce other bird species by competing for food and nest sites as well as by preying on young and eggs.

4.3.8.2 Cumulative Impacts

The loss of 34 acres of available habitat would add to previous habitat loss caused by development of the Mazama store area, the campground, road construction, lodging units, sewage lagoons, and other facilities. The loss of habitat is individually minor, but, when considered collectively with past development at Rim Village and Mazama Village, represents an overall loss of wildlife habitat value along the developed corridor of State Route 62 and Rim Drive.

4.3.8.3 Conclusions

- Minor and short-term habitat loss would occur due to noise and activities during construction.
- Impacts on breeding wildlife would occur during construction if vegetation is removed during the breeding season (June-May).
- Approximately 34 acres of habitat would be lost; elk migration corridors could be shifted.
- Animals would be displaced through human activity and encroachment.
- Vehicle/wildlife collisions at the South Entrance could increase.
- Elk calving and migration habitat at the South Entrance would be lost.
- Negative interactions between people and bears or cougars could increase.
- Scavenger species could increase in developed areas and reduce other species.

4.3.9 IMPACTS ON SPECIAL-STATUS ANIMAL SPECIES - ALTERNATIVE 2

4.3.9.1 Analysis

About 14 acres of northern goshawk habitat at Mazama Village and up to 16 acres of habitat at the South Entrance would be removed. Development at the South Entrance would focus on areas not containing large trees or other features important to northern goshawk. Because a pair of northern goshawks may range up to 6,000 acres, this level of habitat loss represents a small fraction of a single pair's territory.

Compared to Alternative 1, the loss of habitat for northern goshawk under Alternative 2 would be 1.7 acres greater at Mazama Village and about 10 acres less at the South Entrance.

As with Alternative 1, loss of habitat at Quarry Flat and Rim Village would not adversely affect any nesting pairs or individuals because no typical habitat is present.

The loss of northern goshawk habitat that would occur under Alternative 2 is not likely to affect northern goshawk populations either at the regional level or at the park level. Only a minor fraction of an average territory size would be impacted at Mazama Village and the South Entrance. Because 10 acres less habitat would be impacted at the South Entrance under Alternative 2 than under Alternative 1, impacts would be proportionately less at this area.

The South Entrance is the most likely habitat for mountain quail. Because Alternative 2 would result in a lower level of development at the South Entrance, impacts would be proportionately lower. About 16 acres of habitat would be removed under Alternative 2, compared to 26 acres under Alternative 1. Because suitable habitat is relatively common in the area, impacts are likely to be minor under either Alternative 2 or Alternative 1.

Impacts on wide-ranging carnivores (e.g., California wolverine and Pacific fisher) and American marten under Alternative 2 would be moderately less than those under Alternative 1 because (1) the South Entrance has a greater potential to be used by these species, and (2) Alternative 2 would result in less direct habitat loss at the South Entrance (16 acres of habitat removal compared to 26 acres with Alternative 1).

Nevertheless, the placement of employee housing at the South Entrance would significantly increase human presence in the area and would reduce the overall suitability of the area for California wolverine and Pacific fisher. Because these species are extremely wide ranging, this loss represents a small portion of the average home range.

As with Alternative 1, Alternative 2 would not significantly affect state sensitive species at Rim Village or Quarry Flat. Neither area contains primary habitat for such species.

Implementation of Alternative 2 at Mazama Village would require the removal of 14 acres of habitat used by three state sensitive species: pileated, three-toed, and black-backed woodpeckers (1.7 acres more than with Alternative 1). Because similar habitat is common throughout the park, impacts would be small in scale and local.

Under Alternative 2, about 16 acres of habitat for cavity-nesting birds at the South Entrance would be impacted (opposed to 26 acres under Alternative 1).

4.3.9.2 Cumulative Impacts

The loss of habitat resulting from Alternative 2, together with other similar losses that have occurred within the park, would result in the cumulative effect of reduced wildlife habitat value along the State Route 62 and Rim Drive corridors.

Most special-status animal species that would be adversely affected by this alternative are in regional decline due in large part to logging and land use changes. The level of development proposed at Crater Lake National Park is minor at a regional scale, but would nevertheless contribute to this overall decline.

As described in Chapter 3, bull trout (a federal candidate species) used to migrate from Agency/ Upper Klamath Lake to spawning beds in Sun Creek by way of Annie Creek and the Wood River. However, little or no flows from Annie Creek reach the Wood River during drought periods due to water demands in Annie Creek (over 99% of which occur downstream of the park). This low flow has resulted in the disconnection of the Wood River/Annie Creek/Sun Creek migration route.

The Park Service water withdrawals would further reduce water flows. However, the disconnection of the bull trout migration route would continue to occur, with or without water withdrawals by the park. Total Park Service use under this alternative represents about 4/1,000 of the lowest flow amount reported at Annie Creek as it leaves the park (Sparks pers. comm.). Water withdrawal from the park would contribute to the cumulative negative effects on water flows in this drainage system, which have had a significant negative effect on fish migration and bull trout restoration efforts.

4.3.9.3 Conclusions

- There would be localized loss of habitat for northern goshawk (similar to Alternative 1).
- There would be minor loss of potential habitat for mountain quail (10 acres less than Alternative 1).
- There would be loss of habitat for wide-ranging carnivores (e.g., California wolverine and Pacific fisher).
- No habitat for state-listed sensitive species at Rim Village or Quarry Flat would be lost.
- There would be a loss of 14 acres of habitat for state-listed sensitive woodpeckers at Mazama Village.
- Up to 16 acres of habitat for cavity-nesting birds would be lost at the South Entrance.
- Water withdrawal from Annie Creek would add incrementally to the existing problems with bull trout habitat.

4.3.10 IMPACTS ON ECOSYSTEM PROCESSES (FIRE) - ALTERNATIVE 2

4.3.10.1 Analysis

Because less development would occur with Alternative 2 than under Alternative 1, the risk of human-caused fires in the South Entrance may be lower. The risk of wildfire affecting people and structures would be about the same, although fewer people and structures would be affected. As with Alternative 1, development at the South Entrance would be integrated into the ongoing fire and fuels management program for the area, including those programs maintained by the Forest Service.

4.3.10.2 Cumulative Impacts

None expected.

4.3.10.3 Conclusions

- Development near forested areas would increase the risk of people being injured and structures being damaged by fire.

4.3.11 IMPACTS ON CULTURAL RESOURCES - ALTERNATIVE 2

4.3.11.1 Analysis

As with Alternative 1, results of cultural resources field surveys of most project areas indicate that no impacts to prehistoric resources are expected from Alternative 2 (Minor and Musil 1989, Sullivan 1994, and Bergland 1985a). However, cultural resources survey will likely need to be conducted along the proposed water line from the water storage facilities, and archeological monitoring should accompany land-clearing activities at the South Entrance before construction starts (Budy and Sullivan pers. comms.).

Construction of a new water tank and water lines for the Mazama dormitory complex will be located in the general area of a short section of the historic military wagon road built in 1865. This section of road would not be affected, however, because it is located away from the construction area in a rugged setting. As a precaution, the historic road segment, which is only a few feet long, would be barriered off using snow fence to prevent inadvertent damage.

As with Alternative 1, impacts on Native American cultural resources are not expected. Park Service personnel are working with the Klamath-Modoc-Yahooskin Cultural Committee, and this consultation is expected to continue during the design process.

Impacts to the potentially National Register eligible historic designed landscape at Rim Village would be the same as those identified for Alternative 1. The Oregon State Historic Preservation Officer has determined that the actions at Rim Village would have an effect on the potentially eligible district, but that the effect would not be adverse.

The proposed site of the new parking structure and the bus/recreational vehicle parking lot is located outside the potentially eligible historic district boundaries. Therefore, construction of these facilities would not physically impact resources (buildings, structures, or landscape elements) that contribute to the significance of the area.

Although removal of the large parking area, revegetation, and construction of the 2,000-foot roadway would affect the potentially eligible district, the effect would not be adverse.

Should unknown cultural resources be uncovered during construction activities, work would be stopped in the discovery area and the Park Service would consult according to 36 CFR 800.11 and, as appropriate, provisions of the Native American Graves Protection and Repatriation Act of 1990.

4.3.11.2 Cumulative Impacts

None expected.

4.3.11.3 Conclusions

- No impact to prehistoric resources is expected.
- No impacts to Native American cultural resources are expected (same as Alternative 1).
- The actions at Rim Village would have an effect on the potentially eligible historic designed landscape; however, the Oregon State Historic Preservation Officer has determined that the effect would not be adverse. No impact on historic resources is expected at other areas.

4.3.12 IMPACTS ON LOCAL ECONOMY - ALTERNATIVE 2

4.3.12.1 Analysis

As with Alternative 1, development near the South Entrance under Alternative 2 would increase the number of people living near Fort Klamath. This would result in a minor increase in retail sales that would not likely be sufficient to significantly affect employment within Fort Klamath.

4.3.12.2 Cumulative Impacts

None expected.

4.3.12.3 Conclusions

- No impact on the local economy would occur.

4.3.13 IMPACTS ON VISITOR EXPERIENCE - ALTERNATIVE 2

4.3.13.1 Analysis

Because development at the rim does not differ between Alternative 2 and Alternative 1, impacts to visitor experience at Rim Village would be identical.

Alternative 2 would result in more development at Mazama Village, and the potential for noise or other disturbances to visitor experience is greater than with Alternative 1. Developing certain facilities at Mazama Village, rather than at the South Entrance, would increase the overall sense of development and human presence. Potential visitor disturbance under this alternative would be greater than if similar support facilities were constructed in the South Entrance area, as under Alternative 1, because few visitors currently use the South Entrance.

Assuming the employee dormitory were constructed outside the view corridor, impacts on the visitor experience at the South Entrance would not occur under this alternative.

Development at the South Entrance would be set back from the visual corridor along State Route 62. Visitors entering or leaving the park at this point would see the access road entrance and sign. Current plans are to place all facilities outside of the line of sight of State Route 62; however, some facilities may be partially visible through the trees. Fire management methods employed in this area may reduce some visual screening. The corridor of large ponderosa pine would not be altered.

4.3.13.2 Cumulative Impacts

None expected.

4.3.13.3 Conclusions

- Most impacts would be the same as under Alternative 1 at Rim Village and Mazama Village.
- Visitor disturbance from support functions at Mazama Village could occur (slightly greater than Alternative 1).

4.3.14 IMPACTS ON EMPLOYEE COMMUTING AND DELIVERY OF SUPPLIES - ALTERNATIVE 2

4.3.14.1 Analysis

The concessioner would assign employees to housing most appropriate for their workplaces. The Mazama Village dormitory would be used by employees working at Mazama Village or Rim Village. Those working at Rim Village would commute via personal vehicle. If appropriate, the shuttle system

would be adapted to facilitate employee commuting between Mazama Village and Rim Village. A shuttle system would be developed for the South Entrance.

Park Service housing would be placed proximate to work locations. Employees staying at the South Entrance would also work there. Some employees who currently commute to Munson Valley from outside the park would move into government housing at the South Entrance and eliminate their need to commute long distances to work.

Some shipments of food and supplies destined for Rim Village would be transferred from larger trucks to small delivery vans at Mazama Village. This would cause a moderate increase in fuel, time, and expense required to make deliveries at Rim Village.

4.3.14.2 Cumulative Effects

None expected.

4.3.14.3 Conclusions

- Transfer of goods from larger trucks to small delivery vans at Mazama Village would cause a moderate increase in fuel, time, and expense required for deliveries to Rim Village.

4.3.15 IMPACTS ON LAND USE AND ZONING - ALTERNATIVE 2

4.3.15.1 Analysis

Land use designations within the park are made through the General Management Plan (GMP), as amended. The GMP is amended through actions such as the one being considered in this FEIS.

Development of housing and related facilities on Forest Service lands near the South Entrance was not included in the Winema National Forest Plan. Use of this area for employee housing and other developed uses would be considered a change in land use designation and would require an amendment to the Forest Plan. Such a change would be subject to NEPA review.

The Klamath County Comprehensive Plan identifies Forest Service lands at the South Entrance as commercial forest lands. While the county has no regulatory authority on federal lands, the county has developed plans to maintain compatibility between federal and nonfederal land management. Development of this area would conflict with the county's comprehensive plan and would likely prompt the county to conduct additional planning in this area.

In addition to conflicts with existing plans, development at the South Entrance could result in potential compatibility issues regarding logging truck traffic near a residential community. The Forest Service road that would serve as the main access road to developments at the South Entrance is a major haul route for logging trucks. While the amount of traffic varies with timber sale activity, the roadway serves as a main access point to commercial forest lands. Employees living in this area may

be disturbed by the noise caused by truck traffic. In addition, joint use of this road for residents and commercial forestry may not be compatible in terms of safety and traffic flow.

4.3.15.2 Cumulative Effects

No cumulative impacts on land use and zoning are expected.

4.3.15.3 Conclusions

- Employee housing and other developed uses on Forest Service lands at the South Entrance would be considered a change in land use designation and would require an amendment to the Forest Plan.
- Development of the South Entrance would conflict with the county's comprehensive plan and would likely prompt the county to conduct additional planning in this area.
- Development at the South Entrance could result in potential noise, safety, and congestion problems because of logging truck traffic near a residential community.

4.3.16 UNAVOIDABLE ADVERSE EFFECTS - ALTERNATIVE 2

As with Alternative 1, the new parking structure at Rim Village would require extensive excavation in 2.5 acres of a pumice field. The pedestrian walkway would require a 40-foot culvert in a small stream.

Water use from Annie Spring, the park's current water source, would increase from 46,900 to 58,300 gpd. This would reduce flows in a 5,000-foot section of Annie Creek by a total of 3.7%, or 0.7% more than the reduction caused by existing use.

Construction of facilities and associated infrastructure would require the direct removal of vegetation. Approximately 34 acres of vegetation and wildlife habitat would be removed or disturbed. However, up to 16 acres of these 34 acres would be in the South Entrance and on adjacent Forest Service land. Development in the South Entrance would focus on areas that have been previously disturbed by fire, fire suppression, and timber harvest. This area is used by elk for calving and migration, and development would cause elk to shift movement patterns and avoid traditional use areas. Elk productivity would decrease.

Visitors would experience temporary inconveniences and noise due to construction activities. Following construction, Mazama Village would be used by more people, including group campers and up to 98 concession employees.

4.3.17 RELATIONSHIP OF SHORT-TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY - ALTERNATIVE 2

Like Alternative 1, Alternative 2 consists of long-term projects. Both alternatives would complete the Park Service's long-term improvement goals for Rim Village and would meet the long-term employee housing and support facility needs.

4.3.18 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES - ALTERNATIVE 2

As with Alternative 1, implementing Alternative 2 would result in cleared areas that could not be restored to previous conditions within a reasonable time. The vegetation types that would be removed require a long time to return to mature conditions, ranging from decades to several hundred years. Implementation of Alternative 2 would require the irretrievable commitment of resources, including use of land, construction materials, energy, and funding.

4.4 ALTERNATIVE 3 - NO ACTION (CONTINUATION OF THE 1988 DEVELOPMENT CONCEPT PLAN AND AMENDMENT TO THE GENERAL MANAGEMENT PLAN)

For Alternative 3, the No Action Alternative, the discussion of applicable regulations and policies, as well as methods used in assessing impacts, are the same as those described for Alternative 1 and are not repeated here.

4.4.1 IMPACTS ON EARTH RESOURCES - ALTERNATIVE 3

4.4.1.1 Analysis

Construction of a parking structure north of Rim Drive would require more significant changes in topography than would the parking site proposed under Alternative 1. The location for this parking structure includes portions of the slope below Rim Village. Because of this, construction on this site could require more grading and alteration of topography than would be required at the pumice flat site south of Rim Drive.

As with the other alternatives, soils are generally well suited to development at all areas under consideration, and no significant impacts would occur. Construction activities would result in surface disturbance of the soils and soil compaction on the site. Visitor and employee use would result in localized impacts on soils.

4.4.1.2 Cumulative Impacts

None expected.

4.4.1.3 Conclusions

- Topography on the slope below Rim Village would change.
- Minor local impacts on soils would occur from construction and use (same as Alternative 1 and Alternative 2).

4.4.2 IMPACTS ON SURFACE WATER RESOURCES - ALTERNATIVE 3

4.4.2.1 Analysis

Under Alternative 3, the parking area at Rim Village would be located near a swale which drains the area. Based on the schematic figure in the 1988 DCP and the topography of the site, the new parking area would be located sufficiently distant from the swale to avoid impacts. Development of the parking area and new road to the lodge would increase impervious surfaces at Rim Village.

However, because the porous nature of the soil allows rapid infiltration of stormwater, no impacts to surface water resources are expected to occur.

The pedestrian walkway between the new parking area and the day use activity center at Rim Village would likely cross the upper portion of the drainage swale. This upper portion of the drainage was not identified as a water of the United States in the 1993 Wetland Delineation Report (Jones & Stokes Associates 1993c) because a defined bed and bank are lacking. A culvert may need to be installed to maintain the natural flow of water through the drainage swale and to prevent water from flowing over the pathway.

The possible access road to Crater Lake Lodge would start from near the northeast end of the new parking area at Rim Village. The road would not have any impacts on the stream.

Construction of an employee dormitory at Munson Valley would take place in a previously developed site and would not affect surface waters. The development would, however, increase impervious surfaces at Munson Valley. The porous soils, which allow rapid infiltration of stormwater, are expected to preclude stormwater impacts on surface waters.

No indirect impacts, such as changes in the quantity of surface water or movement of surface water through the site, are expected at Rim Village or Munson Valley (Quarry Flat) as a result of the proposed developments under Alternative 3.

4.4.2.2 Cumulative Impacts

None expected.

4.4.2.3 Conclusions

- Impervious surfaces would increase at Rim Village; however, no impacts on surface water resources would be expected.
- As part of the pedestrian walkway, a culvert may be required in the upper portion of a drainage swale.

4.4.3 IMPACTS ON GROUNDWATER/WATER SUPPLY - ALTERNATIVE 3

4.4.3.1 Analysis

Table 4-7 presents the average summer daily water demand to be supplied from Annie Spring under Alternative 3.

This analysis addresses the direct water use resulting from Alternative 3. In other words, only the direct water needs for the actions being considered under Alternative 3 are evaluated. See the Cumulative Impacts Section (which follows this section) for an assessment of all water use in the

Table 4-7. Average Summer Daily Water Demand to be Supplied by Annie Spring Alternative 3 (No Action)

Development	Water Demand (gpd)
Rim Village	
Existing facilities	18,151
Average Summer Daily Demand	18,151
Munson Valley	
Existing facilities: headquarters, housing, and maintenance	13,369
60 to 65 employees housing	3,350
Average Summer Daily Demand	16,719
Mazama Village	
Existing facilities: campgrounds, cabins, store, and gas station	15,425
Planned concessioner apartments	2,000
Planned support facilities: offices, warehouse space	500
Average Summer Daily Demand	17,925
Existing + Proposed Projected Average Summer Daily Water Demand at Annie Spring	52,795
Existing Average Summer Daily Water Demand at Annie Spring	46,945
Increase Over Existing Average Summer Daily Demand	5,850
Amount Existing + Proposed Water Demand Would Be Below Permitted Water Rights (103,400 gpd)	50,605
Reopening of Crater Lake Lodge (1995)	17,360
Planned and Approved Day Use Activity Center (with removal of existing gift store/cafeteria)	14,060
Cumulative Projected Water Demand: Existing + Alternative 3 + Lodge + Day Use Activity Center	84,215
Amount Cumulative Projected Water Demand Would Be Below Permitted Water Rights	19,185
gpd = gallons per day	

park, including existing and planned and approved facilities. Some numbers provided in Table 4-7 are rounded in text.

- **How much more water would Alternative 3 require to be withdrawn from Annie Spring (the current source of water for the park)?** The actions planned under Alternative 3 would require a net increase of about 5,850 gpd from Annie Spring. This amounts to a 12% increase over existing demand at Annie Spring.

- **How much more water would the park be using?** Because Annie Spring would be the only source of water (no new well at the South Entrance would be developed), the total park use would be the same as that just described (increasing 5,850 gpd to a total use of 52,795 gpd).

- **Would water use at Annie Spring exceed the current permitted amount?** The total amount would be 50,605 gpd below the permitted amount. However, seasonal water shortfalls may occur within the Annie Creek drainage downstream from Crater Lake National Park. The legal process is underway to determine the quantity of water available for park uses through the Klamath Basin Adjudication. The Park Service is investigating a number of options with Oregon State water laws, should the adjudication determine that the combination of existing federal reserved and prior appropriation water rights is insufficient to meet existing needs, or those proposed under the alternatives being considered in this DCP. Those options being investigated include:

  - Locating new water sources, either surface water or subsurface sources (wells), for which appropriate water rights could be obtained.

  - Obtaining additional priority water rights through purchase or lease agreement.

Appropriate compliance with NEPA and the NHPA, Section 106, would be completed prior to implementing any of these options.

4.4.3.2 Cumulative Impacts

This section identifies the collective impacts of water withdrawal from (1) actions that would be carried out under Alternative 3, (2) existing facilities, and (3) the planned and approved reopening of Crater Lake Lodge and the day use activity center.

- **Assuming all existing and planned actions under Alternative 3 were complete, how much more water would be withdrawn from Annie Spring (the current source of water for the park)?** The projected net increase in water demand at Annie Spring would be 37,270 gpd. This amounts to a 79% increase over existing demand at Annie Spring.

- **How much more water would the park be using?** The total water use in the park would increase from about 47,000 gpd to 84,215 gpd.

- **Would water use at Annie Spring exceed the current permitted amount?** The total amount would be 19,185 gpd below the permitted amount. See the previous analysis for more information regarding water rights.

This withdrawal would reduce habitat for fish and aquatic organisms during the low flow periods of August and September. The consequences of habitat loss due to water withdrawal could include reductions in abundance, biomass, reproductive success, and survival of aquatic life. The magnitude of this reduction cannot be fully predicted because of the complex nature of the system. The effects are expected to be relatively minor because the amount of water to be removed represents only a small portion of the total low-flow volume. Below the point of water withdrawal, the effect would be less and less significant as more and more tributaries augment the streamflow.

As described in Chapter 3, bull trout used to migrate from Agency/Upper Klamath Lake to spawning beds in Sun Creek by way of Annie Creek and the Wood River. However, little or no flows from Annie Creek reach the Wood River during drought periods due to water demands in Annie Creek (over 99% of which occur downstream of the park). This low flow has resulted in the disconnection of the Wood River/Annie Creek/Sun Creek migration route.

The Park Service water withdrawals would further reduce water flows. However, the disconnection of the bull trout migration route would continue to occur, with or without water withdrawals by the park. Total Park Service use under this alternative represents about 4/1,000 of the lowest flow amount reported at Annie Creek as it leaves the park based on low flow estimates provided by Sparks (pers. comm.). Water withdrawal from the park would contribute to the cumulative negative effects on water flows in this drainage system, which have had a significant negative effect on fish migration and bull trout restoration efforts.

4.4.3.3 Conclusions

- Facility development that would be carried out under Alternative 3 would require a net 5,850 gpd increase in water use from Annie Spring.

- Park water use would remain within the amount permitted, but water shortfalls may occur downstream that may affect the right of the park to withdraw water from Annie Creek. A new source of water would be located should the ongoing legal process determine that federal water rights are insufficient to meet existing or proposed needs.

- Total water demand within the park would increase 79% over existing uses when Alternative 3 is considered cumulatively with the reopening of Crater Lake Lodge and the development of the planned and approved day use activity center (this equates to a 79% increase in water withdrawn from Annie Creek, since the creek would remain the sole source of water for the park at this time).

- The cumulative water demand of existing, proposed, and planned developments (Crater Lake Lodge and day use activity center) would cause no more than a 5.4% reduction in the flow of Annie Creek (2.4% over the current reduction).

- Water withdrawal could reduce aquatic life in Annie Creek. The effects may be relatively minor because a relatively small amount of water would be removed. Below

the point of water withdrawal, the effect would be less and less significant as more and more tributaries augment the streamflow.

- Considered individually, water withdrawals from Annie Creek would have little or no effect on the status of bull trout in the Wood River system. All water withdrawals (99% of which occur downstream of the park) have and will continue to seriously reduce habitat for bull trout and other organisms.

4.4.4 IMPACTS ON WATER QUALITY - ALTERNATIVE 3

4.4.4.1 Analysis

Alternative 3 would have similar benefits to water quality in Crater Lake as Alternatives 1 and 2. However, a 100-car parking area may be retained at the rim. Depending on site design and location, this parking area may continue minor pollutant discharge to the lake, although the concentration would be reduced to approximately 20% of the current pollutant loading from the existing parking lot. Site design could reduce the potential impact further by siting the lot well away from the edge of the caldera and directing runoff away from the lake.

Potential impacts on the stream and wetland from redesigning the parking areas would be similar to those described under Alternative 1 and Alternative 2, with impacts being avoided through best management practices.

4.4.4.2 Cumulative Impacts

None expected.

4.4.4.3 Conclusions

- The risk of pollutants entering Crater Lake would be reduced (similar to Alternative 1 and Alternative 2).

- No impacts on water quality would occur (similar to Alternative 1 and Alternative 2).

4.4.5 IMPACTS ON AIR QUALITY - ALTERNATIVE 3

4.4.5.1 Analysis

Air quality impacts under Alternative 3 would be similar to those described for Alternative 1 and Alterative 2, with short-term, minor dust and exhaust emissions during construction of facilities. Because less construction would occur under Alternative 3, such emissions would be less than those from either Alternative 1 or Alternative 2. Impacts would be short term and would affect only areas very near construction sites. Air quality improvements at Rim Village would be similar to those

described under Alternatives 1 and 2, except visitor vehicles would still be allowed to drive to Rim Village.

4.4.5.2 Cumulative Impacts

None expected.

4.4.5.3 Conclusions

- Impacts would be similar to those under Alternative 1 and Alternative 2, with only minor impacts during construction.

4.4.6 IMPACTS ON VEGETATION - ALTERNATIVE 3

4.4.6.1 Analysis

Approximately 3 acres near Rim Village would be removed or disturbed as part of the parking facility approved in the 1988 DCP. Vegetation types affected would include pure and mixed mountain hemlock forest (2.6 acres) and dry meadow (0.5 acre). Additional trees adjacent to developed areas would be lost following construction. Construction activities and increased human use can damage tree roots or impede their ability to obtain water, nutrients, or gasses. This can in turn cause trees to die or otherwise become a hazard. Trees that are so affected may fall over or may be identified as hazard trees and be removed or pruned. In addition, the opening of the canopy for development would increase the vulnerability of remaining trees to falling during wind storms.

At Rim Village, a low number of large, mature mountain hemlock trees would be removed. Crater Lake currant would be one of the understory plant species removed. The Crater Lake currant understory is one of the unique communities identified for this area in Chapter 3. The number of populations of Crater Lake currant in the park is unknown.

Alternative 3 would provide an opportunity to restore approximately 3.0 acres of native vegetation at Rim Village after the existing parking lot and connecting road to Crater Lake Lodge are removed. Development of an employee dormitory at Munson Valley would take place in a previously cleared site and no vegetation would be cleared except for potential hazard trees adjacent to the site.

Because no special-status plant species were found in the four areas, no impacts on threatened, endangered, or other sensitive plant species would occur.

4.4.6.2 Cumulative Impacts

None expected.

4.4.6.3 Conclusions

- Approximately 3 acres of vegetation would be removed or disturbed.
- No impacts on special-status plant species would occur.
- There would be a beneficial impact through restoring vegetation.
- There would be a local loss of Crater Lake currant.

4.4.7 IMPACTS ON WETLANDS - ALTERNATIVE 3

4.4.7.1 Analysis

Under Alternative 3, no wetland impacts would occur at Rim Village or Munson Valley. Construction at these areas would avoid wetland areas. In addition, there would be no wetland impacts at Mazama Village or the South Entrance because wetlands do not occur at these areas.

4.4.7.2 Cumulative Impacts

None expected.

4.4.7.3 Conclusions

- No impacts on wetlands would occur (same as Alternative 1 and Alternative 2).

4.4.8 IMPACTS ON WILDLIFE - ALTERNATIVE 3

4.4.8.1 Analysis

Impacts on wildlife cannot be fully determined under Alternative 3 because no specific site or design is available for employee housing at Munson Valley or Mazama Village.

However, about 2.6 acres of mountain hemlock forest would be impacted from the parking area being constructed on the north side of Rim Drive. Because forest would be impacted, rather than pumice flat, the potential to affect wildlife would be greater since more wildlife species use the forest habitat type.

Because Alternative 3 would result in no development at this time at the South Entrance, this alternative would not disturb potential elk calving or migration habitat.

Under Alternative 3, construction activities could result in noise, machinery, and workers disturbing wildlife. However, because no dormitory or other actions would take place at Mazama Village or

the South Entrance, these impacts would be less than with Alternative 1. Noise and activities during construction of the 60- to 65-person employee dormitory at Munson Valley would impact wildlife. Employees and their families living in government housing would explore and walk in habitats adjacent to developed areas. This would disturb some wildlife and remove habitat through trampling, soil compaction, and the creation of informal trails.

As with Alternative 1 and Alternative 2, if trees or other vegetation are cleared during the breeding season (generally May through June), bird nests or mammal dens could be destroyed.

Construction of the parking area north of Rim Drive could cause some wildlife to avoid that area during construction and operation. These impacts would be limited to the rim area under Alternative 3. Developed areas could increase aggressive scavenger species that may in turn displace or otherwise harm other wildlife species. Common aggressive species in the park include raven, Clark's nutcracker, gray jay, and Steller's jay. These species can reduce other bird species by competing for food and nest sites as well as by preying on young and eggs.

4.4.8.2 Cumulative Impacts

None expected.

4.4.8.3 Conclusions

- There would be minor short-term habitat loss due to noise and activities during construction.
- Impacts on breeding wildlife would occur during construction.
- Animals would be displaced through human activity and encroachment at Rim Village.
- Scavenger species could increase in developed areas and reduce other species.

4.4.9 IMPACTS ON SPECIAL-STATUS ANIMAL SPECIES - ALTERNATIVE 3

4.4.9.1 Analysis

Impacts at Rim Village would be essentially the same as those with Alternative 1 and Alternative 2, with some minor loss of potential foraging habitat for northern goshawk. Development of an employee dormitory at Munson Valley would take place on a previously cleared site and would not affect northern goshawk or other species.

4.4.9.2 Cumulative Impacts

As described in Chapter 3, bull trout (a federal candidate species) used to migrate from Agency/ Upper Klamath Lake to spawning beds in Sun Creek by way of Annie Creek and the Wood River.

However, little or no flows from Annie Creek reach the Wood River during drought periods due to water demands in Annie Creek (over 99% of which occur downstream of the park). This low flow has resulted in the disconnection of the Wood River/Annie Creek/Sun Creek migration route.

The Park Service water withdrawals would further reduce water flows. However, the disconnection of the bull trout migration route would continue to occur, with or without water withdrawals by the park. Total Park Service use under this alternative represents about 4/1,000 of the lowest flow amount reported at Annie Creek as it leaves the park (Sparks pers. comm.). Water withdrawal from the park would contribute to the cumulative negative effects on water flows in this drainage system, which have had a significant negative effect on fish migration and bull trout restoration efforts.

4.4.9.3 Conclusions

- There would be localized loss of habitat for northern goshawk.
- Water withdrawal from Annie Creek would add incrementally to the existing problems with bull trout habitat.

4.4.10 IMPACTS ON ECOSYSTEM PROCESSES (FIRE) - ALTERNATIVE 3

4.4.10.1 Analysis

Because no development at the South Entrance or Mazama Village would take place at this time, Alternative 3 would not result in significant increased risk of wildfire affecting people and structures or in increased risk of human-caused fire.

4.4.10.2 Cumulative Impacts

None.

4.4.10.3 Conclusions

- No significant increased risk of fire damage would result from Alternative 3.

4.4.11 IMPACTS ON CULTURAL RESOURCES - ALTERNATIVE 3

4.4.11.1 Analysis

As with Alternative 1, cultural resources field surveys of most project areas indicate that no impacts to prehistoric resources would occur under Alternative 3 (Minor and Musil 1989, Sullivan 1994, and Bergland 1985a).

As noted for the other alternatives, Park Service personnel are working with the Klamath-Modoc-Yahooskin Cultural Committee, and this consultation is expected to continue for an indefinite period.

Impacts to the potentially National Register eligible historic designed landscape at Rim Village would be similar to those identified in the previously approved 1988 DCP. The Oregon State Historic Preservation Officer has determined that the actions at Rim Village would have an effect on the potentially eligible district, but that the effect would not be adverse.

Construction of an employee dormitory at Munson Valley would be outside the historic district boundary and would not impact the district.

Should unknown cultural resources be uncovered during construction activities, work would be stopped in the discovery area and the Park Service would consult according to 36 CFR 800.11 and, as appropriate, provisions of the Native American Graves Protection and Repatriation Act of 1990.

4.4.11.2 Cumulative Impacts

None expected.

4.4.11.3 Conclusions

- No impact to prehistoric resources is expected.
- No impacts to Native American cultural resources are expected.
- The actions at Rim Village would have an effect on the potentially eligible historic designed landscape; however, the Oregon State Historic Preservation Officer has determined that the effect would not be adverse. No impact on historic resources is expected at other areas.

4.4.12 IMPACT ON LOCAL ECONOMY - ALTERNATIVE 3

4.4.12.1 Analysis

Under Alternative 3, no development would occur at the South Entrance; therefore, there would be no effect on the economy at Fort Klamath.

4.4.12.2 Cumulative Effects

None expected.

4.4.12.3 Conclusions

- No impact on the local economy would occur.

4.4.13 IMPACTS ON VISITOR EXPERIENCE - ALTERNATIVE 3

4.4.13.1 Analysis

Impacts on the visitor experience would be similar to those described under Alternative 1. The parking facility, while located north of Rim Drive, would alter the visual character of the area. Northbound travelers driving toward Rim Village from Munson Valley tend to look to the right because of the prominent ridge line and roadway alignment. Because of this, the parking facility would be more visually intrusive than under Alternative 1 or Alternative 2. Construction of the facility would increase noise and cause some inconvenience for visitors. Because visitors could drive to Crater Lake Lodge, the setting would be less pedestrian oriented than under Alternative 1 or Alternative 2. The employee dormitory at Rim Village would remain and continue to reduce the quality of views from Crater Lake Lodge and other areas of Rim Village. An employee dormitory at Munson Valley would increase the presence and visibility of people and development in that area.

Because no development would take place at the South Entrance at this time, Alternative 3 would not change the existing view corridor, roadway, and visitor opportunities at the South Entrance.

4.4.13.2 Cumulative Impacts

None expected.

4.4.13.3 Conclusions

- Vehicles would be present at Rim Village.

4.4.14 IMPACTS ON EMPLOYEE COMMUTING AND DELIVERY OF SUPPLIES - ALTERNATIVE 3

4.4.14.1 Analysis

Concession employees would commute from the employee dormitory at Munson Valley to work places at Rim Village and Mazama Village. Employees staying at the Rim Village dormitory would continue walking, driving, or riding bicycles to work sites at Rim Village.

4.4.14.2 Cumulative Effects

None expected.

4.4.15 IMPACTS ON LAND USE AND ZONING - ALTERNATIVE 3

4.4.15.1 Analysis

Alternative 3 would be consistent with zoning designations of the Park Service and adjacent jurisdictions.

4.4.15.2 Cumulative Effects

None expected.

4.4.15.3 Conclusions

Alternative 3 would be consistent with zoning designations of the Park Service and adjacent jurisdictions.

4.4.16 UNAVOIDABLE ADVERSE EFFECTS - ALTERNATIVE 3

The parking structure at Rim Village under Alternative 3 would require excavation of 1.2 acres of the slope below Rim Village.

Water use from Annie Spring, the park's current water source, would increase from 46,900 to 52,800 gallons per day. This would reduce flows in a 5,000-foot section of Annie Creek by a total of 3.4%, or 0.4% more than the reduction caused by existing use.

Approximately 3 acres of vegetation near Rim Village would be cleared as part of the parking facility approved in the 1988 DCP.

Munson Valley would become more crowded and developed as a result of the new dormitory at Quarry Flat.

Visitors would experience temporary inconveniences and noise due to construction activities at Rim Village.

4.4.17 RELATIONSHIP OF SHORT-TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY - ALTERNATIVE 3

Like Alternative 1 and 2, Alternative 3 consists of long-term projects. Alternative 3, however, would not meet the purpose and need for action. Employee housing shortages would remain critical in the park, especially for employees with families. Employee recruitment and retention would remain difficult for both the Park Service and the concessioner, thus hampering the long-term management and operation of the park.

4.4.18 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES - ALTERNATIVE 3

Developments under Alternative 3 would result in cleared areas that could not be restored to previous conditions within a reasonable time. Implementation of Alternative 3 would require the irretrievable commitment of resources, including use of land, construction materials, energy, and funding.

4.5 ALTERNATIVE 4 - PROPOSED ACTION

For Alternative 4 - Proposed Action, the applicable regulations and policies, as well as methods used in assessing impacts, are the same as those described for Alternative 1 and are not repeated here.

Alternative 4, the revised Proposed Action, was developed after new opportunities were discovered through public and agency responses to the DEIS. Under Alternative 4, a separate planning effort would take place to determine the most appropriate location for the facilities and functions originally proposed for the South Entrance (as described under Alternatives 1 and 2).

4.5.1 IMPACTS ON EARTH RESOURCES - ALTERNATIVE 4

4.5.1.1 Analysis

Development under Alternative 4 at Rim Village is the same as that under Alternative 1; therefore, impacts would be the same. Development of the parking facility would require a large amount of excavation and grading and would alter the topography at the pumice flat area. Development of the new roadway to the rim would require cut and fill, as well as retaining walls. This would alter the existing topography on the slope below Rim Village.

As with Alternative 1, soils are generally well suited to development at all areas under consideration, and no significant impacts would occur. Construction activities would result in surface disturbance of the soils and soil compaction on the site. Visitor and employee use would result in localized impacts on soils.

4.5.1.2 Cumulative Impacts

Alteration of topography near Rim Village would be additive to the previous impacts of development at Rim Village and along Rim Drive.

4.5.1.3 Conclusions

- Development of the new parking facility and road to Rim Village would require grading and excavating that would in turn alter topography in the area.
- No long-term soil impacts would be expected as a result of development activities under Alternative 4.
- Construction activities would result in surface disturbance of the soils and soil compaction on the site.

4.5.2 IMPACTS ON SURFACE WATER RESOURCES - ALTERNATIVE 4

4.5.2.1 Analysis

Proposed immediate development at Rim Village under Alternative 4 would be the same as described for Alternative 1.

Development at Mazama Village under Alternative 4 would be the same as that with Alternative 1; this development would not impact adjacent surface water resources for the same reasons as discussed under Alternative 1. In brief, the level topography of development areas, the porous nature of the soils, and the distance of proposed developments from Annie Creek would preclude sedimentation or other impacts to the stream.

No development would occur at the South Entrance.

4.5.2.2 Cumulative Impacts

Placement of a culvert within a small stream as part of the pedestrian pathway at Rim Village would result in a small increase in the existing number of culverts in the park. No other cumulative effects are expected.

4.5.2.3 Conclusions

- Impervious surfaces would increase at Rim Village (including the new parking area) and Mazama Village. No impacts on surface water resources are expected from stormwater runoff.
- One culvert would be placed in the stream south of the day use activity center. The new culvert that would be required would enclose approximately 40 feet of the stream in a pipe.
- The hydrologic connection between the hillside seep and stream adjacent to Quarry Flat could be restored.
- No impacts on surface waters would occur at other areas.

Other surface waters, including seeps, streams, and wetlands, would not be affected by Alternative 4. In addition, no development would occur in floodplains. No wetlands are present at Mazama Village.

4.5.3 IMPACTS ON GROUNDWATER/WATER SUPPLY - ALTERNATIVE 4

4.5.3.1 Analysis

Table 4-8 presents the average summer daily water demand to be supplied from Annie Spring under Alternative 4.

This analysis addresses the direct water use resulting from Alternative 4. In other words, only the direct water needs for the actions being considered under Alternative 4 are evaluated. See the Cumulative Impacts Section (which follows this section) for an assessment of all water use in the park, including existing and planned and approved facilities. Some of the numbers provided in Table 4-8 are rounded in text.

- **How much more water would Alternative 4 require to be withdrawn from Annie Spring (the current source of water for the park)?** The actions planned under Alternative 4 would require a net increase of about 10,000 gpd from Annie Spring (21,000 gpd from new facilities minus 11,000 gpd from removal of the Rim Village dormitory). This amounts to a 21% increase over existing demand at Annie Spring.

  During the interim period when the dormitory at Rim Village would remain open, it would be operated at half its current occupancy and would require about half its current water demand from Annie Spring. About 15,500 gpd would be required during this interim period. This amount would drop back to 10,000 gpd once a replacement dormitory was completed and the Rim Village dorm was closed.

- **How much more water would the park be using?** Alternative 4 would require the direct use of about 10,000 gpd.

- **Would water use at Annie Spring exceed the current permitted amount?** The total amount of existing plus proposed water use would be 46,463 gpd below the permitted amount (or 40,963 gpd below during the interim period when the Rim Village dormitory would remain in operation). However, seasonal water shortfalls may occur within the Annie Creek drainage downstream from Crater Lake National Park. The legal process is underway to determine the quantity of water available for park uses through the Klamath Basin Adjudication. The Park Service is investigating a number of options within Oregon State water laws, should the adjudication determine that the combination of existing federal reserved and prior appropriation water rights is insufficient to meet existing needs, or those proposed in this DCP. Those options being investigated include:

  - Locating new water sources, either surface water or subsurface sources (wells), for which appropriate water rights could be obtained.

  - Obtaining additional priority water rights through purchase or lease agreement.

Appropriate compliance with NEPA and the NHPA, Section 106, would be completed prior to implementing any of these options.

Table 4-8. Average Summer Daily Water Demand to be Supplied by Annie Spring
Alternative 4 - Proposed Action

Development	Water Demand (gpd)
Rim Village	
Existing facilities	18,151
New parking garage comfort stations	7,000
Removal of dormitory facility (future action)	-11,000
Average Summer Daily Demand	14,151
Munson Valley	
Existing facilities: headquarters, housing, and maintenance	13,369
Average Summer Daily Demand	13,369
Mazama Village	
Existing facilities: campgrounds, cabins, store, and gas station	15,425
98 seasonal employee housing	11,242
2 group camping sites	1,250
15 seasonal RV sites	1,500
Average Summer Daily Demand	29,417
Existing + Proposed Projected Average Summer Daily Water Demand at Annie Spring	56,937
Existing Average Summer Daily Water Demand at Annie Spring	46,945
Increase Over Existing Average Summer Daily Demand	9,992
Amount Existing + Proposed Water Demand Would Be Below Permitted Water Rights (103,400 gpd)	46,463
Reopening of Crater Lake Lodge (1995)	17,360
Planned and Approved Day Use Activity Center (with removal of existing gift store/cafeteria)	14,060
Cumulative Projected Water Demand: Existing + Alternative 4 + Lodge + Day Use Activity Center	88,357
Amount Cumulative Projected Water Demand Would Be Below Permitted Water Rights	15,043
gpd = gallons per day	

4.5.3.2 Cumulative Impacts

This section identifies the collective impacts of water withdrawal from (1) actions proposed under Alternative 4, (2) existing facilities, and (3) the planned and approved reopening of Crater Lake Lodge and the day use activity center.

