

# Deschutes & Ochoco National Forests Crooked River National Grassland

- ▶ Deschutes & Ochoco National Forests Home
- ▶ About Us
- ▶ Contact Us
- ▶ Current Conditions
- ▶ Employment
- ▶ FAQ'S
- ▶ Fire & Aviation
- ▶ Maps & Brochures
- ▶ Newsroom
- ▶ Passes & Permits

▼ **Projects & Plans**

Schedule of Proposed Actions

**Project Information**

Plans, Analyses, Assessments

- ▶ Publications
- ▶ Recreational Activities
- ▶ Volunteering

▶ Newberry National Volcanic Monument

- ▶ Conservation Ed.
- ▶ Contracting
- ▶ Health
- ▶ Forest Products
- ▶ Geology
- ▶ Heritage
- ▶ Partnerships
- ▶ Plantlife
- ▶ Water/Fisheries
- ▶ Wildlife

**Projects & Plans**

## Project Documents

United States  
Department of  
Agriculture

Forest  
Service

July 2003

# Environmental Assessment

## Cultus Lake Resort Improvements

### Bend/Ft. Rock Ranger District, Deschutes National Forest Deschutes County, Oregon

#### ALTERNATIVES

- ALTERNATIVE 1 - NO ACTION
- ALTERNATIVE 2 - PROPOSED ACTION
- ALTERNATIVE 3

**ALTERNATIVE 3 is the PREFERRED ALTERNATIVE**

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#### TABLE OF CONTENTS - CULTUS LAKE RESORT IMPROVEMENTS

[Introduction](#)

Purpose and Need for Action

Proposed Action

Home



SCHEDULE OF  
PROJECTS

PROJECT  
INFORMATION

♦ **By Administrative Unit**

- Deschutes SO
- Bend/Fort Rock
- Crescent
- Sisters
- Ochoco SO
- Lookout Mtn.
- Paulina
- Crooked River NG

♦ **Forest Health, Fire, Fuels, Vegetation Management**

♦ **Wildlife**

♦ **Recreation**

♦ **Land Acquisition**

♦ **Miscellaneous**

PLANS, ANALYSES,  
ASSESSMENTS

▶ **Links**

▶ **Evaluate Our Service**

We welcome your comments on our service and your suggestions for improvement.

Forest

**Deschutes National Forest**

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(541) 383-5300

**Ochoco National Forest**

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Prineville, OR 97754

(541) 416-6500

**Crooked River National  
Grassland**

813 S.W. Hwy. 97  
Madras, OR 97741

(541) 475-9272



Decision to be Made  
Documents Tiered To  
Documents Incorporated by Reference  
Management Direction  
Availability of Planning Record  
Public Involvement/Scoping Process Used  
Comments Received  
Issues used in Alternative Design

[Alternative Discussion](#)

Alternatives Considered but Eliminated from Detailed Analysis

Alternatives Considered in Detail

Alternative Comparison

Mitigation Measures Common to Alternative 2 (Proposed Action) and 3

[Affected Environment and Environmental Consequences](#)

Recreation Resource

Fisheries and Hydrology Resources

Wildlife Resource

Botany Resource

Cultural Resource

Scenic Resource

Soils Resource

Public Health and Safety

Public/Commercial Firewood Gathering

Prime Lands

Civil Rights and Environmental Justice

Compliance with State and Local Laws

Other Effects and Findings

[Reasonably Foreseeable Actions Adjacent to the Project Area](#)

List of Planning Participants

[Appendixes \(pdf\)](#)

Appendix A: Wildlife Biological Evaluation

Appendix B: Wildlife Biological Assessment

Appendix C: Interpretation of the Northwest Forest Plan Standards and Guidelines Regarding New Developments in Late-Successional Reserves (January 3, 2001)

Appendix D: Botany Biological Evaluation

## LIST OF TABLES

Table 1: Alternative Comparison

Table 2: Forest Plan Management Indicator Species (MIS) and Habitats

Table 3: Species of Concern (USFWS)

Table 4: Northwest Forest Plan

Table 5: Threatened, Endangered or Sensitive Animal Species

Table 6: Deschutes National Forest Noxious Weed List

## LIST OF FIGURES

Figure 1: Locator Map

Figure 2: Locator Map

Figure 3: Alternative 2 (Proposed Action)

Figure 4: Alternative 3

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# ENVIRONMENTAL ASSESSMENT CULTUS LAKE RESORT IMPROVEMENTS

## INTRODUCTION

The Bend-Ft. Rock Ranger District of the Deschutes National Forest has analyzed the environmental effects of proposed improvements at the Cultus Lake Resort at Cultus Lake (Figures 1 and 2) within an Environmental Assessment (EA).

The proposed activities would occur adjacent to the southeast portion of Cultus Lake. The project area is located within the Northwest Forest Plan (**NWFP**) boundaries in Township 20 South, Range 7 East, Section 24. The elevation is approximately 4,700 feet. There are no inventoried (RARE II) roadless areas or known Threatened or Endangered species within the project area. Redband trout, listed as sensitive on the Region 6, Regional Forester's Sensitive Species List reside within Cultus Lake. The proposed projects would be located within Late-Successional Reserves (**LSR**). The parking lot construction would also be located within Riparian Reserves. The project area is within a Tier II key watershed identified in the NWFP (6th field Cultus Lake - 23,868 acres).