- **Assuming all existing, planned, and proposed actions under Alternative 4 were complete, how much more water would be withdrawn from Annie Spring (the current source of water for the park)?** The projected net increase in water demand at Annie Spring would be 41,400 gpd. This amounts to an 88% increase over existing demand at Annie Spring.

  About 46,900 gpd would be required during the interim period when the dormitory at Rim Village would remain open.

- **How much more water would the park be using?** The total water use in the park would increase from about 47,000 gpd to 88,400 gpd.

- **Would water use at Annie Spring exceed the current permitted amount?** The total amount would be 15,043 gpd below the permitted amount (or 9,543 gpd below during the interim period when the Rim Village dormitory would remain in operation). See the previous analysis for more information regarding water rights.

The cumulative effect of increased water withdrawal rates above existing rates caused by Alternative 4 could reduce flows in the upper reach of Annie Creek by 3.6% (same as under Alternative 1) for average August streamflows.

The projected maximum cumulative water demand, which would be caused by development of Alternative 4, the reopening of the Crater Lake Lodge in 1995, and the development of the planned and approved day use activity center at Rim Village, could reduce the average August streamflows by 5.6% (2.6% over the current reduction).

This withdrawal would reduce habitat for fish and aquatic organisms during the low flow periods of August and September. The consequences of habitat loss due to water withdrawal could include reductions in abundance, biomass, reproductive success, and survival of aquatic life. The magnitude of this reduction cannot be fully predicted because of the complex nature of the system. The effects are expected to be relatively minor because the amount of water to be removed represents only a small portion of the total low-flow volume. Below the point of water withdrawal, the effect would be less and less significant as more and more tributaries augment the streamflow.

As described in Chapter 3, bull trout used to migrate from Agency/Upper Klamath Lake to spawning beds in Sun Creek by way of Annie Creek and the Wood River. However, little or no flows from Annie Creek reach the Wood River during drought periods due to water demands in Annie Creek (over 99% of which occur downstream of the park). This low flow has resulted in the disconnection of the Wood River/Annie Creek/Sun Creek migration route.

The Park Service water withdrawals would further reduce water flows. However, the disconnection of the bull trout migration route would continue to occur, with or without water withdrawals by the park. Total Park Service use under this alternative represents about 4/1,000 of the lowest flow

amount reported at Annie Creek as it leaves the park based on low flow estimates provided by Sparks (pers. comm.). Water withdrawal from the park would contribute to the cumulative negative effects on water flows in this drainage system, which have had a significant negative effect on fish migration and bull trout restoration efforts.

4.5.3.3 Conclusions

- Facility development and removal proposed under Alternative 4 would require a net 10,000 gpd increase in water use from Annie Spring.

- During the interim period when the Rim Village dormitory would remain open, the increased demand on Annie Spring would be about 15,500 gpd.

- Park water use would remain within the amount permitted, but water shortfalls may occur downstream that may affect the right of the park to withdraw water from Annie Creek. A new source of water would be located should the ongoing legal process determine that federal water rights are insufficient to meet existing or proposed needs.

- Total park water demand at Annie Spring would increase 88% over existing uses when Alternative 4 is considered cumulatively with the reopening of Crater Lake Lodge and the development of the planned and approved day use activity center.

- The cumulative water demand of existing, proposed, and planned developments (Crater Lake Lodge and day use activity center) would cause no more than a 5.6% reduction in the flow of Annie Creek (2.6% over the current reduction).

- Water withdrawal could reduce aquatic life in Annie Creek. The effects may be relatively minor because a relatively small amount of water is being removed. Below the point of water withdrawal, the effect would be less and less significant as more and more tributaries augment the streamflow.

- Considered individually, water withdrawals from Annie Creek would have little or no effect on the status of bull trout in the Wood River system. All water withdrawals (99% of which occur downstream of the park) have and will continue to seriously reduce habitat for bull trout and other organisms.

4.5.4 IMPACTS ON WATER QUALITY - ALTERNATIVE 4

4.5.4.1 Analysis

As with Alternative 1, the potential for stormwater runoff and contaminated snow to reach the lake would be greatly reduced by the removal of the large parking area currently located at the rim.

Development and associated impacts on water quality at Rim Village would be the same under Alternative 4 as under Alternative 1, with no significant impacts.

At Munson Valley, retaining park headquarters functions would not require construction or other activities that could cause erosion or sedimentation impacts.

At Mazama Village, additional construction would increase the risks of erosion and sedimentation; however, best management practices would minimize the potential for such impacts. These practices include installation of erosion control materials and revegetation with native plants as soon as possible following construction. In addition, the level topography of the site, the porous nature of the soils, and the distance of the proposed developments from Annie Creek preclude water quality impacts to the stream. The existing wastewater treatment facility is capable of treating additional volumes resulting from Alternative 4.

Because no development would occur at the South Entrance, water quality would not be affected.

4.5.4.2 Cumulative Impacts

None expected.

4.5.4.3 Conclusions

- The risk of pollutants entering Crater Lake would be reduced (same as Alternative 1).
- No impacts on water quality would occur at Annie Spring or Annie Creek.

4.5.5 IMPACTS ON AIR QUALITY - ALTERNATIVE 4

4.5.5.1 Analysis

As with Alternative 1, short-term air quality impacts would occur from construction activities. Emissions would consist primarily of dust generated during grading, as well as nitrogen oxides and reactive organic gas emissions generated from equipment. These emissions would be short term and would affect only areas very near construction sites.

4.5.5.2 Cumulative Impacts

None expected.

4.5.5.3 Conclusions

- Minor, short-term dust and equipment emissions would occur due to construction activities.
- Overall air quality at Rim Village would improve due to removal of parking areas and vehicle access to Rim Village.

4.5.6 IMPACTS ON VEGETATION - ALTERNATIVE 4

4.5.6.1 Analysis

Approximately 16 acres of vegetation would be removed or disturbed (compared to 41 acres under Alternative 1). Vegetation types that would be affected by Alternative 4 are pure and mixed mountain hemlock forest (1.2 acres), pure and mixed lodgepole pine forest (12 acres), pumice flat (2.5 acres), and dry meadow (0.2 acre).

Table 4-9 summarizes the amount of vegetation to be removed or disturbed for Alternative 4. Additional trees adjacent to developed areas may be lost following construction. Construction activities and increased human use can damage tree roots or impede their ability to obtain water, nutrients, or gasses. This can in turn cause trees to die or otherwise become a hazard. Trees that are so affected may fall over or may be identified as hazard trees and removed or pruned. In addition, the opening of the canopy for development would increase the vulnerability of remaining trees to falling during wind storms.

Because no special-status plant species were found in the four areas, no impacts on threatened, endangered, or other sensitive plant species would occur.

Restoration of native vegetation at the Rim Village and Munson Valley (Quarry Flat) areas would increase the amount of vegetated area by 4.0 acres as described under Alternative 1.

Construction near Rim Village would cause a minor reduction of the Crater Lake currant and pumice sandwort whose distributions center around Crater Lake National Park and southern Oregon, respectively.

4.5.6.2 Cumulative Impacts

The disturbance of 16 acres would add to the previous disturbance that has occurred in Crater Lake National Park and throughout the region.

4.5.6.3 Conclusions

- Approximately 16 acres of vegetation would be removed or disturbed.
- No impacts on special-status plant species would occur (same as Alternative 1).
- There would be a beneficial impact through restoring vegetation (same as Alternative 1).
- A local loss of Crater Lake currant and pumice sandwort would occur (same as Alternative 1).

Table 4-9 Acres of Vegetation Disturbed or Removed under Alternative 4

Area	Vegetation Type					
	MH	LP	MC	PF	DM	Totals
Rim Village						
Parking structure				2.5		
Road to rim and walkway	1.2				0.2	
Total	1.2	0.0	0.0	2.5	0.2	3.9
Mazama Village						
2 group campsites		7.0[a]				
Employee dormitory and road		3.4				
Water/Sewer		0.6				
15 RV sites		0.2				
Pedestrian path		0.7				
Maintenance building		0.2				
Total	0.0	12.1	0.0	0.0	0.0	12.1
Grand Total	1.2	12.1	0.0	2.5	0.2	16.0

Notes:

MH = mountain hemlock forest
LP = lodgepole pine forest
MC = mixed conifer forest
PF = pumice flat
DM = dry meadow
[a] disturbance mostly limited to shrubs and groundcover - most large trees would remain

4.5.7 IMPACTS ON WETLANDS - ALTERNATIVE 4

4.5.7.1 Analysis

Construction activities at Rim Village and Munson Valley (Quarry Flat) would not fill or otherwise alter wetlands. No wetland impacts would occur at Mazama Village because wetlands do not occur at this site.

4.5.7.2 Cumulative Impacts

None expected.

4.5.7.3 Conclusions

- No impacts on wetlands would occur (same as Alternative 1).

4.5.8 IMPACTS ON WILDLIFE - ALTERNATIVE 4

4.5.8.1 Analysis

Development at Rim Village and Mazama Village under Alternative 4 would be the same as under Alternative 1; therefore, the effects of noise, machinery, and workers during construction would be the same as well. Impacts would be local and short term.

As with Alternative 1, if trees or other vegetation are cleared during the breeding season (generally May through June), bird nests or mammal dens could be destroyed.

Alternative 4 would result in the long-term removal of 16 acres of habitat (compared to 41 acres under Alternative 1). As with Alternative 1, this impact, considered individually, represents a small fraction of the amount of habitats present in the park and the region.

Because immediate actions at Rim Village and Quarry Flat do not differ between Alternative 4 and Alternative 1, impacts would be the same. Continued operation of park headquarters at Munson Valley under Alternative 4 would have no significant effect on wildlife.

Under Alternative 4, about 12 acres of habitat would be impacted at Mazama Village (same as Alternative 1). As with Alternative 1, this impact is small scale and local and would not result in a major decline in wildlife populations in the park or region. This impact would add to previous habitat loss caused by development of the Mazama store area, the campground, road construction, lodging units, sewage lagoons, and other facilities.

Under Alternative 4, no impacts would occur at the South Entrance at this time.

Even though Alternative 4 would directly impact less habitat than Alternative 1, the indirect impacts of disturbance would still adversely affect some wildlife. People and noise would cause large animals, such as deer and elk, to avoid developed areas. Other smaller mammals and some birds may also avoid otherwise suitable habitat near developed areas. Development in areas used by bear or cougar would increase the risk of negative interactions between these animals and humans.

Employees and their families living in government housing would explore and walk in habitats adjacent to developed areas. This would disturb some wildlife and remove habitat through trampling, soil compaction, and the creation of informal trails.

Developed areas could increase aggressive scavenger species that may in turn displace or otherwise harm other wildlife species. Common aggressive species in the park include raven, Clark's nutcracker, gray jay, and Steller's jay. These species can reduce other bird species by competing for food and nest sites as well as by preying on young and eggs.

4.5.8.2 Cumulative Impacts

The loss of 16 acres of available habitat would add to previous habitat loss caused by development of the Mazama store area, the campground, road construction, lodging units, sewage lagoons, and other facilities. The loss of habitat is individually minor, but, when considered collectively with past development at Rim Village and Mazama Village, represents an overall loss of wildlife habitat value along the developed corridor of State Route 62 and Rim Drive.

4.5.8.3 Conclusions

- Minor and short-term habitat loss would occur due to noise and activities during construction.
- Impacts on breeding wildlife would occur during construction if vegetation is removed during the breeding season (June-May).
- Approximately 16 acres of habitat would be lost.
- Animals would be displaced through human activity and encroachment.
- Negative interactions between people and bears or cougars could increase.
- Scavenger species could increase in developed areas and reduce other species.

4.5.9 IMPACTS ON SPECIAL-STATUS ANIMAL SPECIES - ALTERNATIVE 4

4.5.9.1 Analysis

About 12 acres of northern goshawk habitat at Mazama Village would be removed. Because a pair of northern goshawks may range up to 6,000 acres, this level of habitat loss represents a small

fraction of a single pair's territory. The loss of habitat for northern goshawk under Alternative 4 would be the same as with Alternative 1 at Mazama Village. As with Alternative 1, loss of habitat at Quarry Flat and Rim Village would not adversely affect any nesting pairs or individuals because no typical habitat is present.

The loss of northern goshawk habitat that would occur under Alternative 4 is not likely to affect northern goshawk populations either at the regional level or at the park level. Only a minor fraction of an average territory size would be impacted at Mazama Village.

Impacts on wide-ranging carnivores (e.g., California wolverine and Pacific fisher) and American marten under Alternative 4 would be moderately less than those under Alternatives 1 and 2 because (1) the South Entrance has a greater potential to be used by these species, and (2) Alternative 4 would result in no habitat loss at the South Entrance.

As with Alternative 1, Alternative 4 would not significantly affect state sensitive species at Rim Village or Quarry Flat. Neither area contains primary habitat for such species.

Implementation of Alternative 4 at Mazama Village would require the removal of 12 acres of habitat used by three state sensitive species: pileated, three-toed, and black-backed woodpeckers (same as Alternative 1). Because similar habitat is common throughout the park, impacts would be small in scale and local.

4.5.9.2 Cumulative Impacts

The loss of habitat resulting from Alternative 4, together with other similar losses that have occurred within the park, would result in the cumulative effect of reduced wildlife habitat value along the State Route 62 and Rim Drive corridors.

Most special-status animal species that would be adversely affected by this alternative are in regional decline due in large part to logging and land use changes. The level of development proposed at Crater Lake National Park is minor at a regional scale, but would nevertheless contribute to this overall decline.

As described in Chapter 3, bull trout used to migrate from Agency/Upper Klamath Lake to spawning beds in Sun Creek by way of Annie Creek and the Wood River. However, little or no flows from Annie Creek reach the Wood River during drought periods due to water demands in Annie Creek (over 99% of which occur downstream of the park). This low flow has resulted in the disconnection of the Wood River/Annie Creek/Sun Creek migration route.

The Park Service water withdrawals would further reduce water flows. However, the disconnection of the bull trout migration route would continue to occur, with or without water withdrawals by the park. Total Park Service use under this alternative represents about 4/1,000 of the lowest flow amount reported at Annie Creek as it leaves the park (Sparks pers. comm.). Water withdrawal from the park would contribute to the cumulative negative effects on water flows in this drainage system, which have had a significant negative effect on fish migration and bull trout restoration efforts.

4.5.9.3 Conclusions

- There would be localized loss of habitat for northern goshawk (same as Alternative 1).
- There would be loss of habitat for wide-ranging carnivores (e.g., California wolverine and Pacific fisher).
- No habitat for state-listed sensitive species at Rim Village or Quarry Flat would be lost.
- There would be a loss of 12 acres of habitat for state-listed sensitive woodpeckers at Mazama Village.
- Water withdrawal from Annie Creek would add incrementally to the existing problems with bull trout habitat.

4.5.10 IMPACTS ON ECOSYSTEM PROCESSES (FIRE) - ALTERNATIVE 4

4.5.10.1 Analysis

Because less development would occur with Alternative 4 than under Alternative 1, the risk of human-caused fires may be lower. The risk of wildfire affecting people and structures would be about the same, although fewer people and structures would be affected.

4.5.10.2 Cumulative Impacts

None expected.

4.5.10.3 Conclusions

- Development near forested areas would increase the risk of people being injured and structures being damaged by fire.

4.5.11 IMPACTS ON CULTURAL RESOURCES - ALTERNATIVE 4

4.5.11.1 Analysis

As with Alternative 1, results of cultural resources field surveys of most project areas indicate that no impacts to prehistoric resources are expected from Alternative 4 (Minor and Musil 1989, Sullivan 1994, and Bergland 1985a). However, a cultural resources survey will likely need to be conducted along the proposed water line from the water storage facilities (Budy and Sullivan pers. comms.).

Construction of a new water tank and water lines for the Mazama dormitory complex will be located in the general area of a short section of the historic military wagon road built in 1865. This section

of road would not be affected, however, because it is located away from the construction area in a rugged setting. As a precaution, the historic road segment, which is only a few feet long, would be barriered off using snow fence to prevent inadvertent damage.

As with Alternative 1, impacts on Native American cultural resources are not expected. Park Service personnel are working with the Klamath-Modoc-Yahooskin Cultural Committee, and this consultation is expected to continue during the design process.

Impacts to the potentially National Register eligible historic designed landscape at Rim Village would be the same as those identified for Alternative 1. The Oregon State Historic Preservation Officer has determined that the actions at Rim Village would have an effect on the potentially eligible district, but that the effect would not be adverse.

The proposed site of the new parking structure and the bus/recreational vehicle parking lot is located outside the potentially eligible historic district boundaries. Therefore, construction of these facilities would not physically impact resources (buildings, structures, or landscape elements) that contribute to the significance of the area.

Although removal of the large parking area, revegetation, and construction of the 2,000-foot roadway would affect the potentially eligible district, the effect would not be adverse.

Should unknown cultural resources be uncovered during construction activities, work would be stopped in the discovery area and the Park Service would consult according to 36 CFR 800.11 and, as appropriate, provisions of the Native American Graves Protection and Repatriation Act of 1990.

4.5.11.2 Cumulative Impacts

None expected.

4.5.11.3 Conclusions

- No impact to prehistoric resources is expected.
- No impacts to Native American cultural resources are expected (same as Alternative 1).
- The actions at Rim Village would have an effect on the potentially eligible historic designed landscape; however, the Oregon State Historic Preservation Officer has determined that the effect would not be adverse. No impact on historic resources is expected at other areas.

4.5.12 IMPACTS ON LOCAL ECONOMY - ALTERNATIVE 4

4.5.12.1 Analysis

Under Alternative 4, no development would occur at the South Entrance; therefore, there would be no effect on the economy at Fort Klamath.

4.5.12.2 Cumulative Impacts

None expected.

4.5.12.3 Conclusions

- No impact on the local economy would occur.

4.5.13 IMPACTS ON VISITOR EXPERIENCE - ALTERNATIVE 4

4.5.13.1 Analysis

Impacts to visitor experience at Rim Village and Mazama Village would be the same under Alternative 4 as with Alternative 1 because development would be the same in those areas. Visitor experience at the South Entrance would not change, although the South Entrance would be considered together with other sites to find the most appropriate location of facilities and functions proposed for the South Entrance under Alternative 1. Impacts on visitor use would be reevaluated as part of a separate planning process.

4.5.13.2 Cumulative Impacts

None expected.

4.5.13.3 Conclusions

- Most impacts would be the same as under Alternative 1 at Rim Village and Mazama Village.

4.5.14 IMPACTS ON EMPLOYEE COMMUTING AND DELIVERY OF SUPPLIES - ALTERNATIVE 4

4.5.14.1 Analysis

The concessioner would assign employees to housing most appropriate for their workplaces. The Mazama Village dormitory would be used by employees working at Mazama Village or Rim Village. Those working at Rim Village would commute via personal vehicle. If appropriate, the shuttle system would be adapted to facilitate employee commuting between Mazama Village and Rim Village.

4.5.14.2 Cumulative Effects

None expected.

4.5.15 IMPACTS ON LAND USE AND ZONING - ALTERNATIVE 4

4.5.15.1 Analysis

Alternative 4 would be consistent with zoning designations of the Park Service and adjacent jurisdictions.

4.5.15.2 Cumulative Effects

None expected.

4.5.15.3 Conclusions

Alternative 4 would be consistent with zoning designations of the Park Service and adjacent jurisdictions.

4.5.16 UNAVOIDABLE ADVERSE EFFECTS - ALTERNATIVE 4

As with Alternative 1, the new parking structure at Rim Village would require extensive excavation in 2.5 acres of a pumice field. The pedestrian walkway would require a 40-foot culvert in a small stream.

Water use from Annie Spring, the park's current water source, would increase from 46,900 to 56,900 gpd. This would reduce flows in a 5,000-foot section of Annie Creek by a total of 3.6%, or 0.6% more than the reduction caused by existing use.

Construction of facilities and associated infrastructure would require the direct removal of vegetation. Approximately 16 acres of vegetation and wildlife habitat would be removed or disturbed.

Visitors would experience temporary inconveniences and noise due to construction activities. Following construction, Mazama Village would be used by more people, including group campers and up to 98 concession employees.

4.5.17 RELATIONSHIP OF SHORT-TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY - ALTERNATIVE 4

While Alternative 4 consists of projects to meet immediate needs, the projects would be long-term in nature. Alternative 4 would complete the Park Service's long-term improvement goals for Rim Village and would meet the immediate employee housing and support facility needs. However, future needs for employee housing would not be met.

4.5.18 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES - ALTERNATIVE 4

As with Alternative 1, implementing Alternative 4 would result in cleared areas that could not be restored to previous conditions within a reasonable time. The vegetation types that would be removed require a long time to return to mature conditions, ranging from decades to several hundred years. Implementation of Alternative 4 would require the irretrievable commitment of resources, including use of land, construction materials, energy, and funding.

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Consultation and Coordination

Consultation and Coordination

HISTORY OF SCOPING

Public involvement has been an integral part of past and current planning at Crater Lake National Park. Many of the issues identified by the public during past planning directly affected the purpose and need for action and the types of development considered in this Final Environmental Impact Statement (FEIS).

Two series of public meetings were held to identify substantive issues involving the current planning effort, as well as issues involving the park's Winter Use Plan. Meetings were held at Klamath Falls, Medford, Roseburg, and Portland, Oregon, in January 1994 and again in May 1994. During these meetings, the general concepts of alternatives and range of actions being considered were presented to the public by park staff and consultants. Alternatives were also described in an alternatives workbook.

The public was also given the opportunity to provide written comments through a comment form provided as part of the alternatives workbook. Questions asked on the form included:

- What types of future uses and development do you feel to be appropriate at the headquarters area, Mazama Village, and the South Entrance?
- What is special to you about your visit to Crater Lake?
- What detracts from your park experience at Crater Lake, especially in the areas around the headquarters, Mazama Village, and the South Entrance?
- Are there any other concerns you have about the Development Concept Plan/Amendment to the General Management Plan and Winter Use Plan?

A similar form was printed in several local newspapers.

The planning team incorporated these comments into the analysis presented in the Draft Environmental Impact Statement (DEIS).

SUMMARY OF PUBLIC COMMENTS ON DEIS

On November 29, 1994, the DEIS was released. An extended 60-day comment period was provided for public comments on the DEIS. Public hearings were held on January 10, 11, and 12, 1995, in Klamath Falls, Roseburg, and Medford, respectively. The comment period for the DEIS closed on February 2, 1995.

During the public comment period, 119 letters and comment forms were received or submitted at the public hearings. During the comment period and at public hearings on the DEIS, several issues were

raised by a number of commentors. To facilitate review of this FEIS, these major issues are summarized below, along with the Park Service's responses:

- **Issue:** A number of reviewers expressed concern about the impact of future development at the South Entrance on existing water rights from Annie Creek and the potential impact of Park Service withdrawals from the creek on downstream users.

  Response: The legal process is underway to determine the quantity of water available for park uses through the Klamath Basin Adjudication. The Park Service is investigating a number of options within Oregon State water laws, should the adjudication determine that the combination of existing federal reserved and prior appropriation water rights is insufficient to meet existing needs, or those proposed in this Development Concept Plan (DCP). Those options being investigated include:

  - Locating new water sources, either surface water or subsurface sources (wells), for which appropriate water rights could be obtained.

  - Obtaining additional priority water rights through purchase or lease agreement.

  Appropriate compliance with NEPA and the National Historic Preservation Act (NHPA), Section 106, would be completed prior to implementing any of these options.

- **Issue:** A number of commentors were concerned about the potential impact of development at the South Entrance on elk migration routes and other biological resources.

  Response: As described in the revised Proposed Action in this FEIS, the Park Service intends to conduct a separate planning effort to determine the most appropriate location for the facilities and functions previously proposed for the South Entrance under Alternative 1. The existence of elk migration routes near the South Entrance would be an important consideration when comparing and evaluating possible locations.

  The sections discussing elk migrations have been revised for the FEIS based on public comments and on additional analysis conducted since the DEIS was published. The constraints regarding elk passage north of the South Entrance were added to the analysis presented in the FEIS.

  The Park Service shares public concern regarding elk migration; however, it appears that the situation may not be as severe as some commentors have indicated. This conclusion is based on several factors, as described in the following paragraphs.

  First, the South Entrance area is only part of a much larger area used by elk during the spring. Studies conducted in the area showed that elk do not concentrate at the South Entrance but are spread throughout the upper Fort Klamath Valley.

  Second, not all elk that are present in the Fort Klamath Valley migrate through the South Entrance. In fact, a study published in 1986 showed that most elk in the valley stayed west of State Route 62. More recently, however, large groups of elk have been observed east of State Route 62 during the calving season, perhaps because of

the Oregon Department of Fish and Wildlife (ODFW) road closures at Sun Pass State Park. Nevertheless, many elk still migrate to calving grounds to the west, southwest, and north of the South Entrance, and these elk do not use the South Entrance as a migration corridor. Development at the South Entrance would not affect movements of these elk. Based on public concerns, it appears that many people believe that the South Entrance is the only route used. This is not the case.

Third, the previously proposed development would not form an impenetrable barrier to migration. The area where elk may pass through the South Entrance is larger than the area that was previously proposed for development, and the area around the development would remain heavily forested. While predicting animal behavior is an inexact science at best, it is not unreasonable to predict that elk are as likely to continue to move through the South Entrance as they would be to negotiate the steep banks of Annie Creek to the north or the barbed wire fences to the south. Elk may shift their movements to skirt the developed area and travel through the area at night, but they would still have sufficient room to get by. Elk are generally capable of adapting to changes in their environment. For example, elk responded to road closures in Sun Pass State Park almost immediately. For these reasons, it is not likely that development would shut out the portion of the elk herd that moves through the South Entrance.

In closing, the Park Service recognizes that development at the South Entrance may interfere with some elk movements. However, the effects may not be as critical as predicted by some commentors. More information may help to better resolve this issue. For example, no one really knows the route elk are taking between the Fort Klamath Valley and Sun Pass State Park (it is only assumed that they move through the South Entrance). The Park Service intends to reevaluate this situation as part of the revised Proposed Action, which calls for more detailed studies to more fully address this and other issues.

- **Issue:** Several people questioned the need for development of additional concessioner facilities in the park.

  Response: It is the responsibility of the Park Service to make its resources available for the use and enjoyment of all people, consistent with resource protection. To meet this responsibility, the Park Service must balance a number of competing demands on park resources.

  The Park Service has determined that the concessioner provides a public benefit by efficiently providing services that offer recreational opportunities for visitors, contribute to visitor enjoyment of the park, and support management objectives for the park. While not all people may agree with this approach, the Park Service recognizes that some members of the public enjoy and rely on the services provided by the concessioners as part of their park experience.

- **Issue:** A number of reviewers questioned the need for additional development at the Crater Lake Rim.

  Response: Most development being considered at the Crater Lake Rim results from approval of the 1988 DCP and includes rehabilitation of Crater Lake Lodge,

restoration and rehabilitation of natural landscaping, and replacement of the existing gift store/cafeteria with a new activity center. The objective of these actions is to convert Rim Village into a pedestrian-oriented environment and to ensure that the amount and scale of visitor facilities are consistent with the protection of resources in the park.

The purpose behind the actions proposed in this FEIS is to reduce the "unnatural" setting at Rim Village currently created by existing traffic, congestion, and parking lot. Development of new parking facilities will benefit both the visitor and park resources by removing visitor vehicles from the rim. Moving vehicles off the rim while keeping parking within walking distance meets the need of reducing congestion at Rim Village while minimizing inconveniences for visitors. The parking area and roads were designed through an involved planning effort that placed special consideration on protection of natural resources, including maintenance of the visual character of the area, as well as accessibility for park visitors.

- **Issue:** A number of reviewers indicated that the Park Service had provided insufficient time for public review and comment.

  Response: The planning effort for this project was first presented at public meetings held in January and May 1994 at Klamath Falls, Medford, Roseburg, and Portland, Oregon. At those meetings, the general concepts of alternatives and the range of actions being considered were presented by park staff. Alternatives were also described in an alternatives workbook that was distributed at the meetings.

  The public review for this project followed established procedures for NEPA and included a 60-day extended comment period (NEPA generally requires only a 45-day comment period), as well as several public meetings during the comment period. The comment period opened on November 29, 1994, when the DEIS was released, and closed on February 2, 1995.

  Perhaps the fact that best supports that the comment period was effective is that the Park Service revised its Proposed Action in response to public comments. The Park Service gained a much better understanding of public opinion and found new opportunities for possible sites other than the South Entrance for project functions originally proposed for that location. Should the revised Proposed Action as described in the FEIS be implemented, the Park Service would coordinate with the public and government agencies to ensure early review of potential activities at the South Entrance or at alternative sites identified through further evaluation.

A number of comments received on the DEIS related primarily to the merits of the alternatives under consideration, specific components of an alternative, or the overall cost of the alternatives. These comments generally indicate whether the person prefers one alternative over another or feels that the overall cost of the proposal is too high. Comments related to personal opinion regarding the merits of the proposal or to the desirability of specific elements of the proposal are important and are included for consideration by the decision makers. However, the Park Service cannot prepare text to respond to matters of personal preference or opinion. Such comments are noted but are allowed to stand on their own merits.

Other comments address areas where the analysis in the EIS may be inadequate or incorrect, where the methodology used is inappropriate, or where additional information is required. These comments are responded to directly or are responded to by revisions or corrections to the text of the DEIS for this FEIS.

A list of agencies and organizations who were mailed the FEIS and the comments received on the DEIS from agencies and the public follows.

LIST OF AGENCIES AND ORGANIZATIONS TO WHOM COPIES OF THE FINAL DOCUMENT HAVE BEEN SENT

Oregon Congressional Delegation

Congressman Peter A. DeFazio, 4th Congressional District
Senator Mark Hatfield
Senator Bob Packwood
Congressman Robert F. Smith

Federal Agencies

Advisory Council on Historic Preservation
BLM, Grants Pass Resource Area
BLM, Medford District Office
Fort Clatsop National Memorial
NPS, WRD Water Rights Branch
NPS, Office of the Solicitor, Pacific Northwest Branch
U.S. Army Corps of Engineers
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
U.S. House of Representatives
USFS Chiloquin Ranger District
USFS Diamond Lake Ranger District
USFS Klamath Ranger District
USFS Rogue River National Forest
USFS Tobetee Ranger Station
USFS Umpqua National Forest
USFS Winema National Forest

State Agencies

Wes Cooley, State Legislature
Oregon Department of Economic Development
Oregon Department of Transportation
Oregon Department of Fish and Wildlife
Oregon State Department of Forestry

Oregon State Historical Preservation Office
Oregon State Parks

Local Agencies

The Cities of: Bend
Chemult
Chiloquin
Diamond Lake
Fort Klamath
Klamath Falls
Medford
Prospect
Roseberg
Douglas County Commissioners
Douglas County Museum
Jackson County Commissioners
Klamath County Commissioners
Klamath County Economic Development Association
Klamath County Museum
Klamath County Planning Department
Klamath County SAR/Crater Lake Ski Patrol
Rogue Valley Council of Governments
Roseburg Area Chamber of Commerce

Native Indian Tribes

Klamath Tribes

Organizations

Allamage Ski Club
Broken Arrowhead Ranch
CC Riders Snowmobile Club
Century West
Chiloquin Ridge Riders
Coalition of Equestrians Club
Concerned Friends of Winema
Dain Bosworth, Inc.
Diamond Lake Homeowners
Diamond Lake Resort
Edelweiss Ski Club
Europa-Let
Fletcher, Farr & Ayotte Architects
Friends of Crater Lake National Park
Future Farmers of America
Grants Pass Nordic Ski Club

Historical Preservation League
I.B.C., Inc.
Jack Owens Ranches
Jim/Saul/Miller/Zaik/Zaik/Miller/Dibenedetto
Klamath Basin Snowdrifters
Klamath Motor Sports
Landau Associates
League of Women Voters
LMJ Cattle Company
Medford Visitors Convention Bureau
Mt. Hood Snowmobile Club
National Parks & Conservation Association
Oregon Caves
Oregon Historical Society
Oregon Hunter's Association
Oregon Natural Resources Council
Oregon Nordic Club
Oregon Parks Foundation, Inc.
Oregon State Snowmobile Association (OSSA), District #s 3 and 4
Rivers of Light Ranch
Rogue Group Sierra Club
Rogue Snowmobile Club
Sierra Club
Sierra Club, Klamath Group
Siskiyou Audubon Society
Siskiyou Regional Education Project
Ski Patrol
Snowdrifters
Southern Oregon Alliance for Res.
Southern Oregon Historical Society
Southern Oregon Nordic Club
S.W. Jeffries & Company
The High Desert Museum
The Museum of Warm Springs
The Nature Conservancy
Upper Rogue Regional Tourism Alliance
Water Color Society of Oregon
W.H.A.T.
Wilderness Society
X-County Ski

Schools

City Schools
Fort Klamath City Schools
Oregon State University
Oregon State University, College of Oceanography
Prospect Schools

Media

Mail Tribune (Medford, Oregon)
News Review (Roseburg, Oregon)
KAGO
KDRV, Channel 12
KENO
KKMX Radio
KOTI-TV
KPIC, Channel 4
KTVL, Channel 10
Klamath Falls News and Herald

LIST OF COMMENTS REPRODUCED AND RESPONSES

Letter	Received From
1	U.S. Environmental Protection Agency, Region 10 Joan Cabreza, Chief, Environmental Review Section
2	Oregon Department of Fish and Wildlife Klamath District Office Beth Waterbury, Acting District Biologist
3	Klamath County Planning Department Terance Anthony, Long-Range Planning
4	Klamath County Economic Development Association L. H. "Trey" Senn, Executive Vice President
5	Klamath County Museum Patsy H. McMillan, Director
6	Oregon Nordic Club Southern Oregon Chapter Thomas A. Rose, Environmental Chair John M. Burns, President Executive Committee (6 add'l signatures)
7	Oregon Nordic Club Southern Oregon Chapter Thomas A. Rose, Environmental Chair John M. Burns, President Executive Committee (8 add'l names)
8	Siskiyou Audubon Society Siskiyou Regional Education Project Barbara Ullian
9	Oregon Natural Resources Council South Central Office Wendell Wood, Field Representative
10	National Parks and Conservation Association Pacific Northwest Regional Office Dale A. Crane, Director
11	Sierra Club Victoria Barbour, Secretary, Rogue Group for Myra Erwin, Chair, Rogue Group Bob Frenkel, Chair, Oregon Chapter
12	Sledheads Snowmobile Club Robert McCutchan

Letter	Received From
13	Grants Pass Nordic Ski Club Joan Finney, Secretary
14	Concerned Friends of the Winema Sally Wells
15	Oregon Hunter's Association Klamath Chapter Ken Hand
16	Elmore E. & Mary A. Nicholson
17	Randall D. Payne
18	Charles H. Wells, Jr.
19	Michael S. Thomas
20	Mary Lou Thompson
21	Ambrose & Susan McAuliffe
22	Jack Owens Ranches John B. Owens
23	John B. & Candace C. Owens
24	Craig & Maxine Owens
25	Kenneth R. & Sheree Owens
26	Gregory R. & Beverly A. Hartell
27	F. J. Danforth
28	The Brewer Family William L. Brewer
29	A Concerned Tax Payer
30	Goold's Sprague River Ranch, Inc. James R. Goold
31	Loran G. Blackmer
32	Robert & Linda Loper
33	Dale Himelwright
34	Louise Davis
35	June A. Robinson
36	James S. Bryant
37	Nancy C. Fowler

Letter	Received From
38	Roger Nicholson
39	Irene L. Kelley
40	Dan Roeder
41	Al & Ruth Chilton
42	John W. Nash
43	Mary G. Clizbe
44	John Brigg
45	Audrey E. Mathews
46	Stanton K. Sittser
47	Doris J. Welbon
48	Edward A. Sclock
49	Wilford A. Dunster
50	Allan L. & Jane A. Craigmiles
51	Rivers of Light Ranch Bill Sams
52	Ronald T. Williams, D.V.M.
53	Keith A. Bomhard
54	Cheri R. Killam Bomhard
55	Edna Hunsaker
56	Wilbur B. Hescock
57	Charles B. Van Deusen
58	Mr. & Mrs. Gerald Holmes
59	Robert L. Halcomb
60	Dan Roeder
61	Lois Himelwright
62	Kerry Himelwright
63	Donald L. Tisdel
64	Edna M. Guiducci
65	Adrienne Mason
66	Darrell Hankins, W.H.A.T. President

Letter	Received From
67	Donn & Betsy Harris
68	Patrick Nelson
69	Margaret J. Thomas
70	R. Lee Hunsaker
71	Doris Carroll
72	James S. Rouse
73	Glen & Ruby Leach
74	Mr. & Mrs. Bob Walker
75	Gary Walters
76	Edie Hanna Mason
77	Glenn & Karen Carey
78	Ken & Sharon Kraft
79	Jeff Cook
80	Ernest Nichols
81	Art & Mary Davina
82	William K. & Mildred K. Glodowski
83	Margaret Richardson
84	Paul Schulge
85	Jerry Johnson
86	Don Damrow
87	Mere Woodard
88	L. M. & Cleva Hamons
89	Mr. & Mrs. Duane Blackman
90	Jean S. Damcow
91	B. J. Carestia
92	Valarie Knuth
93	Mary Medell
94	Irene Kelley
95	Chuck B . . .
96	Ray Kelley

Letter	Received From
97	Watson . . .
98	C. H. Donley
99	Unknown
100	Lois K. Johnson
101	Harold J. Moening
102	Wayne R. Howe
103	Carol Maurer
104	Evan Thompson
105	Joan West
106	Jerry Johnson
107	Mr. & Mrs. W. T. Schweiger
108	Gertrude Smith
109	L.M.T. Cattle Company James D. Owens Lauren P. Owens Mark E. Owens James R. Owens Patrice M. Owens
110	William M. Wood
111	Grant J. Bailey
112	Jeff Cook
113	Unknown
114	Wilson's Cottages Tai Guimond
115	R. R. Stevens
116	Porter Lombard
117	Sylvia A. Cox
118	Winema National Forest Larry Swan, Resource Specialist
119	Klamath Bow Hunters William S. Bechen, President

COMMENTS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

DEC 15 1994

DEC 12 1994

REPLY TO ATTN OF: WD-128

Benjamin F. Ladd
Acting Superintendent
Crater Lake National Park
P.O. Box 7
Crater Lake, OR 97604

Dear Mr. Ladd:

The Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for Development Concept Plan/Amendment to the General Management Plan for **Crater Lake**. Our review was conducted in accordance with the National Environmental Policy Act and Section 309 of the Clean Air Act, for issues for which EPA has statutory authority or jurisdiction. The DEIS evaluates three alternatives to address employee housing, Rim Village redevelopment, and maintenance and storage facilities at Crater Lake National Park in Klamath County, Oregon.

Based on our review, we have rated the DEIS LO, (Lack of Objections). We support the plans to accommodate visitor demand and protect natural resources by providing shuttle bus service to high use, sensitive areas. This rating will be published in the *Federal Register*. 1-1

Thank you for the opportunity to review this DEIS. Please contact Wayne Elson at (206) 553-1463, if you have any questions about our review of this document.

Sincerely,

Joan Cabreza, Chief
Environmental Review Section

Printed on Recycled Paper

RESPONSES

Letter #1

1-1 Comment noted.

Oregon

DEPARTMENT OF
FISH AND
WILDLIFE

Klamath District Office

January 31, 1995

Dave Morris, Superintendent
Crater Lake National Park
P.O. Box 7
Crater Lake, OR 97604

Dear Mr. Morris:

This letter is to address concerns of the Oregon Department of Fish and Wildlife (ODFW) regarding the Crater Lake National Park (CLNP) Draft Development Concept Plan/ Amendment to the General Management Plan Environmental Impact Statement (DEIS). We appreciate the opportunities to provide written comments on the DEIS and to participate in the January 10, 1995, public meeting held in Klamath Falls. Perhaps it was an oversight, but on page 4 - Consultation and Coordination, ODFW was conspicuously absent from the list of State Agencies to whom copies of the DEIS were sent. I and my colleagues in adjacent districts had to request copies for review. Consequently, our review time was delayed by a month. May we formally request that ODFW be placed on CLNP's permanent mailing list for any future planning documents.

ODFW cannot lend support to the DEIS Proposed Action (Alternative 1) or Alternative 2 based on our concerns about predicted disruption of a major elk migration corridor across the CLNP Panhandle and negative impacts to bull trout restoration efforts in the Klamath Basin. It is our recommendation that CLNP develop an additional alternative that sites the needed facilities at a location with fewer anticipated impacts to fish and wildlife resources. Of the three alternatives offered in the DEIS, ODFW must necessarily support the No Action alternative at this time to ensure the viability of the established elk migration corridor linking the west Cascades to the Wood River Valley environs. The No Action alternative also offers the least impact to Annie Creek surface water flows, favoring bull trout restoration efforts

2-1
2-2
2-3

As stated on page 1-4 of the DEIS, Park Service General Objectives include protection of ecosystem processes, interrelationships, and components and managing developed areas in ways that minimize impacts on wildlife habitat and corridors. These National Park Service-stated objectives comprise the "theme" of ODFW's concerns with the DEIS' proposed action and alternatives. It is our position that both the Proposed Action and Alternative 2 will have negative consequences towards achieving either of these general objectives. Our specific concerns are:

1100 Miller Island Rd West
Klamath Falls, OR 97603
(503) 883-5732

Letter #2

2-1 The sections discussing elk migrations have been revised for the FEIS, based on your comments and on additional information gathered since the DEIS was published.

The Park Service decision to revise its Proposed Action was based in part on the concerns of ODFW and others regarding elk migration at the South Entrance. As described in the revised Proposed Action in this FEIS, the Park Service intends to conduct a separate planning effort to determine the most appropriate location for the facilities and functions previously proposed for the South Entrance under Alternative 1. The existence of elk migration routes near the South Entrance would be an important consideration when comparing and evaluating possible locations.

The sections discussing elk migrations have been revised for the FEIS based on your comments and on additional analysis conducted since the DEIS was published. Per your comments, the constraints regarding elk passage north of the South Entrance were added to the analysis presented in the FEIS.

The Park Service shares your concern regarding elk migration; however, it appears that the situation may not be as severe as your comment indicates. This conclusion is based on the several factors, as described in the following paragraphs.

First, the South Entrance area is only part of a much larger area used by elk during the spring. Studies conducted in the area showed that elk do not concentrate at the South Entrance but are spread throughout the upper Fort Klamath Valley. It is misleading to state that elk "seasonally inhabit the South Entrance." This implies that this is the only place they occur.

Second, not all elk that are present in the Fort Klamath Valley migrate through the South Entrance. In fact, a study published in 1986 showed that most elk in the valley stayed west of State Route 62. More recently, however, large groups of elk have been observed east of State Route 62 during the calving season, perhaps because of the ODFW road closures at Sun Pass State Park. Nevertheless, many elk still migrate to calving grounds to the west, southwest, and north of the South Entrance, and these elk do not use the South Entrance as a migration corridor. Development at the South Entrance would not affect movements of these elk. Based on the concerns raised by ODFW and others, it appears that many people believe that the South Entrance is the only route used. This is not the case.