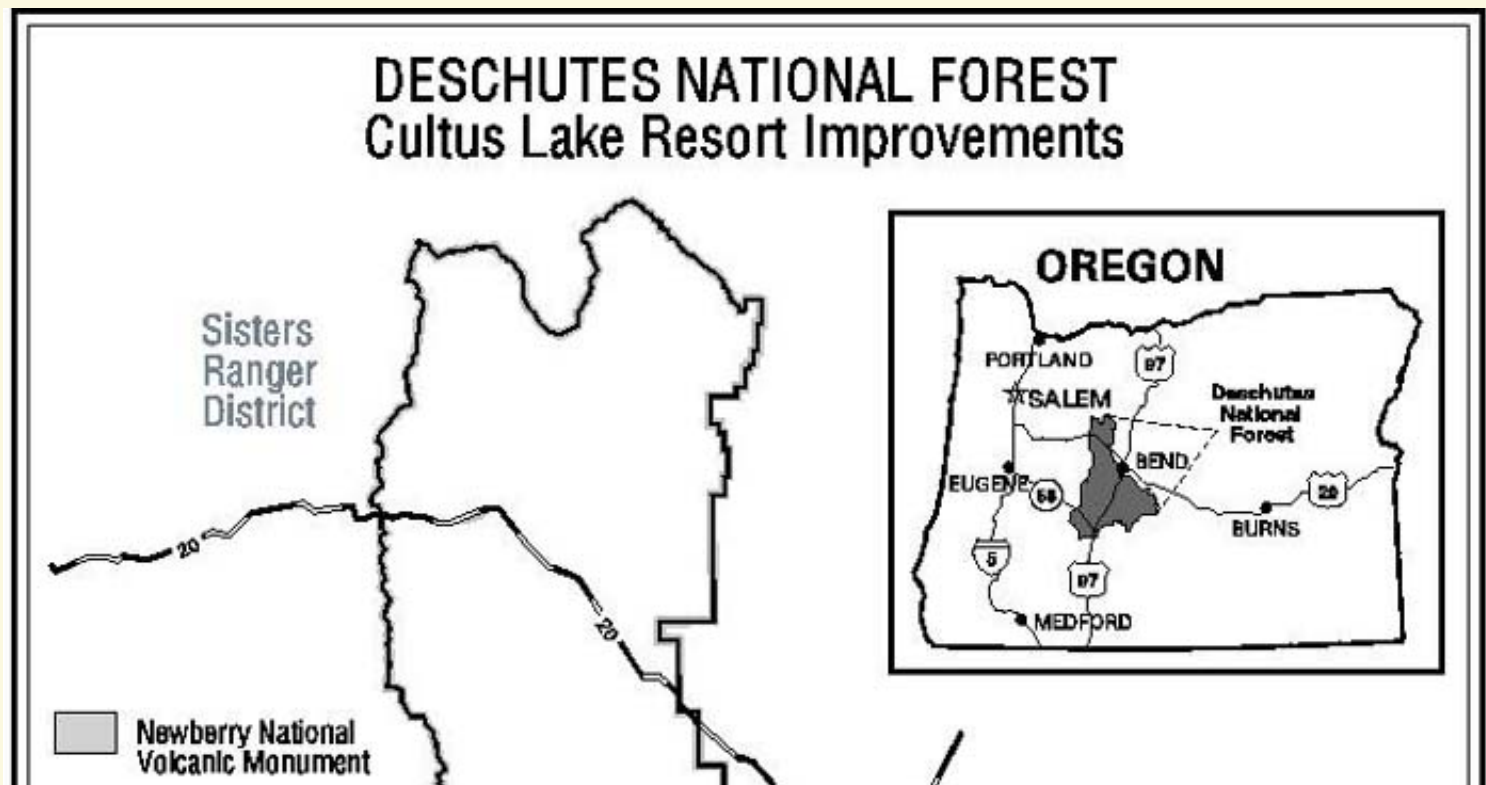
## PURPOSE OF AND NEED FOR ACTION

Continued increases in recreational uses are predicted. Facilities and opportunities for new facility development within the Cascade Lakes area are limited. Concerns and opportunities that would enhance the recreational experience for visitors to Cultus Lake have been recognized. Visitors to the area that use the developed facilities at the lake, generally desire facilities that are safe and provide a range of services that accommodate modern motorized travel and recreation. By addressing identified concerns and opportunities, the Forest can move toward the desired condition of providing safe and efficient services that accommodate guests of the public lands while retaining the character of the central Oregon Cascade lakes.

The owner/permittee of the resort has identified the following concerns and improvement opportunities:

- The resort provides boat moorage for people who desire to dock their boats at the resort and use them throughout the season for day- or extended-use periods. Parking space at the resort is considered inadequate. Presently, boaters must park their vehicles among other short-term users of the resort facilities. Increased congestion has increased safety concerns during the peak recreation season. Overflow parking also occurs in vegetated areas, which is inconsistent with direction for maintaining watershed health. There is a need for additional parking in an area that is secure, safe, accessible to resort operations, and consistent with objectives for aquatic conservation.
- The resort area offers access to a wide range of recreation opportunities in a developed setting. Many visitors to Cultus Lake spend varying lengths of time in dispersed or developed settings around the lake. Many visitors also use the resort as a destination to obtain necessary supplies and support for their recreating activities. Public shower and laundry facilities are limited in the area and visitors not staying at the resort have expressed a desire for them to be provided. The nearest similar facility is located at Lava Lake Resort, approximately 10 miles from Cultus Lake. There is a need for and desire of the Cultus Lake Resort owners to provide the type of amenities desired by visitors that is consistent with their master plan for operating the resort.
- The resort provides employee housing, but not enough space is available to house all employees. There is a need for additional employee housing.