Third, the proposed development would not form an impenetrable barrier to migration. The area where elk may pass through the South Entrance is larger than the area that was previously proposed for development, and the area around the development would remain heavily forested. While predicting animal behavior is an inexact science at best, it is not unreasonable to predict that elk are as likely to continue to move through the South Entrance as they would be to negotiate the steep

banks of Annie Creek to the north or the barbed wire fences to the south. Elk may shift their movements to skirt the developed area and travel through the area at night, but they would still have sufficient room to get by. Elk are generally capable of adapting to changes in their environment. For example, elk responded to road closures in Sun Pass State Park almost immediately. For these reasons, it is not likely that development would shut out the portion of the elk herd that moves through the South Entrance.

In closing, the Park Service recognizes that development at the South Entrance may interfere with some elk movements. However, the effects may not be as critical as predicted by ODFW and others. More information may help to better resolve this issue. For example, no one really knows the route elk are taking between the Fort Klamath Valley and Sun Pass State Park (it is only assumed that they move through the South Entrance). The Park Service intends to reevaluate this situation as part of the revised Proposed Action, which calls for more detailed studies to more fully address this and other issues.

2-2 A discussion regarding bull trout has been added to the FEIS. Based on our conversations with ODFW fisheries biologist Roger Smith, ODFW has developed state-wide strategies that could be implemented to protect bull trout and bull trout habitat. There is currently a draft Bull Trout Conservation Plan for the Klamath Basin, authored by state, federal, and private biologists, that calls for possible restoration of bull trout in Annie Creek both within and outside of the park boundary. The Park Service welcomes the opportunity to work with the ODFW in restoring bull trout if such efforts specifically target waters associated with Crater Lake National Park. The park has spent considerable effort in restoring the historic bull trout population in Sun Creek and is interested in exploring similar opportunities within the park.

The Park Service is aware of the current situation regarding the adfluvial form of bull trout. However, the scope of the problem is more extensive than your comment indicates. The problem does not stem from activities at Crater Lake National Park resulting from the Park Service's existing or proposed withdrawal from Annie Creek. Restoration of bull trout in Annie Creek below the park is not feasible without a major change in consumption patterns for water users of the Wood River system. As your comment indicates, the adfluvial form has not been observed in the system for the last 30 to 40 years, and restoration would be beyond the capability of the Park Service to initiate by itself. Any restoration efforts implemented by the Park Service would need to be in concert with efforts outside the park.

Your concerns regarding the bull trout are appreciated, but the amount of water proposed for withdrawal by the Park Service for its project represents less than 4/10 of 1% of the lowest flow level at Annie Creek as it leaves the park. This amount when

considered individually is negligible in relation to the amount needed to reconnect Annie Creek with the Wood River during times of drought. Because the Park Service is concerned with protecting stream ecosystems and minimizing water withdrawals from Annie Creek, the Park Service would pursue possibilities of developing alternative sources of water.

2-3 The Proposed Action, as revised for the FEIS, is to take no action at the South Entrance until alternative sites are identified and evaluated to determine their suitability for meeting Park Service objectives relating to housing, maintenance facilities, and other support services.

COMMENTS

January 31, 1995
Page Two

- Predicted negative impacts on a major elk migration corridor associated with development at the South Entrance. 2-4

- Potential negative impacts on groundwater, water supply and bull trout habitat also associated with South Entrance development. 2-5

- No other alternatives were considered feasible to protect this ecologically-sensitive site, in light of the above two anticipated impacts.

Elk Migration Corridor

The elk that seasonally inhabit the South Entrance of CLNP have a very unique life history. The population is composed of elk from the Rogue-South Fort Rock and Keno-West Sprague elk management units. The herd's winter range includes both federal and private lands between the Upper and Middle Forks of the Rogue River on the west slope of the Cascade Range. In spring, between mid-March and late April, the herd migrates east over the Cascades through the natural topographic corridor of Dry Creek and Sevenmile Creek to pasturelands on the west side of the Wood River Valley. These pastures provide nutritious and palatable forage that "condition" elk during the last couple months of gestation, prior to calving. ODFW monitoring has documented up to 300 elk utilizing private pasturelands during the spring use period.

In late spring, large elk groups disperse off the pasturelands to calving areas surrounding the Wood River Valley. This timing tends to coincide with the turn out of cattle on Wood River Valley pastures. ODFW observatioos and a telemetry study conducted by CLNP and ODFW personnel in 1985-86 show that elk move to calving grounds on Winema National Forest (including Sky Lakes Wilderness Area), the south half of CLNP and the Sun Pass State Forest in early to mid- May. It is during this movement that the Panhandle corridor is used extensively by elk for passage to suitable calving habitats on Sun Pass State Forest and the Chiloquin and Chemult Ranger Districts of Winema National Forest east of Highway 62. 2-6

Immediately east and adjacent to the CLNP Panhandle lies a 17-square mile area of State Forestry, Winema National Forest and private lands managed under the **Sun Creek Cooperative Road Closure**. The seasonal closure, in effect November 1 through June 30 of each year, was implemented in 1991 specifically for the area's elk resource. The project objectives are to reduce human and vehicular harassment to elk during the critical calving and winter staging periods, reduce poaching of elk and maintain public use of the Diamond Lake Snowmobile Trail through the closure area. The project has been a successful collaboration of many agencies and advocacy groups including: ODFW, Oregon State Police, Oregon Department of Forestry, Winema

RESPONSES

2-4 As noted in response to comment 2-1, the Park Service has determined that evaluation of alternative sites for development is appropriate to minimize or avoid impacts to existing elk populations.

2-5 See response to comments 2-1 and 2-2.

2-6 Your concerns with the impact of the proposal on elk migrations are noted. See response to comment 2-1. Additional information has been added to the discussion of the elk migration corridor in the FEIS.

National Forest, Rocky Mountain Elk Foundation and the Klamath Chapter of Oregon Hunter's Association. Several thousand dollars of materials/labor and hundreds of volunteer hours have been invested by cooperators in implementing the Sun Creek Road Closure. Its effectiveness can be successfully measured by increased elk use throughout the closure area, specifically in the Annie Creek riparian corridor, and substantially reduced incidents of poaching, particularly during the vulnerable winter staging period in November-December, prior to migration to winter ranges.

From a landscape perspective, the CLNP Panhandle provides a critical link between the seasonal ranges of this elk herd. If one views this landscape from an elk's perspective, migration takes its course along the topographic path of least resistance and along those corridors that provide security (hiding) cover and minimal human disturbance. **Considering these elements, ODFW recognizes the area targeted for the Proposed Action as the primary elk migration corridor connecting winter and spring ranges to quality summer (calving) ranges within the Sun Creek Road Closure area.** The width of the migration corridor is estimated to be approximately one mile wide from north to south (see attached map). The south boundary of the corridor is drawn where forests abruptly end into the open Wood River pasturelands. The north boundary of the corridor extends approximately one-half mile into the CLNP Panhandle, where the steepness of Annie Creek canyon likely poses a topographic deterrent to elk migration. 2-6

The predicted impact of the Proposed Action or Alternative 2 will be to directly and permanently alter the established elk migration corridor, an impact in conflict with National Park Service General Objectives stated at the beginning of this letter. Development proposed under the Proposed Action or Alternative 2 will likely shift the existing migration corridor to the north, south or to both the north and south.

Predicted impacts from a <u>southern</u> shift of the elk migration corridor include increased damage to private landowner fences and pastures, increased incidents of elk injury from attempts to negotiate barbed-wire fences, and increased incidents of elk-vehicle collisions as panicked elk attempt to cross the Highway 62 corridor fence (measured at 52 inches high!). These impacts will not be felt by CLNP, nor the beneficiaries of the Proposed Action, but will be delegated to ODFW, Oregon State Police and local landowners on an incident-by-incident basis. Costs incurred for agency personnel time and landowner property damage could be substantial.

Predicted impacts from a <u>northern</u> shift of the elk migration corridor include interruption of their existing route to suitable calving habitat due to the barrier effect of Annie Creek canyon. Elk are present in the Sun Creek Road Closure until high snows push them west to winter ranges on the west slope of the Cascades. In years of normal

January 31, 1995
Page Four

to heavy snows, movement through Annie Creek canyon may not be feasible, particularly for calf elk Another likely impact of a northern shift of the migration corridor is the reduction of security or hiding cover. The openness of the late-seral stage ponderosa pine forest in the Panhandle provides substantially less security cover for elk than the lodgepole pine/mixed conifer forest along the primary migration route. The combined effect of reduced security cover and increasing vehicle traffic at the South Entrance (employee commuting, supply trucks to park concessionaires, visitors) may result in elk avoidance of the Panhandle with subsequent negative impacts on the herd's productivity.

Economically, reduction of the elk herd's productivity would likely result in reduced public enjoyment of elk. Elk utilizing the CLNP-Cascade region provide abundant consumptive and non-consumptive recreational opportunity for residents and area visitors. Elk viewing is a popular, year round activity on both sides of the Cascades. Hunting provides thousands of hours of recreation while assisting wildlife managers to balance elk populations with available habitat. ODFW's Big Game Statistics for 1993 show 3,560 elk bowhunter days expended in the Keno and Sprague wildlife management units. During the Cascade elk rifle season, 2,549 hunter days were estimated from hunter questionnaires. Hunter pressure routes during both seasons indicated that most hunting activity in these units occurs around the Panhandle/Sun Pass State Forest area. ODFW's Fiscal Management Department completed reports in 1989-1991 based on hunter questionnaires estimating a dollar value for an elk "hunter day." A value of $53.29 per elk hunter day was calculated for food, fuel, and supplies. Based on 6,109 hunter days in 1993, approximately $325,550.00 was injected into the Oregon economy due to the elk resource in the CLNP-Cascade region. This does not include dollar values for non-consumptive user days, nor does this include intrinsic values of elk - which elude monetary pricetags. 2-6

In assessing the impacts of a development with the scope and size of the Proposed Action (a 98+ person dormitory, 20 to 30 employee houses, park administration and support facilities) the DEIS states that "associated impacts to wildlife habitat would generally be proportionate to the amount of vegetation disturbed." The DEIS estimates 41 acres at the South Entrance would be impacted by the Proposed Action. ODFW feels that the additional direct impact of brush clearing for fire suppression and the indirect impacts of increased, year-round human activity around the homesites amplifies the sphere of disturbance by up to a1/2 mile radius from the development site. If the Proposed Action is sited as described in the DEIS, we feel the full mile width of the existing elk migration corridor would be affected by human disturbance. Additionally, the DEIS statement above doesn't recognize the importance of this elk migration corridor as a conduit to habitats between the west slope of the Cascades and the Klamath Basin. Development within this corridor may affect hundreds of elk, over

January 31, 1995
Page Five

thousands of acres of elk habitat, across a major mountain range. How is this level of impact compatible with the Park's general objectives **to protect ecosystem processes, interrelationships and components and manage developed areas in ways that minimize impacts on wildlife habitat and corridors?**

Winema National Forest and Oregon Department of Forestry (ODF), the land management agencies surrounding the Panhandle, acknowledge and actively support management strategies that benefit elk. Winema National Forest manages long-established road closures on the upper forest watersheds near Sky Lakes Wilderness to protect elk from human disturbance during the calving season. ODF, with Winema National Forest, ODFW and Oregon State Police, was instrumental in implementing the Sun Creek Road Closure. Additionally, ODF is completing an Eastern Region Long Range Plan encompassing the Sun Pass State Forest. They plan to actively manage habitat for wildlife species, including elk, on a regional context, recognizing that for some species, self-sustaining populations require connection to adjacent or off-forest lands and waters. Winema National Forest also recognizes the importance and necessity of managing resources on a landscape level. To accomplish ecosystem-based management across varying landownerships, it is imperative that land management agencies recognize their role in the connectivity of natural resources in this region of the Cascades. 2-6

Potential Impacts on Groundwater/Water Supply and Fish Habitat

ODFW is concerned that projected increases in water use derived from Annie Spring will have negative consequences for fish and wildlife in the Wood River Valley. The DEIS acknowledges the projected withdrawal "would reduce habitat for fish and aquatic organisms during the low flow periods of August and September," but does not continue to reason that seasonal and annual variability in flows may deplete flows entirely. At a 95% projected increase in use of Annie Spring over existing use, the percent reductions in streamflow figures offered in the DEIS seem grossly underestimated. Water distribution in the forested uplands around the Wood River Valley is very limited toward late summer ODFW maintains several wildlife cisterns in this area to compensate for this seasonal limitation. Anticipated reductions in Annie Creek flows during this critical use period in late summer may result in increased use of cisterns beyond their current capacities. 2-7

Under the 3.3 Surface Water Resources, the DEIS conspicuously omits any reference to the historic significance of Annie Creek to Klamath Basin bull trout populations. Klamath District Fish Biologist Roger Smith represents ODFW on the Klamath Basin Bull Trout Working Group. His concerns over the Proposed Action and Alternative 2 relate to Annie Creek withdrawals and potential impacts on the recovery of bull trout in 2-8

2-7 Streamflow estimates have been rechecked for the FEIS and are accurate. Domestic water use by the Park Service for its activities is relatively minor compared to other water users as noted in response to comment 2-2. Please note that the amounts of water projected under Alternatives 1 and 2 relate to total water use from all sources, including from a proposed well at the South Entrance. All water would not come from Annie Spring.

2-8 See response to comments 2-2 and 2-7.

January 31, 1995
Page Six

the Klamath Basin (a Federal Category 1 candidate species for threatened/endangered status and state sensitive species). Historically, an adfluvial[1] form of bull trout existed in the Klamath Basin as late as the 1950's. The large adfluvial form has not been observed in the system for the last 30 to 40 years. The draft Conservation Strategy for the recovery of the Klamath Basin bull trout calls for the restoration of the adfluvial life history and the reconnection of Sun Creek with Agency/Upper Klamath Lake. The historic connection between Sun Creek and Agency Lake was through Annie Creek. During times of drought, coupled with high irrigation demands in the Wood River Valley, little to no water from Annie Creek has reached the Wood River. This disconnection comes in the late summer when it is theorized that adult bull trout would be migrating back to their natal streams. Any additional reduction in late summer flows caused by the Proposed Action or Alternative 2 would have negative impacts on bull trout restoration efforts and subsequent fish migration.	2-8

Other Concerns/Comments:

Chapter 4.2.14 Impacts on Employee Commuting and Delivery of Supplies omits projected increases in vehicle traffic through the South Entrance for the Proposed Action and Alternative 2. This information is necessary to assess impacts to wildlife species crossing this major highway corridor.	2-9
Chapter 2.2.1.3 Mitigating Measures proposes to avoid disturbing nesting birds during the general breeding season for birds - May through June. Many raptor species, including goshawks, great-horned owls and red-tailed hawks initiate nesting earlier than the time ascribed. ODFW recommends avoiding disturbance to breeding birds during the period April 1 through July 15.	2-10
Page 2-20: ODFW has no knowledge of mountain quail inhabiting any acreage of the proposed developments. This impact could be omitted unless another source confirms their presence.	2-11
Pages 4-16/17: It is notable that no direct surveys for birds, small mammals, or other wildlife were conducted as part of the DEIS.	2-12
Page 4-18, last paragraph: The impact of noise and activity associated with construction near the South Entrance at the peak time of elk migration would be considered a major impact by ODFW.	2-13

[1] Fish that live in lakes, ascending streams to spawn

2-9 Your comment is noted. Vehicle/wildlife collisions are an expected impact of development at the South Entrance. Text has been added to the FEIS to incorporate this. The number of vehicle trips per day is estimated at between 100 and 300, depending on the use of shuttle services. The park would use shuttle services for most employee transportation to Mazama Village and Rim Village to minimize traffic at the South Entrance.

2-10 Your comment is noted. In most situations, work would not be started before July because of accumulated snow fall. The park natural resource chief will review project plans and coordinate appropriate mitigation measures before and during construction to mitigate impacts on breeding birds.

2-11 Your comment is noted. Mountain quail may still be present in small quantities, even though none have been seen in recent years.

2-12 Habitat surveys were conducted at all areas proposed for development. The surveys focused on key habitat requirements (such as snags or particular tree species) that are important to wildlife species of concern. If potential habitat was present, then the species were assumed to be present. Species-specific surveys were conducted for northern spotted owl, a threatened species.

2-13 Your comment is noted. Noise impacts on migrating elk populations have been identified as an impact in the DEIS and FEIS.

January 31, 1995
Page Seven

References - 4, Persons Consulted: Please correct the spelling of my last name to Waterbury and my job title to Assistant District Wildlife Biologist.	2-14
ODFW would like to formally request any documentation on other sites considered for development (on the scale of that proposed for the South Entrance) but rejected through the DEIS process	2-15

Thank you for the opportunity to provide comment. Please contact me at 883-5732 if I can be of further assistance.

Sincerely,

Beth Waterbury

Beth Waterbury
Acting District Biologist
Klamath Wildlife District

Attachment

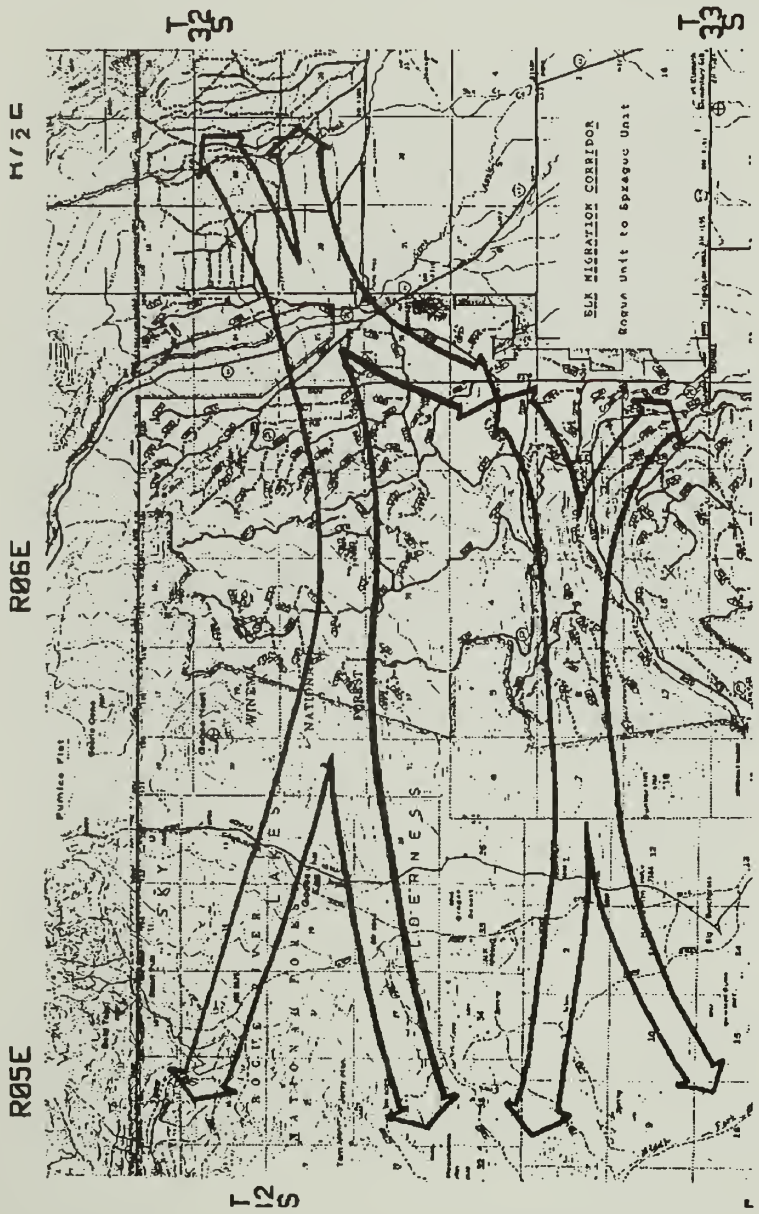
cc: Polenz/Kunkel - ODFW
Winema National Forest
Oregon Department of Forestry, Klamath Falls
Oregon State Police, Klamath Falls

2-14 This correction has been made in the FEIS.

2-15 The initial analysis and planning leading up to the DEIS indicated that the South Entrance was the only reasonable location for future development. However, as a result of public comments received during the comment period, alternative sites have been identified that could potentially meet the needs and objectives of the Park Service. Under the Proposed Action, as revised for the FEIS, these alternative sites would be evaluated at some future time to determine their suitability for development.

The Park Service is pleased at the possibilities afforded by these alternative sites and looks forward to cooperatively planning with its neighboring communities and jurisdictions. Should the Proposed Action, as revised for the FEIS, be implemented, alternative sites would be evaluated through continued discussions with the ODFW, citizens and citizen groups, nearby communities, the county, and the Forest Service to ensure that reasonable alternatives and possible constraints are fully identified.

COMMENTS



RESPONSES

Klamath County - Planning Department
503-883-4200 – 1435 ESPLANADE AVENUE, KLAMATH FALLS, OREGON 97601

RECEIVED
FEB - 3 1995
CRATER LAKE NAT'L PARK

February 2, 1995

Mr. Ben Ladd
Superintendent
Crater Lake National Park
Crater Lake, Oregon 97604

Mr. Ladd:

The Klamath County Planning Department has some serious concerns regarding the proposed relocation of Crater Lake Park Headquarters to Forest Service land just outside the southern park boundary. While we are enthusiastic at the possibility of headquarters remaining in Klamath County, the location proposed by the Park Service contradicts the intentions of the County's Comprehensive Plan. This Plan provides specific locations for "urban type" development outside of incorporated cities. The type and magnitude of development associated with Park Headquarters can be considered "urban". The Planning Department would prefer to see this new development happen in or adjacent to state-acknowledged 'rural service centers' or incorporated cities. Specifically, the Planning Department joins the Klamath County Economic Development Association, the County Tourism Department, and the Board of County Commissioners in supporting relocation of Park Headquarters to the Fort Klamath/Klamath Agency area. County Planning would be pleased to assist the Park Service in scoping out potential facilities locations and needed infrastructure improvements for this solution. 3-1

Sincerely,

Terrance Anthony
Long-Range Planning

WE ARE AN EQUAL OPPORTUNITY EMPLOYER

Letter #3

3-1 The inconsistency with the county's Comprehensive Plan has been noted as an impact of Alternatives 1 and 2 in the FEIS. Because additional alternatives have been identified through the NEPA public review process, the revised Proposed Action does not include decisions concerning project elements originally proposed at the South Entrance. Under the revised Proposed Action, other sites would be evaluated as part of a future planning effort for the project elements previously proposed for the South Entrance. This evaluation would include the possibility of locating specific project elements at more than one site. Consistency with the county's Comprehensive Plan would be considered when evaluating alternative sites.

COMMENTS

KLAMATH COUNTY ECONOMIC DEVELOPMENT ASSOCIATION

February 1, 1995

RECEIVED
FEB - 3 1995
CRATER LAKE NAT'L PARK

Mr. Ben Ladd
Superintendent
Crater Lake National Park
Crater Lake, Oregon 97604

Dear Mr Ladd:

On behalf of The Klamath County Commissioners, Klamath County Long Range Planning, Klamath County Tourism and the Klamath County Economic Development Association, I would like to thank you for taking the time out of your busy schedule to meet with us on January 30, 1995.

It is the opinion of KCEDA, that the "scoping" commissioned by the Crater Lake National Park for it's Draft Environmental Impact Statement was not effective. Additionally, we would like to request that the facility seriously look at relocating for numerous environmental and public, private concerns, at the Fort Klamath area. 4-1 4-2

As this is something of a local control issue, since Crater Lake National Park is in Klamath County, and since we have new County Commissioners who are most interested in this project, we would like to request that to provide adequate timing for public review, the Crater Lake National Park review and revise it's DEIS draft. 4-3

Please understand how serious we are in Klamath County regarding planning and implementing the very best administrative relocation plan possible. At KCEDA, we consider this a unique combination of tourism, enhancement and economic development that will go a long way toward making the Fort Klamath area a strong and viable economic entity. The more that we work together on this project the better it will be for all parties concerned.

Please do not hesitate to call me if I may be of further assistance to you.

Sincerely,

L. H. "Trey" Senn
Executive Vice President

(503) 882-9600 • FAX (503) 882-7948 • 125 SOUTH 6TH ST. • P.O. BOX 1777 • KLAMATH FALLS, OR 97601

RESPONSES

Letter #4

4-1 The scoping process followed established procedures for soliciting public comments on the scope of the EIS, including publication and notification in local newspapers and public meetings. The planning effort was first presented at public meetings held in January and May 1994. At those meetings, the general concepts of alternatives and the range of actions being considered were presented by park staff and consultants.

4-2 Under the revised Proposed Action, the Park Service would consider locations other than the South Entrance for development as part of a future planning effort. The Fort Klamath area would be considered during this evaluation. See response to comment 2-15.

4-3 The public review for this project followed established procedures for NEPA projects and included a 60-day comment period. The comment period opened on November 29, 1994, when the DEIS was released, and ended on February 2, 1995. Should the revised Proposed Action as described in the FEIS be implemented, the Park Service would coordinate with the public and government agencies to ensure early review of potential activities at the South Entrance or at alternative sites identified through further evaluation.

COMMENTS

02/02/1995 16:45 5038840666 KL CO TOURISM PAGE 01

KLAMATH COUNTY MUSEUM

Anthropology, History, Geology & Wildlife
of the Klamath Basin

February 2, 1995

Mr. Ben Ladd
Superintendent
Crater Lake National Park
Crater Lake, Oregon 97604

Dear Mr. Ladd;

I have looked forward to meeting you for some time and hope to work with you in helping promote the Park as we did when Mr. Morris was there. Thank you, as well, for meeting with us on Monday and hearing our proposal.

With the advent of newly elected commissioners and their desire to address the long range planning necessary for the County's growth, our long discussed idea of creating an element of living history at old Fort Klamath has been favorably received. Involving every entity in the planning process will be the key to success. Never before have Community Action Teams tackled problems with advance support of government helping them accomplish goals. I am very grateful and excited that you listened and could see the possibilities, knowing and understanding at the same time that Crater Lake National Park has many needs to be addressed in any relocation project. 5-1

Please feel free to call to discuss this project or to let me know how we can assist Crater Lake National Park through advertising or other means.

Sincerely,

Pat McMillan

Patsy H. McMillan, Director

1451 MAIN STREET • KLAMATH FALLS, OREGON 97601 • PHONE (503) 883-4208

RESPONSES

Letter #5

5-1 Your comment is noted. The Park Service welcomes the opportunity to work with the citizens of the Fort Klamath community in preserving historic resources of the Klamath Basin.

COMMENTS

February 6, 1995

Southern Oregon Chapter
Oregon Nordic Club
430 Wiley St.
Ashland, OR 97520
(503) 488-0887

Benjamin F. Ladd
Superintendent
Crater Lake National Park
P. O. Box 7
Crater Lake, OR 97604

Dear Superintendent Ladd,

This letter represents the position of the Southern Oregon Chapter of the Oregon Nordic Club regarding the Crater Lake National Park Development Concept Plan Draft Environmental Impact Statement (DEIS).

Chapter members were deeply involved with the Park 1993 Winter Use Plan (WUP), attending the Medford open meeting, making several trips to the Park to study issues, and developing congenial working relationships with a number of members of the Park staff. We were disconcerted, however, to find no mention of our detailed comments in the WUP FEIS. 6-1

We have felt considerably more rushed in dealing with the current DCP/DEIS. Because of this concern, we wrote to you on January 22, 1995, requesting an extension of the DEIS comment period. Documents requested that same day from the NPS Denver Service Center reached us only days before the comment closing date, leaving almost no time for their consideration. 6-2

We believe that in this instance the NPS has not met NEPA requirements for full and timely disclosure of relevant information

RESPONSES

Letter #6

6-1 Your comment is noted. The Park Service appreciates the efforts of the Oregon Nordic Club, other groups, and individual citizens in the development of the Winter Use Plan. Many of the comments received on the Winter Use Plan were responded to directly during public meetings. For final environmental assessments, it is generally the case that individual comments are not addressed. With respect to the Winter Use Plan, the most efficient means of responding was to categorize similar comments by topic and provide one summary response rather than responding individually to all comments.

6-2 As noted in response to comments 4-1 and 4-3, the public review for this project followed established procedures for NEPA projects and included a 60-day comment period, as well as several public meetings. The comment period opened on November 29, 1994, when the DEIS was released, and ended on February 2, 1995. Announcements concerning this EIS were made in conjunction with the Winter Use Plan and notifications were printed in local newspapers.

COMMENTS

Superintendent Ladd, CLNP Page 2

CHAPTER POSITION

Rim Proposals **Removal of Rim Parking** We support this change	6-3
Expansion of the Cafeteria/Gift Shop We support this expansion to a two-story structure but believe that a three-story structure would be an unsightly architectural design for the Rim. We especially support the proposed addition of a sizable interpretation activity at this location.	6-4
Construction of a Three Level, 637 Car, Parking Structure Below but Near the Rim We believe the intrusion of a modern, multi-level, reinforced concrete structure, while suitable for a major urban shopping mall, would be totally out of harmony with this ancient Lake and the old Lodge. We believe a reasonable alternative is a similarly sited surface parking area sized for winter use only, augmented by a larger, tram-served summer parking area in the Mazama area. This arrangement would move parking off the Rim, would allow limited winter parking near the Rim, and would provide for the summer tourist influx without structural impact to the Rim.	6-5
Removal of the Concessionaire Dormitory We support this movement of staff living quarters away from the Rim.	6-6
Construction of a New Road to the Lodge We support this change as long as it does not seriously degrade areas we have historically used for winter ski instruction or eliminate the existing one-mile Hemlock Loop Trail	6-7
Munson Valley Proposals We support retaining the Park headquarters and living facilities at this location, with the proviso that any expansions produce minimum impact to the surrounding undisturbed areas.	6-8
Mazama Village Proposals **Addition of Group Campsites and Amphitheater** We support this expansion	6-9

RESPONSES

6-3 Your comment supporting the removal of rim parking is noted.

6-4 Your comment is noted. The expansion of the day use activity center is a planned action that has already been approved by the Park Service; it is not part of the environmental review for this project. The final design of the structure has yet to be determined.

6-5 Congestion is a major problem at Rim Village. The underlying purpose behind the development of a new parking area is to reduce the "unnatural" setting at Rim Village currently created by the existing surface parking lot and vehicle traffic. The new facility is intended to benefit both the visitor and the resource by pulling visitor vehicles away from the rim. The parking area and associated roads were designed through an involved planning effort that placed special consideration on protection of natural resources, including maintenance of the visual character of the area, as well as accessibility for park visitors.

Following several Park Service planning meetings, the underground concept was determined to be the best design to provide sufficient parking while minimizing the visual intrusion. The concept of moving parking off the rim while keeping parking within walking distance to Crater Lake met the need of reducing congestion at Rim Village while minimizing inconveniences for visitors.

Mazama Village does not have sufficient area available to provide adequate parking for the traffic expected at the park.

6-6 Your comment supporting removal of housing from the rim is noted.

6-7 Your comment is noted. The new access road to the lodge is designed to minimize intrusion on existing ski trails. The road would not be open or plowed during winter and would therefore not affect the Hemlock Loop Trail.

6-8 Your comment concerning proposed development at Munson Valley is noted.

6-9 Your comment supporting the addition of group campsites and an interpretive amphitheater at Mazama Village is noted.

COMMENTS

Superintendent Ladd, CLNP Page 3

Construction of Concessionaire Dormitory, RV sites, Water Tank, Storage Building, Roads and Paths
While we support moving concessionaire housing from the Rim and the Mazama area seems an acceptable relocation site, the massive scale of these proposals seems extreme and is unsupported in the DEIS. The DEIS provides no staffing statistics, past or proposed, to justify an expansion of this scale of concessionaire facilities in the Park. 6-10

We do not support this change as proposed.

South Entrance Proposals

New Park Headquarters, Dormitory, Support and Storage Buildings, Employee Housing and RV Sites
The concept of relocating the Park Headquarters into an area containing almost the last of east-side old growth Ponderosa forest seems completely antithetical to Park Service responsibilities to preserve the Park attributes for future generations. A second major detriment of these proposals would be their impact on the migration of Cascade elk from the Rogue River headwaters through the South Entrance corridor to their Upper Klamath Lake spring pasture areas. 6-11

The justifications for these sacrifices are entirely inadequate. We support none of these proposals, and, thus, neither Alternative 1 or 2.

NEPA PROCEDURAL ISSUES

1) As noted earlier, we believe that NPS management of the comment period allowed inadequate time for acquiring information necessary for informed comment. 6-12

2) We found it very difficult to reach Park personnel by telephone. Four calls out of five resulted only in talking to a tape recording and leaving a taped message which seldom brought results. 6-13

3) Conversations with the Oregon Department of Fish and Wildlife offices at both Medford and Klamath Falls revealed that neither had received copies of the DEIS for comment, a critical omission in terms of potential impact to area elk migration. 6-14

4) The DEIS, rather than follow the required process of considering alternate sites for major developments, presented only the South Entrance as a possible new headquarters location. Left unconsidered were Union Creek, Ft. Klamath, and Diamond Lake - a substantial oversight. 6-15

RESPONSES

6-10 The need for employee housing has been an ongoing problem at the park. As described in the DEIS, employee housing is adequate for only about 50% of the permanent staff, and concessioner housing is inadequate to support seasonal employees. In addition, employee housing at Crater Lake Lodge has been eliminated as part of the recently completed renovation, and this has added an additional burden to existing park housing. As an interim step, a portion of the Mazama campground has been turned into a temporary employee housing area. This interim solution is necessary but does not provide a long-term solution for the Park Service. The need for housing is clear and immediate, and the Park Service would like to resolve this problem as efficiently as possible.

6-11 Because of previous clearing and past fire management practices, there would be sufficient room to develop at the South Entrance while retaining most of the large ponderosa pine trees. The Park Service recognizes these trees as an important resource and would avoid impacts on both the visual corridor along the highway and the larger ponderosa pine trees within the stand. The concept of moving onto Forest Service lands (which have had more human disturbance) was proposed to protect the mature ponderosa pines on Park Service lands.

New alternative sites have been identified during the NEPA public review process. As a result, the revised Proposed Action is to reconsider long-term planning activities at the South Entrance following a more detailed analysis of other possible sites on which to locate the needed facilities. The Park Service would prefer to meet facility needs away from areas that may have wildlife impacts.

6-12 Your comment is noted. See response to comments 4-1 and 4-3.

6-13 Because of demands on time, Park Service staff are not always available to take calls. Park Service personnel try to be responsive to questions from the public and make it a point to return phone calls. We apologize if we were not responsive to your calls.

6-14 The Park Service unintentionally left out the ODFW on the EIS distribution list. The Park Service identified this mistake and called ODFW shortly after the DEIS was issued to ensure that they had a copy. In addition, ODFW was consulted during the early planning phases of the project prior to and following field studies conducted in 1993.

6-15 See response to comments 2-1 and 2-15. As described in the FEIS, alternative sites would be considered under the revised Proposed Action described in the FEIS.

5) No copy of the DEIS was forwarded to the Oregon Department of Environmental Quality. This is a serious omission since the DEQ Bend office administers the Park Water Pollution Control Facilities Permit and would have to approve any increased impacts to the two lagoon systems now operating in the Park and the addition of sewage facilities at the South Entrance 6-16

6) The DEIS fails completely to consider the cumulative sewage impacts of the reopening of the 70-room Lodge, the 40-room Mazama Village hotel/restaurant proposed in the WUP/FEIS, the expanded concessionaire dormitory/facilities at Mazama Village, and the combined new headquarters, dormitory and separate housing at the South Entrance. 6-17

CHAPTER PREFERRED ALTERNATIVE

Finally, the Chapter concludes that in view of the conflicts noted above, we can support only Alternative 3, the No Action Alternative. 6-18

Thomas A. Rose
Environmental Chair

John M. Burns
President

Executive Committee:

Attachment: 1/22/95 Request for extension of DEIS comment period.

cc: Regional Director
Pacific Northwest Regional Office
National Park Service
Seattle, Washington

6-16 Development activities that were being considered at the South Entrance under Alternatives 1 and 2 would not occur for at least 10 years. It would be unnecessary for the Oregon Department of Environmental Quality (ODEQ) to review and provide comments on the conceptual plans presented in the DEIS. When (and if) detailed plans for development at the South Entrance are finalized, the Park Service will coordinate with the ODEQ, as appropriate.

6-17 The Mazama Village and Munson Valley sewage treatment facilities have recently been improved. The improvement designs are sufficient to accommodate possible future increases in sewage and are capable of handling the cumulative increase in sewage generated by project developments. The 40-room hotel at Mazama Village is not being considered in this planning effort. During the planning process, it was determined that the need for year-round lodging was not fully known and that additional analysis would need to be completed to make sound decisions regarding this development. Providing year-round lodging, either inside or outside of the park, is an option for the future and will be evaluated if the demand for winter lodging close to the park proves sufficient to warrant such a project.

6-18 Your comment supporting Alternative 3, the No Action Alternative, is noted.

COMMENTS

January 22, 1995

Southern Oregon Chapter
Oregon Nordic Club
430 Wiley St.
Ashland, OR 97520
(503) 488-0887

Benjamin F. Ladd
Superintendent
Crater Lake National Park
P. O. Box 7
Crater Lake, Oregon 97604

Dear Superintendent Ladd,

Members of the Chapter have read with interest the 1994 Draft EIS covering proposed changes to the 1988 Crater Lake National Park Development Concept Plan. We attended both the afternoon and evening Medford public meetings arranged by the Park Service to present these proposals to the public and felt the meetings were well organized and ably staffed.

We appreciate the Park Service's adherence to the provisions of the National Environmental Policy Act in developing these Amendments and believe that the Park Service's change in position to allow public hearings was well considered.

We believe, however, that the current February 2, 1995 cutoff date of the DEIS comment period presents a serious disadvantage for interested and involved groups like ours to reach informed positions relative to the proposed changes. First, the area of the Park concerned is covered at present by a heavy, mid-winter blanket of snow approaching 10 feet deep in some locations. Second, the Park Service, at the January 12 Medford public meetings, displayed several documents of fundamental interest to anyone attempting to examine the proposals in depth. We were not successful last week in locating these documents by phone at Crater Lake National Park, and have requested them from the NPS Denver Service Center (see the attached letter). 7-1

Since we will likely not receive the requested information until about Friday, January 27, it will be essentially impossible for us to digest the documents and offer a timely informed comment to the DEIS - which is, of course, the whole intent of the NEPA DEIS comment period.

RESPONSES

Letter #7

7-1 See response to comments 4-1 and 4-3. The public review period for this project followed established schedules and procedures for NEPA projects and included a 60-day comment period, as well as public hearings. The public meetings were intended to provide any information needed to assist people in understanding the proposals and their impacts.

A specific example may help define our problem. We obtained a copy of the December 6, 1993 Oregon Department of Fish and Wildlife comments on Jones and Stokes Associates draft report of special status wild life species. Without that report or the current document just requested from Denver, we are unable to interpret the ODFW comments. Detail in the DEIS is much too brief and summary in character for this purpose.

Finally, members of the Club Chapter, representing 60-plus Rogue Valley households, request that the comment period for the Draft EIS be extended from the current February 2, 1995 deadline until late spring or early summer. This extension will provide the Chapter time to receive and digest the background documents requested and will allow the current heavy snow cover to diminish so that meaningful on-site examinations of the locations of proposed changes can be accomplished. 7-2

Thank you for your consideration of our needs.

Thomas A. Rose
Environmental Chair

John M. Burns
President

Executive Committee.
Jackie Wobbe, Secretary
Jud Parsons, Treasurer
Viki Barbour, Outings
Donna Rose, Programs
Reider Peterson, Membership, Newsletter
John Fertig, Trail Development
Dan Bulkley, John Day Race
Marge Bulkley, Hospitality

Attachment: 1/22/95 Request to NPS Denver Service Center for background documents.

cc: Regional Director
Pacific Northwest Regional Office
National Park Service
Seattle, Washington

7-2 The Park Service is aware of the concerns of the Oregon Nordic Club and will consider those comments carefully in formulating future plans for the park. The comment period could not be extended because a decision is needed very soon to allow for proper scheduling and implementation.

January 22, 1995

Tom Rose
Environmental Chair
Southern Oregon Chapter
Oregon Nordic Club
430 Wiley St.
Ashland, OR 97520
(503) 488-0887

National Park Service
Technical Information Center
P. O. Box 25287
Denver, Colorado 80225-0287

Dear Sir,

As described in my telephone call on Friday, January 20, 1995, the Southern Oregon Chapter of the Oregon Nordic Club is evaluating the November 1994 Draft Development Concept Plan EIS for Crater Lake National Park (CLNP). At the open house meeting at Medford on Thursday, January 12, presented by the Crater Lake National Park Service, several critical background documents were displayed.

Telephone calls to the Park did not establish the presence of these documents at Crater Lake and it was suggested we might obtain them from the Denver Service Center.

The desired documents include:

1) Threatened, Endangered and Sensitive Animals Report - Rim Village. December 15, 1993.

2) Draft Report for Dormitory Housing at Mazama Village, CLNP. May 23, 1994.

3) Park Water System Study, CLNP. November 1994.

4) DCP/Amendment to the General Management Plan, CLNP. July 1988.

5) 1987 CLNP Rim Development.

6) Briefing Report: Rim Village Development. September 24, 1992.

7) Two other briefing reports relative to CLNP development, subsequent to the September 24, 1992 date.

The Club is requesting these documents under the Freedom of Information Act. We will share them with other interested organizations and will donate them to the library of Southern Oregon State College in Ashland for long term community reference, and would thus appreciate not having to pay duplication costs.

Since we have only a week and a half to formulate and deliver our comments, we would appreciate expeditious handling of our request. Thank you for your help

Tom Rose
Southern Oregon Chapter,
Oregon Nordic Club

cc Benjamin F. Ladd
Superintendent
Crater Lake National Park

COMMENTS

RECEIVED
FEB - 6 1995
CRATER LAKE NAT'L PARK

February 1, 1995

Superintendent
Crater Lake National Park
P. O. Box 7
Crater Lake, Oregon 97604

Re: Comments on Crater Lake National Park Draft Development Concept Plan

Dear Superintendent:

These comments represent the views and concern of the Siskiyou Audubon Society, a local independent chapter of the National Audubon Society, with approximately 250 members and the Siskiyou Regional Education Project (Siskiyou Project) a local non-profit organization with approximately 12,000 local and national members. The Siskiyou Project is dedicated to the protection and preservation of the exceptional biological diversity, wild rivers and fisheries and wild lands of the Klamath-Siskiyou Province. We are submitting comments on the Crater Lake National Park Draft Development Concept Plan (draft DCP) because of concerns for the important ecological values of Oregon's only National Park.

We support the Rogue Group Sierra Club and Southern Oregon Nordic Club's request for an extension on the comment period on the draft DCP. Time is needed to review the General Management Plan and tour the areas proposed for development which are currently under many feet of snow. 8-1

The Draft DCP Does Not Develop a Full Range of Alternatives

Alternatives in the draft DCP address the needs of the concessionaire, park service administration and visitor comfort but not the need to protect the ecological integrity of Crater Lake Park. An article entitled, "Audit cites degradation of parks" (Medford Mail Tribune, 11/6/92) states that,

> "Crater Lake National Park is among the nation's premier natural attractions suffering from deterioration because the National Park Service emphasizes visitor services and not protection of the attractions visitors want to see."

The article quotes an internal government audit by the Interior Department's inspector general. 8-2

The listed purpose, needs and issues of the draft DCP (P. i & iii) which drive alternative development "emphasize visitor services" and not the protection the ecological integrity of Crater Lake National Park which according to the inspector general's report are suffering. The removal and rehabilitation of the parking areas and roads from Crater Lake's Rim should be an action common to all alternatives, but an alternative proposing development which conserves ecological values and water resources and rehabilitates disturbed sites must be developed in a supplemental environmental impact statement` (EIS) in order to provide decision makers and the public with a full range of reasonable alternatives.

RESPONSES

Letter #8

8-1 Your comment concerning extension of the comment period is noted. See response to comments 4-1, 4-3, and 7-2.

8-2 The alternatives presented in the DEIS are intended to balance the need for visitor use and enjoyment of the park while protecting the ecological integrity of natural systems. Removing development from the rim achieves this balance by protecting and enhancing Crater Lake while providing for visitor use and enjoyment of unobstructed views of the resource. The planning process provided under NEPA requires the Park Service to document the environmental consequences of specific actions and to weigh those consequences against its mandate to make the resource available to the public.

Comments on Specific Issues

1. Support facilities, concessionaire and park service employee housing should be located outside Park.

Crater Lake National Park is small in area. Much of the proposed support facilities should be outside park boundaries, especially those for concessionaire employee housing. We support and incorporate the comments of the Oregon Natural Resources Council (2/1/95) and the Concerned Friends of the Winema pertaining specifically to this issue. If additional housing is needed, the Park Service should consider using the existing rental units at Mazama Village now that the Crater Lake lodge is operating. Group camp sites should be located outside the park. 8-3

2. Development should not result in increased water withdrawals from Annie Creek or impact to native aquatic species.

We are opposed to development alternatives that would result in increased water withdrawals from Annie Creek or from other streams and/or springs within the Park or surrounding ecosystems (ie. alts. 1, 2 & 3). Increased water needs should be met by conservation not by increased withdrawals. 8-4

The draft DCP does not mention whether bull trout or other native fishes are found in Annie Creek or whether the creek historically supported bull trout. The Medford Mail Tribune (above) quotes the inspector general's audit as saying that no monitoring for bull trout had been conducted in the 10 creeks in Crater Lake National Park. Have extensive surveys and monitoring been conducted for native aquatic species in Annie Creek both within the Park and downstream from it? How will increased water withdrawals impact the Annie Creek ecosystem 8-5

3. The draft DCP fails to analyze impacts to aquatic invertebrates.

In a study of 14 cold springs in the Sierra Nevada (1990), Drs. Don and Nancy Erman found such springs were habitat for "rare, relict and/or endemic species". Have studies aquatic invertebrate studies been conducted in Annie Springs and Annie Creek? What impacts will increased water withdrawals have on aquatic invertebrates? 8-6

4. Multi-level parking garage not appropriate.

We are opposed to the underground parking facility at the Rim Village as proposed in alternatives 1 & 2. The goal should be to decrease the amount of automobile traffic not provide for an increase. Underground parking garages belong in overdeveloped cities not exceptionally beautiful landscapes like Crater Lake. While the underground parking structure would remove some vehicles from sight of visitors, the physical impacts of increased vehicle use (oil, air pollution, etc.) would remain. It would be hard to imagine waxing skis or having a tailgate picnic in an underground parking garage at the Rim area. The park service should analyze the effects of smaller more dispersed parking areas. 8-7

8-3 Your comments concerning location of support facilities are noted. Not all support facilities can be efficiently located outside of the park while still providing their intended functions. Staff and facilities that are currently located within the park are those that need to be positioned near or at visitor activity areas to function efficiently and effectively. As noted in response to comments 2-1 and 2-15, under the Proposed Action (as revised for the FEIS), the Park Service will consider sites outside the park for facilities that can be located farther from the programs that they support.

8-4 The Park Service strongly supports water conservation as a means of increasing available supplies and has taken several steps to ensure that water use is minimized, including repairing leaks and installing conservation fixtures, such as water-conserving toilets and low-flow shower fixtures. The Park Service intends to use only as much water as is minimally necessary from Annie Creek or other sources to meet its needs. Please see the mitigation section described in Chapter 2 under Alternative 1.

8-5 See response to comment 2-2. A discussion regarding bull trout has been added to the FEIS.

8-6 Impacts to the spring itself would not occur because water would be removed from below the spring, not within it. No aquatic invertebrate studies have been conducted within Annie Creek or Annie Springs.

Water withdrawal would reduce habitat for aquatic organisms, and, when all water use on Annie Creek and the Wood River system is considered, habitat for fish and other aquatic life has been and will continue to be significantly reduced due to water withdrawals. The water use being considered at the park would incrementally reduce water flows.

The direct effect of Park Service water withdrawal is expected to be only moderate because a relatively small portion of the water would be used (up to a maximum 5.7% of low flow volumes of a 5,000-foot section of Annie Creek for all existing, planned, and proposed uses). The effect would become increasingly smaller as tributaries augment streamflow below the point of water withdrawal. By the time Annie Creek leaves the park boundary, its flow would be reduced by no more than 4/10 of 1% during the lowest, drought-condition flows (as reported by the Oregon Department of Water Resources). During most times, the reduction would be even less.

In short, the cumulative impact of all water withdrawal on Annie Creek has resulted in a significant impact to the aquatic environment. However, the direct impact of water withdrawal at the park is minor and has no significant effect on the aquatic environment downstream of the park.

COMMENTS	RESPONSES
	8-7 The Park Service tries to accommodate a wide variety of people with different needs and desires, including many individuals who choose to drive their own vehicles. As noted in response to comment 6-5, the primary purpose of the new parking facility is to reduce congestion and other effects of vehicles at Rim Village while preserving the quality of the visitor experience. The number of parking spaces needed was determined through a planning process that began over 10 years ago. The number of spaces proposed for the new facility represents only a moderate increase over that currently provided. The increase is mostly needed to cover the additional time people are expected to park because of (1) travel time to and from Rim Village, and (2) increased desire to stay longer because of the increased feeling of arrival, improved interpretation and viewing opportunities, and more pedestrian-oriented opportunities associated with Rim Village. Small, dispersed parking areas are available throughout the park, including several along Rim Drive.

5. Concessionaire, gift shops, merchandizing.

Concessionaires do not necessarily enhance visitors experience of National Parks. Rather the type of commercialization they foster in our national parks makes the parks more like the places people come to the parks to get away from. Basic services are important but curio shops have no place in our National Parks. 8-8

6. Is the 1988 General Management Plan adequate?

Does the 1988 Crater Lake National Park General Management Plan address the protection and monitoring of the ecological values of Crater Lake National Park? If it does not these issues should be addressed in a supplemental EIS. Please send us a copy of the above plan so that we might review it.

Conclusion

Thank you for considering these comments on the Crater Lake National Park draft DCP. We urge the Park Service to rethink the type of development they are proposing for the Park. Other alternatives need to be developed to address the location of housing and other facilities outside the Park, with a focus on protecting the ecological integrity and beauty of Crater Lake and its surrounding forests and streams while providing a quality visitor experience. Please kept the below organizations informed on continued planning efforts at Crater Lake National Park. 8-9

Respectfully,

Barbara Ullian
Conservation Director
Siskiyou Regional Education Project
P. O. Box 220
Cave Junction, Oregon 97523

and

Conservation Chair
Siskiyou Audubon Society
P. O. Box 1047
Grants Pass, Oregon 97526

8-8 Your objection to concessioner facilities is noted.

8-9 Your comments are noted. See response to comments 2-1 and 2-15. Under the revised Proposed Action discussed in the FEIS, other alternative locations will be evaluated for future development of facilities at the South Entrance.

COMMENTS

OREGON NATURAL RESOURCES COUNCIL
SOUTH CENTRAL OFFICE
P.O. BOX 667
CHILOQUIN, OR 97624
(503) 783-2206
FAX (503) 783-4017

Protecting Oregon's lands, waters and natural resources

RECEIVED
FEB - 2 1995
CRATER LAKE NAT'L PARK

February 1, 1995

Superintendent
Crater Lake National Park
PO Box 7
Crater Lake, Oregon 97604

Dear Sir:

In commenting on the park's draft development concept plan and environmental impact statement, we urge you to greatly rework the range of alternatives before preparing a final version of this document. At this stage of review, we find its NEPA documentation inadequate, largely because of a failure to consider alternatives for developing sites outside of Crater Lake National Park. ONRC similarly shares the concerns, as expressed to you by the Concerned Friends of Winema's (CFOW), letter of January 20, 1995, which also requested that the Park Service develop "an alternative which would house its employees in the surrounding communities." The draft DCP attempts to dismiss such an alternative (page 2-2) but cites a "study" not listed in the reference section. More information about why such an alternative cannot be developed is needed. The stated rationale, concerning the need for extensive federal funding, is not enough to eliminate it from consideration because developing housing in the park (or on the edge of the "panhandle"), would also require extensive federal funding. 9-1

Taken in broader context, we believe that the general and site-specific objectives listed on pages 1-4 and 1-5 of the draft DCP might better be addressed in an updated general management plan. Short of that, however, there should be a statement in the draft DCP as to what constitutes desired future conditions in regard to providing visitor services. This might help to determine appropriate levels of impact and staffing. With respect to the latter, we also believe that the draft DCP should differentiate which proposed actions are intended to address NPS employees and which affect the concession operation. 9-2

Given what Secretary of the Interior Bruce Babbitt has said about building additional overnight lodging in the national parks, we fail to understand why a reference to a year-round lodge is made on page 2-7. With the reopening of Crater Lake Lodge this year and a number of lodging options already available around Crater Lake National Park, there seems to be no need for further discussion of lodging inside the park. As for providing additional camping opportunities, we think the draft DCP should explain why the need for group camping has shifted from Lost Creek (as per the 1977 GMP) to Mazama Village.

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RESPONSES

Letter #9

9-1 See response to comments 2-1 and 2-15. Under the revised Proposed Action discussed in the FEIS, other sites would be evaluated for locating the facilities proposed for the South Entrance. The study referred to on page 2-2 of the DEIS was the "Housing and Concessioner Administrative Facilities Plan" and it was inadvertently left out of the reference section.

9-2 The Development Concept Plan is also an amendment to the General Management Plan. The planning direction and site objectives described on pages 1-3 through 1-5 of the DEIS generally describe the desired future conditions for each planning area. To a large degree, the revised Proposed Action (Alternative 4) described in the FEIS illustrates the desired future condition over the next 5 to 10 years. The 40-room hotel at Mazama Village is not being considered in this planning effort. During the planning process, it was determined that the need for year-round lodging was not fully known and that additional analysis was needed to make sound decisions regarding this development. Providing year-round lodging, either inside or outside of the park, is an option for the future and will be evaluated if the demand for winter lodging close to the park proves to be sufficient to warrant such a project.

The Lost Creek site is no longer being considered for group camping because of the remoteness of the site and the need for extensive snow-plowing to provide access.

COMMENTS

The NPS should be commended for abandoning the septic leach field near Rim Village in favor of a sewer line. As we understand it, this was done in accordance with recommendations made in 1987 by a study team from Oregon State University. In a somewhat similar vein, we think that the riparian system of Annie Creek should be studied before a large water withdrawal at Mazama Village or the South Entrance is proposed. We believe the park can have an impressive record in resource management where planning actions are backed by comprehensive studies. The planning actions proposed in the draft DCP needs this type of study, as well as alternatives which permit a realistic assessment of impacts on park resources. 9-3

Finally, before additional constructed facilities are located in the panhandle area, greater consideration needs to be given to the potential disruption to elk movements and the concerns raised by the Oregon Department of Fish and Wildlife (ODFW). 9-4

However, despite the reasons we have expressed above (that we believe development would be better located elsewhere), ONRC still does appreciate the Park Service's initiative (in concept) to locate proposed development on the Winema National Forest's already logged over lands, rather than proposing placing new structures under the immediate area's few remaining old growth trees. It has been our experience that building under old trees, as lovely a site as it might be, only assures the forest's slow but eventual death as trees are removed that are inevitably deemed "hazards" to the developed buildings and structures they over top.

In closing, we would like to offer you our assistance in developing one or more alternatives which site future housing and support functions outside the park. In addition, we hope to participate in the formulation of an updated GMP in the next few years so that conservation groups can assist you in a proactive (rather than a reactive) manner. 9-5

Sincerely,

Wendell Wood

Wendell Wood
South Central Field Representative

RESPONSES

9-3 As discussed in the "Surface Water" section of the DEIS and noted in response to comment 8-6, water withdrawals from Annie Creek would be relatively small.

9-4 Your comments concerning elk migrations are noted. See response to comments 2-1, 2-15, and 6-11.

9-5 Your comment is noted. Thank you for your continued interest in activities at Crater Lake National Park.

COMMENTS

National Parks and Conservation Association

PACIFIC NORTHWEST REGIONAL OFFICE

January 3, 1995

Benjamin F. Ladd
Acting Superintendent
Crater Lake National Park
PO Box 7, Highway 62
Crater Lake, OR 97604-0007

Dear Mr. Ladd.

The following constitutes the comments of the National Parks and Conservation Association (NPCA) on the Development Concept Plan / Amendment to the General Management Plan / Draft Environmental Impact Statement.

The National Park Service is to be commended for the careful re-analysis of potential development at Crater Lake National Park.

NPCA endorses Alternative I. The sensitive handling of Rim Village development and restoration will enhance the visitor experience at the scenic heart of the park.

I am very pleased to see future development requirements transferred to the South Entrance area 10-1

The Quarry Flat area in Munson Valley which was used for equipment, construction storage and as a materials staging site is proposed for restoration and use as an employee recreation field. The previous use of the area raises questions about possible toxic deposition. The report should clarify the toxics question. 10-2

We believe construction of housing for seasonal employees in the Mazama Village should have the highest priority. However, we note they are building a total of 53,000 square feet for 98 seasonal employees, or 531 square feet per employee. While we don't have specific comparisons to make, this does sound excessively large for living quarters used only during the recreation season. 10-3

Pacific Northwest Regional Office
617 S. 223rd St., Des Moines, WA 98198
Tel: (206) 824-8808 • Fax: (206) 824-8837

National Office
1776 Mass. Ave., N.W., Washington, D.C. 20036
Tel: (202) 223-6722 • Fax: (202) 659-0650

RESPONSES

Letter #10

10-1 Your comment supporting Alternative 1 is noted.

10-2 The Quarry Flats site has never been used to store hazardous or toxic materials, and there is no evidence to suggest that the site is contaminated.

10-3 The proposed conceptual design is fairly standard for dormitory-style living. The 52,000-square-foot area includes space for storage, dining, living, recreation, and circulation. A one-bed unit would measure about 10 feet by 5.5 feet.

COMMENTS

Considerable discussion is included on the impact of future development at the South Entrance. It is noted that this is a low elevation forest that may contain habitat for sensitive species. Proposed procedures to avoid or mitigate damage appears to be well thought out and the small scale development proposed would have little, or no adverse effect. However, the report does not discuss potential damages if improvements, expansion or new developments to meet these needs were to occur in Munson Valley, or Mazama Village. Such discussion would help the reader understand losses that could occur with alternative siting. 10-4

I appreciate the opportunity to comment

Sincerely,

Dale A. Crane
Director, Pacific Northwest Region

RESPONSES

10-4 Early planning determined that development at Munson Valley or Mazama Village could not reasonably be expanded beyond that proposed without unacceptable changes to the natural environment and associated visitor/employee experiences at these areas. See response to comments 2-1 and 2-15.

COMMENTS

RECEIVED
FEB - 6 1995
CRATER LAKE NAT'L PARK

Superintendent,Crater Lake National Park
Crater Lake, Oregon

2/1/95

Dear Superintendent,

On behalf of the Oregon Chapter Sierra Club and the Rogue Group Sierra Club I would like to submit the following comments on the draft Development Concept Plan for Crater Lake National Park for your consideration.

First, I would ask that you consider extending the comment period on the draft to allow interested groups and individuals to obtain and review other documents relevant to the plan and to allow for more discussion about and consideration of the proposed alternatives. 11-1

The issues cited on page iii of the summary section which are compelling you to consider the proposed alternatives raise some important questions about the purposes for which the park is managed. Two of the issues deal with concessionaire and related employee needs. It is our belief that concessionaire services do little to enhance the experience of park visitors and that degradation of the natural environment in the park to promote commercial activities is [illegible]. Additionally, most of the concessionaire services are utilized by the public during only three to four months of the year, yet the employee facilities described would be year-round structures and developments. 11-2

We support the concept of minimizing vehicular traffic and parking at the current Rim Village area but feel that the type described in the plan is excessively large and costly. We recommend against any commercial development at the rim including the proposed visitor activity center. The exception to this would be the summer-use lodge. We would urge relocation of the gift shop and restaurant to Munson Valley or another site to be considered. 11-3

Adding facilities to accommodate group camping seems unnecessary in light of numerous camping opportunities in the vicinity of but outside the park. Group activities in a small family camping area often bring noise and congestion not desired by individual campers. 11-4

The museum collection is worthy of a safe,permanent storage place but sites outside of the park should also be considered.

Some general issues of concern common to both alternatives 1 and 2 are increased water withdrawal from Annie Creek, significant 11-5

RESPONSES

Letter #11

11-1 Your comments concerning the public review process for this project are noted. See response to comments 4-1 and 4-3.

11-2 Your objection to concessioner facilities is noted.

While it is true that the employee facilities may be used only seasonally, temporary structures such as RV camper facilities are already in use in the park. Total reliance on these types of facilities would not be practical because (1) not all seasonal employees have access to campers or would want to use them for the entire season, and (2) the current location of this housing is on land that otherwise would be available for visitor use.

11-3 Your comment supporting removal of vehicular traffic from the rim is noted. See response to comment 6-5. The activity center is a planned and approved action that is not part of the decision being considered in this EIS. However, the activity center is intended to serve as a primary interpretation and orientation area for visitors, as well as to offer important services that provide recreational opportunities for visitors and contribute to visitor enjoyment of the park, such as ski rental and food services. It is not considered a commercial development.

11-4 The park receives several requests each year from recreational groups requesting group camping sites, but there is no place in the park to accommodate them. The Park Service has determined that there is a public need for this type of facility, and that the use of the park by groups would allow some people to enjoy the park who might not otherwise be able to do so. The planning team was very aware of potential conflicts between group and individual camping parties, and the locations proposed are situated so that most conflicts would be avoided. The locations were also selected because they were efficient in terms of campground management.

The museum collection must be stored within the park because staff must have working access to the materials.

11-5 Your comments concerning the potential impact of water withdrawals are noted. See response to comment 8-6. The planning team spent considerable time and effort to determine the appropriate type of developments necessary to support park activities. The developments proposed under the revised Proposed Action respond to immediate needs requiring action. These immediate needs do not change among the alternatives, and because the needs are relatively specific, the location for providing the services is the only variable as noted in your comment. Through the NEPA process, the environmental consequences will be weighed against the intended benefits of meeting particular needs, as defined in Chapter 1 of the FEIS.

removal of trees and other vegetation with resultant impacts, disturbance of wildlife habitat, and impact on the viewshed. The only real alternative presented is in the location of the planned development not in the amount or type of development.

Thank you for your consideration of these comments. We look forward to continued involvement in this process.

Sincerely,

Victoria Barbour

Victoria Barbour, Secretary
Rogue Group Sierra Club
For
Myra Erwin, Chair
Rogue Group Sierra Club
And
Bob Frenkel, Chair
Oregon Chapter Sierra Club

COMMENTS

The 90 MEMBERS OF THE SLEDHEADS SNOWMOBILE CLUB FAVOR ALTERNATIVE III. DO NOT MOVE MAZAMA VILLAGE. 12-1

Sledheads Snowmobile Club
(AN OREGON CORPORATION)
PO Box 85
Crescent Lake OR 97425

Contact Person:
Robert McCutchan 503-433-8544
Box 88 Crescent Lake, OR 97425

RESPONSES

Letter #12

12-1 Your comment supporting Alternative 3, the No Action Alternative, is noted. None of the alternatives being considered calls for relocating Mazama Village.

Grants Pass Nordic Ski Club

Mr. David Morris
Superintendent
Crater Lake National Park
P.O. Box 7
Crater Lake, Oregon 97604

January 6, 1995

Dear Mr. Morris,

I am writing on behalf of the Grants Pass Nordic Ski Club.

Our Club would like to go on record in support of Alternative I of the Crater Lake Winter Use Program.

As cross-country skiers we oppose any additional snowmobile or snowcoach use in Crater Lake National Park. We feel that these machines will interupt and destroy the integrity of the wilderness. 13-1

Our members ski the trails several times a year and we enjoy the pristine beauty and solitude of the lake.

We strongly urge that Crater Lake National Park continue on with the existing types and levels of winter use within the park.

Our club will be represented at the open house meeting in Medford, January 12, 1995. We look forward to seeing you there.

Sincerely,

Joan Finney

Joan Finney
Secretary, GPNSC

Letter #13

13-1 Your comment supporting Alternative 1 is noted. The appropriate winter uses of the park have been determined as part of the Crater Lake Winter Use Plan.

COMMENTS

20 January 1995

The Superintendent
Crater Lake National Park
P.O. Box 7
Crater Lake, OR 97604

Dear Sir:

Concerned Friends of the Winema (CFOW) is a volunteer citizens' group, based in Chiloquin, which is interested and active in the stewardship of natural resources in the Klamath Basin and surrounds, particularly on our public lands. We attended the Open House in Klamath Falls and have reviewed and discussed the Draft Development Concept Plan/Amendment to the General Management Plan EIS for Crater Lake National Park. We would like to provide you with the following input.

In order to address housing needs of both concessionaire employees and National Park Service employees, and the problems associated with winter housing in Munson Valley (snow removal, isolation, schooling for children, etc.), and appropriate Park Service stewardship of its natural resources, we urge the Park Service to consider an alternative which would house its employees in the surrounding communities. We suggest that the Park initiate discussions with officials in Fort Klamath, Chiloquin and with Klamath County officials to explore the possibilities. For concessionaire employees, the current dormitory/administrative office building south of the Lodge, along with the already prepared temporary RV facility at Mazama Village, may be adequate for this year. If it is not – and for the long-term – the concessionaire could arrange to rent motel and/or RV facilities in surrounding areas. 14-1

The Park Service should also consider whether its own administrative/headquarters facility might be better located outside the Park itself, again in one of the surrounding communities rather than developing a whole additional complex in this fragile and already damaged ecosystem. This should be weighed against remaining in the historic buildings in Munson Valley, and what space needs those buildings can fill if administration is moved elsewhere. 14-2

CFOW is in agreement with the changes proposed for the Rim area, i.e. removing parking from the rim and returning the current parking lot to a natural condition, and providing walkways and a shuttle to the Rim from a new parking area below the Rim. We also agree with providing a building which is adequate to serve the concessionaire's current food service and gift shop functions, and information and interpretive visitors' facilities for the Park Service. 14-3

We request that you address these concerns with a new alternative to the Draft Development Concept Plan/Amendment. Please call on us if we can be helpful in any way.

Sincerely,

Sally Wells

Sally Wells, for
Concerned Friends of the Winema
3333 Hwy 422
Chiloquin, OR 97624

RESPONSES

Letter #14

14-1 Your comments concerning additional sites are noted. See response to comment 2-15. The revised Proposed Action as described in the FEIS is to reevaluate actions at the South Entrance and to explore the possibilities of meeting future housing needs in other areas, including nearby communities.

14-2 Your comment is noted. See response to comment 2-15.

14-3 Your comments supporting proposed planning activities at Rim Village are noted.

OREGON HUNTER'S ASSOCIATION
Klamath Chapter
P.O. Box 8161 • Klamath Falls, OR 97602

January 30, 1995

Superintendent
Crater Lake National Park
Box 7
Crater Lake, OR 97604

Dear Sirs:

We stand totally opposed to your selection for building facilities on the south (Panhandle Area). This is the major elk migration route between summer and winter ranges In the recent ODFW Elk Management Objective Plan damage to private land played a large roll in the final M O Building in the Panhandle Area will cause the animals to use alternate routes in which they will encounter private land, fences people and roads

The Oregon Hunter's Association has spent many volunteer hours and dollars to enhance wildlife habitat in this area. We feel any development in this area would be detrimental to what has been accomplished.

Oregon Hunter's Association is dedicated to an abundant wildlife resource in Oregon for present and future generations. We do this through volunteering time and raising money to support the wise management of Oregon's huntable wildlife and wildlife habitat.

15-1

The Popson Meadows area is directly south of the Panhandle and serves as a major springtime attraction to elk moving to summer areas (Son Creek, Annie Creek, the Klamath Marsh, Sun Mountain and the Skyline areas). Altering the migration route could cause the animals to use other areas after major work has been done in this area in cooperation with the private land owner

Again we feel this is not the proper location for development and would appreciate your reconsidering locations.

Thank You,

Ken Hand

Ken Hand

Letter #15

15-1 Your comment stating opposition to development activities at the South Entrance is noted. See response to comment 2-15.

COMMENTS

January 24, 1995

P.O. Box 455
Fort Klamath, OR 97626

Mr. Ben Ladd
Acting Superintendent
Crater Lake National Park
P.O. Box 7
Crater Lake, OR 97604

Subject: Draft Development Concept Plan/Amendment to the General Management Plan Environmental Impact Statement

Dear Mr. Ladd:

This letter describes comments on the Draft Environmental Impact Statement (DEIS) on the Development Concept Plan/Amendment to the General Management Plan for Crater Lake National Park (CLNP). Included are several questions that we and others in the Fort Klamath area believe must be addressed before action can be initiated for any improvements described in the EIS. Unfortunately, the DEIS came to our and other Fort Klamath residents attention only very recently, and as a result, the comments in this letter may not reflect all of the comments we may have regarding the DEIS and the proposed action for improvements at CLNP.

Summary

Our comments to date on the DEIS are summarized below. Additional comments and development of our concerns are contained in the body of this letter.

- The planning and environmental activities associated with planned improvements and development at Crater Lake National Park have just recently been brought to the attention of the residents of the Fort Klamath Valley. 16-1

- Public Participation efforts by the NPS did not result in local ranchers and those most directly impacted by the proposed action at the park to be aware of the proposed plan in a timely manner. 16-2

RESPONSES

Letter #16

16-1 The planning effort was first presented at public meetings held in January and May 1994 at Klamath Falls, Medford, Roseburg, and Portland, Oregon. At those meetings, the general concepts of alternatives and the range of actions being considered were presented by park staff and consultants. Alternatives were also described in an alternatives workbook that was distributed at the meetings. See response to comments 4-1 and 4-3.

16-2 Your comments concerning lack of notification about Park Service activities are noted. See response to comments 4-1 and 4-3.

COMMENTS

Superintendent
Page 2
January 4, 1995

- CLNP is currently using Annie Creek water under a low priority permit (not an adjudicated water right) which is under protest by the State of Oregon. The current planning activities do not consider that the water rights for both current uses and future development are not secure and are possibly invalid, and commitments to spend approximately $80,000,000 of our tax dollars are recommended in the DEIS regardless of this fact. 16-3

- Costs comparisons used by the NPS do not include adequate inflation of development costs in future years, and may not represent the true cost of implementing the "Preferred Alternative". 16-4

- Planned development includes relocating park headquarters outside of the park, which were recently upgraded and improved, the cost of which is unknown but surely not insignificant. 16-5

- The DEIS and improvement plans include an alternative at significantly less cost ($13.5 million versus $78 million) which more appropriately reflects the level of development that might be reasonable for the park, given visitor volumes. 16-6

- We request that the public comment period be extended to allow adequate review time of the documents only recently made available, and to complete evaluations of the proposed improvements. 16-7

- We request that all proposed development plans in the Park be stopped until the water rights issues for existing and future water deliveries are resolved. Development plans for any future development must be based on a secure, appropriated water right, and should not be allowed to continue as described in the DEIS. 16-8

- We request that we be copied on all written comments received by the NPS on the DEIS, and any correspondence from the NPS regarding resolution of the comments. 16-9

RESPONSES

16-3 The Park Service recognizes that seasonal water shortfalls may occur within the Annie Creek drainage downstream from Crater Lake National Park. The legal process is underway to determine the quantity of water available for park uses through the Klamath Basin Adjudication. The Park Service is investigating a number of options within Oregon State water laws, should the adjudication determine that the combination of existing federal reserved and prior appropriation water rights is insufficient to meet existing needs, or those proposed in this DCP. Those options being investigated include:

- Locating new water sources, either surface water or subsurface sources (wells), for which appropriate water rights could be obtained.
- Obtaining additional priority water rights through purchase or lease agreement.

Appropriate compliance with NEPA and the National Historic Preservation Act (NHPA), Section 106, would be completed prior to implementing any of these options.

16-4 The cost comparisons have been revised to reflect the most recent cost estimates. They were prepared using standard and accepted procedures and reflect the best information available to the Park Service.

16-5 Under Alternative 4, the revised Proposed Action, park headquarters functions would not be moved at this time. Under Alternative 1, the building that was recently improved would remain at Munson Valley and would continue to be used by park staff. The benefits of that improvement were to maintain the historic character of the headquarters area. These benefits would still be realized if the headquarter functions were shifted away from Munson Valley.

16-6 Your comment concerning the cost differences between Alternative 1 and Alternative 3, the No Action Alternative, is noted.

16-7 Your comment concerning extension of the comment period is noted. See response to comments 4-1 and 4-3.

16-8 See response to comment 16-3. The Park Service is prepared to obtain alternate water sources, if determined necessary by the adjudication process. To delay planning activities in the park until this process is complete would be an unreasonable constraint on park operations.

16-9 Your comment is noted. All written comments received have been reprinted and responded to in this FEIS.

COMMENTS

Superintendent
Page 3
January 4, 1995

Water Rights

The EIS references a report prepared by Century West Engineering Corporation on the park water system. The bibliography lists the study as a 95% draft submittal, however, we understand that the report has been finalized. We requested a copy of the report on January 4, 1995, but have been informed that only limited check-out of one available copy of the report is available directly from the Crater Lake library. We currently have a copy of the report, but it must be returned soon, and obviously is not available to other individuals in the valley who may want to review it. Because we have direct concerns regarding water rights issues associated with the NPS water right mentioned in the DEIS, we request that the public comment period be extended to allow sufficient review of the final report and its impact on the findings in the DEIS. As a source document for the DEIS, our review of the contents of the report are critical to understanding the impacts described in the DEIS.

CLNP was established in 1902, however, **the park does not own an adjudicated water right on Annie Spring or any of it's tributaries**. According to the Century West report, the Park holds a permit on the spring dated in 1942, which is currently under protest by the State of Oregon. We hold water rights on Annie Creek dated in 1883, and many others in the valley hold adjudicated rights prior to 1902. As priority water right holders on the creek, we believe the DEIS does not adequately address the potential impacts of park development on priority and later water right holders on the creek. 16-10

It is stated in the DEIS that development of any of the alternatives will result in a reduction in flows in Annie Creek, and that full development could result in increasing current water use by 95 percent. In drought years, flows in Annie Creek have not been sufficient to sustain irrigation and stock-water requirements, which has resulted in shutting off water supplies to the later priority water right holders, and in some years, no irrigation water has been delivered to many irrigators. Such conditions would result in all Park diversions from Annie Springs being denied during that year. Because the Park does not have any adjudicated rights to Annie Creek, Park water should be one of the first shut off. We do not believe it is sound practice to develop Park facilities on an unsure water supply source, and have significant concerns how priority water rights will be maintained in the event of a water shortage.

It also appears that Park water use on Annie Creek and it's tributaries within the Park has been allowed during years when it should have been shut off according to priority rights on the Creek. For example, in 1992 and 1994, the State Watermaster shut off flows to irrigators in the valley due to low creek flows. To our knowledge, the Park's water use was not affected, and should also have been shut off to protect the priority rights that exist on

RESPONSES

16-10 Your additional comments concerning the issue of water rights associated with Annie Spring are noted. See response to comment 16-3.

Superintendent
Page 4
January 4, 1995

The Century West Park water System Study recommends that a well be drilled in the panhandle area to provide water for the proposed development at the South Entrance. Impacts of drilling such a well on existing artesian wells in the valley are not addressed, and any wells proposed by the Park Service should not adversely affect the quality or quantity of flows in existing wells.

We have many questions regarding the proposed improvements and water use. How will the water for the development be measured? What protection do the priority water right holders in the Creek have during periods of shortage? Will all water supply to development in the park be shut off, including that supplying homes and other developments, in order to protect priority water right holders? How will irrigators in the valley be compensated for reductions in flows during drought years? When will the water rights issues be resolved? If 1995 is a drought year, will diversions from Annie Spring for CLNP be shut off as they should be? 16-10

We suggest that an alternative water supply be found for any and all development at the Park that will use any Annie Creek or tributary water, including present water diversions that are under protest by the State of Oregon.

The park should bear the costs associated with the additional management and any physical structures required to protect the other water users rights on the creek. These costs might include state watermaster and ditch rider labor costs, construction or rehabilitation of measurement and diversion structures, or other improvements.

Public Participation:

The DEIS and scoping process has not adequately addressed the concerns of the residents of the Fort Klamath Area. As described in the Section titled *Consultation and Coordination*, copies of the DEIS were sent to the City of Fort Klamath and to Fort Klamath City Schools. As Fort Klamath is not an incorporated city and has no city offices, mailings to these addresses, including any notices of public hearings or meetings, would likely have been discarded by the Post Office. Furthermore, the list of newspapers does not include the Klamath Falls *Herald and News*, which is the primary paper delivered in the Fort Klamath area. 16-11

As an example, the public meeting recently held in Klamath Falls on January 10 was the first time many Fort Klamath area residents heard about the proposed improvements. As a result of that meeting, we know of approximately 41 DEIS Reports that were mailed to interested parties. Closing the public comment period on February 2 does not give us or others who have recently received the report to adequately review it and other source

16-11 Excluding the Klamath Falls Herald and News was an unintentional oversight. The Klamath Falls Herald and News has been added to the list of newspapers to receive notices about activities at the park. Any communication problems between the park and the community of Fort Klamath were purely unintentional, and the Park Service welcomes the opportunity to work together with the community to develop better communication channels. The revised Proposed Action described in the FEIS, which calls for a reevaluation of actions previously proposed at the South Entrance, was developed in large part as a response to concerns and opportunities identified by Fort Klamath residents.

COMMENTS

Superintendent
Page 5
January 4, 1995

Miscellaneous

Section 1.2.4.4 South Entrance Area, the site specific objectives should include protection and avoidance of any further deterioration of habitat for the many species of wildlife listed in the DEIS. In addition, the migratory routes of elk and deer should be protected. 16-12

Section 1.2.5 Public issues Identified Through Scoping We disagree with the second bullet, and question the fiscal and tax burden of relocating existing facilities at the costs shown in the DEIS. Other alternatives to minimize cost and allow development in the park near previously developed areas is a more reasonable approach, particularly in light of declining park visitation volume. 16-13

Water and wastewater treatment for the proposed development at the South Entrance has not been adequately addressed. Potential impacts exist to existing artesian wells in the valley, and new wells dug to support the development in that area must not impact any existing wells. The potential also exists for ground and surface water degradation depending on the type and manner of wastewater treatment proposed. 16-14

Page vi. It is stated that "no water quality impacts would occur at Annie Spring, Annie Creek, or at the South Entrance. We find no qualitative or objective data in the report to substantiate such a statement, and consider it to be a matter of opinion of the author and not based in fact. The potential for water quality impact at the south entrance and to the waters of Annie Spring, Annie Creek and it's tributaries are of great concern to us, and must be addressed 16-15

Costs

Costs contained in the report are presented in 1995 dollars, including those facilities estimated for construction in future years. This is an inaccurate representation of the true cost of construction of these facilities, and does not allow a true comparison of costs between alternatives. A present worth analysis of costs based on the actual year of construction is a much better representation of costs, and would allow a better comparison of costs. 16-16

It is clear from the report that the Alternative Three has the lease impact on the environment, and contains the least cost. We do not believe that spending approximately $80,000,000 on improvements at the park is justified. Furthermore, we question the use of public funds to construct concessionaire facilities and housing for contractors who will privately benefit from sales within the park. The costs to provide such services should be borne by the concessionaire.

RESPONSES

16-12 See response to comment 2-15. The objective to protect stands of late-successional ponderosa pine forest includes the associated wildlife values of that forest type.

16-13 Your comment noting disagreement with the scoping summary included in the DEIS is noted; however, based on comments provided at the scoping meetings, the information provided in the DEIS is accurate. Your disagreement with cost information presented in the DEIS is noted. See response to comments 2-15 and 16-4.

16-14 Development at the South Entrance, as presented in Alternatives 1 and 2, is programmatic and conceptual. At the conceptual level, the analysis does not include or require the specific design and infrastructure that would potentially be developed. Because the South Entrance includes only long-term future actions, the specific design issues, including sewer treatment and water supply, are not available for analysis. The NEPA analysis conceptually evaluates the overall effects of developing in this area. Project-specific NEPA analysis would be required before individual projects could be implemented at the South Entrance. The project-specific NEPA analysis would include a more detailed evaluation of: (1) the effects of a new well on existing artesian wells in the valley, and (2) the effects of new sewage treatment facilities on ground and surface waters. Mitigation, as necessary, would be developed based on the evaluation. The revised Proposed Action (Alternative 4) does not include any new development at the South Entrance at this time and calls for studies to evaluate other sites.

16-15 The quoted material is from the summary of the DEIS. Information and data used to support this statement can be found in the "Impacts on Surface Water Resources" sections of Chapter 4 in the DEIS and FEIS.

16-16 Your comments concerning cost estimates are noted. Alternative 3 would be the least costly but would not meet the immediate and long-term planning objectives of the Park Service. Costs were calculated using standard and accepted procedures. Please review the cost estimates that have been revised for the FEIS.

The concessioner pays a fee to the Park Service for the right to provide services in the park. As a result, there is no guarantee that the same concessioner will be providing services to the park in future years. Because of this uncertainty, concessioners are not willing to invest in private housing for their employees. In addition, it would not be in the public interest to allow private facilities to be developed on public lands.

If any improvements to the Park are justified, we strongly recommend that due to environmental and cost concerns that Alternative Three be the selected alternative. Every effort should be made to minimize costs and environmental impacts due to development in the Park. In no case should any development impact the water rights of priority water right holders on Annie creek, and there should be no degradation of water quality or water quantity to those supplies due to any development. 16-17

Development at the South Entrance will be the densest population development in the Wood River Valley. What is the process for obtaining zoning approval to build in the location outside the park? We recommend that all development be contained within the Park Boundaries, and if to be built in the southern area of the park, be located as far north as practicable, to allow a buffer of NPS land between any development and the southern park boundary. This might allow migration of elk and deer and other wildlife south of the development and north of existing disturbed lands within the National Forest. 16-18

The planning and environmental studies regarding development in and adjacent to the park are extremely important to us. Such development directly affects our ranching business and quality of life in the Fort Klamath valley. Please copy us on all correspondence and information regarding your work and plans. We will be contacting you to follow-up on the resolution of all comments you receive on the DEIS and other documents.

Sincerely,

Elmore E. Nicholson

Mary A. Nicholson

c: Senator Mark Hatfield
Senator Bob Packwood
Bill Walters, NPS Acting Regional Director, Pacific Northwest Region
Gary Hurelle, NPS Denver Service Center

16-17 Your comment supporting Alternative 3, the No Action Alternative, is noted. The Park Service intends to minimize environmental impacts and avoid water quality impacts on Annie Creek.

16-18 See response to comment 3-1 concerning possible zoning conflicts at the South Entrance.

COMMENTS

JAN 3 1995
CRATER LAKE NAT'L PARK

13434 SE 141st St.
Renton, WA 98059-5430
24 December 1994

Superintendent
Crater Lake National Park
P.O. Box 7
Crater Lake, OR 97604

Dear Sir:

I would like to offer the following comments regarding the Draft DCP/Amendment to the GMP for the park.

I respectfully disagree with the statements on page 1-1:

"Most of the improvements approved in the 1988 DCP remain valid and are not controversial...These actions are approved and planned and do not require further evaluation."

In 1991, The Vail Agenda documented six strategic objectives that "will provide direction to needed reforms and function as criteria against which specific action and strategies can be judged." While I do not believe this was a mandate to throw out every GMP or DCP and start over again, I do believe that when the opportunity exists to create DCPs or amendments to a GMP, all actions MUST pass all six strategic objectives in order for them to proceed. The assumptions made in this draft EIS regarding "approved and planned" projects from the 1988 DCP will have major, long-term impacts on the visitor experience and future of Crater Lake National Park. Having been written prior to the 1991 Vail Symposium and combined with the significant role it will play with future planning actions (such as this one), I feel that 1) certain elements of the 1988 DCP are indeed controversial and 2) the proposed alternative does not comply with the vision as outlined in The Vail Agenda, and, in fact, runs counter to some of those objectives. As a result, this Draft DCP/Amendment to the GMP should be re-evaluated and a different preferred alternative developed that will pass all Vail Agenda criteria. 17-1

Rim Development: Activity Center

I feel that the planned day use activity center violates Strategic Objective 2, which specifically recommends:

"The National Park Service should minimize the development of facilities within park boundaries to the extent consistent with the mission of conveying each individual park unit's significance to the public"

"The repair and maintenance of existing park facilities should be undertaken and designed to fulfill the purpose of conveying park values to the public, while protecting the special qualities of each park unit" 17-2

and most especially,

"Facilities that are purely for the convenience of visitors should be provided by the private sector in gateway communities."

A gift store/cafeteria/ski rental is most certainly a convenience and, as such, an inappropriate development for the Rim Village. Because the draft EIS does not challenge the assumption that this

RESPONSES

Letter #17

17-1 Many of the actions currently planned for the park are tied to the reopening of Crater Lake Lodge. The Park Service had originally planned to close the lodge but, based on a large volume of public input, decided to renovate the lodge rather than close it. At this time, the Vail Agenda outlines the conceptual framework for future planning in the parks. Some transitional planning must take place in the parks to follow through on current programs in progress.