Figure 1



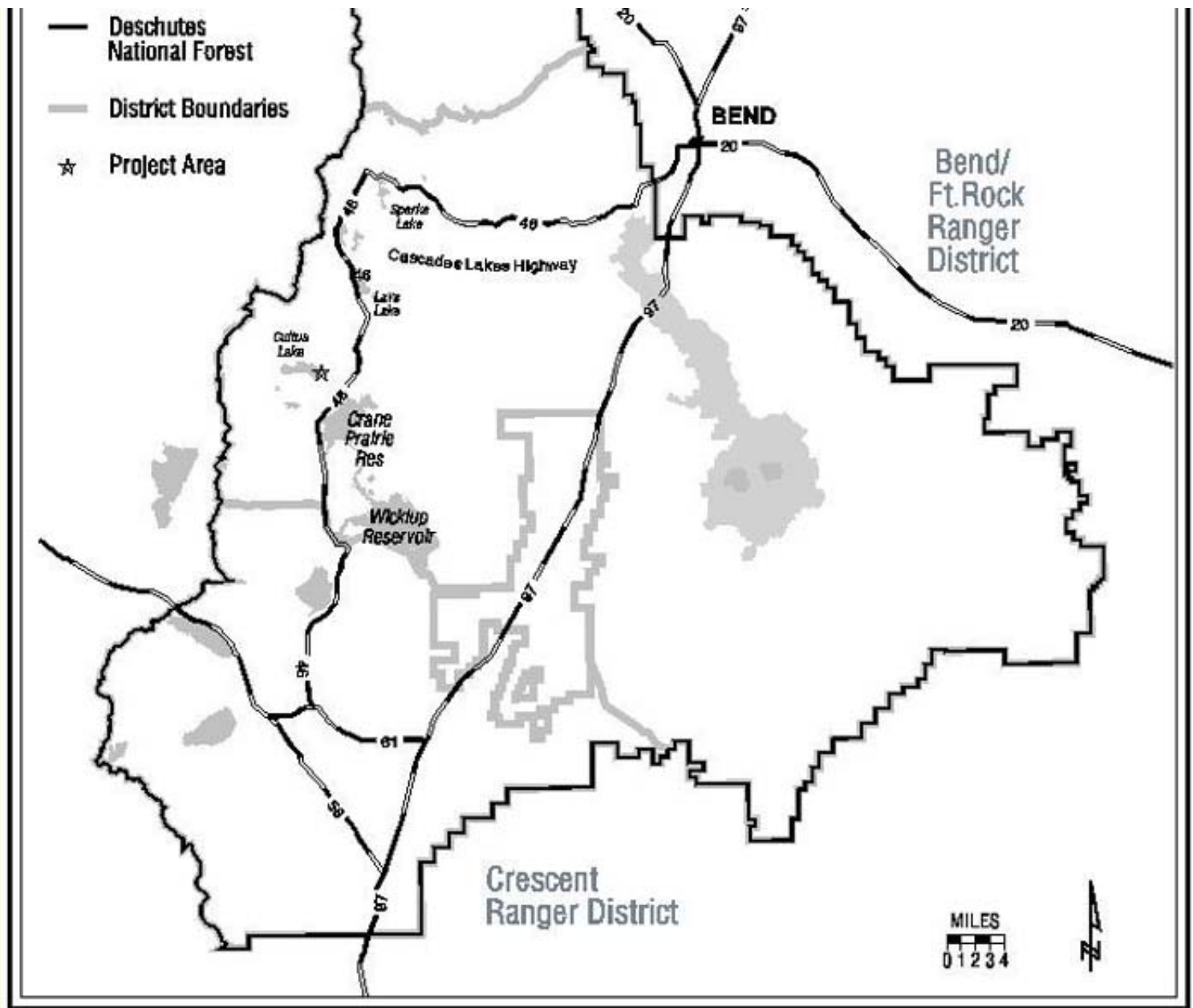
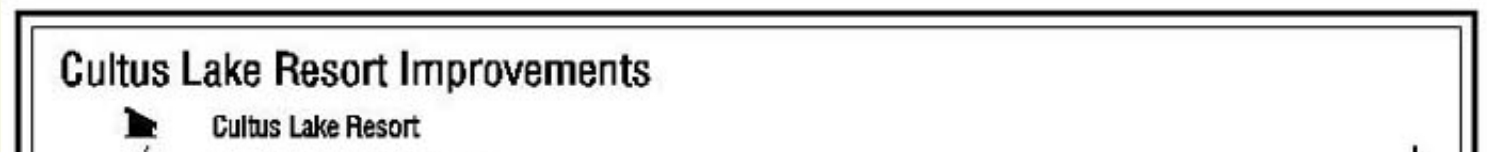
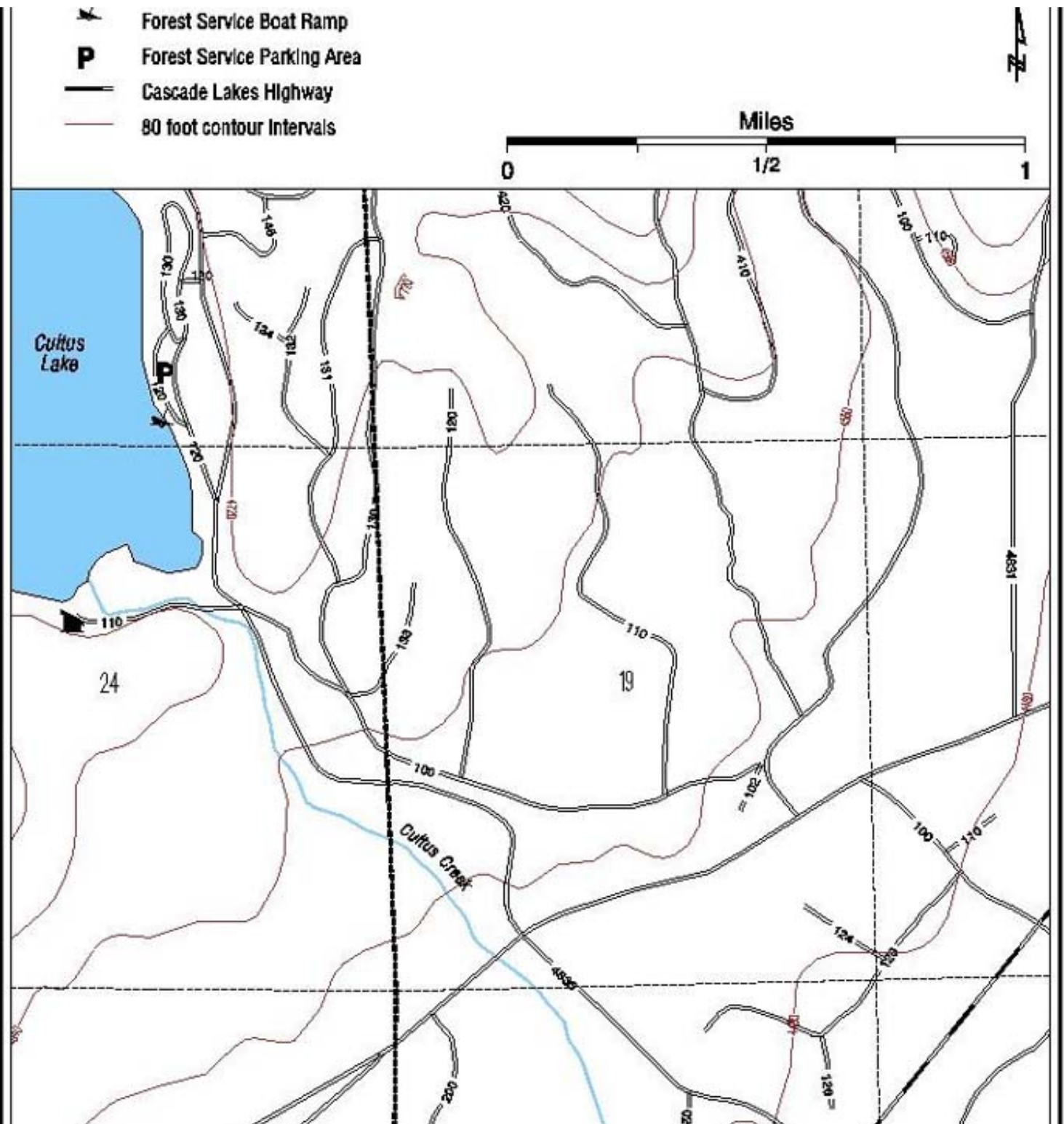
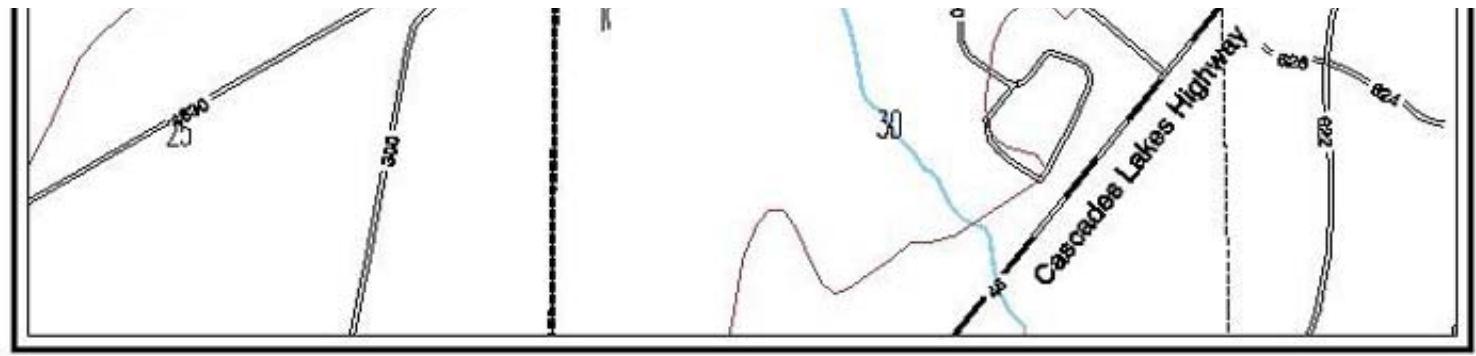