17-2 Your comments are noted. The activity center has been approved through the Development Concept Plan adopted in 1988. The activity center will provide indoor, barrier-free, year-round viewing of the lake. It will also be the park's principal interpretive facility. These features will assist in conveying the values of the park to the public. The environmental impacts associated with the activity center were disclosed and considered in a 1987 NEPA environmental assessment for that development.

activity center must be built, it fails to consider the resulting cumulative impacts to increased water consumption, sewage and garbage disposal, employee housing to support this facility, air pollution from service vehicles, and general site impacts by having this structure in Rim Village. Consequently, this draft EIS is deficient by not reconsidering the activity center issue and its broader implications on cumulative environmental impacts. A revised DCP should provide additional alternatives that might include 1) removal of existing facility with no re-construction, 2) removal of existing facility and building a year-round visitor/interpretive center w/restrooms at the existing site or locating that structure adjacent to Rim Village road and displacing parking to the rear (south) of this facility. Either of these alternatives would profoundly affect the extent of proposed actions at Munson Valley, Mazama Village, and the South Entrance. 17-2

Rim Development: Parking

Another significant deficiency in the draft EIS is a failure to justify the need to build a 3-story, 637 car parking structure. Furthermore, the EIS fails even to identify the number of parking spaces that will be provided in the "adjacent surface lot for recreational vehicles and tour buses". Considering existing parking capacity is for approx. 450 vehicles and considering park visitation has decreased since 1977 (page 3-29), I fail to see the need for increased parking capacity. What *is* needed is a carrying capacity analysis. This VERP analysis would determine the appropriate number of parking spaces that would be provided so as to prevent adverse impacts to park resources from building over-capacity into the system, as well as increasing visitor experience by providing a level of visitation that is more harmonious to the surroundings, conducive to learning, and allows for enjoyment of the scenic beauty. In addition, this carrying capacity study should explore the auxiliary affects on the park by increased water consumption and sewage and garbage disposal that must be provided to support *x* number of visitors/vehicles. I feel that parking for 650+ vehicles is far too great and would speculate that a carrying capacity analysis would conclude that the existing 450 parking spaces is still more than the resource can sustain. But finally, spending over $31 million dollars to build this structure is an incredible waste of Park Service funds (and taxpayer dollars), not to mention the ethical ramifications: is it truly appropriate to build a parking garage in a national park? 17-3

Rim Development: "Alternative 4"

I would like to offer a fourth alternative to address Rim Development. First of all, while it would be ideal to make the rim "car-free", I philosophically have a problem with destroying already pristine areas off of the rim in order to achieve that goal. By the mere presence of the Crater Lake Lodge, an 'activity center', and other human developments, we have already tainted this portion of the park and should not attempt to ignore the fact that humans have intruded on the natural landscape. Instead, we should strive to 'minimize' our impacts on that natural setting. I feel none of the proposed alternatives achieves that goal.

Alternative 4 would include continuing to use the existing Rim Village road to Crater Lake Lodge. This road would be reduced in width so that it is a narrow road, with no shoulders (this would preclude people from attempting park along the side of the road as 'overflow' parking). Shortly after turning onto the Rim Village road, you would find the entrance/exit to the day-use parking lot (see details below). Except for this short segment of road, the remainder of the Rim Village road would be for signed for "Lodge Guests only". This two-way road would allow lodge guests and service vehicles to proceed to Crater Lake Lodge, where a few, short-term parking stalls would be provided in front of the Lodge for visitor check-in/loading/unloading. This short semi-circle in front of the Lodge would be one-way traffic (counter-clockwise). A parking lot would be 17-4

Page 2

17-3 Your comments concerning the parking facility are noted; see response to comment 6-5. The Park Service does not intend to make parking the factor that limits visitor use of an area. In addition, Rim Village is a focal point of visitor use and orientation. Because of this, the carrying capacity of this area is much greater than less developed areas of the park. The number of parking spaces needed was determined through a planning process that began over 10 years ago. The number of spaces proposed for the new facility represents only a moderate increase over that currently provided. The increase is mostly needed to cover the additional time people are expected to park because of (1) travel time to and from Rim Village, and (2) increased desire to stay longer because of the increased feeling of arrival, improved interpretation and viewing opportunities, and more pedestrian-oriented opportunities associated with Rim Village.

17-4 Your proposed alternative is similar to Alternative 3, the No Action Alternative. The purpose and need behind the alternatives is to eliminate the adverse effects of visitor vehicles in Rim Village. Retaining parking at Crater Lake Lodge would not fully meet this purpose and need, and it would not meet future needs for this area.

constructed for Lodge Guests on the site of the existing dormitory, with a paved walkway to the Lodge (subdued lighting only along the footpath).

A Visitor's Center would be built at the north end of the day-use parking lot, immediately adjacent to a narrowed Rim Village road. This structure would have one level underground (amphitheater and exhibits), and a single story above ground (information center, bookstore, restrooms, more exhibits). It would house NO food/gift services. The building orientation would be parallel to the rim with the main entrance in the center, which would be a very open, brightly lit grand foyer, with 1-1/2 story windows facing both north and south. The south entrance doors into this foyer would welcome visitors from the rim day-use parking lot. The north entrance doors would lead to/from the rim as visitors proceed on a crosswalk across the Rim Village road.

The existing 'historic' comfort station would remain (for summer use). A nature trail would be constructed, using the old roadbed, in the old campground (existing picnic) area.

A single entrance/exit to the redesigned day-use parking lot would be located shortly after turning onto the Rim Village road. This parking lot would be behind the new Visitor Center, occupying part of the existing parking lot, land vacated by the existing 'activity center', and some additional disturbed land to the south in the former cabin area. Placing the parking lot behind the Visitor's Center would effectively 'hide' it from view as visitors stroll along the rim trails. Also, constructing only a single (above ground) story Visitor's Center, especially if architecturally similar to the structures in Munson Valley, would make an unobtrusive southerly backdrop from the rim.

17-4 Alternative 4 should result in a predominately 'car-free' area beyond the large day-use parking lot, as the number of vehicles traveling to/from Crater Lake Lodge should be not significant. Also, by providing a parking lot solely for lodge guests, it would 1) partially offset the loss in parking spaces lost by road narrowing, Visitor Center construction, and day-use parking lot reconfiguration and 2) increase security for overnight visitors by having their vehicles parked away from the day-use parking area.

But more important, this alternative achieves the goal of increasing visitor safety, and reducing the total number of parking spaces already on the rim (which I feel is simply too great at present), while confining development to already existing, disturbed areas. As I stated at the outset, I feel the approved 'activity center' runs counter to the strategic objectives outlined in The Vail Agenda. Rebuilding the facility to solely provide information/interpretative services, thus removing the need for the existing interpretive center at Munson Valley, would be entirely appropriate and would comply with Strategic Objectives 1 through 3. Furthermore, it would reduce the demand for parking spaces as visitors would probably shorten the length of their stay, as they would not be 'detained' in a gift shop/cafeteria.

A variation on Alternative 4, would be to rebuild the Visitor's Center on the same footprint of the existing 'activity center'. The existing day-use parking lot would be redesigned to have a single entrance/exit at the beginning of the parking lot. The narrowed Rim Village road (still for Lodge Guests only) would have a rock wall created (similar in style as those along the rim trail) which would separate the predominately pedestrian rim area from the parking lot. Down the center of the parking lot (to the entrance of the Visitor's Center), would be a wide, cross-hatched pedestrian walkway to provide clear access to the rim trail. The only break in this stone wall along the narrowed Rim Village road, would be at this juncture with, again, a well-marked, cross-hatched pedestrian walkway crossing the road to the rim.

Page 3

Rim Development: Alternative 4

Munson Valley

In general, I support the plans outlined in Alternative 3 for the management of this area. With "Alternative 4" I've outlined above, there would be an urgent need to replace the rim dormitory. Alternative 3 already identified the Quarry Flat area as the site for a concession housing facility. I would like to suggest that this alternative be modified and slightly increased in scope to provide a replacement for employee housing on this site. Providing an "employee recreation field" for this site is inappropriate. While I sympathize with the need for employees, especially with children, to have open-space to play in, I feel that the highest and best use of this already disturbed site is for housing, or secondarily for restoration to its 'natural' state. 17-5

Park Headquarters should remain in Munson Valley. Or more specifically, Park Headquarters should not be moved to the South Entrance. I will discuss this later, but in general, the goal should be to minimize developments within the park. *If* developments are deemed appropriate they should be confined to already established areas. If a Visitor Center is constructed at Rim Village, then the existing facility at Munson Valley should be re-appropriated for administrative use, possibly for museum storage and offices. If an expansion of administrative offices is warranted, maintenance operations only would be relocated to the South Entrance, and the vacated area would be rebuilt for administrative purposes. 17-6

Page 4

17-5 Your comments concerning development at Munson Valley are noted.

17-6 Your comments concerning the location of Park Headquarters are noted.

COMMENTS

Mazama Village

First, I think that the recommended expansion of the campground is acceptable. I question, however, the need for bus parking. Nowhere could I see justification in the document for the need to provide bus parking. 17-7

Second, I'd like to say that I feel ALL concession housing should be located outside of the park. The concessioner should be in the business of providing suitable housing for their employees NOT the National Park Service as part of their 'privilege' of doing business (and making a profit) in our national parks. As a result, any plans to provide dormitories or other housing for concession employees, either in Munson Valley, Mazama Village, or South Entrance, should be resisted. The concessioner should also provide their own shuttle/van service for their employees, rather than relying upon each employee to drive his/her vehicle to their worksite. This is especially true for my Alternative 4 for Rim Village, where the Lodge Guest only parking lot has capacity solely for lodge guests, not employees. Again, with my Alternative 4, there would not be a need for a shuttle bus to transport visitors to/from the parking garage, so consequently there would be no need for a shuttle bus maintenance facility at this site. In general, all maintenance that cannot be performed at the existing Munson Valley site, should be located at the South Entrance, not in Mazama Village. 17-8

Third, I disagree with your rejected alternative (2.1.1.1, page 2-2) that potential housing sites outside the park are not attainable/affordable. Admittedly I have not read the 1992 report you cite that prompted you to reject this alternative, but I find it hard to understand why it would cost more to 1) acquire out-of-park housing via a long-term government contract with the private sector or 2) build the same housing out-of-park that you intend to build within the park. In the later case, some services (such as sewer, water, electricity) should be more easily available in these communities, thus reducing costs. The need for left-turn lanes, loop roads, pedestrian walkways and underpasses would be eliminated, again at a cost savings of $1.4 million. The $40 million dollar price tag to provide these facilities within the park as outlined in Alternative 1 is outrageous ! But another advantage to out-of-park housing is for park employess with families. These employess would have closer access to schools and medical facilities , their children would have children their own age they can play with, and everyone would have community facilities available for recreational use (rather than having to provide them at Quarry Flat). 17-9

If additional Park Service employee housing simply cannot be located outside the park I would recommend that it be clustered at Mazama Village (as was rejected on page 2-3). Again my vision is that already existing, developed areas would bear the brunt of *unavoidable* developments. As a park visitor, I prefer to quickly return to the natural setting as I pass through a developed area, rather than be greeted with another dispersed development several miles down the road. This is also true for some wildlife and lessens the impacts on them. The key in determining the size and extent of these clusters is developing a stringent set of guidelines to define what is "unavoidable development".

My definition for avoidable development would be to pursue an out-of-park location for housing seasonal employees. But again, if that is not an option, coupled with my Alternative 4 that created a 98-person dormitory at Quarry Flat (from the displaced rim dormitory), the Alternative 1 requirement for a second 98-person dormitory at the South Entrance would be nullified, and the Alternative 1 requirement for 20-30 employee houses at the South Entrance should also be re-directed for placement at Mazama Village (the proposed Maintenance Building should be relocated to the South Entrance instead). All effort should be made to reduce the costs associated with trying to implement this action. Those funds would be much better spent on much neglected ecosystem studies and other research projects that always go woefully under- (or un-) funded. A final avoidable

Page 5

RESPONSES

17-7 Bus parking is needed to facilitate group camping. The Park Service has identified a public need for group camping in response to the many requests that are submitted every year. See response to comment 11-4.

17-8 Your comments concerning Park Service involvement in the provision of concessioner facilities are noted. The current concessioner is aware of the need to provide efficient transportation to employees and would arrange for shuttle services, as appropriate. The concessioner would pay a fee for use of the shuttle system.

17-9 Your comments concerning future development activities at the South Entrance are noted. See response to comments 2-1 and 2-15. The revised Proposed Action calls for a reevaluation of housing and other developments previously proposed for the South Entrance. The evaluation will consider providing these services outside of the park in nearby communities.

development that should not be pursued; building a year-round lodge at Mazama Village. Once again, the Vail Agenda outlines that gateway communities should provide such services.

South Entrance

As I've stated throughout my letter, I have strongly oppose developing this portion of the park. My biggest concern deals with placing housing in this area and the effects relative to fire. Not only does it place those living there at risk, it automatically forces a modification of fire policy for both the Park Service and Forest Service to now treat this area as an immediate fire suppression zone to protect human life and property. I feel devoting a single page (page 4-23) to discuss the effects this development would have on the cumulative impacts to both land management agencies and administrative flexibility in fire use to help restore the health of this ponderosa pine forest community is woefully inadequate and grossly understates the impacts. 17-10

When we look at the wildlife that will be impacted by this development, the list includes elk (which you 'assume' will simply migrate and calve elsewhere), bear, cougar, northern goshawk, mountain quail, California wolverine, Pacific fisher, and at least six cavity nesters on the 26 acre site. There are far too many affected species by this action to allow this development to occur! 17-11

As you indicate, there are many behind the scenes activities performed in park operation. Consequently, if any *unavoidable* developments must occur at the South Entrance, they should be limited to minimal expansion of existing maintenance facilities. In this view, only property would affected by wildfire and wildlife impacts would be greatly minimized. Wildfire policy would not be altered to save these structures at the risk of impacting forest health.

My apologies for the length of my comments, but I feel that your proposed alternative will have some rather significant and long-ranging impacts on my future visits to the park. I feel that those impacts are to the detriment of plant and animals species that simply can not be adequately mitigated. The costs, both to my reduced visitor experience and the exorbitant sum of money ($78 million dollars) to implement this alternative, simply is too great to proceed! I feel this alternative should be rejected and the EIS revised to include 1) carrying capacity studies to determine number of parking spaces needed at/near Rim Village, 2) re-evaluate the activity center to eliminate gift/food services and instead simplify the design for use solely as a Visitor Center, with the above data 3) design parking capacity for both day-use and overnight-lodge visitors to use existing, disturbed areas, 4) maintain and concentrate Park Headquarters at Munson Valley, with construction of a dormitory (removed from Rim Village) at Quarry Flat, 5) provide no in-park housing for concession employees and pursue out-of-park housing for seasonal park employees 6) concentrate any *unavoidable* developments at Mazama Village, and 7) if required, relocate only maintenance functions at the South Entrance.

Thanks much for taking my comments into consideration. I would appreciate remaining on your mailing list for additional opportunities to comment on this or other park management plans. I've had some memorable experiences at Crater Lake and look forward to many more.

Sincerely,

Randall D. Payne

Page 6

17-10 Your comments opposing development at the South Entrance are noted. The analysis and conclusions about fire management policies were reexamined and found to be appropriate. The potential complications of fire management on Forest Service lands have been added as an environmental consequence.

17-11 Your comments concerning wildlife use of the South Entrance are noted. Habitat surveys were conducted at all areas proposed for development. The surveys focused on key habitat requirements (such as snags or particular tree species) that are important to wildlife species of concern. If potential habitat was present, then the species were assumed to be present. In addition, see response to comments 2-1 and 2-15.

COMMENTS

23 January 1995

RECEIVED
FEB - 3 1995
CRATER LAKE NAT'L PARK

Ben Ladd, Acting Superintendent
Crater Lake National Park
Crater Lake, OR 97604

Dear Superintendent Ladd:

The general concerns I expressed in the Public Meeting the NPS held on January 11 regarding the "Draft Development Concept Plan / Amendment To The General Management Plan / Environmental Impact Statement" for Crater Lake National Park have continued to trouble me during subsequent efforts to offer constructive alternatives to those presented. I have resolved a number of those concerns with a set of specific recommendations which are outlined here.

First, I appreciate that the DCP/EIS is a 'concept plan', but it does not adequately address the issues it raises nor those it alleges to solve. Nor is there a satisfactory description of the developmental process which assures the reader that an effective consideration of the available range of alternatives was completed (for example the one offered below). I am deeply concerned that the real constraints, physiographic - ecological, visitor volume and quality of experience, administrative, contractual, economic and temporal have not been forthrightly laid out in any clear problem definition statement. Perhaps these turn on too hot to handle political interests and issues.

Second, the primary need and purpose of the long range plan should have been, and should now be, in light of the reception the proposed Alternatives received to withdraw as many facilities as possible not only from the Rim but from the entire Park. This is particularly true when viewed from the perspective that the NPS stewardship of the natural environment is primal; we, whose Park it is, can no longer permit this responsibility to be honored in the breach in favor of visitor creature comforts and commercialism; there is ever increasing and clear evidence that this has been a management / funding trend and the very resource we treasure is being decimated. 18-1

Specifically, Section 2.1.1.1 POTENTIAL SITES OUTSIDE THE PARK states that none of the community areas considered could 'meet the projected housing needs without extensive Federal funding (U.S. Dep't. Interior. N.PS. 1992).' The present team leaves it at that. 18-2

1 of

RESPONSES

Letter #18

18-1 Your comments concerning development in the park are noted. The primary objective of this project is to remove parking and congestion from Rim Village and make Rim Village a more natural area to visit, as described in response to comment 6-5.

Your objection to concessioner facilities is noted.

18-2 Your comment concerning the availability of potential housing sites outside the park is noted. See response to comments 2-1 and 2-15. The revised Proposed Action described in this FEIS is to reevaluate the proposed actions at the South Entrance and explore the possibilities of meeting future needs in other areas, including nearby communities.

Is it possible that no one discussed the opportunities for constructive and cost effective relations in the immediate social and economic neighborhood? The best example that comes to mind is a community action team comprised of NPS, USFS, County Economic Development, local citizens interested in their community being developed in a controlled manner. With all addressing appropriate planning, implementation and scheduling it is also possible that all parties could see both the advantages of mutually developed plans and implementation verses the type of uncontrolled growth that all but a self-centered entrepreneur sees as undesirable. Had this been done, what now appears to be an emerging process of reactively working with citizens, their communities and county governments might have resulted in stronger pro-active initial support. 18-2

The situation at this juncture, seems quite ripe for such an effort. I do recommend it, and am willing to help in any way I may be useful.

Third, the team also seemed quite willing to trade off yet other pieces of the very ecosystem they are bounded to defend to save what they perceive as a Federal 'buck'. A more effective, and an evolving practices, approach would have been to not only address site specific effects, but to also include Park wide effects and consideration of the broader land management agencies' ecological responsibilities. These are stated in the National Park Act, and are being further developed in the light of today's knowledge and under Administrative direction by the ICRBMP in Walla Walla and the two Provincial Committees concerned with lands lying on both drainages for which the Park provides riverine headwaters. 18-3

Fourth, I, as well as a number of others in the afternoon session, were deeply concerned and strongly opposed to any further structural additions to Mazama Village or Munson Valley Therefore, both the proposed 98 person concessionaire employee housing facility and the proposed 5,000 sq. ft. concessionaire 'maintenance' building are entirely unacceptable. 18-4

The alternative set of options offered here, are based on the assumptions that the 'maintenance' structure will house equipment, repair workshop(s), parts storage, and provide warehouse / transfer capabilities for further transport to concessionaire managed facilities. All of these are appropriately private enterprise activities and can be easily accommodated outside our National Park. Wherever located, the dormitory and RV / trailer park will certainly be filled, and will be an active community in and of itself. These are a significant and negative set of continuous activities to inflict on the proposed area and surrounds; whether in Munson Valley or in Mazama Village. 18-5

2 of

18-3 Your comments concerning planning activities in the park are noted. See response to comment 2-15.

18-4 Your comments concerning opposition to further development at Mazama Village and Munson Valley are noted.

18-5 Your comments concerning privatization of Park Service operations are noted. Certain facilities (e.g., storage for emergency response equipment, snow removal equipment, and routine maintenance supplies) need to be located near the point at which they are used. These types of facilities are most efficiently provided by the Park Service within the borders of the park.

COMMENTS

Visitor experience would be adversely affected in the proximity of over one hundred concessionaire employees making daily incursions to the Village store and visitor areas for their own relaxation and recreation. Before any visitor impact on the area, there will already be a lot of disturbance by those whose primary job it is to serve the very public who expect, if not a pristine environmental experience, at least vacation privacy.

The suggestions which follow provide a win - win solution for all, including the ecosystem the National Park Service is obliged to protect, especially from the concessionaire and from its own bureaucratic tendencies:

A) Retain the present dormitory - administrative offices - supply facility which lies South of the Lodge as long as necessary to accomplish the balance of these recommendations. It has, and can continue to serve many of the personnel and support needs of the Lodge and Rim concessions.

B) Then, on a short term basis only, either:

1. Continue the temporary RV / 'Trailer' facility at Mazama Village which we were told will meet the balance of concessionaire requirements for housing seasonal workers; although this is clearly an unsatisfactory interim plan, it appears to be a 'done deal.' So retaining it until permanent and less destructive long term solutions are implemented is a more reasonable action than compounding the problems as proposed in the DCP/EIS; or, even more desirable, 18-6

2. Arrange rental of motel and RV / trailer facilities outside the Park on a seasonal basis for concessionaire personnel. I am ignorant of the contractual relationship with the concessionaire; my understanding is that the Park provides facilities which the concessionaire rents then charges its own seasonal workers to defray the rental cost. One way to achieve this plan would be to negotiate the best price structure, have the concessionaire's usual rental receipts and any utility and other incidental costs to either the Park or to the concessionaire contribute to the overall costs. This should not be continued after a negotiated time period limited at most to a three year time span for the concessionaire to construct its own facilities (as under "C" below) or to restructure employee wages to cover rental costs.

3 of

RESPONSES

18-6 The interim use of Mazama campground is necessary but certainly undesirable to the Park Service. Your suggestion concerning the possibility of renting housing facilities outside the park on a seasonal basis will be evaluated by the Park Service (see response to comments 2-1 and 2-15).

C) Require concessionaire dormitory, maintenance, supply warehouse and transfer facilities to be located outside the Park boundaries on private land at its own expense and which may / may not be in concert with relocation of NPS facilities.

NOTE 1: Ordering, inventory management and a well planned Just In Time supply system including a concessionaire scheduled maintenance program, not discussed in the DCP/EIS, would improve not exacerbate, present practices if done carefully and employing state of the art technology and equipment. This is done every day by private businesses outside NPS contracts. Such a system, properly designed, could benefit both NPS Administration and concessionaire. And, if accurately amortized, would provide real cost and quality of service benefits all around, including the tax paying and fee paying visiting public. 18-6

NOTE 2: The optional location of the drop-off station being at South Entrance is noted under 4.3.14.3 Conclusions, p. 4-48, although the concept is not expanded in any meaningful or manner.

Fifth, NPS facilities planned in the DCP/EIS indicate that they would be located in / proximate to the Panhandle on USFS land While I think this is a significant step toward removing structures and appropriate functions from the interior of the Park, the comments made above still apply. Supporting this concern is the view of the ODF&W that it lies in the midst of an elk calving area. Further, the NPS own inspector general in a recent review condemned the Park for not attending to completion of an ecosystem evaluation, and today we all are looking at broader scales than those lying within the straight lines of a given jurisdiction. Or, for that matter, than can be seen in only one season. 18-7

The DCP/EIS should have developed, rather than set aside, an alternative which located the NPS facilities off any Federal Land Management Agency landscape. Fortunately, such an effort can still be made without having to re-initiate the entire DCP / EIS process. It does not seem unreasonable to expect the NPS to conduct an evaluation of private land sites which could be acquired for establishment of their facilities. Highway 62 is the only year round access to the Park. Therefore, the only considerations available to re-location of both NPS facilities and concessionaire facilities is Union Creek - Prospect or Fort Klamath - Chiloquin - Klamath Falls. 18-8

4 of

18-7 See response to comment 2-15. Because additional sites have been identified through the NEPA process, the revised Proposed Action discussed in the FEIS does not include decisions regarding project elements originally proposed at the South Entrance.

18-8 Your comments are noted. See earlier responses in this letter, as well as response to comment 2-15.

COMMENTS

Private land available for development seems more limited on the Union Creek - Prospect side of the mountain than in the Klamath Basin; however a careful and objective study of all factors would clarify the choices and tradeoffs. Historically, Park headquarters have resided as far as Medford and Klamath Falls. While neither appears at all reasonable today, the planners should now consider several off Federal Lands alternatives. They would be able to modify the current DCP / EIS without having to scrap the lot. Such an approach would seem to answer the questions of staff recruitment and retention, (housing, schools, long winters, etc.), administrative accessibility to Park and community, and effective supply.

Sixth, I have been reading a wide array of EIS and Proposed Action plans and related documents over the past four years, as well as having been involved in 'public participation' efforts of varying degrees. I question how the National Park Service could do such a sub-optimal job by studiously ignoring the critical function of balancing their dual responsibility to the environment and to the public. It clearly appears that the concessionaire is more favorably considered than either, not to mention NPS staff whose requirements are not very clearly addressed. The accountability for this certainly appears to rest with the Park Service's Denver facility and their Planning and EIS contractors. (While the 'reorganization' of the NPS is another subject, this sort of work from a 'service center' has been noted by this citizen with deep concern). 18-9

I shall be happy to discuss any aspect of these comments should you, your staff or any of the Denver people or their contractors think it useful or beneficial to both the immediate and long range plans affecting the Park ecosystem, the publics you serve and effective Park administration.

Sincerely

Charles H. Wells Jr.

Charles H. Wells, JR.
3333 Highway 422
Chiloquin, OR 97624

(503) 783 - 2866

Copy:

Dale Crane, National Parks and Conservation Association
618 So. 223rd St., Des Moines, WA 98198

RESPONSES

18-9 Your comments are noted. The Park Service disagrees that concessioner services have been favored over environmental stewardship of park resources.

COMMENTS

10 January 1995

Superintendent
Crater Lake National Park
PO Box 7
Crater Lake, Oregon 97604

Dear Superintendent,

Having read the Draft Development Concept Plan EIS, I am disappointed by the NPS's lack of commitment to protection of the environment, as well as to the lack of concern for providing economic benefits to the communities surrounding Crater Lake National Park.

Throughout the document, destruction of wildlife habitat for species as rare as wolverines and fishers is down-played and made to seem acceptable. Loss of nesting sites for federal candidate species of birds is written of as being insignificant on a park or regional level, and destroying their nesting habitat is presented as acceptable so long as it is done after breeding season. The document also states in no uncertain terms that Elk productivity would decrease. Increased water use from Annie Creek seems not to take into account that the water rights issue in the Klamath Basin is still unresolved. 19-1 19-2

Regarding impacts towards Park visitors, the document states that "Visitors would experience temporary inconveniences and noise due to construction activities. The word temporary is relative and I think it needs to be stated that the construction process under any of the alternatives will span a number of years, and the impact in many cases will be upon visitors who are experiencing Crater Lake once and only once in their lifetimes. This will give visitors the impression that the National Park Service has a pro-development attitude towards the resources it is charged with protecting. 19-3

Regarding economic impacts to the communities surrounding Crater Lake National Park, the draft EIS states that none of the three alternatives will provide economic benefits to the local communities. How can the NPS consider itself part of the Southern Oregon Community when it plans such a large development and cannot plan it in such a way that it provides economic benefits to the local economy? 19-4

A Fourth Alternative seems necessary, one that would benefit both the park's environment and the local economy, and that alternative would look more seriously at developing most of the proposed facilities in the Ft. Klamath or Prospect Areas.

RESPONSES

Letter #19

19-1 The loss of habitat was identified as an impact for all development alternatives. Park Service policy is to minimize human impacts on natural systems. Wolverines and fishers are wilderness species and are not likely to be present in areas proposed for development, which are adjacent to highways and other human developments. With respect to the impact on elk migrations, see response to comments 2-1 and 2-15.

19-2 The Park Service is aware of the water rights issue. See response to comment 16-3.

19-3 Your comment concerning construction noise is noted. Construction noise is an unavoidable impact of any action that involves construction. The Park Service would require contractors to minimize noise. Possible measures to reduce noise could include using backup lights rather than alarms, using portable noise barriers to screen stationary equipment such as generators, and locating noise-generating activities as far as possible from high-use visitor areas such as vistas and scenic overlooks. The Park Service would also have information readily available for visitors explaining the nature of the construction activity and how the activity fits into the overall planning strategy for the park.

19-4 While the Park Service has concern for the economic well being of its neighboring communities, providing an economic benefit for the surrounding communities is not part of the purpose and need of this project. The alternatives being considered are intended to meet the immediate and long-term needs of the park to facilitate visitor enjoyment of the park while protecting the environment.

The revised Proposed Action as described in the FEIS could result in economic benefits to local communities if implemented.

COMMENTS

RESPONSES

Page 2: Crater Lake Draft Development Concept Plan EIS

In closing, I would like to state that the need for some of the proposed facilities is questionable, especially in light of the current move to cut back on federal spending.

Sincerely,

Michael S. Thomas

Michael S. Thomas
PO Box 92
Crater Lake, Oregon 97604

COMMENTS

Mary Lou Thompson
P. O. Box 503
Fort Klamath, OR 97626

January 30, 1995

Ben Ladd, Acting Superintendant
Crater Lake National Park
P. O. Box 7
Crater Lake, OR 97604

Dear Mr. Ladd:

This letter outlines comments, questions, and requests for additional information regarding the Draft Development Concept Plan/Amendment to the General Management Plan Environmental Impact Statement for Crater Lake National Park. (DCP/EIS).

The planning and environmental activities associated with planned developments at Crater Lake National Park have just recently been brought to the attention of the residents of the Fort Klamath area. I do not feel that press releases indicating Winter Use Plans or nondescript Amendment to the General Management Plan were enough of an explanation. Had the press releases included that plans were being discussed on the development of the South Boundary area, or dramatic increase in water consumption. I definitely would have been present at the January and May 1994 public hearings. 20-1

I attended the afternoon session January 11, 1995 in Klamath Falls prepared to provide testimony. Like many others present, I was surprised that testimony was not being taken. From the tone of the meeting, I was not alone in my misconception. A request for an extension was made numerous times at that meeting. At one point, Elmore Nicholson and I were asked to provide a list of names and addresses of people who are directly affected by the proposed plan and were unaware of it. We quickly came up with a partial list of 41 names and addresses and provided them to the staff at Crater Lake on January 13, 1995. Books were mailed out to those whose names were provided. Unfortunately, the books were sent without a cover letter or even a comment sheet attached. Those receiving the books have had no way of knowing that the time limit for written testimony is February 2nd. Please reconsider your deadline as I feel it is unfair to those who will be affected by the proposed plans. 20-2

According to a Century West Engineering Corporation report to the Park dated November 1994, the Park holds an adjudicated water right on Annie Spring with a priority date of November 1941. The report states that if all planned development takes place, the average daily summer water demand in the Park will increase by 200% over current demand. The DCP/EIS states an increase of up to 95% with an increase of up to 27% in demand on Annie Creek. Your DCP/EIS does not address many crucial water issues. 20-3

RESPONSES

Letter #20

20-1 See response to comments 4-1 and 4-3. Public scoping and review were conducted using the standard schedule and procedures for NEPA projects. Should the revised Proposed Action as described in the FEIS be implemented, additional opportunities would be available for public comment and review. See response to comment 16-3 for Park Service response to water use issues. Your comments concerning proposed developments at the South Entrance have been addressed in response to comment 2-15.

20-2 See response to comments 4-1 and 4-3. The comments received have been very effective in alerting the Park Service to public concerns. As a result, the Park Service has learned that alternative sites other than the South Entrance may be available for future development (see response to comment 2-15). The comment period could not be extended because a decision is needed very soon to meet the purposes and needs for action.

20-3 Water rights are discussed in response to comment 16-3. The conclusion that downstream impacts on fish and other aquatic organisms would be minor is based on the amount of water being considered. When the park's water use is considered collectively with all water use on Annie Creek and the Wood River system, including the large-scale diversions for irrigation that occur downstream of the park, habitat for many species of fish and aquatic organisms has been significantly reduced. However, the actual amount used by the park is very small. Under the worst drought conditions, and assuming all existing, planned and proposed water uses were in effect, Annie Creek flows would be reduced by no more than 4/10 of 1% at the point where the creek leaves the park. Even under this worst-case condition, the amount of water being removed is very small. Therefore, the direct effect of park water use on downstream fish is also expected to be relatively minor.

COMMENTS

The Oregon Water Resources Department was not listed in the DCP/EIS as a reference or involved in consultation and coordination. Were the State of Oregon's current water use plans considered? Does the Park Service feel it does not have to abide by the same rules and regulations as other water users in the state?

The rights of priority water right holders on Annie Creek, many prior to 1902, have not been addressed. In drought years, flows in Annie Creek have not been sufficient to sustain irrigation and stock water requirements, which has resulted in shutting down water supplies to later priority water right holders, excepting the Park. Why has the Park been allowed during years of drought to continue to use water when earlier water right holders have been shut down? The plan does not address the economic impact of insufficient water to landowners and the community. 20-3

The effect upon downstream users is not addressed. Our area has been in a constant struggle for water during the current drought. Agriculture is trying to maintain enough water for irrigation and keep their livelihood. The Klamath Tribe is currently in litigation to protect the "Short Nosed Sucker". The salmon runs in the Klamath River are in danger. The DCP/EIS states in the impacts on Groundwater/Water Supply that "this water withdrawal would cause a minor reduction in habitat for fish and aquatic organisms during low flow periods". This appears to me to be the opinion of the author and not based upon facts.

The potential impact to existing artesian wells in the valley which supply our only potable water source are not addressed.

I do not believe it is a sound practice to develop Park facilities on an unsure water supply source and feel strongly that other water users rights and interests need to be addressed on all three of the proposed alternatives.

The DCP/EIS states "Development at the South Entrance under Alternatives 1 and 2 would adversely affect elk migration and calving habitat. Migrating elk may shift their movements south where they would have to negotiate a series of barbed-wire fences on private properties before reaching public lands." It is also stated that "Elk productivity would decrease." With the Oregon Department of Fish and Wildlife, the Forest Service, State and Bureau of Land Management and local sportsman all working to protect and develop the Elk herd, and your own report indicating such a negative impact, I can't help but wonder why is the South Boundary development still being considered? 20-4

With that being the case, I am requesting that the Forest Service does not comply with the Park Services request and that the Supervisor of the Winema National Forest not co-sign the Record of Decision related to the DCP/EIS or any other subsequent site-specific actions that may take place on Forest Service lands at the South Boundary.

Superintendent January 30, 1995 Pa

RESPONSES

20-4 As a result of public comment, alternative sites other than the South Entrance would be evaluated for future development under the revised Proposed Action. See response to comment 2-15.

COMMENTS

The Fort Klamath area has a naturally high water table. Existing wells in the area, according to the DCP/EIS, vary from 60 to 900 feet deep. With the proposed development at the South Boundary, the issue of water degradation is not addressed with the wastewater treatment proposed.

Recently it has been discussed that the National Park Service may revamp the current concessionaire program. I feel that the concessionaires currently pay a minimum rent and that they should be financially responsible for their own facilities and employee housing. Why should millions of tax dollars be spent, or appropriated, when the system may soon be changed? The Fort Klamath motel and RV parks could currently house many seasonal employees. I do not feel that other housing options have been thoroughly explored. 20-5

The DCP/EIS states in the Impacts on Local Economy that "Under Alternative 1, development near the South Entrance would increase the number of people living near Fort Klamath. This would result in a minor increase in retail sales. This increase would probably not be sufficient to significantly affect employment within Fort Klamath." It further states as a conclusion, "No impact on the local economy would occur." This plan was obviously written by people who were not familiar with our area. Without examining the extensive water issues, the impact of creating a community larger than that of Fort Klamath itself, the lack of police protection in our area or a wastewater plan, to name a few, how can it be said that our community will not be affected economically or socially. 20-6

An extension of the February 2nd deadline is called for so that your alternatives may be completed and studied. In the future, I would like to see the Park Service include its neighbors more in the planning process. Based upon the information provided from the DCP/EIS, Alternative 3 has the least impact on the environment and surrounding communities although water issues still remain. 20-7

Please add my name to the list to receive all future correspondence on developments within the park. Thank you.

Sincerely,

Mary Lou Thompson

cc: Gary Hurelle, Denver Service Center
Winema National Forest

Superintendent January 30, 1995 Pa

RESPONSES

20-5 Your comments concerning concessioner services are noted. See response to comment 16-6.

20-6 Your comments are noted. The Park Service would provide security, police, and fire service to developments at the South Entrance. See response to comment 19-4.

20-7 Your comments are noted, including support for Alternative 3, the No Action Alternative. See response to comments 4-1 and 4-3.

COMMENTS

Ambrose McAuliffe
P.O. Box 456
Ft. Klamath, Oregon
97626
January 30, 1995

Superintendent Ben Ladd
Crater Lake National Park
P.O. Box 7
Crater Lake, Oregon 97604

Dear Superintendent Ladd:

We are cattle ranchers in the Wood River valley of Klamath County and are very concerned over the proposed development at Crater Lake Nauonal Park. The Draft Environmental Impact Statement does not do an adequate job of addressing at least three major issues.

The first area of concern is water. Currently Crater Lake National Park is using water from Annie Springs and Annie Creek. This is being done under an unadjudicated Oregon State Water Permit not a water right.The date on the permit is 1942. There are 13 water right holders on Annie Creek, some of these water rights going back to the 1880's.During the recent drought years that we have been experiencing none of the water right holders have been able to receive their full duty of water. There is not enough water in Annie Creek to meet the current needs of Crater Lake Park and the park does not have an adjudicated water right but only a water permit. More development would mean a greater demand for water that is not available. Annie Creek is a major tributary to the Wood River which has been declared an area of critical habitat for the endangered short - nosed sucker. 21-1 21-2

The second area of concern is land use. The proposed development would create a new community in an ecologically fragile area that is zoned Exclusive Farm Use and Forestry.This particular area of the Winema National Forest is some of the most productive of the East Side Forests with good stands of Ponderosa Pine, Jack Pine and White Fir. The adjacent meadows are rated the finest in the country for cattle grazing. Seasonal weight gains of cattle are unmatched High quality grass is the most economical and healthy method of producing food.Agriculture is the number one industry in Oregon with timber being number two.Both agriculture and timber are adversely impacted by nearby development. Oregon Land Use Law provides for the protection of high value farm and forest lands. The creation of a new community in this area would be a gross violation of responsible Land Use Planning. 21-3

The third area of concern is the impact on fish and wildlife. The panhandle of Crater Lake Park is on the migration route for the Roosevelt elk. There are several elk herds in the area that have been increasing in size and range from the Cascades to the desert. During calving season they are protected in the Annie Creek - Sun Creek closure area.This is adjacent to the proposed development. The canyon to the north makes migration difficult and the open areas to the south make it undesirable. The elk need protective cover. They do utilize open grazing on private lands near the edge of the forest in the Spring but are vulnerable if forced into completely open area,. They would lay waste to fences, compete with livestock for feed and have an increased mortality do to poaching and injuries. The state would incur costs to reimburse land owners for damage to fences and forage.Presently land owners enjoy having the elk and have been willing to tolerate the small amount of damage done. A change in the migration route and the calving area would create more problems for both elk and land owners. 21-4

RESPONSES

Letter #21

21-1 Your comments concerning water rights are noted. See response to comment 16-3.

21-2 The short-nosed sucker does not occur in the park. Water use as a result of project development would be very minor, but considered collectively, all water use of the Wood River system may result in habitat loss for this species.

21-3 Your comments concerning potential zoning conflicts at the South Entrance are noted. See response to comments 2-15 and 3-1.

21-4 Because possible alternative sites have been identified for future development at the South Entrance, the revised Proposed Action in the FEIS does not include decisions for the South Entrance. See response to comment 2-15.

We question the direction that the Park Service appears to be taking. The mandate of the National Park Service is to preserve and protect a natural resource of exceptional value. truly Crater Lake is that.However, the creation of more buildings and the addition of more staff to the park to provide for the tourists does not fit with the protection of the natural resource. Less human activity, rather than more, would benefit the Park.The creation of a new community in a water short area that is critical habitat to both large animals and fish is certainly not prudent. The use of millions of dollars of federal funds to do this only increases the folly. The irresponsible use of agricultural and forestry lands for sprawl is not just an economic but moral issue. The town of Prospect to the southwest of the park and the town of Ft. Klamath to the southeast of the park both provide areas that are already zoned for development. 21-5

We are confident that you will give much thought and study to these very important concerns and not approve the Crater Lake National Park Draft Development Concept Plan.

Thank you for the opportunity to comment and for your willingness to listen to the concerns of the local people.

Sincerely:

Ambrose McAuliffe

Susan McAuliffe

21-5 See response to comment 2-15.

COMMENTS

P.O. Box 451
Fort Klamath, OR 97626
(916) 527-6332

January 30, 1995

Jack Owens Ranches
13815 Trinity Avenue
Red Bluff, CA 96080

Mr. Ben Ladd, Acting Superintendent
Crater Lake National Park
P.O. Box 7
Crater Lake, OR 97604

Subject: Draft Environmental Impact Statement Comments

Dear Mr. Ladd:

This letter addresses the Draft Environmental Impact Statement on the Development Concept Plan/Amendment to the General Management Plan for Crater Lake National Park. The Draft EIS came to our attention, as Ft. Klamath landowners, only very recently, and as a result, the comments in this letter may not reflect all of the comments we have regarding the EIS and the proposed action for improvements at the Park.

Of greatest concern are the following points:

- The planning and environmental activities associated with planned improvements and development at Crater Lake National Park have just recently been brought to the attention of the residents of the Wood River Valley and Fort Klamath. 22-1
- Public participation efforts by the NPS did not result in local ranchers and those most directly impacted by the proposed action at the Park being aware of the proposed plan in a timely manner.

- We have several concerns related to the planned action at the Park, which relate to impacts to water right holders on Annie Creek, development impacts to the Wood River Valley and the high costs.
- The Park is currently using Annie Creek water under a low priority permit which is not right and that action is under protest by the State of Oregon. The current planning activities do not consider that the water rights for both current uses and future development is not secure and are possibly invalid. Also, commitments to spend approximately $80,000,000 of our tax dollars are about to be made regardless of these facts. 22-2

- Cost comparisons used by the NPS do not include adequate inflation of development costs in future years, and may not represent the true cost of implementing the "Preferred Alternative". 22-3

- Planned development includes relocating park headquarters, which were recently upgraded and improved, outside the Park, the cost of which is unknown but surely not insignificant. 22-4

RESPONSES

Letter #22

22-1 Your comment concerning the public review and comment period for the DEIS is noted. See response to comments 4-1 and 4-3.

22-2 The Park Service is aware of the water rights issue. See response to comment 16-3.

22-3 Your comment concerning costs is noted. See response to comments 16-4 and 16-16.

22-4 As noted in response to comment 16-5, the building that was recently improved would remain at Munson Valley and would continue to be used by park staff for other purposes.

COMMENTS

Mr. Ben Ladd, Acting Superintendent
January 30, 1995
Page 2

- The DEIS and plan include an alternative at significantly less cost ($13.5 million versus $78 million) which more appropriately reflects the level of development that might be reasonable for the park. 22-5

- The concessionaire should be financially responsible for his/her own facilities and employee housing. 22-6

The Park was established in 1902, however, the Park does not own an adjudicated water right on Annie spring. According to the Century West report, the Park holds a permit on the spring dated in 1942, which is currently under protest by the State of Oregon. We lease property which has water rights on Annie Creek dated prior to 1942, and many others in the valley hold adjudicated rights prior to 1902. As a priority water right holder on the creek, we believe the DEIS does not adequately address the potential impacts of park development on priority and later water right holders on the creek.

With either plan, the development at the South Boundary, Alternative 1, or the Mazama Focus, alternative 2, both result in increases of existing water use of 95% and 65% respectfully. This has a potential for up to a 27% increase in demand on Annie Spring. 22-7

In reading the study, DEIS did not address the potential impact to existing artisan wells in the valley or ground and surface water degradation depending on the type and manner of wastewater treatment proposed. It also did not address the land use issue of putting in a community larger than that of Fort Klamath at the South Boundary.

It is clear to both of us that the proposed General Plan for Crater Lake National Park at Fort Klamath has many extremely important issues which have not been fully addressed with regard to the well-being of the landowners in the area. The water and sewage situation is and has long been a critical issue for landowners in the are, and as such it would be literally environmental suicide to allow a development such as been proposed by the DIES to proceed as it is. We do not believe it is sound practice to develop park facilities on an unsure water supply source and we have significant concerns how priority water rights will be maintained in the event of a water shortage.

We would be most interested in attending a public forum to discuss further our concerns, and we hope that a more concerted effort would be made on the part of DEIS to contact people such as ourselves for any future meetings. We would like to remind you that Fort Klamath is not an incorporated city and has no city offices, therefore, mailings to these addresses, including any notices of public hearings or meetings would likely be discarded by the Post Office. We would like to remind you that our local newspaper, the Klamath Falls Herald and News, which is the primary paper delivered in the Fort Klamath area, was not notified of the past meeting, and I am sure, that you will see that this not be the case in the future. 22-8

My address and telephone number is enclosed so that you may contact me personally with regard to any future meetings and/or decisions which may affect the future of the landowners in the Ft. Klamath area.

Sincerely,

John B. Owens
Jack Owens Ranches

RESPONSES

22-5 Your comment noting the cost difference between Alternative 1 and Alternative 3 is noted.

22-6 Your comments concerning the provision of concessioner services are noted. See response to comment 16-16.

22-7 The Park Service is aware of the water rights issue associated with Annie Creek. See response to comment 16-3. With respect to future development at the South Entrance and potential impacts on artesian wells in the area, see response to comment 16-14.

22-8 This was an unintentional oversight. The Klamath Falls Herald and News has been added to the list of newspapers to receive notices about activities at the park. Any communication problems between the park and the community of Fort Klamath were purely unintentional, and the Park Service welcomes the community to work together with park staff to develop better communication channels. The revised Proposed Action, which calls for a reevaluation of actions previously proposed at the South Entrance, was developed in part as a response to concerns and opportunities identified by Fort Klamath residents.

COMMENTS

P.O. Box 537
Fort Klamath, OR 97626
(916) 527-6332

January 30, 1995

JOHN OWENS
13815 TRINITY AVE.
RED BLUFF, CA 96080

Mr. Ben Ladd, Acting Superintendent
Crater Lake National Park
P.O. Box 7
Crater Lake, OR 97604

Subject: Draft Environmental Impact Statement Comments

Dear Mr. Ladd:

This letter addresses the Draft Environmental Impact Statement on the Development Concept Plan/Amendment to the General Management Plan for Crater Lake National Park. The Draft EIS came to our attention, as Ft. Klamath landowners, only very recently, and as a result, the comments in this letter may not reflect all of the comments we have regarding the EIS and the proposed action for improvements at the Park. 23-1

Of greatest concern are the following points:

- The planning and environmental activities associated with planned improvements and development at Crater Lake National Park have just recently been brought to the attention of the residents of the Wood River Valley and Fort Klamath.
- Public participation efforts by the NPS did not result in local ranchers and those most directly impacted by the proposed action at the Park being aware of the proposed plan in a timely manner.
- We have several concerns related to the planned action at the Park, which relate to impacts to water right holders on Annie Creek, development impacts to the Wood River Valley and the high costs.
- The Park is currently using Annie Creek water under a low priority permit which is not right and that action is under protest by the State of Oregon. The current planning activities do not consider that the water rights for both current uses and future development is not secure and are possibly invalid. Also, commitments to spend approximately $80,000,000 of our tax dollars are about to be made regardless of these facts.
- Cost comparisons used by the NPS do not include adequate inflation of development costs in future years, and may not represent the true cost of implementing the "Preferred Alternative".
- Planned development includes relocating park headquarters, which were recently upgraded and improved, outside the Park, the cost of which is unknown but surely not insignificant.

RESPONSES

Letter #23

23-1 This letter is identical to comment letter 22. Please see the individual responses provided for comment letter 22.

Mr. Ben Ladd, Acting Superintendent
January 30, 1995
Page 2

- The DEIS and plan include an alternative at significantly less cost ($13.5 million versus $78 million) which more appropriately reflects the level of development that might be reasonable for the park.

- The concessionaire should be financially responsible for his/her own facilities and employee housing.

The Park was established in 1902, however, the Park does not own an adjudicated water right on Annie spring. According to the Century West report, the Park holds a permit on the spring dated in 1942, which is currently under protest by the State of Oregon. We lease property which has water rights on Annie Creek dated prior to 1942, and many others in the valley hold adjudicated rights prior to 1902. As a priority water right holder on the creek, we believe the DEIS does not adequately address the potential impacts of park development on priority and later water right holders on the creek.

With either plan, the development at the South Boundary, Alternative 1, or the Mazama Focus, alternative 2, both result in increases of existing water use of 95% and 65% respectfully. This has a potential for up to a 27% increase in demand on Annie Spring.

In reading the study, DEIS did not address the potential impact to existing artesan wells in the valley or ground and surface water degradation depending on the type and manner of wastewater treatment proposed. It also did not address the land use issue of putting in a community larger than that of Fort Klamath at the South Boundary.

It is clear to both of us that the proposed General Plan for Crater Lake National Park at Fort Klamath has many extremely important issues which have not been fully addressed with regard to the well-being of the landowners in the area. The water and sewage situation is and has long been a critical issue for landowners in the are, and as such it would be literally environmental suicide to allow a development such as been proposed by the DIES to proceed as it is. We do not believe it is sound practice to develop park facilities on an unsure water supply source and we have significant concerns how priority water rights will be maintained in the event of a water shortage.

We would be most interested in attending a public forum to discuss further our concerns, and we hope that a more concerted effort would be made on the part of DEIS to contact people such as ourselves for any future meetings. We would like to remind you that Fort Klamath is not an incorporated city and has no city offices, therefore, mailings to these addresses, including any notices of public hearings or meetings would likely be discarded by the Post Office. We would like to remind you that our local newspaper, the Klamath Falls Herald and News, which is the primary paper delivered in the Fort Klamath area, was not notified of the past meeting, and I am sure, that you will see that this not be the case in the future.

My address and telephone number is enclosed so that you may contact me personally with regard to any future meetings and/or decisions which may affect the future of the landowners in the Ft. Klamath area.

Sincerely,

John B. Owens

Candace C. Owens

COMMENTS

P.O. Box 411
Fort Klamath, OR 97626
(916) 527-1061

January 30, 1995

Mr. Ben Ladd, Acting Superintendent
Crater Lake National Park
P.O. Box 7
Crater Lake, OR 97604

Subject: Draft Environmental Impact Statement Comments

Dear Mr. Ladd:

This letter addresses the Draft Environmental Impact Statement on the Development Concept Plan/Amendment to the General Management Plan for Crater Lake National Park. The Draft EIS came to our attention, as Ft. Klamath landowners, only very recently, and as a result, the comments in this letter may not reflect all of the comments we have regarding the EIS and the proposed action for improvements at the Park. 24-1

Of greatest concern are the following points:

- The planning and environmental activities associated with planned improvements and development at Crater Lake National Park have just recently been brought to the attention of the residents of the Wood River Valley and Fort Klamath.
- Public participation efforts by the NPS did not result in local ranchers and those most directly impacted by the proposed action at the Park being aware of the proposed plan in a timely manner.
- We have several concerns related to the planned action at the Park, which relate to impacts to water right holders on Annie Creek, development impacts to the Wood River Valley and the high costs.
- The Park is currently using Annie Creek water under a low priority permit which is not right and that action is under protest by the State of Oregon. The current planning activities do not consider that the water rights for both current uses and future development is not secure and are possibly invalid. Also, commitments to spend approximately $80,000,000 of our tax dollars are about to be made regardless of these facts.
- Cost comparisons used by the NPS do not include adequate inflation of development costs in future years, and may not represent the true cost of implementing the "Preferred Alternative".
- Planned development includes relocating park headquarters, which were recently upgraded and improved, outside the Park, the cost of which is unknown but surely not insignificant.

RESPONSES

Letter #24

24-1 This letter is identical to comment letter 22. Please see the individual responses provided for comment letter 22.

Mr. Ben Ladd, Acting Superintendent
January 30, 1995
Page 2

- The DEIS and plan include an alternative at significantly less cost ($13.5 million versus $78 million) which more appropriately reflects the level of development that might be reasonable for the park.

- The concessionaire should be financially responsible for his/her own facilities and employee housing.

The Park was established in 1902, however, the Park does not own an adjudicated water right on Annie spring. According to the Century West report, the Park holds a permit on the spring dated in 1942, which is currently under protest by the State of Oregon. We lease property which has water rights on Annie Creek dated prior to 1942, and many others in the valley hold adjudicated rights prior to 1902. As a priority water right holder on the creek, we believe the DEIS does not adequately address the potential impacts of park development on priority and later water right holders on the creek.

With either plan, the development at the South Boundary, Alternative 1, or the Mazama Focus, alternative 2, both result in increases of existing water use of 95% and 65% respectfully. This has a potential for up to a 27% increase in demand on Annie Spring.

In reading the study, DEIS did not address the potential impact to existing artisan wells in the valley or ground and surface water degradation depending on the type and manner of wastewater treatment proposed. It also did not address the land use issue of putting in a community larger than that of Fort Klamath at the South Boundary.

It is clear to both of us that the proposed General Plan for Crater Lake National Park at Fort Klamath has many extremely important issues which have not been fully addressed with regard to the well-being of the landowners in the area. The water and sewage situation is and has long been a critical issue for landowners in the are, and as such it would be literally environmental suicide to allow a development such as been proposed by the DIES to proceed as it is. We do not believe it is sound practice to develop park facilities on an unsure water supply source and we have significant concerns how priority water rights will be maintained in the event of a water shortage.

We would be most interested in attending a public forum to discuss further our concerns, and we hope that a more concerted effort would be made on the part of DEIS to contact people such as ourselves for any future meetings. We would like to remind you that Fort Klamath is not an incorporated city and has no city offices, therefore, mailings to these addresses, including any notices of public hearings or meetings would likely be discarded by the Post Office. We would like to remind you that our local newspaper, the Klamath Falls Herald and News, which is the primary paper delivered in the Fort Klamath area, was not notified of the past meeting, and I am sure, that you will see that this not be the case in the future.

My address and telephone number is enclosed so that you may contact me personally with regard to any future meetings and/or decisions which may affect the future of the landowners in the Ft. Klamath area.

Sincerely,

Craig Owens

Maxine Owens

COMMENTS

P.O. Box 536
Fort Klamath, OR 97626
(916) 529-3406

January 30, 1995

Mr. Ben Ladd, Acting Superintendent
Crater Lake National Park
P.O. Box 7
Crater Lake, OR 97604

Subject: Draft Environmental Impact Statement Comments

Dear Mr. Ladd:

This letter addresses the Draft Environmental Impact Statement on the Development Concept Plan/Amendment to the General Management Plan for Crater Lake National Park. The Draft EIS came to our attention, as Ft. Klamath landowners, only very recently, and as a result, the comments in this letter may not reflect all of the comments we have regarding the EIS and the proposed action for improvements at the Park. 25-1

Of greatest concern are the following points:

- The planning and environmental activities associated with planned improvements and development at Crater Lake National Park have just recently been brought to the attention of the residents of the Wood River Valley and Fort Klamath.
- Public participation efforts by the NPS did not result in local ranchers and those most directly impacted by the proposed action at the Park being aware of the proposed plan in a timely manner.
- We have several concerns related to the planned action at the Park, which relate to impacts to water right holders on Annie Creek, development impacts to the Wood River Valley and the high costs.
- The Park is currently using Annie Creek water under a low priority permit which is not right and that action is under protest by the State of Oregon. The current planning activities do not consider that the water rights for both current uses and future development is not secure and are possibly invalid. Also, commitments to spend approximately $80,000,000 of our tax dollars are about to be made regardless of these facts.
- Cost comparisons used by the NPS do not include adequate inflation of development costs in future years, and may not represent the true cost of implementing the "Preferred Alternative".
- Planned development includes relocating park headquarters, which were recently upgraded and improved, outside the Park, the cost of which is unknown but surely not insignificant.

RESPONSES

Letter #25

25-1 This letter is identical to comment letter 22. Please see the individual responses provided for comment letter 22.

Mr. Ben Ladd, Acting Superintendent
January 30, 1995
Page 2

- The DEIS and plan include an alternative at significantly less cost ($13.5 million versus $78 million) which more appropriately reflects the level of development that might be reasonable for the park.

- The concessionaire should be financially responsible for his/her own facilities and employee housing.

The Park was established in 1902, however, the Park does not own an adjudicated water right on Anoie spriog. According to the Century West report, the Park holds a permit on the spring dated in 1942, which is currently under protest by the State of Oregon. We lease property which has water rights on Annie Creek dated prior to 1942, and many others in the valley hold adjudicated rights prior to 1902. As a priority water right holder on the creek, we believe the DEIS does not adequately address the potential impacts of park development on priority and later water right holders on the creek.

With either plan, the development at the South Boundary, Alternative 1, or the Mazama Focus, alternative 2, both result in increases of existing water use of 95% and 65% respectfully. This has a potential for up to a 27% increase in demand on Annie Spring.

In reading the study, DEIS did not address the potential impact to existing artisan wells in the valley or ground and surface water degradation depending on the type and manner of wastewater treatment proposed. It also did not address the land use issue of putting in a community larger than that of Fort Klamath at the South Boundary.

It is clear to both of us that the proposed General Plan for Crater Lake National Park at Fort Klamath has many extremely important issues which have not been fully addressed with regard to the well-being of the landowners in the area. The water and sewage situation is and has long been a critical issue for landowners in the are, and as such it would be literally environmental suicide to allow a development such as been proposed by the DIES to proceed as it is. We do not believe it is sound practice to develop park facilities on an unsure water supply source and we have significant concerns how priority water rights will be maintained in the event of a water shortage.

We would be most interested in attendiog a public forum to discuss further our concerns, and we hope that a more concerted effort would be made on the part of DEIS to contact people such as ourselves for any future meetings. We would like to remind you that Fort Klamath is oot an incorporated city and has no city offices, therefore, mailings to these addresses, including any notices of public hearings or meetings would likely be discarded by the Post Office. We would like to remind you that our local newspaper, the Klamath Falls Herald and News, which is the primary paper delivered in the Fort Klamath area, was not notified of the past meeting, and I am sure, that you will see that this oot be the case in the future.

My address and telephone number is enclosed so that you may contact me personally with regard to any future meetings and/or decisions which may affect the future of the landowners in the Ft. Klamath area.

Sincerely,

Kenneth R. Owens

Sheree Owens

COMMENTS

1277 Community Avenue
Klamath Falls, OR 97601
January 31, 1995

Superintendent
Crater Lake National Park
P.O. Box 7
Crater Lake, OR 97604

Dear Sir:

In response to comments solicited on the Draft Development Concept Plan and Environmental Impact Statement Nov 94 for Crater Lake National Park we submit the following:

We are opposed to the moving of present administrative, maintenance or NPS housing facilities especially after the recent multi-million dollar expenditures in the Munson Valley area. Any future expansion in these areas should be located outside the Park, especially in the area of NPS housing. The only study in the document's reference section (Bibliography) addresses the availability of lodging outside the Park not housing. A study sited on p.2-2 is not listed in the bibliography. If that study was done, we question its findings that free market housing cannot meet the projected NPS employee housing needs. Housing developers usually build when a need is perceived to exist or projected. How much are the NPS-CLNP employee numbers expected to increase? 26-1

We question the expansion of the Annie Spring (Mazama Village) area. In our opinion the draft study is flawed. It is too site specific. There needs to be a broader look at the environmental impact. The EIS has not adequately addressed the impact on the natural resources and the increased water use from Annie Creek. It has been stated that the NPS would not go beyond its water right in use but the water right to our knowledge has not been determined. Is the water permit the extent of the water right for CLNP? 26-2

We feel the environmental impact of expanded use of the Annie Spring sewage lagoons has not been addressed. These existing sewage lagoons were enlarged (clandestinely?) September 1993. Was there an EIS for this expansion? There is only one reference (p.2-6) to sewer in the draft index. We have been unable to locate in the draft the effect the effluvia from the existing Annie Spring sewage lagoons will have on the springs, streams or wetlands. See 3.3 Surface Water Resources of the Draft: "...meltwater from the snowpack sink quickly into the porus volcanic soils, contributing to subsurface groundwater. As the groundwater moves through the soil, a portion of it is slowly released through evaporation, plant uptake, seeps, and numerous springs in the area." The water (effluvia) from the sewage lagoons will just as surely 26-3

RESPONSES

Letter #26

26-1 Your comments are noted. The buildings that were renovated at Munson Valley would continue to be used by park staff. The benefits of the previous renovation were to maintain the historic character of the headquarters area. These benefits would still be realized should the headquarters functions be shifted away from Munson Valley.

The study referred to on page 2-2 of the DEIS was left out of the reference section by mistake. The study is known as the "Housing and Concessioner Administrative Facilities Plan" and its full reference has been added to the FEIS.

The dormitory proposed at the South Entrance under Alternatives 1 and 2 is intended to replace the existing dormitory at Rim Village and is not intended to house additional employees. The housing proposed at the South Entrance is intended for family housing that is currently unavailable at the park.

26-2 Your comments concerning increased water use at Mazama Village are noted. See response to comment 16-3.

26-3 The Mazama and Munson Valley sewage treatment facilities have recently been improved. The improvement designs are sufficient to accommodate possible future increases in sewage and would be capable of handling the cumulative increase in sewage generated by project developments. See response to comments 6-17 and 16-14.

sink into porus volcanic soils. What impact will this water (effluvia) have on the water quality of springs, streams and wetlands of the Crater Lake watershed? 26-3

In our opinion any further development by the NPS to facilitate concession interest is unwarranted. The concession has already been allowed too much expansion of his possessory interest at CLNP which is not in keeping with current NPS policy. The draft does not adequately address the alternatives of locating concession facilities outside the Park and at concession expense. Is the NPS obligated to provide housing for the concession? There must be entrepreneurs willing to contract the concession operations for paying a mere 2% of gross return to the NPS on the lease of a $7 million Crater Lake Lodge facility. Unless, of course, they would have to overcome the possessory interest that the NPS has allowed the current concessioner to develop. 26-4

When constructions funds are available they should be directed toward a CRLA-NPS Interpretive Facility which is sadly lacking and would serve a much greater percentage of Park visitors than concession facilities and serve them in a more educational and less commercial way; more in keeping with the Park Service Mission. 26-5

Sincerely,

Gregory R. Hartell
Beverley A. Hartell

26-4 See response to comment 2-15 for a discussion of alternative sites for development at the South Entrance. For a discussion of concessioner services, see response to comment 16-16.

26-5 Your comment concerning the need for an interpretive facility is noted. Construction of a new activity center that will serve as the park's principal interpretive center is a planned and approved development for the rim.

COMMENTS

FEB - 3 1995
CRATER LAKE NATL PARK

February 1, 1995

Superintendent
Crater Lake National Park,
Box 7, Crater Lake, Ore., 97604

This is to express my strong disapprovel of the Park Service draft plan to locate employee housing, warehouses and perhaps more, to a location at the south park entrance.

1/ This plan would annex more land south of the existing park boundaries increasing, of course, the park's land area. In past years land was taken on the east side from the Winema Nat'l Forest and from the Rogue River Nat'l Forest on the west in what aust be called simple expansionist land grabs, rationalized by a do-good protectionism. The annexation on the south would again un-necessarily add to area while "saving"the existing park's perceived untouched appearance. There is ample area to the north of the south entrance and boundary on the west side of Hwy.62 for the establishment of your added facilities. Located some distance from the main highway, they would not be noticeable to the passing tourist. Because of the lack of trail access, general park policy and the tendency of travelers to want to see the more spectacular portions of the park this area gets very little use. 27-1

2/ In annexing any area along the southern boundary you would be eliminating a very needed, important diversified and legitimate usage of public Forest Service lands between the park and private land. (Because of Park Service narrow use policies the park cannot honestly be considered "public")

3/ The proposed location would use and depiate the flow of Annie Creek by use of excessive water for residential and other attendand uses as well as quite likely adversely affecting water quality, quantity and finally the fish population in said stream.

Furthermore, water rights to Annie Creek were adjudicated beginning in 1883 well before the park was astabilished in 1902. An adjudicated water right is a legitimate property right and might take precedence. 27-2

4/ A major elk herd migrates througe and otherwise uses that area. It is a natural corridor in that a deep and steep canyon lies immediately north

RESPONSES

Letter #27

27-1 A relatively small area of Forest Service land is needed (depending on final design, the Park Service estimates that annexation would be on the order of only 10 to 15 acres). See response to comment 2-15.

27-2 See response to comments 8-6 and 16-3. Preliminary studies have indicated that water for development at the South Entrance could be obtained from a confined aquifer well (i.e., one that is not connected to Annie Creek). The impact assessment assumes that water would not need to be withdrawn from Annie Creek. Additional studies would need to confirm this during the final design stage. At this point, the developments proposed under Alternatives 1 and 2 are only conceptual. Specific details regarding water supply and sewage treatment have not been developed beyond the point of determining the reasonable likelihood of feasibility.

and open ground to the south. The elk's nature makes a certain amount of forest cover desirable and when calves are small, necessary. Construction of facilities and large numbers of people in residence would certainly disrupt this herd's well-being. Arguments that the herd could travel or move elsewhere are not sound. North would be physically difficult. South would put them in open land with little cover and endanger them with fences. South would cause fence and pasture damage and result in damage claims. 27-3

Klamath County residents in general and The Fort Klamath community in particular predominantly oppose your plan for the reasons set forth above and other reasons. Their wishes should be considered and addressed.

Because the occupants and residents of the proposed facilities are employees and concessionaires of the Park service it is fitting and desirable that the complex be well within your present boundaries.

F J Danforth
P. O. Box 425
Ft. Klamath Oregon
97626

27-3 Your comment concerning the elk herd is noted. See response to comments 2-1 and 2-15.

Feb 1, 1995

Dear Mr Miele

My name is Lyle Brewer, we own a ranch approximately one mile south of the Park. We are sole dependent on the water in Anne creek for irragation & stock water.

This past year we ran out of water about half way through the summer. I realize it was a very dry year, but ~~non~~ the less Anne Creek & it water is very essential to the upper end of the Valley. 28-1

According to the Environmental Impact statement, I don't think there was enough research done on the Water Table and what effect it would have on the ~~upper~~ users in the Valley. In addition how much if any water to be drawn out of the Creek.

The expantion of the south entrance maintance area is going

Letter #28

28-1 Your comments concerning water supplies are noted, and the Park Service is aware of this issue. See response to comment 16-3.

to create a big problem with our elk and deer herds and their migration route. If they decide to go farther South they will encounter alot of fences that are not built for animal migration. There will be alot of added repair cost and the deaths of young calves and fawns trying to pass through the fences. 28-2

I'm not trying to run your business but it looks like your maintance cost will be much higher if it is moved to one end of the Park, instead of being centered where it is now.

I sincerly hope you understant our concern over the water and wild life in our Wood River Valley.

Sincerly
The Brewer Family

William R Brewer
5305 Walton Dr.
Klamath Falls,
Or 97603

28-2 Your comment concerning the elk herd is noted. See response to comments 2-1 and 2-15.

COMMENTS

1-30-95

Superintendent Crater Lake Park.

In regards to your new housing in the Panhandle we understand that you allege this is in the migration corridor of our local elk herd, and that you could care less about them or where the area is they migrate thru. The local Elk Foundation of Oregon works very hard to get monies, to keep our elk herds alive without damaging farmers, ranchers & our private land owners. You are public servants & we pay your wages, to take care of our parks, in the way we wish. You are only caretakers & we believe it is time the public 29-1

RESPONSES

Letter #29

29-1 See response to comments 2-1 and 2-15.

Let you know this. The development you propose will not even be completely in the Park. I'm sure there are other areas in the Park where this could be done without taking away the elk migration route. We also understand that this will also effect the water in Annie Creek, our farmers are already short of water due to suckers & the dry conditions. We all need to learn to live together in this land for the sake of humans & animals. If we are going to feel concerned for the fish & birds, we also need to feel concern for the

29-2

29-2 The Park Service is aware of the water issues related to Annie Creek. See response to comment 16-3.

COMMENTS

like in our area. We believe you should leave things as they are, and not ruin area for your housing inside the park, by moving it further down the mountain from the lake would also cut mine, transporting workers back & forth to work. It would also be more hazardous for them in the winter months going back & forth. I believe you should think this matter thru, and consider the extra cost involved with moving down the hill.

Sincerely,

A Concerned Tax Payer.

P.O. Box 124

Wasilla

29-3

RESPONSES

29-3 Your comments concerning the location of support facilities are noted. See response to comments 2-1 and 2-15.

COMMENTS

Supt. Crater Lake Nat. Park
Box 7 Crater Lake Or. 97604
Sirs:

RECEIVED
FEB - 3 1995
CRATER LAKE NAT'L PARK

In regard to the impact statement on the new Village I believe the res. of Klam. Co. have been forgotten along with our Elk herd. 30-1
I see no reason for any more human conjestion of US forest land. You will be encroaching on Elk migration Routes. I'm sure the Klam. Tribe will not be happy, the ONRC, Or the people of Eastern Or. Along another line of thought is the fact that Anne Springs which 30-2
eventially ends it's travel in the battle of Klam. basin water. You will be restricting water that helps the sucker. Bull Trout, Salmon, Steelhead & our local farmers. 30-3
I see no reason that some of the existing compounds in Chiloquin, K falls, or other private land within Fort Klamath. In this way some of the added expence can be utilized in the local economy & not somebodies government dynasty. After all it's the 30-4

RESPONSES

Letter #30

30-1 Your comments concerning proposed developments at the South Entrance are noted. As a result of public comment received on this element of the DEIS, the Proposed Action has been revised. See response to comments 2-1 and 2-15.

30-2 Your comments are noted. See response to comments 2-1 and 2-15.

30-3 The Park Service is aware of the water issues surrounding Annie Creek. See response to comments 2-2 and 8-6.

30-4 Your comments concerning use of surrounding communities for support facilities are noted. See response to comment 2-15.

people that are paying the bills.

Again I must remind you that I am sure that the Klamath, Yuroks, Hoopas, down stream, along with the Local ranches, Klamath Basin Water Users, ONRC etc. do not realize what is happening.

Thank you.
yours truly
James R. Goold

Goold's Sprague River Ranch, Inc.
P.O. Box 89
Sprague River OR 97639
533-2291

January 30, 1995

Dear Superintendent,

Gates Lake Park has always been a special place and I'm glad the area was made a park.

My parents took me there in the early 1930's. During the 1940 years my Aunt and Uncle were employed at the park. I would shovel out my Aunt's kitchen window so she would have better light than the light bulb gave. She was the cook at camp and saved goodies for my Uncle's favorite bears at the garbage pit. My uncle was in charge of road maintenance and that meant lots of hours removing snow.

The 1970 and 1980 years, I used the area just out side of the South entrance where Sun Creek road is now blocked, for camping. I would camp along side Annie Creek over night just for the peace and quiet. The sound of Annie Creek and the aroma of camp fire cooking was great.

Since then the area has had too much improvement for me to return for any camping.

Letter #31

COMMENTS

I would suggest relocating your "park town" within the park boundary and away from the Elk area near Sun Creek. 31-1

Also consider the wishes of the people of Fort Klamath. the old East Side Entrance area would be a good place to build, using real log cabins. modern architecture is not going to look good in a woodsy area. 31-2

I think there has been too much people activity in the park in the past twenty years. when I go to the park I don't care to people watch. I like to see the park and the Lake and enjoy the peace and quiet of a great natural area, that means NO Logging, NO snow mobiles, NO races around the Rim etc. I do think more picnic areas with water and toilets would be a good idea.

Seriously,

Mr. Loren G. Blackmer
2793 Crest Street
Klamath Falls Oregon
97603-6636
503 884 0904

RESPONSES

31-1 Your comments concerning the development of facilities at the South Entrance are noted. See response to comment 2-15.

31-2 See response to comment 30-4.

January 25, 1995

Superintendent
Crater Lake National Park
Crater Lake, OR 97604

Dear Sir:

We have been following with interest the proposals to develop Crater Lake and surroundings in some way. While we can understand that a sampling of tourists desire more facilities for personal comfort, we are very concerned that adding such conveniences could negatively impact a place we hold very dear. The pristine beauty of Crater Lake is due in no small measure to its lack of development, and we believe that the reason it was originally set aside as a national park was to preserve its uniqueness for generations to come. We are convinced that additional development would detract, and thus we strongly support leaving the lake and surroundings with no further development than now exists. 32-1

Moving the parking lot from the rim area seems costly and unnecessary. A multi-tiered parking lot with shuttle appears drastic if the main problem with parking on the rim is due to oily runoff contaminating the lake. Revamping the drain system away from the lake and installing a sand filter should alleviate that concern. Sand filters have proven effective in purifying water in septic systems, so they should certainly be adequate for that task. Such a large structure would be alien to the environment. 32-2

We are particularly opposed to the proposal to build accommodations away from the rim. Primarily, we understand the site being considered is part of a main migration pathway of the elk, and development here would force them into a very difficult area which could cause the cows to lose offspring due to rigorous conditions. Again, a national park is supposed to exist in large part to provide good habitat for wildlife, so such a location for additional facilities seems counter to the park's higher purpose. 32-3

Also, the federal government should not be building and maintaining structures for private enterprise to conduct business. And the two percent of gross charged now to the operator of the rim shop is a pittance. Why should taxpayers subsidize that business when other businesses around the country are taxed to the extreme? If the decision is made to do this development, at least the businesses which come should have to pay the prevailing rates for building and occupying their facilities and not require taxpayers to shoulder this additional burden. 32-4

We support providing decent buildings at the rim as we now have. But taxpayers have already spent literally millions--the amount varies between $17,000,000.00 and $27,000,000.00--to reconstruct the old lodge, and it seems Crater Lake has gotten its fair share of funding now. If existing facilities are inadequate for expected traffic, perhaps the park might someday have to issue permits as other areas have had to do. Our understanding is that 32-5

Letter #32

32-1 Your comments supporting no further development in the park are noted.

32-2 Petroleum runoff, while an important consideration in managing park resources, is not the primary reason for developing the proposed parking structure. See response to comment 6-5.

32-3 Your comments concerning future development at the South Entrance are noted. See response to comments 2-1 and 2-15.

32-4 Your comments concerning concessioner facilities are noted. See response to comment 16-6.

32-5 See response to comment 16-5.

COMMENTS

the building is not for the purpose of boosting tourism numbers, so it is not justifiable to us to go to such expense.

One way costs could be reduced at Crater Lake would be to postpone plowing the north rim road 45 days instead of plowing it out in the middle of March as is now done. This could certainly cut expenses somewhat. 32-6

Thank you for giving us opportunity to voice our opinions before decisions are made. We urge you to consider these points and move with great caution before making changes at the lake. Such changes would forever alter its environment, and this treasure easily could be lost or irreversibly changed for all of us.

Sincerely,

Robert & Linda Loper

Robert and Linda Loper
3585 Highland
Grants Pass, OR 97526

RESPONSES

32-6 Your comment concerning delaying plowing as a means of reducing costs is noted.

COMMENTS

Dale Himelwright
1917 Crest St.
Klamath Falls ORE.
97603

Superintendent
Crater Lake Nat. park
PO Bx 7
Crater Lake, ORE 97604

RECEIVED
FEB - 1 1995
CRATER LAKE NAT'L PARK

Dear Sir;

After reading your Development Concept plan + attending the Meeting held in Klamath Falls on Jan 10, 1995, I am writing the following response.

I feel the plan does not adequately address many important issues. Park policy is to perpetuate wildlife and minimize human impact on wildlife 42.8.1. Moving headquarters to the South Entrance would be a direct violation of this policy. the loss of 26 acres of habitat along with moving the headquarters to the South entrance would have a very high impact on the Sun Mountain Elk migration + calfing area. Deer along will smaller wildlife species would be affected by approxamately 200 additional people in this area who would be hiking + skiing during migration + calfing periods causing addition stress on them. the increase in vehicle 33-1

RESPONSES

Letter #33

33-1 Your comments concerning future development at the South Entrance are noted. See response to comments 2-1 and 2-15.

COMMENTS

traffic will cause increase in the Road Kills.

Contrary to H.2.8.3, the gate at Annie Creek is opened with the First Major Snowfall to allow grooming untill the snow gets to a low level in the Spring, So this area that is used for Elk Calfing is opened to hikers + skiers. the issue of winter Recreation in this area was promised to be addressed at the last winter use plan meeting and as the writing of this letter it still has not been concidered by your people. there is a snowmobile + skier parking lot near this area + also a major North and South snowmobile trail. this could cause a major conflict between skiers + snowmobilers + cause safety problems. You have not addressed the effect the drilling of this well will have on nearby Wilsons Cabins. also the effect the draw down on Annie Creek will affect the Native trout.

33-2

33-3

RESPONSES

33-2 The Park Service has determined that existing winter activities are consistent with the protection of park resources and appropriate for visitor enjoyment. The Park Service has completed a Winter Use Plan which adopted a strategy of endorsing the current mix of cross-country skiing throughout the park and snow machine access from the north entrance to North Junction in the park. See response to comments 2-1 and 2-15.

33-3 The bull trout is not known to be present within Annie Creek, but the creek does contain habitat that may be suitable for reintroduction. See response to comments 2-2, 8-6, and 16-3.

your people admit that supplies will be unloaded at the South Entrance & be reloaded for delivery to other destinations in the park, also concessionaire employees would have to be transported to their jobs within the park. this will be a very inefficient way to operate + cost tax payers more money. I ask a question at the meeting if the 93 Bed dorm would be self sufficient and was given a very vague answer that the concessionaire might be charged a use fee. are the tax payers going to subsidize this also? 33-4

this plan was very poorly advertised. a lot of the people attending the meeting who were not on the mailing list were told they would have to go to a library too read the plan.. a plan that will cost tax payers $77,902,000 should have been well advertised not a short 1 column article in the middle of the newspaper. at least the citizens of Southern oregon should have been aware of the complete plan. 33-5

33-4 Comments noted. See response to comment 16-16.

33-5 Your comments concerning the public review process are noted. See response to comments 4-1 and 4-3.

COMMENTS

I Firmly believe the park personel purposely kept this very low key because their plan was not well thought out or presented in a proper manner. the local meeting was held Jan 10, 1995 with input period ending Feb 2, 1995. a very short time for research + response. 33-5

Truthfully your plan might have had a better chance to succeed if the park personel had been more thorough with their planning & given the people more information. With 170,000 acres in the park why do you want to encroach on Forest Service lands. too many negative effects + too few positive actions, I am forced vote no change + for you to implement alternative #3. 33-6

I am forwarding this letter to the proper legislators. thank you for your consideration

Dale Humelsinger

RESPONSES

33-6 Your comments concerning future developments at the South Entrance are noted. See response to comments 2-1 and 2-15.

Louise Davis
2171 Hoviland Drive
Grants Pass, OR 97527

Dear Sir: Re: Crater Lake Nat'l Park
Feb. 2. '95

Supt., Crater Lake Nat'l Park,
PO Box 7, Crater Lake, OR. 97604

I rejected $30 million in 1988;
I rejected $96 million in 1992.

We do not need to spend untold millions to build a 60-room hotel -

We do not need to spend $25 million to build a 3-level parking complex -

We do not need to spend $12 million for a Visitors Center and Concessioners Cafeteria and Gift Shop.

34-1

Letter #34

34-1 Your comments opposing further development activities in the park are noted.

We do not need to spend $.3 million to build a dormitory for the concessionaires workers. 34-1

In fact, such items should not even be considered by a national park decision making body -

All this insane, unnecessary spending of taxpayers money must be stopped -

Our legislators have proven unequal and incompetent in doling out money belonging to this country's taxpayers -

No - No - No on these plans for Crater Lake - Sincerely, Denice Davis

Jan. 29, 1995

Superintendent
Crater Lake National Park
P.O. Box 7, Crater Lake
Oregon, 97604

Dear

The idea that the taxpayer should be paying the costs for all of the planned improvements (?) at the park are ludicrous.

Although I agree with some of changes which would help to keep congestion and traffic from the rim is wise I do not support some of the other plans.

The concessionaire should be the primary investor. If the costs are too high they can be passed on to the people using the facilities as in any business.

Sincerely
June A. Robinson

35-1

RECYCLED PAPER

Letter #35

35-1 Your comments concerning the cost and provision of concessioner facilities are noted. See response to comments 8-8, 11-2, and 16-16.

COMMENTS

RECEIVED
FEB - 3 1995
CRATER LAKE NAT'L PARK

2-02-95

James S. Bryant
52395 Weed Rd.
P.O. Box 494
Fort Klamath, OR.97628
(503)381-2253

Comment;
Draft Environmental Impact Statement
Crater Lake National Park
Draft Development Concept Plan and
Amendment to the General Management Plan

Superintendent
Crater Lake National Park
P.O. Box 7
Crater Lake, OR. 97604

1. This comment period should have been in the spring or early summer so that many Fort Klamath residents who are absent during the winter could be better informed

2. Copies of the plan were not properly distributed in the Fort Klamath area. 36-1

3.There is a need to reduce administrative activities in the Park and the Federal Government.

4. All housing should be in the private sector. There is plenty of room in the local areas. The housing should not be supplied by the government. I have to buy my house. I see no reason to pay for housing of gainfully employed workers. Part of rural life is travel, we have to commute, you should too. 36-2

5. The local sector should get the development work. We need the work and we put up with all the negative impact to see most of the money leave the area.

6. The private sector should do any and all work possible. This could include fleet and machine maintaince Private industry has cut costs doing this. Sometimes with the same people working with a new entity. 36-3

7. There should be no development outside the current Park boundaries. Any expansion runs into complex problems with existing entities. 36-4

8.The Park should shut down in the off season. 36-5

9. Wildlife outside the Park should be managed by the State.

10. Park law enforcement should keep their activities in the park. Enforcement of game laws should be up to the State. 36-6

RESPONSES

Letter #36

36-1 Your comment concerning the public review period is noted. See response to comments 4-1 and 4-3.

36-2 Your comments concerning concessioner housing are noted. See response to comments 8-8, 11-2, and 16-16. If concessioner housing is ultimately located away from the park, commuting options may be considered.

36-3 To the extent feasible and consistent with management objectives, the Park Service would use local contractors and suppliers for provision of services.

36-4 Your comments concerning expansion of activities outside of the park are noted. See response to comments 2-1 and 2-15.

36-5 The Park Service provides a variety of winter use opportunities that are consistent with resource protection and visitor enjoyment of the park.

36-6 It is the responsibility of the Park Service to manage resources, including wildlife, in the park.

COMMENTS

11. We in the Fort Klamath area have water rights that have been in use for a long time. Any upstream increases would be challenged. This would increase expense and increase the time factor. 36-7

12. The park concessioner is getting a free ride. The private sector could sell items outside the boundaries to people traveling to and from the park.

13. The Federal Government has plenty of building space. The museum could relocate to store some of the items. This could also be done in an area were a public showing of the items could generate interest in travel to the Park. 36-8

14. R.V. sites compete with local businesses who employ local people. The sites should be left to the private sector.

15. Employee recreation should be done in the area that they live in. This should be outside the Park in the local areas.

16. The Federal Government is broke we are in the process of downsizing. This plan seems to do the opposite, it should be re-evaluated. 36-9

This completes a brief list of comments.

Please put me on a mailing list for any actions that are or will be pending in the Park.

Thank You

James S. Bryant

James S. Bryant

RESPONSES

36-7 The Park Service is aware of the water rights issues associated with Annie Creek. See response to comment 16-3.

36-8 Your comments are noted.

36-9 Your comment concerning the scope and size of the project is noted.

COMMENTS

2-1-95

Dear Sir,

I fail to understand why - that a man smart enough to head a National Park - who's job is to protect Nature. Can be stupid enough to want to build a housing project in the middle of Nature's trail the Elk right of way! 37-1

All the land in the park must have at least one or two good places for the project. Not on the Elk trail.

Nancy C. Fowler
7802 Hiway 39
Klamath Falls Or
97603

RECEIVED
FEB - 3 1995
CRATER LAKE NAT'L PARK

RESPONSES

Letter #37

37-1 Your comments concerning potential impacts of the project on the elk herd are noted. See response to comments 2-1 and 2-15.

COMMENTS

Roger Nicholson
P. O. Box 458
Fort Klamath, OR 97626

January 31, 1995

Ben Ladd, Acting Superintendent
Crater Lake National Park
P. O. Box 7
Crater Lake, OR 97604

Dear Mr. Ladd:

This letter is in response to the Draft Development Concept Plan/Amendment to the General Management Plan Environmental Impact Statement for Crater Lake National Park, (DCP/EIS) which recently came to my attention.

Being a landowner and a member of the Fort Klamath community, I am alarmed at the lack of issues that are not covered by your three alternatives.

The rights of priority water right holders is not addressed. Nor is the issue of downstream users, or the State of Oregon's overall water plan. Has the impact on existing wells been studied with the drilling of the proposed well? I found your study to be incomplete and unaware of Oregon's current water crisis. 38-1

Although your study did address the negative impact on the Elk with the development at the South Boundary, it appears that you have dismissed its importance in your recommendations. I feel that you need to reconsider the impact of development further. 38-2

Your plan states that, "No impact on the local economy would occur" with Alternative 1. Without examining the extensive water issues, the impact of creating a community larger than that of Fort Klamath itself, the lack of police protection in our area or a wastewater plan, to name a few, how can it be said that our community will not be affected economically or socially? 38-3

Based upon the information provided, Alternative 3 has the least impact on the environment and surrounding communities although water issues still remain. 38-4

Sincerely,

Roger Nicholson

RESPONSES

Letter #38

38-1 The Park Service is aware of the water rights issue associated with Annie Creek. See response to comment 16-3.

38-2 See response to comments 2-1 and 2-15.

38-3 Providing an economic benefit for the surrounding communities is not part of the purpose and need for action associated with this project. The alternatives being considered are intended to meet the immediate and long-term needs of the park to facilitate visitor enjoyment of the park while protecting the environment.

The revised Proposed Action as discussed in the FEIS is to reevaluate the proposed actions at the South Entrance and to explore the possibilities of meeting future housing needs in other areas, including in nearby communities.

38-4 Your comment supporting Alternative 3, the No Action Alternative, is noted.