Figure 2









## PROPOSED ACTION

The proposed action would: 1) Construct a parking area for day- and extended-use for resort visitors and 2) Construct a shower and laundry facility for visitors to Cultus Lake. This facility would also incorporate additional housing for resort employees. The activities would occur within the permit boundary of the resort. More specific information is available under Alternative 2 and 3.

## DECISION TO BE MADE

The Deciding Officer is the Forest Supervisor, Deschutes National Forest. The decision is whether to authorize the actions proposed in this Environmental Assessment, and if so, under what conditions and with what mitigation measures.

## DOCUMENTS TIERED TO

These documents are available for public review at the Bend-Ft. Rock Ranger District Office:

- Deschutes National Forest Land and Resource Management Plan (LRMP), 1990 - This plan was developed to guide all natural resource management activities and establish standards/guidelines on the Deschutes National Forest.
- Northwest Forest Plan (NWFP), 1994.

## DOCUMENTS INCORPORATED BY REFERENCE

These documents are available for public review at the Bend-Ft. Rock Ranger District Office:

- Cascade Lakes Watershed Analysis, 1995.
- Cultus Mountain and Sheridan Mountain - Late-Successional Reserve Assessment, 1996.
- Guide to Noxious Weed Prevention Practices - This guide supports implementation of the Executive Order on Invasive Species, Executive Order 13112 of February 3, 1999.

## MANAGEMENT DIRECTION

The Deschutes National Forest Land and Resource Management Plan (**Forest Plan**), 1990, as amended by the NWFP, 1994, established broad direction for the Forest. The analysis conducted for this project tiers to the Forest Plan and its supporting documentation.

The following is a summary of the Management Allocations (MA) associated with the project area as allocated in the Forest Plan:

- Intensive Recreation (MA11) - To provide a wide variety of quality outdoor recreation opportunities within a forest environment where the localized settings may be modified to accommodate large numbers of visitors.

The following are summaries of designations of the NWFP associated with the project area:

- Riparian Reserve - Designated under the NWFP for "restoring and maintaining the ecological health of watersheds and aquatic systems on public lands".
- Late-Successional Reserve - Protect and enhance conditions of late-successional and old growth forest ecosystems, which serve as habitat for late-successional and old growth related species including the northern spotted owl.

## AVAILABILITY OF THE PLANNING RECORD

Specialist reports used in the preparation of this environmental assessment are on file at the Bend/Fort Rock Ranger District office.

## PUBLIC INVOLVEMENT/SCOPING PROCESS USED

A letter requesting public involvement was mailed to approximately 100 individuals, businesses, and organizations that have an interest in the scoping process. Included in the mailing was The Bulletin, the local newspaper that reported on the proposed project area. Announcement of the proposed action was included in the Central Oregon Schedule of Projects (Deschutes National Forest publication) starting in the summer of 2000. This notification reaches approximately 3,200 individuals and groups. Initially, this proposed project included improvements to the Forest Service boat launch and parking facilities, which is now addressed in a separate document.

## COMMENTS RECEIVED

Comments that are received are assessed for their relevance to resources being addressed within the project area. The public scoping process for the Cultus Lake Resort Improvements Environmental Assessment identified no key issues related to the proposed action in the project area. One (1) response to scoping was received, which was in support of the project.

## ISSUE USED IN ALTERNATIVE DESIGN

Internal Forest Service comments and analysis were used in the development of alternatives. The following issues were the basis for designing Alternative 3, an alternative to the proposed action. Each issue statement is followed by a more detailed explanation. The issues have units of measure developed for the reader to easily distinguish between each alternative and how it responds to the issues. A comparison table of the alternatives is presented in Table 1, page 11.

**Issue: The Proposed Action would not fully utilize previously disturbed land that could provide additional parking for visitors to Cultus Lake Resort.**

**Discussion:** Alternative 2 (Proposed Action) proposed the development of a parking area with the approximate dimensions of 60 feet wide x 120 feet long. Alternative 2 (Proposed Action) did not include the total area that has had usual and customary use (areas of substantial disturbance) because uncertainty existed regarding the actual permit boundary of the resort. No survey records or boundary markers exist. The permit boundary, according to the existing Special Use Permit and a 1970 site plan map, encompasses 6.5 acres. A logical boundary survey completed in October 2002 included areas that have had usual and customary use. The acreage derived from this survey with inclusion of logical areas of use totaled approximately 7.9 acres, an increase in the resort permit area of approximately 1.4 acres. Included in this acreage is the area for additional parking, which would extend the proposed day- and extended-use parking area by approximately 40 feet (approximately 2,400 square feet, .06 acre), and the logical area for a drainfield for the proposed laundry/shower facility/employee housing structure.



**Units of Measure:** 1) Number of proposed day-use/extended-use parking spaces and 2) amount of acreage affected by proposed activities.

## ALTERNATIVE DISCUSSION

This section provides discussion of a No Action Alternative and the action alternatives, including the Proposed Action Alternative. It also includes a brief discussion of alternatives that were considered and responds to why they were eliminated from further analysis.

### Alternatives Considered And Eliminated From Detailed Analysis

No additional alternatives were considered that were eliminated from further analysis. Due to the limitations of the resort boundary, the following alternatives that were considered in detail were determined to provide the logical locations for the proposed actions.

### Alternatives Considered In Detail

This section presents a detailed description of the alternatives responding to the "Purpose and Need" that are considered to be reasonable and viable by the Decision Maker (Forest Supervisor, Deschutes National Forest). Alternatives, other than the No Action Alternative, are designed to move towards the desired condition and this plans purpose and need that is consistent with the standards and guidelines of the Forest Plan. **All measurements are approximate.**

#### Alternative 1 (No Action)

Proposed resort improvements would not be implemented. Parking improvements would not be implemented to improve parking efficiency and safety. Providing designated parking to reduce congestion and haphazard parking adjacent to the resort dock area would not occur. Safety concerns with an increased risk of vehicle/human accidents would continue. A modern facility to provide the public with shower and laundry amenities and additional employee housing would not be constructed.

#### Alternative 2 (Proposed Action)

- Provide a new defined parking area that would accommodate approximately 18 to 20 vehicles to alleviate congestion and hazardous conditions. The dimensions of the parking lot would measure approximately 60 feet x 120 feet (**Figure 3**). The area would be surfaced with crushed rock. This area has previously served as outside storage for the resort, is no longer needed for that purpose, and is consistent with the Resort site plan of 1970. Approximately five (5) trees between 10 inches and 15 inches in diameter at breast height (DBH - 4.5 feet from the surface of the ground) would be removed.
- To provide services for campers, a public laundry and shower facility would be provided. The facility would be approximately 20 feet x 30 feet (**Figure 3**), would be located in an area that requires minimal clearing of upland vegetation, and would be located outside of Riparian Reserves. To provide additional employee housing, living quarters would be provided above the shower and laundry facility. A septic system would be installed to Department of Environmental Quality or Deschutes County standards. The associated drainfield would be located in an area approximately 15,000 square feet. Approximately 140 trees from 3 to 15 inches diameter at breast height would possibly need to be removed. All trees greater than 15 inches diameter at breast height, approximately 60 trees, would be retained. A small defined parking area, adjacent to the facility, would be provided for approximately six (6) vehicles. The dimensions of this parking area would be approximately 30 feet x 60 feet.