COMMENTS

February 1, 1995

RECEIVED
FEB - 3 1995
CRATER LAKE NAT'L PARK

Superintendent
Crater Lake National Park
P. O. Box 7
Crater Lake, Oregon 97604

Dear Sir:

After attending your most recent meeting on Jan. 10, 1995 I came away with the feeling that it doesn't really matter what the general public thinks about the decision of your Development Concept Plan/ Amendment, you will do what you wish to anyway. The meeting was simply to whitewash and appease those who hadn't attended the prior meetings to see how the wheels grind behind the general publics backs. 39-1

One of the most frequently asked questions that day was about the wildlife, the elk in particular. We really didn't get an answer other than that they will adapt to the changes in their life and migration routes. Well now I'm not an environmentalist in the extreme, I just simply believe that why disturb the natural flow of the elk migration when there are other places that this little "city" could be constructed. 39-2

Why not enhance the little hamlet of Fort Klamath and give it the "boost" it deserves by including it in the proposed building plans? Give this some thought, you might find these people would love to be able to accommodate the increased population and growth of their community. This is taxpayers dollars you are spending to construct this "village" then make it into a viable part of an already existing community, not up the road a few miles where it will upset so many others. 39-3

As to the proposed location at or near Annie Creek for this village to be built, have you given any thought of the overload it will cause on the Snow Park at Annie Creek. This park is a half way point for many snowmobilers who start at Lake of the Woods and intend to ride to Diamond Lake. Some use the park as a starting point to ride to Diamond Lake and the North Entrance of the lake. It would not accommodate large numbers as what would probably build up if it were to have this building take place there. Have you given this any thought as to overflow of snowmobilers and cross country skiers in that little spot? 39-4

Better yet why not leave well enough alone? Just where in the world does it state that we the tax payer must build housing for people who are employees in "private" enterprise. Strange I've always had to provide housing for myself. As to the housing for the National Park employees, sure I can understand this as this is your year round job in this area, but it doesn't have to be a castle rebuilt avery few years. And by the way if new housing for you NPS was to be built in Fort Klamath would that be so bad, you might find you have some very nice neighbors. You of course would have to drive back and forth to work, but so what so does just about every one of the general public in America. Come join us you might find us to be very personable. 39-5

Sincerely,

Irene L. Kalley

Irene L. Kalley
3005 Madison St.
Klamath Falls, OR 97603

RESPONSES

Letter #39

39-1 The Park Service is very interested in the comments and concerns of the public in reviewing its proposals for the park. As a result of comments provided by the public during the review period for the DEIS, the Park Service has revised its Proposed Action for the FEIS. See response to comments 2-1 and 2-15.

39-2 Your comments concerning the elk herd are noted. See response to comments 2-1 and 2-15.

39-3 Your comments concerning the potential location of Park Service facilities in Fort Klamath are noted. See response to comments 2-1 and 2-15.

39-4 If future development were to occur at the South Entrance near Annie Creek, the Park Service would ensure such development is compatible with existing winter uses.

39-5 Your comments supporting Alternative 3, the No Action Alternative, are noted. See response to comments 2-1, 2-15, 8-8, 11-2, and 16-16.

Superintendent
Crater Lake National Park
P.O. Box 7
Crater Lake, Ore 97604

1/21/95

Dear Sir:

I have recently read about the proposed development at the South Boundary of Crater Lake Park.

Forty-Five years ago I worked as a temporary summer employee of your organization. At this time "Nature" was the name of the game. A tire track in the pumice, a foot print or prints were raked over. One could not cut a tree or tree limb without permission from the head naturalist.

At the time I thought this was ridiculous. Today I realize just how important that was.

Today Crater Lake Park is being developed into a commercialized night-mare.

The Park Service sponsored by U.S. Government (U.S. of America) is building the "Disneyland of the Pines". Not only are they desecrating "Crater Lake National Park", now they are stepping into another environmently sensitive area with disreguard for WILDLIFE, WATER, private business, agriculture, sanitation, pollution and the serenity of the people living nearby. 40-1

"PARODY"

Why not a mall at the rim, traffic signals at all junctions. T.V. surveillance of the rim. Elevators to the lake. Helicopter

Letter #40

40-1 Your comments are noted.

COMMENTS

rides, water skiing. Rock festivals, a zoo, then book Clyde Beatty's circus with dancing bears, and Canadian Wolves, jumping through hoops, also a Chorus of coyote's howling on command.

End of Game!

Stop - Preserve the Park — Let private business work outside the park with no government subsidy.

P.S. National Park or Parks — Everyone's Sacred Ground What's wrong with being the best kept secret. This would be the opposite of extreme commercialism practized in other National Parks. Please keep Crater Lake "NATURAL"! Money spent on primitive tip campgrounds and trails is better spent. 40-2

Respectfully
Don Rader
5827 Valley Court
Klamath Falls Ore
97603

RESPONSES

40-2 Your comments are noted. However, it is the responsibility of the Park Service to make its resources available for the use and enjoyment of all people, in addition to those who live in the immediate vicinity. The Park Service has the responsibility of balancing the competing demands on park resources without sacrificing the quality of the resources themselves.

COMMENTS

RECEIVED
JAN 30 1995
CRATER LAKE NAT'L PARK

Mr/Mrs A.O. Chilton
9526 Jalice Rd
Merlin, OR 97532

Jan. 22, 1995

Superintendent
Crater Lake National Park
P.O. Box 7
Crater Lake, OR 97604

Dear Sir: Re Editorial Grants Pass Courier 1/20/95

Using figures of cost quoted in above article, of $77 million (or alternate of $72 Million) it is not enough to cover the expensive combination visitors' center & concessionaire's cafeteria & gift shop and additional $12 Million dormitory for concessionaire's workers. The concessionaire operates to give the government very little. If he's anxious, he would pay for the cafeteria & gift shop & dormitory for his workers. (When he sells, he will make a profit!) 41-1

These costs are "Cartier" quality — How about middle class style & quality?

Very truly yours,
Ruth & Al Chilton

RESPONSES

Letter #41

41-1 Your comment concerning the cost of the alternatives is noted.

COMMENTS

RECEIVED
FEB - 2 1996
CRATER LAKE NAT'L PARK

1221 Eldorado
Klamath Falls, Or.
97601-1818

Crater Lake National Park
Box 7
Crater Lake, Or.

Dear Sir,

After reading the article in last Sundays paper, it seems to me that all agencys of our Government should get together and cooperate with each other and most of all with the people who supply the money for all projects. the Tax Payers. 42-1

I am certain all ideas have some good in them, but here in our area good Jobs are not to plentiful therefore Taxes are to high already —

Thank you

John W. Nash
John W. Nash

RESPONSES

Letter #42

42-1 Your comments are noted.

February 1, 1995

RECEIVED
FEB - 2 1995
CRATER LAKE NAT'L PARK

Superintendent
Crater Lake National Park
Box 7
Crater Lake, OR 97604

re: proposed construction of facilities in "Panhandle" area

I have recently become aware of referenced plans. In my opinion it would be GROSSLY negligent to do anything that interferes with the flora and fauna of the environment, especially if for the sake of human convenience and/or profit.

How can anyone decide for the elk that they can easily change their migration pattern? Animals are "programed" over centuries to adhere to certain behavior. Who are you select few to dictate to creatures that were here eons before we were? What research was done? Who was consulted? 43-1

Did you ever see the movie "Elephant Walk"? It's a good example of what happens when mankind attempts to tamper with nature.

Too bad the elk aren't a lot larger and can't vote!

Please reconsider this folly.

Sincerely,

Mary Clizbe

Mary G. Clizbe
P.O. Box 314, Bonanza OR 97623

copy: Jack Elbert
Herald and News

Letter #43

43-1 Your comments concerning potential impacts on elk migrations are noted. See response to comments 2-1 and 2-15. Elements regarding elk migration routes were provided by ODFW and by a study published in 1988 (Jenkins, Cooper, and Starkey 1988).

COMMENTS

SUPERINTENDENT
CRATER LAKE NATIONAL PARK

DEAR SIR.

NO

NO

NO

NO

WE DO NOT WANT ANY DEVELOPMENT AT THE SOUTH ENTRANCE. SNOWMOBILERS ARE 44-1

SYSTEMATICALLY BEING SHUT OUT OF MANY AREAS. I DONT KNOW WHY BUT IT IS TIME TO STOP [redacted] PUSHING US AROUND. WE HAVE A CLEAN FUN SPORT THAT IS ENVIRONMENTALLY FRIENDLY. 44-2
WHEN THE SNOW IS GONE SO IS ALL TRACE OF US. DEVELOPMENT AT THE SOUTH ENTRANCE WOULD HURT OUR SPORT. PLEASE CONSIDER OTHER ALTERNATIVE

John Briggs
PO BOX 620 CHILOQUIN, ORE.

RESPONSES

Letter #44

44-1 Your comment opposing development at the South Entrance is noted. See response to comments 2-1 and 2-15.

44-2 Please see the Crater Lake Winter Use Plan for policies related to snowmobile activities in the park.

February 2, 1995

RECEIVED
FEB - 3 1995
CRATER LAKE NAT'L PARK

Superintendent
Crater Lake National Park
Crater Lake, Oregon

Dear Sir:

I am rushing to get this into the mail and postmarked today, as I have just now learned about the proposed building development within a major elk migration corridor.

Many of us, though not elk hunters at all, simply believe in respecting the territory of our dwindling wild-life. Surely, with all the thousands of acres in the Park, a site could be chosen which would accommodate both humans and animals. Please try. 45-1

Yours truly,

Audrey E. Mathews

Audrey E. Mathews
38220 Modoc Point Road
Chiloquin, OR 97624

Letter #45

45-1 Your comment concerning elk migrations is noted. See response to comments 2-1 and 2-15.

COMMENTS

January 31, 1995

RECEIVED
FEB - 2 1995
CRATER LAKE NAT'L PARK

Superintendent
Crater Lake National Park
Box 7
Crater Lake, Oregon 97604

Regarding: Draft Plan Comments - Please Protect Elk Migration Routes

Dear Sir:

I understand that new construction is planned within the south "panhandle" area of Crater Lake National Park, and that this new construction may disturb or affect traditional elk migration routes.

Please do not build on or near the elk trails!

The elk have thousands of years' experience at determining the best route between two points - ask anyone who has ever tracked them! Blocking their established way with new construction will create big problems for the herd.

46-1

If you were an elk, would you migrate through steep canyon terrain, or simply take out a few fences on flat land? You'd take the flat route, of course! The herd will most probably carve out a new path through private land, resulting in damage complaints.

I believe the elk, people and the park itself will be better off without new construction blocking the elk's traditional path.

Thank you for considering my opinion. Please let me know what decision you eventually make. I plan to follow this issue closely.

Sincerely,

Stanton K. Sittser
4361 SE 22nd Drive
Gresham, Oregon 97080
(503) 243-6886

RESPONSES

Letter #46

46-1 Your comment concerning elk migrations is noted. See response to comments 2-1 and 2-15.

1165 N.W. Cooke Street
Grants Pass, OR 97526
January 24, 1995

Superintendent,
Crater Lake National Park
P.O. Box 7
Crater Laker, OR 97604

Dear Superintendent,

The proposed changes to Crater Lake National Park are absolutely asinine. Whoever came up with the idea of building a $26 million three-level parking structure is not concerning the remoteness, the serenity, and the rustic ambiance of Crater Lake. Furthermore, spending almost $25 million more on a visitors' center and a dormitory is a total waste of my tax dollars.

I've been coming to Crater Lake for over 40 years. The beauty of the drive from any direction adds to the pleasure of the outing. To come from a drive through a forest into something that will resemble a small city is hardly compatible.

The rustic lodges in and around the Olympic National Park enhance the experience of visiting that area. Olympic National Park is MUCH closer to three-level parking structures (in Seattle) than any town even close to Crater Lake. Fort Klamath, for example, is hardly a metropolitan area. If Chiloquin ever has a parking structure, it will probably be at a gaming center. If this is an example of the National Park Administration committee at work, it's time to get out the tar and feathers. 47-1

Where is the logic behind this STUPID, STUPID, STUPID idea? I love Crater Lake the way it has been for years. If needed, limit the number of people who enter the park. Use buses to transport people to the lake if parking is a problem. I am greatly opposed to any further changes to Crater Lake National Park.

Sincerely,

Doris J. Melbor

Letter #47

47-1 Your comment concerning the parking facility is noted. See response to comment 6-5. The parking area and associated roads were designed through an involved planning effort that included special consideration for protection of natural resources, including maintenance of the visual character of the area. The purpose behind the development of a new parking area is to reduce the "unnatural" setting at Rim Village currently created by the parking lot and vehicle traffic. It is intended to benefit both the visitor and the resource by pulling visitor vehicles back from the rim. Following several Park Service meetings, the underground concept was determined to be the best design to provide sufficient parking while minimizing visual intrusion. The concept of moving parking off the rim while keeping parking within walking distance meets the need of reducing congestion at Rim Village while minimizing inconveniences for visitors.

January 31, 1995

Edward A Schock
1827 Riverside Drive
Klamath Falls, OR 97601

RECEIVED
FEB - 2 1995
CRATER LAKE NAT'L PARK

Superintendent
Crater Lake National Park
Box 7
Crater Lake, OR 97604

Dear Sir.

In the Sunday Jan. 29, 1995. Herald & News Outdoor section there was an article about the Park Service's plan to build new park employee housing and concessionaire storage facilities in the "Panhandle" area of Crater Lake National Park.

The article agreed that the additional facilities are needed but took exception to building in the Panhandle for three reasons.

1. Disruption of elk herds migration route. 48-1
2. Loss of water from Annie Creek. 48-2
3. A portion of the development is outside the park boundaries. 48-3

Letter #48

48-1 Your comment concerning potential impacts on the elk herd is noted. See response to comments 2-1 and 2-15.

48-2 Your comment concerning water impacts to Annie Creek is noted. See response to comments 8-6 and 16-3.

48-3 Your comment concerning future development at the South Entrance on Forest Service land is noted. See response to comments 2-1 and 2-15.

I would like to add my voice to the authors and express concern over the port building facilities in the Panhandle area. 48-3

thank you for your time.

Sincerely yours

Edward A Schlatt

COMMENTS

WILFORD A. DUNSTER
346 RIVERSIDE DR.
KLAMATH FALLS, OR 97601-4253

DEAR SIR

I JUST READ THIS ARTICLE IN SUNDAYS PAPER WRITTEN BY JACK ELBERT. I AGREE WITH THE STANCE HE HAS TAKEN ON THIS SUBJECT & SO I DECIDED TO SEND A NOTE TO YOU. I'M SURE YOU ARE A VERY QUALIFIED PERSON FOR YOUR JOB AT CRATER LAKE AND SO HOPE YOU TAKE THIS IN THE RIGHT WAY.

FIRST OF ALL; THIS IS THE FIRST I'VE HEARD OF THIS PLAN & WONDER IF I OVERLOOKED SOMETHING VIA THE MEDIA; OR WAS THE PLAN NOT MADE PUBLIC. 49-1

SECOND: IF JACK'S ARTICLE IS FACTUALLY CORRECT, THEN I HAVE TO ASK WHY DOES THIS FACILITY HAVE TO BE LOCATED EXACTLY IN THIS SPOT? ALSO: IF HIS ARTICLE IS CORRECT, THEN I WOULD HAVE TO SAY THAT SOMETHING LIKE THIS IS EXACTLY THE REASON THAT THE GENERAL PUBLIC IS BECOMING MORE & MORE ANTI-GOVT. "MYSELF INCLUDED". 49-2

ALSO: JACK MENTIONS THE WOLF PROJECT IN THE YELLOWSTONE NATIONAL PARK. ALTHOUGH THIS IS NOT IN YOUR AREA, I WOULD LIKE TO KNOW JUST EXACTLY WHAT IS THE WOLF RE-INTRODUCTION GOING TO ACHIEVE? "WHAT POSITIVE PURPOSE WILL THIS ACHIEVE"? SEEMS AS THOUGH IF THEY CAN GET ALONG WITHOUT ELEPHANTS & ALLIGATORS, THEY SHOULD BE ABLE TO GET ALONG WITHOUT WOLVES. 'RIGHT'? PLEASE ANSWER A.S.A.P.

Wilford Dunster

RESPONSES

Letter #49

49-1 Your comment concerning the review period for the DEIS is noted. See response to comments 4-1 and 4-3.

49-2 Your comment is noted. See response to comments 2-1 and 2-15.

49-3 The wolf project in Yellowstone National Park is not connected to this project.

COMMENTS

Allan L. Craigmiles
Jane A. Craigmiles
9324 St. Andrews Cr.
Klamath Falls, OR 97603
(503) 882-8166

January 30, 1995

Superintendent
Crater Lake National Park
Box 7
Crater Lake, OR 97604

Dear Sir:

As a person who has elk-hunted, with bow and rifle, for many years near the South Entrance to Crater Lake National Park (Annie Creek, Wildcat Creek, etc), I object to the proposal for building permanent park employee facilities in this elk migration area.

I understand the need for added facilities. I do not understand, and strenuously disagree with, their location in this area, in particular without any public input or hearings.

Your "customer" is the public! Part of that public is the wildlife enthusiast, whether a hunter or merely one who enjoys the majesty of elk.

I hope you are not so short-sighted that you take the easy route in locating your facilities rather than what is good for the long term benefit of our elk herd. Please reconsider!

50-1

Sincerely,

Allan L. Craigmiles

RESPONSES

Letter #50

50-1 Your comment concerning development at the South Entrance is noted. See response to comments 2-1 and 2-15.

COMMENTS

Ben Ladd - Superintendant
Crater Lake National Park
P.O. Box 7, Crater Lake OR 97604

c.c.- Bob Castanada- Winema Forest Supervisor; Sen. Mark Hatfield;
Sen. Bob Packwood; Congressman Wes Cooley

Dear Ben Ladd,

I am writing in regard to the Crater Lake Development Concept Plan/ Environmental Impact Statement Draft.

As I manage a "conservation" ranch in Fort Klamath, I feel I must address what I consider a excessive increase and disturbance of natural resources under these plans. Conservation means "the preservation and conservative management of our natural resources", and I believe this was the original concept behind the development of the National Park system.

Unfortunately in Amendments 1 & 2, it would seem conservation does not play a key role. Example....

Amendment 1 -
95% total increase of water use/ 21% increase from Annie Spring/ 3.6% reduction of flows in Annie Creek/ 5.6% reduction of flows in Aug. & Sept/ would cause habitat reduction for aquatic life-

Amendment 2 -
65% total increase of water use/ 27% increase from Annie Spring/ 3.8% reduction of flows in Annie Creek/ 5.8% reduction of flows in Aug. & Sept/ would cause habitat reduction for aquatic life-

As critical as water is the 4,000 square mile Klamath Lake Ecosystem, these increases seem excessively high. And for the EIS to summarize and state there would be "no water quality impacts" is absurd. Reducing flows thereby reducing habitat for aquatic species also reduces the entire food chain for wildlife. Yes, water quality will be affected!

51-1

Amendments 1 & 2 are almost identical in regards to wildlife:
41 acres of habitat will be lost in Amendment 1
34 acres of habitat will be lost in Amendment 2

In the existing situation there are many areas where there is already disturbed land and to rebuild in these areas there would a minimal loss of new habitat areas.

Losses of elk calving and migration areas
Increase of negative interactions between people, bears & cougars
Loss of habitat for the northern goshawk, mountain quail, wide-ranging carnivores, american marten, state listed sensitive woodpeckers, cavity nesting birds, spotted owl, bald eagle & others.

The park system states "Wildlife is one of the key natural resources protected".(!?)

51-2

In the EIS summary, Amendments 1 & 2 state, The cumulative impacts would be a "cumulative effect of reduced wildlife habitat"; "Special sensitive species would be adversely affected which are already in decline due to land use changes"; "the development planned would contribute to the overall decline of wildlife habitat".

I do not deny that changes may need to occur to accommodate staff and visitors, but not at a major cost of the natural resources. I believe we should reorganize and create better solutions and better management for redevelopment.

If our purpose is to enhance visitor experience, decreasing the wildlife habitat, decreasing large ponderosa pine growth along the panhandle, decreasing stream flow (ie waterfalls, etc.), I believe we will not increase visitor experience but diminish the impact and structure of the National Park system.

I do hope this letter will be of use in the decision which is imminent. Thank you for the opportunity to voice my concerns.

Bill Sams
Rivers Of Light Ranch
P.O. Box 511
Fort Klamath, OR 97626

RESPONSES

Letter #51

51-1 Water use is not typically classified as a water quality issue. The EIS addresses water use impacts under "Groundwater/Water Supply". The Park Service is aware of the issues surrounding water use from Annie Creek. See response to comment 8-6.

51-2 Your comments concerning loss of wildlife habitat at the South Entrance are noted. See response to comments 2-1 and 2-15.

COMMENTS

Ronald T Williams D.V.M.
2375 Lakeshore Drive
Klamath falls, Or 97601

1/30/95
Superintendent
Crater Lake, Oregon, 97604

Dear Sir:

I have no argument with your need to upgrade housing for Park personnel and their families however your intent to implement the plan by locating it in the "Panhandle". First of all this unnecessary expansion of Park onto Forest Service property amounts to further takeover of land for the Park or take away from Hunters and observers of game, further it will push the Elk herd onto private property and make their migration more difficult and with more depredation of private forage by the herd. How about the water at Jenny Springs that you will be taking away from the endangered species-aquatic and human-down stream. Your insensitivity to these impacts is one more example of the many heavy handed and arrogant government officials who would better serve if they understood their true role i.e. civil servants. 52-1 52-2

Sincerely,
Ronald T. Williams
Ronald T. Williams D.V.M.

cc Wes Cooly, Bob Packwood, Mark Hatfield, Bruce Babbitt

RESPONSES

Letter #52

52-1 Your comment opposing further development at the South Entrance is noted. See response to comments 2-1 and 2-15.

52-2 Your comments concerning potential water impacts due to the project are noted. See response to comments 8-6 and 16-3.

COMMENTS

Keith A. Bomhard
P.O. Box 573
Ft. Klamath, OR. 97626

January 24, 1995

Superintendent,
Crater Lake National Park
P.O. Box 7
Crater Lake, OR. 9760 4

Dear Crater Lake National Park Superintendent:

After reading and taking note of the recent draft of the Development Concept Plan / Environmental Impact Statement for Crater Lake National Park I have the following comments and suggestions.

Foremost, I'm very disappointed by the NPS's lack of commitment to protection of the environment and secondly to the outrageous costs associated with these alternatives, especially so when millions of these taxpayers dollars will be spent for the major benefit of the concessionaire. 53-1

Within the DCP it states that " wildlife is one of the key natural resources protected by the national park system" yet throughout all the alternatives and especially in Alternative 1 there would be a reduction in wildlife habitat available. Water consumption would rise with a probable negative effect on wildlife and fishery populations not only in the immediate area but in areas downstream that are included in a proposed designation of critical habitat for endangered Lost River and shortnose suckers. 53-2 53-3

Your responsibilities as stewards and protectors of our natural resources and what you propose to do in the future are often direct contradictions. Many of your assumptions for the purpose and need for action are questionable, especially those that concern employee amenities and the need to expand park administrative and maintenance functions along with concessionaire functions.

Alternative 1 seems the least likely plan because of the habitat degradation, land use/zoning complications and the exorbitant costs. And I don't approve of the other two alternatives because they share some of the same problems. I would suggest a rethinking and extensive downsizing of existing and future development plans and keep any new development in already disturbed areas such as in the existing concessionaire dormitory site at Rim Village (remodel/enlarge) and Headquarters/Quarry Flat areas in Munson Valley. 53-4

All in all I believe the National Park Service has done a very poor job in compiling and presenting this DCP /Environmental Impact Statement. Crater Lake National Park and its surrounding area is one of the worlds most beautiful and unique natural attractions and should not be spoiled for future years because of our needless human expansion and misguided attempts to "protect for future generations" through more development and dominance of the resources.

Keith A. Bomhard

RESPONSES

Letter #53

53-1 Your comments concerning the costs of the proposal are noted. With respect to the provision of concessioner services, see response to comments 11-2 and 16-16.

53-2 Your comment concerning the loss of wildlife habitat is noted. See response to comments 2-1 and 2-15.

53-3 Your comments concerning potential water impacts due to the project are noted. See response to comments 8-6 and 16-3.

53-4 Your comments are noted. See response to comments 2-1 and 2-15.

Dear Superintendent, 1-24-95

This concerns the recent meetings and literature about Crater Lakes' development concept plan. I work for Crater Lake National Park as the trails work leader, but I also have lived in the Klamath County area for the last ten years. I've enjoyed this area because of the solitude and beauty it provides. I enjoy my job for the those same reasons and many other reasons. My belief is that all people should have the chance to enjoy the beauty and quality this area provides, but not at the expense of the environment and all that encompasses. It seems clear to me that all the development plans provide more opportunities for human intrusion. I believe a national park such as Crater Lake is there for its natural resources and its the job of its employees to protect the environment surrounding the main resource as well as the main resource itself. I do not think that the idea of development in wild and natural areas is protecting our environment. In this growing world, I believe the areas of wild and unpopulated will become more scarce. If we truly want to look to the future of our world, we should not be adding more buildings and/or roads to our wildernesses. We should be teaching people to enjoy nature for what it is and not creating worlds for them. Perhaps when concession and park service outgrow the buildings they are in, it should be realized that the solution shouldn't automatically be to expand, but to cut back on services, so that the facilities we now have will be adequate. It goes back to what we, the park service educate people to expect. 54-1

Many people express to me during my work on the trails how they are so glad that development has not come to Crater Lake and that they are enjoying the beauty and solitude of the area. I have never had some one approach me and say that they were disappointed because the lack of hotel facilities or restaurants at Crater Lake.

Other reasons for which I don't support any of the three alternative are as follows:

1. In a time where a smaller government is wanted by the public as a whole, we are presenting a large expansion plan I think the time has come for all of us to respect that concept.

2. It seems that we need to look further into our futures Too many times decisions have been made only to have them redone. I think the parking lot at Rim Village is a good example, as is the concession dorm. Is it wise to remove the problem to another location, only to find we have started an old problem in a new spot? 54-2

3. I believe we should be removing structures from our parks not adding them.

4. The park service needs to get its priorities straight. Are we here to benefit the concessionaire or to protect the environment? It seems like alot of the development plans are being made to help the concessionaire to expand now or in the future Set limits to their activities. 54-3

5. Development in the south entrance area would be destructive to the wildlife, plant life and human life in the Fort Klamath area. Mainly, I don't want to see new development in areas that have none now. And I believe it will only grow larger as time passes. 54-4

I urge you to rethink your positions and put the environment first in our National Parks.

Sincerely, Cheri R Killian Bombard

Letter #54

54-1 Your comments are noted. See response to comments 8-2, 8-8, 11-2, and 16-16.

54-2 Your comments concerning the parking facility and concessioner housing are noted. See response to comments 6-5, 8-8, 11-2, and 16-16.

54-3 Your comments concerning the provision of concessioner facilities are noted. See response to comments 8-8, 11-2, and 16-16.

54-4 Your comments concerning additional development are noted. See response to comments 2-1 and 2-15.

P.O. Box 538
Fort Klamath, OR 97626
January 18, 1996

Dear Sir,

Subject: DEIS Statement for Crater Lake National Park.

I am a long-time resident of Wood River Valley and am aware of the valley's fragile environment.

My questions to your proposed plan are as follows:

(1) Where do you plan to acquire water for this proposed small village? 55-1

(2) Just as important; how do you propose to handle wastewater/sewage/garbage? 55-2

(3) Your proposed re-location area is in a migratory route for deer and elk. How would the wildlife be protected and/or affected? 55-3

(4) How would this proposed village affect the local vicinity? Business? 55-4

I have several questions concerning cost, lack of communication from the Park Service with those that would be affected both directly and indirectly. 55-5

Thank you,
Edna Hunsaker

Letter #55

55-1 See response to comments 8-6 and 16-3.

55-2 See response to comments 6-17 and 16-14.

55-3 See response to comments 2-1 and 2-15.

55-4 See response to comment 19-4.

55-5 See response to comments 4-1 and 4-3.

Po box 553
Fort Klamath Or
97626

Jan 18-1995

Dear Sir!

Subject D.E.I.S. Statement for Crater Lake.

I have lived in Wood River Valley over 60 yrs.

I am very concerned about the water and land of our beautiful Valley.

1 Where do you plan to get the Water for your New development? 56-1

2. How do you plan to dispose of the Waste Water? 56-2

3. During this Past Year there was not enough Water for the Ranches + Cattle. 56-3

Thank you
Wilbur B Hescock.

Letter #56

56-1 The Park Service plans to use Annie Spring as a primary water source but is investigating the development of a new source. See response to comment 16-3.

56-2 See response to comments 6-17 and 16-14.

56-3 See response to comment 16-3.

COMMENTS

Benjamin F. Radd, Superintendent
Crater Lake National Park
P.O. Box 7
Crater Lake, OR 97604

RECEIVED
0 1995
CRATER LAKE NAT'L PARK

Dear Supt. Radd,

I wish to comment on the DCP/EIS for Crater Lake.

As you are acutely aware, Crater Lake is a treasured national resource which is facing major pressures for development. I generally favor development if it is for the purpose of protecting the resources in the park. Development which would increase and/or intensify visitor use is not desirable in my views and should be avoided. 57-1

Unfortunately, once an attraction is developed to a certain level, it seems a snowball effect occurs. Soon, the original resource is altered forever. I am extremely concerned that we are headed down a road that will turn a natural and scenic resource into a commercial amusement park.

I prefer to retain or even improve the aesthetic values at the park, and I believe that can best be accomplished by limiting camping and uses such as bus tours. I would hope that impacts on vegetation would also be minimized.

Quite frankly, I am afraid the parking 57-2

RESPONSES

Letter #57

57-1 Your comments are noted. It is Park Service policy to responsibly manage all resources for which it is responsible.

57-2 Your comment concerning the proposed parking structure is noted. See response to comment 6-5.

COMMENTS

that is proposed may be a Trojan ~~Horse~~ Horse that will generate intensified use that will be detrimental to the park. 57-2

Finally, I believe park use by ATVs and snowmobiles is simply inconsistent with the essence of what Crater Lake is. 57-3

Thank you for the chance to comment.

Sincerely,

Charles B. Van Deusen
1470 Angelcrest Dr.
Medford, OR 97504

RESPONSES

57-3 The Park Service has the responsibility of balancing the competing demands on park resources without sacrificing the quality of the resources themselves. The Park Service has developed management guidelines to separate noncompatible visitor uses. Please see the Winter Use Plan.

COMMENTS

Superintendent
Crater Lake National Park
P.O. Box 7
Crater Lake, OR 97604

RE: PROPOSED CRATER LAKE "FACE LIFT"

Dear Sir:

This letter is to inform you of our concern for the millions of taxpayer dollars proposed for a "face lift" of Crater Lake National Park. Apparently three alternative plans have been proposed for high-priced projects at Crater Lake, including a three-level parking complex ($25 million) and a dormitory for concessionaire's workers ($12 million).

At a time our country is facing a budget-deficit crisis in the "trillions" of dollars, isn't it appropriate that we start cutting back on multi-million-dollar projects such as this. People come to Crater Lake to see Crater Lake, its natural beauty and surrounding wilderness areas. Let's don't make this into some type of Disneyland with massive parking complexes and concessions. 58-1

Our family visited Crater Lake this past summer and it looked just fine to us. At the very least, you could improve the walkways somewhat. Perhaps a new visitor center would be something to consider as the existing one is small. But, for now, scratch the rest -- the 3-level parking complex, the dormitory, the new employee family housing, the new roads and camping areas, etc. etc. 58-2

Let's keep everything simple; let's keep Crater Lake as natural as possible. And, let's direct our tax money back to cutting the federal deficit, not increasing it. When, and if we do balance the federal budget, perhaps then we can look at projects such as a "face lift" for Crater Lake National Park.

Thanks for listening,

Gerald & Shula Holmes

Mr. & Mrs. Gerald Holmes
832 Sykes Creek Road
Rogue River, Oregon 97537

cc: Representative Wes Cooley
Senator Mark Hatfield
Senator Bob Packwood

RESPONSES

Letter #58

58-1 Your comment concerning the cost of the alternatives is noted. See response to comments 16-4 and 16-16.

58-2 Your comments are noted. See response to comments 6-5, 8-8, 11-2, 16-4, and 16-16.

Jan 3, 1995

DEAR SIR.

I WOULD LIKE TO PROTEST YOUR PLANS TO BUILD NEW PARK EMPLOYEE HOUSING AT THE SOUTH ENTRANCE TO CRATER LAKE NATIONAL PARK. THE CHOOSING OF ANY SITE THAT WILL DISRUPT THE MIGRATION OF WILDLIFE SHOULD BE AVOIDED. PLEASE SELECT A SITE WITHIN THE PARK BOUNDARIES THAT DOESN'T REQUIRE ACQUISITION OF MORE FOREST LANDS. 59-1

THANK YOU,

ROBERT L. HALCOMB
P.O. BOX 362
SPRAGUE RIVER, OR.
97639

RECEIVED
FEB - 1 1995
CRATER LAKE NAT'L PARK

Letter #59

59-1 Your comment opposing development at the South Entrance is noted. See response to comments 2-1 and 2-15.

COMMENTS

1/30/95

Superintendent Ben Ladd
Crater Lake National Park
Box 7
Crater Lake, Oregon 97604

RECEIVED
FEB - 1 1995
CRATER LAKE NAT'L PARK

Dear Sir:

After much thought and discussion I have decided a (complementary) letter is in line.

I am questioning the fact that housing is needed at the Park for employees of the Government, or the concessionaire.

Private business does not necessarily furnish housing for its personnel.

Headquarters, shops and equipment are a necessity for the Government, plus Ranger and first aid stations. The lodge and gift shop for concessionaires. 60-1

Employees may live outside as many do now. Why should taxpayers subsidize Park housing?

Don Roeder
5827 Valley Court
Klamath Falls, Oregon
97603

RESPONSES

Letter #60

60-1 Your comments concerning the concessioner facilities are noted. See response to comments 8-8, 11-2, and 16-16.

Lois Himelwright
1917 Crest St
Klamath Falls, Oreg 97603

Jan 30 , 1995

Dear Sirs:

I have read your consept development planand strongly oppose alternatives #1 and #2 and do favor alternative #3. 61-1

I think the park staff have purpoaesel tried to keep this plan covered up with only afew being informed of your meeting and intentions. 61-2

Don't try to pull the wool over the tax payers eyes if you want support in the future.

Sincerely

Lois Himelwright

Lois Himelwright

Letter #61

61-1 Your comment supporting Alternative 3, the No Action Alternative, is noted.

61-2 The public was informed of Park Service intentions as required by NEPA. See response to comments 4-1 and 4-3.

COMMENTS

RECEIVED
FEB - 7 1995
CRATER LAKE NAT'L PARK

Kerry Himelwright
3950 Barry
Klamath Falls, Oreg 97603

Jan 30,1995

Superendent
Crater Lake National Park
P.O. Box 7
Crater Lake Oreg 97604

Gentlemen:

I am responding to your concept development plan by favoring alternative #3.. I believe that to much damage 62-1

will be done to habitat, game species of fish and wildlife not to mention water levels in Anna Creek and water levels in the Wood River systems We do not need a community of 200 or 300 people in the middle of the Bull Mountain Elk migrations. With t be trying times nationally I cannot believe the park 62-2

people could even think about spending $77,000,000 on crater Lake park. The park caters to basically one Recreation 62-3

Segment in their winter use plan and I believe there should be given a lot of thought to closing the rim during winter months. 62-4

Respectively yours

Kerry Himelwright

RESPONSES

Letter #62

62-1 Your comment supporting Alternative 3, the No Action Alternative, is noted.

62-2 Your comments concerning wildlife habitat and water resources are noted. See response to comments 2-1, 2-15, 8-6, and 16-3.

62-3 Your comment concerning the cost of the proposal is noted. See response to comments 16-4 and 16-16.

62-4 Your comment supporting closure of the rim during winter months is noted.

COMMENTS

Superintendent Crater Lake National Park.

I believe that the attraction of Crater Lake National Park should be the flora and fauna of the park area. Moving the employees housing and concessionaires storage facilites to the south entrance is a step in the right direction. 63-1

As a resident of Klamath County I visit the park in summer to bike and bicycle and in winter to cross country ski each year in the summer the roar and polution of gas guzzling motor homes crowd the roadways and parking lots. Only a small percentage seem to take time to stop and look at the lake. They speed in and out of the overlooks where they don't have to get out to see the lake. They main attraction seems to be the gift shop where long lines of rude and impatient tourist hurry to get their souvenir.

My point is this:

Remove every thing from the rim and surrounding area so the attraction will be Crater Lake. If concessions, lodging and meals are needed put that circus as far as possible away from the park 63-2

RECEIVED FEB - 1 1995 CRATER LAKE NAT'L PARK

Donald L. Tisdel

Donald L. Tisdel
7730 Spring Lake
Klamath Falls Or 97603

RESPONSES

Letter #63

63-1 Your comment supporting development at the South Entrance is noted. See response to comments 2-1 and 2-15.

63-2 Your comments concerning removal of structures from the rim are noted. Removal of these structures is a primary objective of the Park Service for this action.

COMMENTS

January 31, 1995

To: Superintendent
Crater Lake National Park
Box 7
Crater Lake, OR 97604

Subj: Save the ELK GAME TRAIL

I am writing to you to voice my concern about the location to build new park employee and concessionaire storage facilities.

I understand you plan to build right in the middle of a MAJOR Elk Migration Corridor!

As an avid lover of nature and its critters, I beseech you to PLEASE reconsider this building site. Game trails are part of nature's history. These trails are used for hundreds of years - generation after generation by these migrating animals. 64-1

Please use your position as Superintendent of this beautiful area to change the building site to another location within the park. Surely, upon your thousands of acres you can find another suitable site and let the Elk have their trail.

Save the Elk Game Trail for our future generations. This is what a National Park should be all about.

Yours truly,

Edna M Guiducci

Edna M. Guiducci
26636 Rocky Point Rd.
Klamath Falls, OR 97601
Ph: (503)356-2117

RESPONSES

Letter #64

64-1 Your comments concerning the elk are noted. See response to comments 2-1 and 2-15.

COMMENTS

29 January 1995

Superintendent
Crater Lake National Park
Box 7
Crater Lake, OR 97604

Dear Superintendent;

I am writing to voice my concern about the proposed site of a new park employee housing and concessionairs's storage facility as stated in the draft development plan. Surely there is sufficient acreage in the existing park to build the proposed structures. Why does this have to take over Winema National Forest Land? This will have the effect of annexing more of our forest land and restricting what forms of recreation we can do there such as hunting and snow-mobiling.

I find the Park Service statement that "development would likely reduce the overall productivity of elk in the area" to be totally lacking in concern about the welfare of our local elk herd. Their habitat has been improved and the herds have increased and to build these structures in the established migration route which is topographically the easiest route for the elk herds shows a sad lack of concern for the animals. Making them change their route and have to go over land that is fenced and cross-fenced with barbed wire is putting more stress on the herds when it would be much easier to change the proposed location of park structures, which is not established. We have road closures in the Sun Creek area to protect the herds from harrassment, putting park structures in the middle of their migration path certainly would show an intentional, pre-meditated harrassment. I think it is very callous to plan these structures in the proposed site with all the thousands of acres of land in the Park already available. Surely some other site is feasible. 65-1

Sincerely,

Adrienne Mason

Adrienne Mason

Mr & Mrs Jim Mason
8921 McLaughlin Ln
Klamath Falls, OR 97601

RESPONSES

Letter #65

65-1 Your comments concerning development at the South Entrance adjacent to the Winema National Forest are noted. According to Park Service estimates, approximately 10 to 15 acres of Forest Service land would be required to accommodate full development at the South Entrance. See response to comments 2-1 and 2-15.

COMMENTS

Darrell Hankins
W.H.A.T. President
1611 Kane St.
Klamath Falls, Or. 97603
Jan. 27, 1995

Sir:

I would like to make a comment on the plans to build a new park enployee housing and concessionaire's storage facilities.
We are not in favor of the location that you have chosen to build as it will have adverse effects on our local elk heards during their migration. We have spent countless dollars as well as man hours to build the elk herds up in this area. 66-1

The goverment has control over the park now which has its endless restrictions on the ways a person can use the park that for the most part is out of the local control. That if you must build keep it in the park and leave what little land that we still have to hunt on alone.

I understand that water must be taken from Annie Springs that would also cause a water loss to the area farmers as well as the "endangered suckers". That you have not addressed this issue at all and if it is to affect water supply in this area any than this question must be answered.
That for these reasons of adverse effects on the local alk herds and unanswered water loss you should find another place to build. 66-2

Yours truly,
Darrell Hankins
W.H.A.T. President 1995

RESPONSES

Letter #66

66-1 Your comments concerning the elk are noted. See response to comments 2-1 and 2-15.

66-2 With respect to potential impacts on water resources, see response to comments 8-6 and 16-3.

COMMENTS

Jeouary 18, 1995

Superintandant
Crater Lake National Park
P.O. Box 7
Cratar Laka, OR 97604

My wifè and I attaadad oea of tha maatinga (7:00 PM - 9:00 PM) oe Tharaday, hald in thn Post Office Building ie Medford. This maating, wa undaratood, was to invlta publlc diacuaaion ln connaction with tha Dtaft, Oavalopmant Coecapt Plan/Amendmeot to thn Ganaral Mnaagamant Plaa, Environmental Impact Statemaot concarnieg Cratar Laka National Park, Oragon.

We fundamentally oppoaa almoat all of the Plan. We are in favot of complatalv aborting aoy aod all commarcial davalopmant wlthie tha park bouadariaa. Wa faal all commarclal, oparational aupport, aed financial enterprlaa by commercial intarasta and aey commarcial racraational dawalopmanta should hn catagorically axcludad from oparatioea within tha park houndarlaa. Ic la our parapactiva that praaarvation and duvelopmant of thia natural traaaura caanot occur at cha aama tima.

Wa would lika to he heard aa a voica which rajacta the Draft, Plan and Amandmant. Purthar, wa hallava that tha Coecaaaionairaa should find an araa ontalda tha Aouch Gata (in ae expandad forn, if necaaaary), and that dawalopmanta thua far accomplishad should be utilizad, convartad or otharwiaa modified co accommodate tha offiklal oparatioual and administrativa work fuectiona of tha Wational Park Survice. Tha nawly complatad hotal could ba convattad to houaa full-tlma, part-tima and wolmataar employaaa in maintaaaeca of tha Park. Other facilitiea that alraady axlat could ba rataiaad and upgtadad to the axtant of oparatioeal eaada of tha Park Setvice.

Wa would lika to aea a Park owned aod oparatad Vlaitora' Cantar at tha South Gata of tha Park, aed a Park-ouead and oparatad shuttle to the laka rim, aa well aa a dafinad hikieg trall from tha South Gata to tha laka rim araa.

As a mattur of memory, we have watched Yosnmita in California grow from a placa of astoueding haauty to an uxpaaaiva garhaga can under tha guian of dawalopmaet. We foend in Hot Springs, AR tha condition of having to pay Coecaaalonalraa to uaa tha Viaw Tovar for what taxaa aholld alraady hawa covarad. It was a loog waya auey from what tha earliar Presidenta bad viawed monumenta and naceral wondara that cuuld ha availabla to all of ua. Wa faal cartaln that davalopmeot of what ia oow unimprovable, pristina eod totally natural wlll simply bacoma aeothar axpaaaiva garhaga can if davalopmant in furtharad. Wa baliava aoy commarcial oparationa wlll gearantaa that, just aa it has in any other araa of natural haauty and wooder.

67-1

Betsy Harris
Done c Batay Harria

cc: GP Nordic Club
Sierra Club

RESPONSES

Letter #67

67-1 Your comments are noted. See response to comments 2-1, 2-15, 8-8, 11-2, and 16-16.