#### Figure 3 - Alternative 2 (Proposed Action)

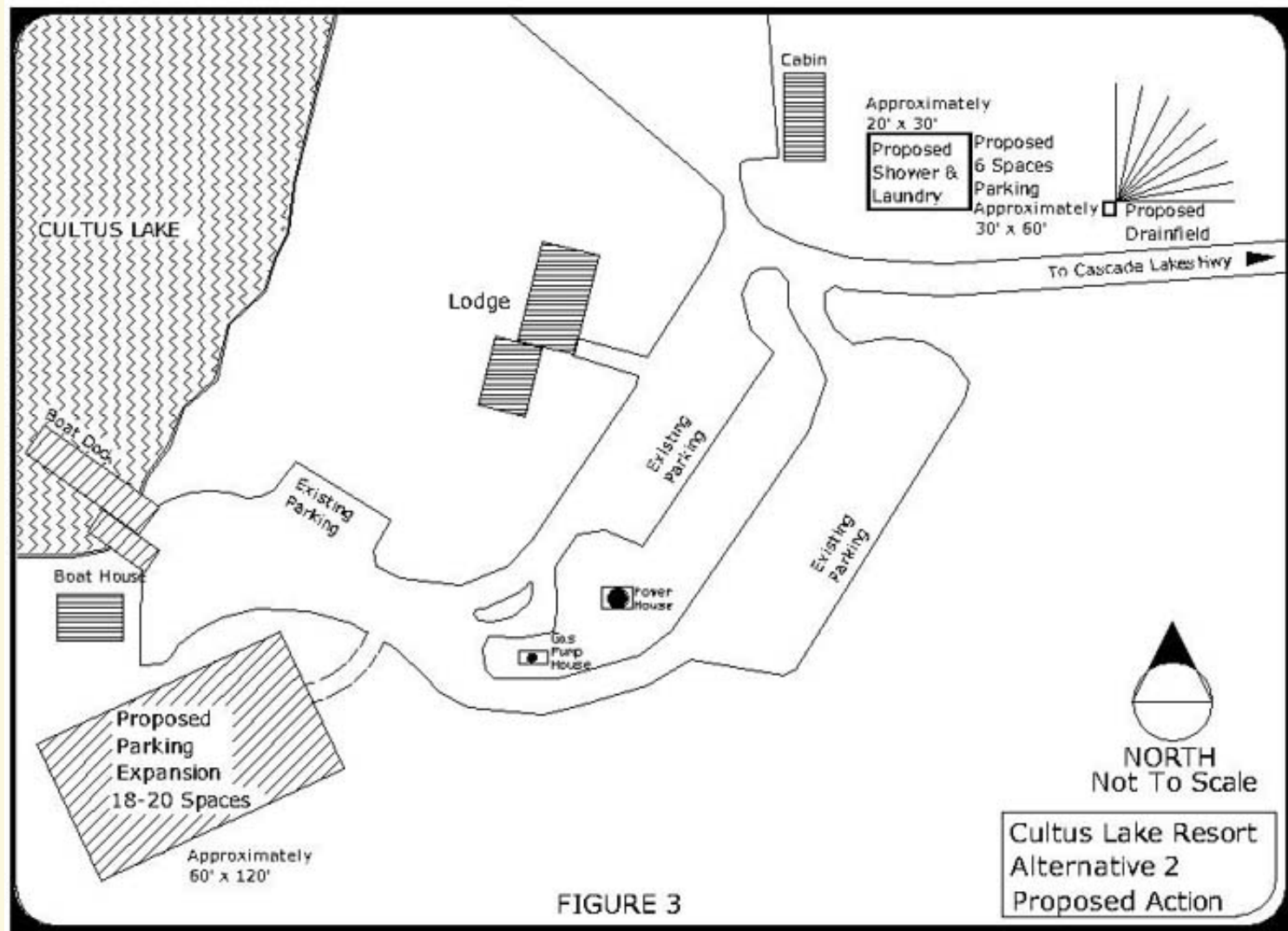


FIGURE 3

### Alternative 3

- Provide a new defined parking area that would accommodate approximately 25 to 30 vehicles to alleviate congestion and hazardous conditions. The dimensions of the parking lot would measure approximately 60 feet x 160 feet (**Figure 4**). This area has previously served as outside storage for the resort and is no longer needed for that purpose. Approximately 10 trees between 10 inches and 15 inches in diameter at breast height (DBH - 4.5 feet from the surface of the ground) would be removed.
- The description for the proposed shower/laundry/housing facility is the same as Alternative 2 (Proposed Action).