COMMENTS

January 21, 1985

Benjamin J. Judd
Crater Lake National Park
P.O. Box 7
Crater Lake, Ore 97604

Dear Mr. Judd:

I would like to comment on the Development Concept Plan. Expanding facilities at Crater Lake will encourage more visitation, more traffic, more pollution. We don't need to encourage more visitation adding a wider degree who have ever visited Yellowstone know that more is not better. A better solution would be to have parking facilities at all entrances and use shuttle buses to tour the park. In winter, instead of plowing roads in the park, snowcats pulling coaches could be used, with groomed trails. Bicycles & ski rentals could be located at strategic places. Park entrance fee should be charged all year, including a higher fee for winter users to pay for plowing roads and grooming, as well as coach fees. Taxpayers should not be expected to subsidize recreationists.

68-1

68-2

Sincerely,
Robert Rhodes
155 Hyland Dr
Medford Or 97504

RESPONSES

Letter #68

68-1 See response to comment 8-8.

68-2 Your comments are noted.

501 Avenue de Teresa
Grants Pass, OR 97526
January 22, 1995

Superintendent
Crater Lake National Park
PO Box 7
Crater Lake, OR 97604

Dear Superintendent,

As a frequent visitor to Crater Lake, I am appalled at the level of development the Park Service has planned for Oregon's only National Park. I was under the impression that the National Park Service had learned it's lessons about over-development of our national treasures with parks like Yosemite and Grand Canyon. It has received a lot of press in the last few years, but apparently you at Crater Lake just haven't gotten the message. I am shocked by the lack of environmental foresight that is being shown by an agency that is supposed to be a leader in ecosystem management.

The three alternatives presented in your Draft Environmental Impact Statement leave much to be desired. The development should be located outside of Crater Lake National Park. The alternative of developing the South Entrance is not "Outside" the park; even if it is right on the park's boundary, it is too much of an impact on plants, birds, elk, and other wildlife. Please consider locating all possible development in the Fort Klamath or Prospect areas. Yes, it would be a longer commute for employees, but that should be a small price to preserve the integrity of Crater Lake National Park. 69-1

Also, I would like to go on record as being very opposed to the Park Service (read - tax payer) financing all of these dormitories for a private business. If I am not mistaken, the Federal Government is supposed to be looking for ways to reduce the deficit. Here is where we can start. Considering the small monetary return the Park Service receives from concessionaires working in parks, I feel these buildings should be located outside the park and funded by the benefiting party, the concessionaire. Why should I help pay for these people's wonderful profits? 69-2

Thank you for the opportunity to present my comments.

Sincerely,

Margaret J. Thomas

Margaret J. Thomas

Letter #69

69-1 Your comment concerning future development at the South Entrance is noted. See response to comments 2-1 and 2-15.

69-2 Your comment concerning the concessioner facilities is noted. See response to comment 16-16.

COMMENTS

P.O.Box 528
Ft. Klamath, OR 97626
Jan. 20, 1995

Superintendent
Crater Lake National Park
P.O.Box 7
Crater Lake, OR 97604

Sir: subject: contemplated changes at Crater Lake Park

There should be no more "improvements" at the Park. If any changes are to be made a reduction in services and personel are in order. This Park, a proclaimed national treasure, to be kept in its pristine beauty should indicate to the Park Service that camps not permanent abodes, businesses, etc.are in order. 70-1

It is my personal feeling And that of many more who have known this Parkfor manymany years that the Park be closed except for a small maintainance crew from around the first of December until the April/ May time slot depending on the weather. 70-2

Some reasons opposing further development follow:
1- WATER; the amount under current and future use. Where will this come from? Anna creek currently used to its maximum by adjudicated water rights holders dating from 1883 into the 1920's. To date I have been unable to find any water rights for the Park;only permits with a priority date of 1941. How can the Park take the water now being used and try for more under junior permits? This problem can put ranches and businesses (local) out of business as well as having a negative effecton others through-out the entire Klamath Basin. This water does not stop here.; rather most of it will find its way south and be used in many ways by many people until it finds the Ocean. 70-3

2- Waste water; this valley (Wood River) is noted for its high water table and this makes septic tanks either very poor or,as in most places not available under todays regulations. The alternative being above ground sewage systems which are very expensive. 70-4

3- Visitors/ Usage: apparently the Park is suffering a two fold problem, ie; declining numbers of visitors and thereby decreasing revenues. This cannot be cured with an increase in fees / services.(God knows the concessionaires are becoming increasingly wealthy at our (tax-payers) expense.An increase in fees would appear to keep out the younger families/with children. These are the people who should be the ones to visit while still at an impressionable age. 70-5

Sincerely,

R.Lee Hunsaker

RESPONSES

Letter #70

70-1 Your comments opposing further development in the park are noted.

70-2 Your comment concerning closure of the park in winter is noted.

70-3 The Park Service is aware of the water rights issues surrounding Annie Creek. See response to comment 16-3.

70-4 Your comments concerning wastewater treatment are noted. See response to comments 6-17 and 16-14.

70-5 Your comments concerning concessioner facilities in the park are noted. See response to comment 16-16.

January 11, 1995

RECEIVED
JAN 13 1995
CRATER LAKE NAT'L PARK

Superintendent
Crater Lake National Park
P.O. Box 7
Crater Lake, OR 97604

Dear Superintendent:

The purpose of this letter is to voice displeasure with plans to change Crater Lake National Park.

There are numerous reasons to do nothing more. The amount already expended just to redo the Lodge will never be recouped. Why make it more of a losing proposition? We can't continue to spend tax dollars on such projects when the nation is currently deficit spending in numbers too large for most of us to even fathom. I don't know what the projected costs are for the proposed plans but we have to look at these projects from more of a business perspective. If it's going to lose money, don't go forward. 71-1

Also, why ruin the natural beauty of the lake by opening it up to more commercialism. Let's not "Yellowstone" the Crater Lake area by having more snowmobiles to pollute the atmosphere with noise and fumes. Part of a national park's attraction is the natural beauty and tranquility it exudes. Let's not spoil it!!! 71-2

Sincerely,

Doris Carroll

Doris Carroll
681 Lenella Lane
Grants Pass, OR 97526

Letter #71

71-1 Your comment supporting Alternative 3, the No Action Alternative, is noted. As noted in response to comment 26-1, the buildings that were renovated at Munson Valley would continue to be used by park staff if the headquarters functions were moved. Your comment concerning the cost of the alternatives is noted. See response to comments 16-4 and 16-16.

71-2 Your comments concerning further development in the park are noted. See response to comment 16-16.

COMMENTS

JAMES S. ROUSE
108 N. 38TH PLACE
MOUNT VERNON, WA 98273

December 5, 1994

Superintendent, David K. Morris
Crater Lake National Park
P.O. Box 7
Crater Lake, OR 97604

Dear Dave:

Thank you for giving me the opportunity to review and provide comments on your Draft Development Concept Plan for Crater Lake National Park.

It is with great satisfaction and pleasure that I heartily endorse Alternative 1 - South Entrance Focus."

Alternative 1 achieves the development objectives that many of us have championed for nearly 20 years. The elimination of the massive vehicle parking area in the Rim Village area will be a major environmental and aesthetically advancement. (My only regret with the Rim development is the restoration work and the continuance of the old lodge. However, the decision has been made -- so now we must plan and operate with it in a way that causes the least environmental impacts, especially to Crater Lake.) I'm wondering about its structural design to adequately sustain the likely seismic activity in this region of the Cascade Range. 72-1

It is equally satisfying to support the South Entrance Focus planning elements. This is a good move that unfortunately should have been undertaken back in the Mission 66 program era, during the 1960's. The only elements that give me concern at the South Entrance is the question of having an adequate water supply to meet the demands of the demands associated with this proposal? I trust that this matter has been adequately addressed. The enormous benefits of having most the residences, headquarters, and the concessionaire housing located at this lower elevation far outweigh the short-term environmental costs in this vicinity. 72-2

Thanks again, and I wish you continued success in this important planning process for Crater Lake National Park. Please do keep me informed of your progress.

Sincerely, and best wishes for the holidays.

James S. Rouse

James S. Rouse

RESPONSES

Letter #72

72-1 Your comment supporting Alternative 1 is noted.

72-2 Your comment supporting development at the South Entrance is noted. See response to comments 2-1 and 2-15. With respect to water resources, see response to comments 8-6 and 16-3.

COMMENTS

I'm in favor of alternative III Please do not remove Mazama Village. 73-1

Glen F. Leach
Ruby L. Leach

RESPONSES

Letter #73

73-1 Your comment in support of Alternative 3, the No Action Alternative, is noted. The facilities and functions at Mazama Village would not be moved under any of the alternatives. The intention of Alternative 1, South Entrance Focus, is to minimize future development at Mazama to that which is needed to meet program demands.

COMMENTS

Dec. 23. 1994

We are in favor of alternative III
Please do not move Nazama Village.
Do not jeopardize the Annie Creek
Snapper[illegible]

74-1

Mr & Mrs. Bob Walker
25398 Hwy 70
Bimanzo Ore 97623

DEC 28 1994

[illegible]ER LAKE NAT'L PA[illegible]

RESPONSES

Letter #74

74-1 See response to comment 73-1.

I am in favor of Alternative III Please do not move Mazama Village

Gary Walters
12-26-94
38 Laguna
Klamath Falls OR
97601

75-1

Letter #75

75-1 See response to comment 73-1.

COMMENTS

We are in favor of alternative III.

Please do not move Mazama village 76-1

RECEIVED
DEC 28 1994
CRATER LAKE NAT'L PARK

Edie Hanna Mason
2892 Shenequinjo Dr.
Klamath Falls Ore 97601

RESPONSES

Letter #76

76-1 See response to comment 73-1.

COMMENTS

Do Not move Mazama Village
we are in favor Of Alternative III
12/23/94

77-1

Glenn + Karen Carey
4236 Fargo St
DEC 28 1994 Falls, OR. 97603

RESPONSES

Letter #77

77-1 See response to comment 73-1.

COMMENTS

I AM IN FAVOR OF ALTERNATIVE III.
PLEASE DO NOT MOVE MAZAMA VILLAGE.
I AM NOT CONSERNED MUCH ABOUT
SNOW MOBILING IN THE PARK BUT I
DON'T WANT ANYTHING INTERFERING WITH
ANNE CREEK SNO PARK OR ANY EXISTING
TRAILS. 78-1

DEC 28 1994

Ken Kraft

KEN & SHARON KRAFT
1816 WIARD
KLAMATH FALLS, OR 97603

RESPONSES

Letter #78

78-1 See response to comment 73-1.

PHONE 884-2548 JEFF COOK
8940 SANDHILL DR
KLAMATH FALLS OR.
97601

Dear Sir

You say "no change" regarding opening the further east side entrance to snowmobilers yet your "on the move" to locate headquarters across the highway from Annie Creek Park. I would like to see the east side entrance openned and headquarters left where they are. Thanks

Jeff Cook

79-1

Letter #79

79-1 See response to comment 73-1.

COMMENTS

I AM IN FAVOR OF ALTERNATIVE III PLEASE DO NOT MOVE MAZAMA VILLAGE! 80-1

RECEIVED
DEC 28 1994
SUPER LAND MGT

ERNEST NICHOLS
10887 E. LANGELL VALLEY RD
BONANZA, OR 97623

RESPONSES

Letter #80

80-1 See response to comment 73-1.

COMMENTS

Dec. 29, 1994

I am in favor of alternative III
Please Do not move Mazama
Village. 81-1

Art & Mary Davina
3593 Old Midland Rd.
Klamath Falls, Ore. 97603

RESPONSES

Letter #81

81-1 See response to comment 73-1.

COMMENTS

December 29, 1994

Dear Sir.

We are in favor of alternative III. Please do not move Mazama Village. 82-1

Sincerely,
William K. and
Mildred K. Glodowski
3321 Patterson Street
Klamath Falls, OR
97603

RESPONSES

Letter #82

82-1 See response to comment 73-1.

Dec 29-94

I am in favor of Alternative III
Please do not move Mazama
Village. 83-1

Margaret Richardson
3640 Altamont Dr.
Klamath Falls, Ore
97603

Letter #83

83-1 See response to comment 73-1.

COMMENTS

RECEIVED
DEC 27 1994
CRATER LAKE NAT'L PARK

Dear Sir:

I support ~~[illegible]~~ III. At this time it is too expensive for the revenue produced 84-1

Paul Schulze
K.F. Or

RESPONSES

Letter #84

84-1 See response to comment 73-1.

I support alternative 3.
Please do not move Mazama

85-1

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DEC 27 1994
CRATER LAKE NAT'L PARK

Jerry Johnson
6461 Bryant
Klamath Falls Ore.
97603

Letter #85

85-1 See response to comment 73-1.

COMMENTS

Please do not move Mazama village.
I support alternative #2 86-1

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DEC 27 1994
CRATER LAKE NAT'L PARK

Don Damr
5822 Harlan Dr.
Klamath Falls, Or.
97603

RESPONSES

Letter #86

86-1 See response to comment 73-1.

Dear Sirs:

I am in favor of Alternative III & do not want the Mazama Village moved - Thank you -

Mrs Woodard

87-1

Letter #87

87-1 See response to comment 73-1.

COMMENTS

Dec. 23-1994

I am in favor of Alternative III, Please do not move Mazama Village. 88-1

Sincerely - Clara Hamond
730 Homedale Rd
Klamath Falls, Ore
97603-8453

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DEC 27 1994
CRATER LAKE NAT'L PARK

RESPONSES

Letter #88

88-1 See response to comment 73-1.

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DEC 21 1994
CRATER LAKE NAT'L PARK

Our family is in favor of
Alternative III
not move Mazama Village! -

Mr. & Mrs. Duane Blackman
7104 Turner Ct.
Klamath Falls, Or. 97603

89-1

Letter #89

89-1 See response to comment 73-1.

COMMENTS

Please Please do not move Mazama Village! I support alternative #3 90-1

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CRATER LAKE NAT'L PARK

Joan L. Damico
5822 Harlan Dr.
Klamath Falls Or. 97603

12-17-94

RESPONSES

Letter #90

90-1 See response to comment 73-1.

COMMENTS

I support alternative 3.
Please do not move
Mazama Village.

91-1

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CRATER LAKE NAT'L PARK

B. J. Carestia
8413 Rocking Horse
K Falls OR.

RESPONSES

Letter #91

91-1 See response to comment 73-1.

COMMENTS

We support Alternative 3
Do not Move Mazama
Village

92-1

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CRATER LAKE NAT'L PARK

Melaine L Smith
2255 Radcliffe Ave.
Klamath Falls
OR 97601

12-14-94

RESPONSES

Letter #92

92-1 See response to comment 73-1.

We support alternative 3.
do Not Move
Mazama Village

93-1

RECEIVED
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CRATER LAKE NAT'L PARK

Ray Medell
5210 Mazy Lane
Klamath Falls Or
97601

Letter #93

93-1 See response to comment 73-1.

COMMENTS

I support Alternative 3
Please do not move Mazama
Village.

94-1

Irene Kelley
3005 Madison
Klamath Falls, OR
97603

RESPONSES

Letter #94

94-1 See response to comment 73-1.

RECEIVED
DEC 27 1994
CRATER LAKE NAT'L PARK

I am in favor of ~~[illegible]~~ 111, Please do not move Mazama Village 95-1

Chuck [illegible]

Letter #95

95-1 See response to comment 73-1.

COMMENTS

I support Alternative 3
Please do not make Mazama
Village.

96-1

Ray Kelley
3005 Madison
Klamath Falls, OR 97603

RESPONSES

Letter #96

96-1 See response to comment 73-1.

We support alternative 3.

Do Not Move Mazama Village 97-1

RECEIVED
DEC 27 1994
CRATER LAKE NAT'L PARK

Nelson L
4431 Clinton
Klamath Falls or
97603

Letter #97

97-1 See response to comment 73-1.

COMMENTS

I AM IN FAVOR OF ALTERNATIVE III. PLEASE DO NOT MOVE WAZAMA VILLAGE,

DEC 27 1994

CRATER LAKE NAT'L PARK

E. A. Dunlap

98-1

RESPONSES

Letter #98

98-1 See response to comment 73-1.

I am in favor of Alternative VII 99-1

RECEIVED
DEC 27 1994
CRATER LAKE NAT'L PARK

Letter #99

99-1 See response to comment 73-1.

COMMENTS

I support alternative 3. Do not move Mazama Village.

100-1

RECEIVED
DEC 27 1994
CRATER LAKE NAT'L PARK

Lois K Johnson
6461 Bryant
Klamath Falls, OR
97603

RESPONSES

Letter #100

100-1 See response to comment 73-1.

Harry Moening
140 Spring Mountain Rd
Grants Pass OR 97526

January 11,1995

Superintendant.
Crater Lake National Park
P.O. Box 7
Crater Lake, OR 97604

To Those Who Should Be Concerned:

As a very concerned citizen of this country. I wish to express my objections to the proposed improvements at Crater Lake National Park. Each day we hear on the news all of the concerns about the defecit in this country and how the national debt will be a burden on our children and future generations. Despite this, the various agencies of the government continue to do business as usual and spend funds which the country does not have!!!!!

I am asking that the Park Service set an example for all government agencies by simply telling the congress and President Clinton that the proposed plans are a luxury which the country cannot afford at this time. Why not simply solicit privatization for the facilities which the Park Service would like to see at Crater Lake ? 101-1

Please show responsibility in this matter and relate my concerns on this matter to your supervisors and to our congressional delegation. Unless we start somewhere the problem of overspending will never be solved. Thank you for your consideration.

Respectfully submitted.

Harold J.(Harry) Moening
HJM:bb

copies: Senator Packwood
Senator Hatfield
Congressman Cooley

Letter #101

101-1 Your comment concerning the cost of the proposal is noted. The Park Service has privatized some services at the park (e.g., concessioner services) and will continue to identify opportunities where privatization will benefit the overall management of the park.

COMMENT FORM

DRAFT ENVIRONMENTAL IMPACT STATEMENT
CRATER LAKE NATIONAL PARK
DRAFT DEVELOPMENT CONCEPT PLAN AND
AMENDMENT TO THE GENERAL MANAGEMENT PLAN

We would appreciate it if you would give us your comments about the Draft Environmental Impact Statement (DEIS). If you need more room, please attach additional pages. When you are finished, please fold in thirds on dotted lines, tape or staple closed, add postage, and mail. Thank you for your time and comments. Please return your comments by February 2, 1995.

We attended both of the Open House discussions held in Roseburg on 1/18/94. As related to us, the meeting in Klamath Falls the previous evening brought out fears of ranchers and others south of the park that too much water would be consumed if there were further developments in the "Panhandle." 102-1

I would suggest that the proposed development in the "Panhandle" be downplayed and relegated to the backburner....for now. I have felt for years that much of the park headquarters activities would be better conducted at a lower elevation. However, plans have existed for 50 years or so to develop the south entrance and another few years won't make much difference if peaceful solutions can be pushed for the Rim problem. 102-2

I suggest a strong push be made for moving the Rim parking area and building a Visitor Center. I realize that the political climate is not the best at the moment for obtaining the funds necessary for these fairly large developments. However, the possible solution of Crater Lake and the fact that no other major park lacks a Visitor Center might be strong influences on Oregon's Senior Senator. 102-3

NAME: Wayne R. Howe
ADDRESS: 615 Charter Oaks Drive, Roseburg, OR 97470

Letter #102

102-1 Your observations concerning public comments on water resources at the South Entrance are noted. See response to comments 8-6 and 16-3.

102-2 Your comment concerning development at the South Entrance is noted. See response to comment 2-15 for a brief description of the revised Proposed Action.

102-3 Your comments concerning developments at Rim Village are noted. See response to comment 6-5.

COMMENT FORM

DRAFT ENVIRONMENTAL IMPACT STATEMENT
CRATER LAKE NATIONAL PARK
DRAFT DEVELOPMENT CONCEPT PLAN AND
AMENDMENT TO THE GENERAL MANAGEMENT PLAN

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I would like to see Crater Lake Park stay as natural as possible.

There are plenty of parks along the Rogue River where we are middle, for overnight camping and it is okay to have a little up to the top. Campground don't need to be enlarged. Should be more aware by the public of the topography of the lake, more trails, etc. 103-1

This is a special work of art, where life pressures can be forgotten for a short time and it isn't necessary to put it out in your back and like, into a wilderness to get the appreciation needed.

I definitely don't think the Rim Village should be moved to the south entrance area because this is placed in the elk corridor. Energy saved would be minimal because of the energy used to transport workers to and from work. 103-2

Humans have an obligation to help and protect our fellow fellow creatures. They are already to much out of their natural habitat. It is simply sad that food is left lying about, now putting obstacles in their way. Hope there is another way.

NAME Carol Maurer

Letter #103

103-1 Your comments are noted. The Park Service has determined that there is a public need for additional camping facilities.

103-2 Your comment concerning development at the South Entrance is noted. See response to comment 2-15 and 73-1.

From: Evan Thompson
P.O. Box 457
Ft Klamath OR
97626
503/381-2349

COMMENT FORM

DRAFT ENVIRONMENTAL IMPACT STATEMENT
CRATER LAKE NATIONAL PARK
DRAFT DEVELOPMENT CONCEPT PLAN AND
AMENDMENT TO THE GENERAL MANAGEMENT PLAN

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Hello Thanks for the meetings that you held last week
I would like to make the following comments.

1. Business's & homeowners use Annie Creek as their source of water. I don't believe your plan has no impact as you state. 104-1

2. Why should the taxpayers pay $27,000 plus to develop a playing field for the employees of the concessionaire? I'm sure that Park employees will have to maintain it too. 104-2

3. The park does not need to expand its camping facilities at an initial cost of $40000. The facilities up there are more than adequate and it would put an additional burden on the already struggling local RV Parks. Let the concessionaire build its own facilities and maybe the camping charges will be more in line with what the local parks charge.

4. A suggestion for the south end of the Park. Buy an existing business with wells, septic and housing/RV spaces and save the taxpayer several million, or take a look at the Klamath Agency which is for sale. Thanks, Evan 104-3

Letter #104

104-1 Your comment concerning the potential impact on water resources is noted. See response to comments 8-6 and 16-3.

104-2 See response to comments 11-2, 16-4, and 16-16.

104-3 Your comments concerning proposed activities at the South Entrance are noted. See response to comment 2-15.

COMMENT FORM

DRAFT ENVIRONMENTAL IMPACT STATEMENT
CRATER LAKE NATIONAL PARK
DRAFT DEVELOPMENT CONCEPT PLAN AND
AMENDMENT TO THE GENERAL MANAGEMENT PLAN

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I went to the meeting Jan 12th here in Medford.

I believe the improvements for park staff is needed. I would like to see the housing at the lower park line moved ahead. I believe the equipment housing is needed also. 105-1

The plan for a 3 story building could be stopped. I visited the rim two times last year. Walking along the wall and into the observation areas fine at the rim. 105-2

I feel a museum could be erected at the entrance on Hwy 62.

Also I find no one at the entrance gate. There should be a charge to enter the park and this money should stay at the park. 105-3

Joan West
3395 Grant Rd. Central Point, Or 97502 (503) 664-1941

RESPONSES

Letter #105

105-1 Your support of the actions at the South Entrance proposed under Alternative 1 is noted. See response to comment 2-15.

105-2 Your comment concerning the proposed parking structure is noted. See response to comment 6-5.

105-3 Your comments are noted. The Park Service collects visitor entrance fees during the peak times of the year.

COMMENT FORM

RECEIVED
JAN 27 1995
CRATER LAKE NAT'L PARK

DRAFT ENVIRONMENTAL IMPACT STATEMENT
CRATER LAKE NATIONAL PARK
DRAFT DEVELOPMENT CONCEPT PLAN AND
AMENDMENT TO THE GENERAL MANAGEMENT PLAN

We would appreciate it if you would give us your comments about the Draft Environmental Impact Statement (DEIS). If you need more room, please attach additional pages. When you are finished, please fold in thirds on dotted lines, tape or staple closed, add postage, and mail. Thank you for your time and comments. Please return your comments by February 2, 1995.

After reading the Concept Plan for Crater Lake, I cannot agree with what you propose. The amount of development is not justified for just lodge support. The amount of development is out of line to still maintain the quality of the Park which is natural above all else. The service providers can obtain all necessary needs from the present communities; Fort Klamath, Chiloquin, Prospect, etc. Another alternative is to remove everything from the rim, a lot less money and trouble. Also, I do not see you address the end of further development with this proposal. 106-1

Jerry Johnson
6861 Rogue
Klamath Falls, OR. 97603

Letter #106

106-1 Your comments concerning the alternatives are noted. See response to comment 2-15.

COMMENT FORM

DRAFT ENVIRONMENTAL IMPACT STATEMENT
CRATER LAKE NATIONAL PARK
DRAFT DEVELOPMENT CONCEPT PLAN AND
AMENDMENT TO THE GENERAL MANAGEMENT PLAN

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I disapprove of Plan # 1 & 2 because what it might do to the elk in their birth habit and what it might do to Annie Creek flows and at a time of light moving. 107-1 107-2

If more housing is needed I think a place like Fort Klamath would be ideal. 107-3

The proper Plan # 3. 107-4

Mr & Mrs H. J. Schweiger
5306 Hartman Rd.
Klamath Falls, Ore
97603

RECEIVED
JAN 1 1995
CRATER LAKE NAT'L PARK

Letter #107

107-1 Your comment opposing Alternative 1 and Alternative 2 is noted. See response to comment 2-15.

107-2 The Park Service is aware of the water issues associated with Annie Creek. See response to comments 8-6 and 16-3.

107-3 Your comment suggesting that the Park Service explore housing opportunities in Fort Klamath is noted. See response to comments 2-1 and 2-15.

107-4 Your comment in support of Alternative 3, the No Action Alternative, is noted.

COMMENT FORM

DRAFT ENVIRONMENTAL IMPACT STATEMENT
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Redding, CA 96099
PO Box 1896

Fort Klamath, OR 97626
PO Box 452

January 27, 1995

Ben Ladd, Supt.
Crater Lake National Park
Box 7
Crater Lake, OR 97604

RE: Draft EIS (Environmental Impact Statement)

Acting Supt. Mr. Ladd:

As a property owner rancher in Wood River Valley, Fort Klamath, I AM opposed for any development by Crater Lake Park, especially outside the Park Boundary. There are several reasons, one especially is WATER. Some of us ranchers have a water right out of Annie Creek. We have priority to use this water over any interference by the Park. In drought years there's very little water in Annie Creek to ever have enough water for irrigation and/or stock water, let alone to have someone tapping into Annie Creek before it reaches Fort Klamath pastures, and also depriving the fish in this creek, if any there be. If there is any development to occur it should be within the Park Boundaries and as far north from the south entrance (Hwy 62) as possible. The location of the existing park buildings is ideal and seem to be in good repair. There was spent millions heretofore to remodel Crater Lake Lodge which is now considered safe, practical and enhanced its appearance.

108-1

108-2

Sincerely,

Gertrude Smith

GERTRUDE SMITH

cc: Senator Mark Hatfield
Senator Bob Packwood
Bill Walters, Acting Regional director
Gary Burelle, National Park Service

Letter #108

108-1 Your comment concerning the water rights issue associated with Annie Creek is noted. See response to comments 8-6 and 16-3.

108-2 Your comments concerning future development at the South Entrance are noted. See response to comment 2-15.

COMMENTS

COMMENT FORM

DRAFT ENVIRONMENTAL IMPACT STATEMENT
CRATER LAKE NATIONAL PARK
DRAFT DEVELOPMENT CONCEPT PLAN AND
AMENDMENT TO THE GENERAL MANAGEMENT PLAN

We would appreciate it if you would give us your comments about the Draft Environmental Impact Statement (DEIS). If you need more room, please attach additional pages. When you are finished, please fold in thirds on dotted lines, tape or staple closed, add postage, and mail. Thank you for your time and comments. Please return your comments by February 2, 1995.

We are cattle ranchers with a very good 1900's water right from Annie Creek. We use Annie Creek water for irrigation and livestock water. The water available for ranchers, with the best water rights from Annie Creek, is barely adequate on a normal or good snowpack season.

Wood River Valley, the Fort Klamath area, and the whole downstream Klamath Lakes and Klamath River system will be affected in a very major way by this Crater Lake development. This plan affects the ranchers of the area economically, the fish and wildlife, the human population, the source and quality of ground water, and the total community. 109-1

We have been reading and hearing about "government takings" of water rights and private property. We hope we are not too late to protect our rights as citizens, private property owners, and as a community. We need more public input and comment on this Crater Lake National Park Development Plan.

We would like to be added to your mailing list and advised on all aspects of this plan.

Cont. next page

RESPONSES

Letter #109

109-1 Your comments concerning the Proposed Action are noted. See response to comments 2-1, 2-15, 8-6, 16-3, and 16-11 (in part).

COMMENT FORM

DRAFT ENVIRONMENTAL IMPACT STATEMENT
CRATER LAKE NATIONAL PARK
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LMT Cattle Company
P.O. Box 486
Fort Klamath, Oregon 97626

James D. Owens
Frances P. Owens
Mark E. Owens
James R. Owens
Patrice M. Owens

COMMENTS

Comment Form

Draft Environmental Impact Statement
Crater Lake National Park
Draft Development Concept Plan and
Amendment to the General Management Plan

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Under the preferred alternative a great deal of development would take place at the south entrance & the park. I am opposed to this type of development at or near the south entrance. If more housing is needed I would prefer to see it placed in the Munson Valley area where other structures already exist. If that is not possible then the Park Service should look at the possibility of developing housing at Fort Klamath. 110-1

The existing housing for concession employees at the inn should be remodeled and expanded if necessary to meet the needs of the concession staff. I do not think that the Park Service should be planning for more development outside of existing developed areas in the park. Concession housing might be located at Ft. Klamath as well as Park Service housing. 110-2

Kathleen M. Hook
5022 Southgate Dr.
Klamath Falls, OR 97603

RESPONSES

Letter #110

110-1 Your comments concerning future development at the South Entrance are noted. See response to comment 2-15.

110-2 Your comments are noted.

COMMENTS

Comment Form

Draft Environmental Impact Statement
Crater Lake National Park
Draft Development Concept Plan and
Amendment to the General Management Plan

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I would like to see the least amount of impact as possible done to park. No further development at rim area. But move parking lot outside but do not further commercialize the park/increase concession. Do not encourage park traffic. Concessions at south entrance would be nice if they must increase.

111-1

111-2

NAME: Grant J. Bailey
5413 Old Stage Rd
Central Point, Or 97502

RESPONSES

Letter #111

111-1 Your comments are noted. See response to comment 6-5.

111-2 Your comments concerning future developments at the South Entrance are noted. See response to comment 2-15.

COMMENT FORM

DRAFT ENVIRONMENTAL IMPACT STATEMENT
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Our concern is how they plan to deal with the different user groups. Particularly the people who use the Annie Cox. Snow Park.

How do they plan to keep the snowpark open ~~with~~ and not have conflict between the park users & other motorized recreational ish?

How can we be ~~an~~ assured that as the park grows ~~to~~ winter user groups will not be told to find some place else to ride?

1-10-95

112-1

Letter #112

112-1 Future uses of the South Entrance would be designed so as not to conflict with other user groups.

Comment Form

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Crater Lake National Park
Draft Development Concept Plan and
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ODF fall development is much in middle
of elk program
Need to study study for 1997
- Sun Creek closures } this plan interferes
- Dry Bull " } with these goals/program

113-1

Letter #113

113-1 Your comments concerning the elk are noted. See response to comments 2-1 and 2-15.

COMMENTS

Comment Form

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Tai Guimond
Wilson's Cottages

1. The new people at South Entrance is not in civic ok — 114-1
2. Elk concerns - sensitive calving
3. Cost too high — 114-2
4. Change character of county entrance — 114-3
5. Water concerns - will it impact around lakes — 114-4
6. congestion, fire
7. Sewage/road kill — 114-5
8. Increase traffic to new
9. Zone of influence from residents will impact neighbor - trash, noise
(not traffic) down to Annie Creek, unquestionably
Support good development in town of Fort Klamath
Too much development in park - they don't need to guest
like the taxpayer is subsidizing conversion — 114-6
don't like seasonal people - both with year round people
people are frightened of this plan
feel powerless

RESPONSES

Letter #114

114-1 Your comments concerning the South Entrance are noted. See response to comments 2-1 and 2-15.

114-2 Your comment concerning the costs of the various alternatives is noted.

114-3 Your comment concerning the changed character resulting from development at the South Entrance is noted. See response to comment 2-15.

114-4 The Park Service is aware of the water issues associated with this proposal. See response to comment 16-3.

114-5 Your comment concerning sewage treatment is noted. See response to comments 6-17 and 16-14.

114-6 Your comments are noted. See response to comment 2-15.

COMMENT FORM

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Alternative 1, getting a majority of support persons into an environmentally much more benign area (less snow!) makes a lot of sense to me. 115-1

In general, I am in accord with the way in which the Park is being managed.

Best wishes -- Robert R. Stevens
Jacksonville OR 97530
12 Jan 1995

Letter #115

115-1 Your comment in support of Alternative 1 is noted. See response to comment 2-15.

COMMENTS

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1. Keep out with a shuttle to transport tourist cars to the rim during the winter from Mazama Village to save the cost of plowing the road to the rim. If this would work on a schedule so that the people would know when access is possible. Skiers could have access from Headquarters at Munson Valley. 116-1

2. Should develop more housing at the south entrance to take the place of employee housing at Munson 116-2

3. Should reduce the size of the concessions at the rim during the winter - i.e. dispensers for food and other products. Upgrade dining facilities during the summer including the serving of Oregon wines etc. 116-3

4. I prefer Alternative 1 116-4

NAME: Porter Lombard, 2425 E. Main, Medford, OR 97504

RESPONSES

Letter #116

116-1 Your comment supporting the use of commuter vehicles during the winter is noted.

116-2 Your comment concerning development at the South Entrance is noted.

116-3 Your comment is noted.

116-4 Your comment supporting Alternative 1 is noted.

COMMENTS

RECEIVED
JAN 26 1995
CRATER LAKE NAT'L PARK

January 23, 1995

Superintendent
Crater Lake National Park
P. O. Box 7
Crater Lake, Oregon 97604

Dear Park Superintendent,

I have visited Crater Lake on a number of occasions and it is breath taking with or without spending $77 million.

At a time when government spending must be curtailed I object to the spending of funds we do not have on a local or national level.

I ask that the major plans that have been proposed be discontinued so the mistakes that have already been made do not escalate into a financial burden for many years to come. 117-1

Yours truly,

Sylvia A. Cox

Sylvia A. Cox
271 Southridge Way
Grants Pass, Oregon 97527

RESPONSES

Letter #117

117-1 Your comments concerning the cost of proposals are noted.

COMMENT FORM

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CRATER LAKE NATIONAL PARK
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1. Proposal ~~[illegible]~~ over-reaches and tries to do too many things.
2. Focus on what you really want and need and [illegible] the EIS for that instead of a planning/[illegible] document 118-1
3. Fire your EIS-contractor + decrease your contract administrator.
4. Send Alan Mann to Boise NEPA (and the rest of your [illegible] chief).
5. Invite Ft. Klamath citizens to a pot luck sponsored by NPS. Do it on at least a yearly basis. Would be nice to do some prep work with local citizenry.
6. Contact ~~[illegible]~~ Terry Anthony, Klamath County Planning (503-883-4200) concerning water survey study. Klamath County now has centers for ~~small~~ County as a whole 118-2

Larry Jarvis
Superintendent
Winema National Forest
2819 Dahlia St.
Klamath Falls, OR 97601
(503) 883-6714
FAX (503) 883-6709
FTS 700 L. [illegible]

Letter #118

118-1 Your comment concerning the scope of the project is noted.

118-2 Your comment is noted. Under the revised Proposed Action, the Park Service would coordinate with Klamath County as necessary during its evaluation of alternative sites. See response to comment 2-15.

2029 Park Avenue
Klamath Falls, OR 97601-1543
January 28, 1995

Superintendent
Crater Lake National Park
P. O. Box 17
Crater Lake, OR 97604

Dear Superintendent:

I'm writing concerning your proposed development of new park employee housing and storage facilities at the South Entrance on State Highway 62.

I represent the Klamath Bow Hunters, an active sportsmen's group in Klamath County. We are dedicated to fostering archery, archery hunting, conservation and good sportsmanship.

In reading your Draft Proposal we are, frankly, appalled that you would even consider placing your new facilities directly in the migration corridor of our local elk herd. Furthermore, the apparent lack of concern for the effects development might have on the herd is certainly not what we would expect from an organization that has been given custody of our finest natural resource gems.

The need for new additional employee housing and concessionaire facilities is not in question, only the chosen location. Preferred alternative number one is not our preferred alternative. 119-1

Please pick another option. We will continue to oppose the building of any new structures in the "Panhandle" at the South Entrance all the way to Congress if necessary.

Thank you for hearing our position.

Sincerely,

William S. "Bill" Bechen
President
Klamath Bow Hunters

cc: Congressman Wes Cooley

Letter #119

119-1 Your comment concerning development at the South Entrance is noted. See response to comments 2-1 and 2-15.

Preparers and Contributors

Preparers and Contributors

LIST OF PREPARES

Dennis Oost	B.A., Landscape Architecture; landscape architect, Jones & Jones Architects and Landscape Architects. Contracted Team Captain coordinating all A/E project work
Stephen Hall	B.S., Wildlife Management; wildlife biologist, Jones & Stokes Associates, Inc. Subcontracted team leader for environmental document; wildlife, ecosystem processes, and special status animal species
Sara Noland	B.A., Environmental Journalism; B.S., Zoology; report coordinator; Jones & Stokes Associates, Inc.; editing and production coordination
Sarah Cassatt	M.S., Water Resources Management; B.S., Environmental Sciences; aquatic ecologist, Jones & Stokes Associates, Inc.; surface water resources, groundwater, water supply, water quality
Ryan Birdseye	M.U.P., Urban and Regional Planning; B.S., Geography; planner, Jones & Stokes Associates, Inc.; air quality, visitor experience
Mark Matthies	M.S., Range and Wildland Science; B.A., Environmental Studies; wetland biologist, Jones & Stokes Associates, Inc.; vegetation, wetlands
Curt Overcast	M.S., Environmental Science; M.P.A, Public Administration; B.S., Biology; environmental specialist, Jones & Stokes Associates, Inc.; project description
Gail Thompson	Ph.D, Anthropology; M.A., Anthropology; B.A., Anthropology; cultural resources specialist; Historical Research Associates, Inc.; prehistory, ethnohistory
Janene Caywood	M.A., Anthropology; B.S., Anthropology; cultural resources specialist, Historical Research Associates, Inc.; historical preservation
Adam Block	B.S. Business Administration, Hotel and Restaurant Management; economics specialist, Block and Associates; visitor use, economics

CONTRIBUTORS

Pacific Northwest Regional Office

Mike Tollefson; Associate Regional Director, Operations
Keith Dunbar; Chief, Planning and Compliance
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Kathy Jope; Chief, Natural Resources Management
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Gordon Atkins; Compliance Specialist
Jim Thompson; Regional Archeologist
Fred York; Ethnological Consultant
Brenda Bridges; Anthropologist
Greg Sullivan; Archeologist

Crater Lake National Park

Al Hendricks; Superintendent
Dave Morris; Former Superintendent
John Miele; Concession Liaison and Management Assistant
Mac Brock; Chief of Resource Management
Elwood Lynn; Chief of Maintenance
Kent Taylor; Chief of Interpretation
Resource Management Staff

Denver Service Center

Gary Hurelle; A/E Manager
Elaine Rideout; Natural Resource Specialist
Pam Griggs; Cultural Resource Specialist
Debbie Campbell; Project Manager
Gary Johnson; Chief, Site Planning and Development Section
Sarah Bransom; Chief, Resource Planning and Compliance Section
Catherine Spude; Archeologist
Frank Williss; Compliance Coordinator

Appendix A

Common and Scientific Names of Plants and Animals Mentioned in Text

Appendix A. Common and Scientific Names of Plants and Animals Mentioned in Text

Common Name	*Scientific Name*
Plants	
arrowleaf groundsel	*Senecio triangularis*
Crater Lake currant	*Ribes erythrocarpum*
cream bush	*Holodiscus discolor*
Douglas-fir	*Pseudotsuga menziesii*
dwarf bramble	*Rubus lasiocarpus*
Eastwood's willow	*Salix eastwoodiae*
false-hellebore	*Veratrum viride*
goldenbush	*Haplopappus bloomeri*
Kruckeberg's swordfern	*Polystichum kruckbergii*
lodgepole pine	*Pinus contorta*
mountain alder	*Alnus tenuifolia*
mountain hemlock	*Tsuga mertensiana*
noble fir	*Abies procera*
ponderosa pine	*Pinus ponderosa*
primrose monkeyflower	*Mimulus primuloides*
pumice grape-fern	*Botrichium pumicola*
pumice sandwort	*Arenaria pumicola*
Scouler's willow	*Salix scouleriana*
service berry	*Symphoricarpos mollis*
Shasta red fir	*Abies magnifica* var. *shastensis*
showy sedge	*Carex spectabilis*
snowbrush ceanothus	*Ceanothus velutinus*
straight-leaf rush	*Juncus orthophyllus*
sugar pine	*Pinus lambertiana*
white bark pine	*Pinus albicaulis*
white fir	*Abies concolor*
woodrush	*Luzula glabrata*
Animals	
bald eagle	*Haliaeetus leucocephalus*
black-backed woodpecker	*Picoides arcticus*
black bear	*Ursus americanus*
black-tailed deer	*Odocoileus hemionus*

Common Name	*Scientific Name*
brook trout	*Salvelinus fontinalis*
brown trout	*Salmo trutta*
California wolverine	*Gulogulo*
Cascade frog	*Rana cascadae*
Cascade golden-mantled ground squirrel	*Spermophilus saturatus*
Cassin's finch	*Carpodacus cassinii*
chipping sparrow	*Spizella passerina*
Clark's nutcracker	*Nucifraga columbiana*
cougar	*Felis concolor*
dark-eyed junco	*Junco hyemalis*
elk	*Cervus elaphus*
flammulated owl	*Otus flammeolus*
gray jay	*Perisoreus canadensis*
hare	*Lepus americanus*
horned lark	*Eremophila alpestris*
marmot	*Marmota* sp.
mountain quail	*Oreortyx pictus*
northern goshawk	*Accipiter gentilis*
northern pygmy-owl	*Glaucidium gnoma*
northern spotted owl	*Strix occidentalis caurina*
Pacific fisher	*Martes pennanti pacifica*
peregrine falcon	*Falco peregrinus*
pika	*Ochotona princeps*
pileated woodpecker	*Dryocopus pileatus*
procupine	*Erethizon dorsatum*
pygmy nuthatch	*Sitta pygmaea*
rainbow trout	*Oncorhynchus mykiss*
raven	*Corus corax*
red fox	*Vulpes vulpes*
red-tailed hawk	*Buteo jamaicensis*
Steller's jay	*Cyanocitta stelleri*
Swainson's hawk	*Buteo swainsoni*
three-toed woodpecker	*Picoides tridactyolus*
Townsend's chipmunk	*Tamias townsendii*
white-headed woodpecker	*Picoides albolarvatus*
Williamson's sapsucker	*Sphyrapicus thyroideus*

Index

Index

As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural and cultural resources. This includes fostering wise use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interest of all our people. The department also promotes the goals of the Take Pride in America campaign by encouraging stewardship and citizen responsibility for the public lands and promoting citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

NPS D-35