Figure 4 - Alternative 3

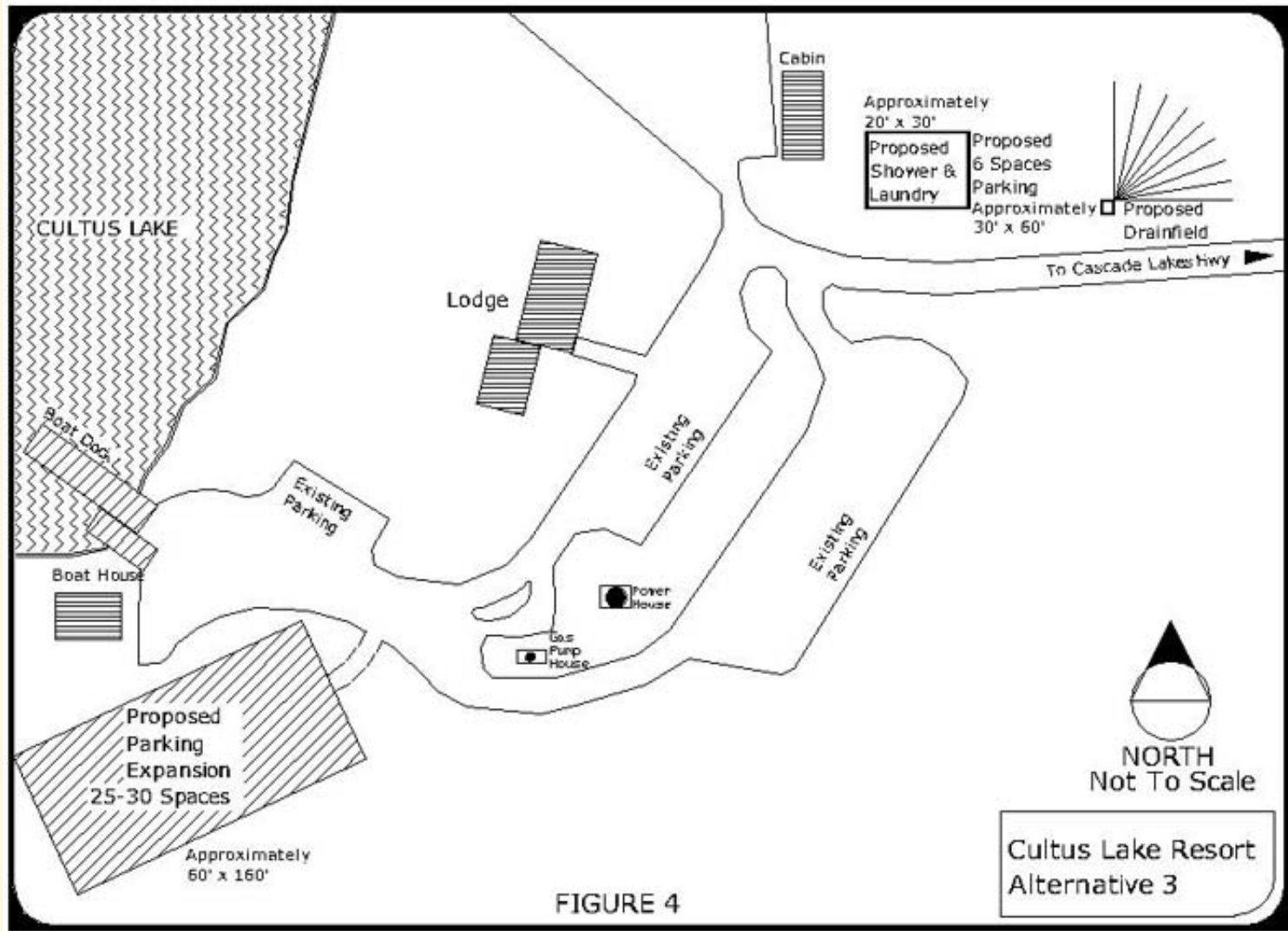


FIGURE 4

Cultus Lake Resort  
Alternative 3

**Alternative Comparison**

Table 1 compares the alternatives in relation to the activities proposed in Alternatives 1 (No Action), 2 (Proposed Action), and 3. All measurements are approximate.

Table 1: Alternative Comparison			
Activity	Alternative 1 (No Action)	Alternative 2 (Proposed Action)	Alternative 3
<b>Designed Parking</b>	No	Yes	Yes
Number of Vehicles	0	18-20	25-30
<b>Laundry/Shower/Employee Housing Facility</b>	No	Yes	Yes
Parking	0	6	6

**Total Acres Affected**

0

0.53

0.58

**MITIGATION MEASURES COMMON TO ALTERNATIVES 2 (PROPOSED ACTION) AND 3**

Alternatives are designed to be consistent with the desired condition specified in the Forest Plan standards and guidelines and the NWFP. The following mitigation measures would be applied to reduce potential adverse impacts of Alternatives 2 (Proposed Action) and 3. If implementation or layout problems or opportunities would be encountered, the appropriate specialist would be consulted.

**Fisheries and Hydrology**

1. Utilize trees removed during the parking lot reconstruction in wildlife or fisheries habitat restoration projects.

The following BMP mitigation measures applicable to the proposed project are found in General Water Quality Best Management Practices, Pacific Northwest Region, 1988. State and Federal water quality standards would be met.

2. BMP T-21. Servicing and Refueling of Equipment. In summary, servicing and refueling of equipment to be used in proposed activities would occur in areas away from water.
3. BMP W-4. Oil and Hazardous Substance Spill Contingency Plan. In summary, there would be a contingency plan for emergency spills of fuel or hazardous materials into water bodies.
4. BMP R-3. Timing of Construction Activities. In summary, schedule excavation of the parking area during periods when the probability of rainfall and runoff are low. Equipment should not be operated when ground conditions are wet to the extent that runoff would occur.

**Botany**

5. Clean all equipment and vehicles before entering National Forest System lands. Mud, dirt, and plant parts must be removed from all equipment and vehicles.
6. Use gravel from a known weed-free site.
7. After management activities, seed with native plant species any areas that have been disturbed that will not be further impacted by human activity.
8. Monitor the project work area in the period after work is completed, map and pull any new noxious weed sites as necessary.

**Scenic Resource**

9. Plant native shrub and grass species to soften any effect following construction. Reduce soil and color contrast by completely covering up impacted area with native materials such as pine needle casting, local topsoil of similar color, or bark mulch on impacted area following construction completion.
10. Following construction, remove all rejected materials off site to maintain the original site condition as much as possible.
11. A Landscape Architect would work on conceptual site design and site rehabilitation prescriptions to help reduce potential effects to scenery and landscape character.

**AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**

This section discloses the expected environmental consequences as a result of implementation of the alternatives: Alternative 1 (No Action) or Alternative 2 (Proposed Action) or Alternative 3. The two (2) action alternatives are designed to be consistent with the desired conditions specified in the Forest Plan standards and guidelines, along with direction found in the NWFP.

This section provides the scientific and analytic basis for comparison of the alternatives. It also describes the indirect, direct, cumulative, duration and intensity of effects of the alternatives. **All measurements are approximate.**

## Recreation Resource

**Affected Environment:** Cultus Lake has a long history of various recreational use. Included are boating, camping, and day use. The lake is one of two accessed from Cascades Lake Highway that does not have a speed limit for boats and is open to water-skiing. This is also the only lake in the immediate area that has "developed boat in" camping. The general season for recreation use at Cultus Lake is Memorial Day through Labor Day, with the highest use occurring between July 4 and Labor Day. During the high use season, campgrounds and day use facilities may be near or above capacity. Summer days are generally warm and dry and nighttime may experience frost. The access road to the Forest Service facilities is usually snow-free from mid-May to mid-November. Heavy snows during the winter season make use impractical.

The Forest Service developed a small campground on the east end of the lake during the 1930's. Additional facilities at Cultus Lake were developed in the late 1950's and early 1960's and consist of Cultus Lake Boat Launch, Cultus Lake Day Use Area, Cultus Lake Campground, West Cultus and North Cove boat in campgrounds, and Cultus Lake Resort.

The associated parking areas are not accommodating. The parking areas are frequently congested with overflow vehicles parked along the access to the boat dock. Vegetation within the parking area, in conjunction with vehicle congestion, interferes with a safe line-of-sight for the driver.

**Alternative 1 (No Action):** Under implementation of this alternative, there would be no construction activities within the permit boundary of the resort. This alternative would perpetuate the congestion and haphazard activities associated with parking immediately adjacent to the boat dock area. The public would not have an easily accessible facility that provides showers and laundry machines.

**Alternative 2 (Proposed Action):** This alternative would provide day and extended parking for approximately 18 to 20 vehicles of visitors to the resort and would alleviate parking congestion adjacent to the boat dock area. The parking area would utilize a site that has provided outside storage, has been substantially disturbed, and is consistent with a location for a parking area as described in the site plan. The site provides easy walking access to both the boat dock and lodge/grocery store.

The laundry/shower/employee housing facility, associated drain field, and associated facility parking area would respond to the Cultus Lake visitors' desire to bathe and wash laundry in a clean, sanitary, and safe facility. This alternative would provide a facility that is easily accessible for visitors to Cultus Lake without needing to leave the immediate vicinity. The facility would benefit visitors that are passing through the Cascade Lakes area.

**Alternative 3:** This alternative would provide day and extended parking for approximately 25 to 30 vehicles of visitors to the Resort. The additional area for parking, increased over Alternative 2 (Proposed Action), would incorporate a substantially disturbed area that is an extension of the site in Alternative 2 (Proposed Action). The actual area of parking extension would be approximately 2,400 square feet (.06 acre). The additional parking area would help to relieve other anticipated parking congestion. All other effects are similar to Alternative 2.

## Fisheries and Hydrology Resource

**Affected Environment:** Cultus Lake is approximately 1,145 surface acres and over 200 feet deep, is considered ultra-oligotrophic (lacking plant nutrients, is clear and clean), and is very popular for a variety of water related recreation activities. There are 8.1 miles of shoreline and the surrounding Riparian Reserve totals 295 acres. Due to its purity and naturally low nutrient levels, the lake is susceptible to nutrient enrichment. Natural buffers to this enrichment that limit primary productivity are: 1) large water volume and low shoal area; 2) short growing season; 3) cool temperatures; and 4) the flow of water into and out of Cultus Lake. The zone of riparian vegetation surrounding the lake and within the project area is very narrow, generally less than 10 feet in width. The vegetation quickly transitions into upland communities of mixed conifer away from the lake.

Fish populations include mountain whitefish and lake trout, eastern brook trout, redband (*Oncorhynchus mykiss gairdneri*) trout, and rainbow trout. The lake is stocked annually with approximately 6,000 legal-sized rainbow trout. Genetic analysis was recently completed on redband trout in Winopee Creek, a tributary stream to Cultus Lake located approximately three (3) miles northwest of the resort. This population has had very little cross breeding with hatchery fish. The hatchery fish genetic contribution in this population was only 4 percent (Phelps, et al 1996).



The redband trout, listed on the Regional Foresters Sensitive Species List, may occur within the project area. There are no known Federal threatened, endangered, proposed, or candidate fish species within the project area. The nearest known population of bull trout, a threatened species, is located over 100 miles downriver from the project area at Lake Billy Chinook. The bull trout has not been documented in the Deschutes River upriver from Bend since 1954 (ODFW).

#### **Oregon Department of Environmental Quality (ODEQ) 303(d) Status**

Cultus Lake and Cultus Creek that drains the lake are not listed by the Oregon Department of Environmental Quality as water quality impaired (303(d) list), in accordance with the 1972 Federal Clean Water Act.

#### **Alternative 1 (No Action)**

The biological evaluation for redband trout determined there would be No Impact as a result of selecting this alternative. With no construction of a parking area or laundry/shower/employee housing facility, there would be no direct effects to water quality or fisheries.

#### **Alternative 2 (Proposed Action)**

**Direct and Indirect Effects:** The proposed parking area would be approximately 60 feet wide and 120 feet long and would require removing approximately 20 to 25 trees under 21 inches dbh within the Riparian Reserve. This would not affect tree shade on the lake. Trees to be removed would be understory and are located 150 to 200 feet from the shoreline. Additional parking space could lead to additional recreational use above current levels. There would be potential for an increase in detrimental effects to the water/fisheries resources from increased foot traffic on shoreline areas. These effects would not be anticipated to be substantial.

#### **Alternative 3**

**Direct and Indirect Effects:** The proposed parking area would be approximately 60 feet wide and 160 feet long. This alternative would remove approximately 10 additional trees within the Riparian Reserve. Overall effects between Alternatives 2 and 3 would likely be not measurable.

**Effects Common to Alternatives 1 (No Action), 2 (Proposed Action), and 3:** There is no essential fish habitat within the project area. No alternative would have an adverse effect on essential fish habitat. Due to the distance of the nearest bull trout population, and water impoundments of the river at and upriver of Bend, no alternative would have an adverse effect on bull trout. The biological evaluation for redband trout determined there would be **No Impact** as a result of selecting this alternative.

#### **Effects Common to Alternatives 2 (Proposed Action), and 3:**

**Direct and Indirect Effects:** Construction of the parking area would require some excavation, which could lead to overland flow of sediments. A natural high point in the landscape lies between the parking area and the vegetated slope leading to the lake. Potential overland flow of sediments would occur down the access road to the parking area onto the pavement, and then downslope to the lake. The use of Best Management Practices (**Fisheries mitigation measures, page 11**) during parking area construction would reduce adverse effects to fisheries/water resources. There would be no anticipated direct effects to fisheries/water resources. Surfacing the parking area with crushed rock would reduce potential for overland flow of sediments to Cultus Lake.

The proposed shower/laundry/employee housing facility, associated septic drainfield, and associated parking area would be located on ground with no slope and outside of the Riparian Reserve. There would be no anticipated adverse effects to the fisheries/water resources from constructing the laundry/shower facility.

**Cumulative Effects:** Past activities within the Cultus Lake area have included wildfire, timber harvest and salvage, limited road construction, and campground and resort construction, and dispersed recreation. There are approximately 295 acres of Riparian Reserve around Cultus Lake. Total development within the Riparian Reserve (campgrounds, resort, dispersed camping) is approximately 25 acres (10 percent). There are four (4) developed campgrounds and the resort. A day use area is located on the eastern shoreline. There is extensive dispersed camping along the north and west shoreline. The recreational activity within the Riparian Reserve has led to compaction of soils and trampling of vegetation. Overland flow of sediments into the lake occurs at some of the impacted areas. The impact this is having on water resources is unclear, but recent water quality monitoring indicates that the impact is likely not substantial. This alternative would develop approximately 0.2 acre within the Riparian Reserve, although the area has been substantially used for previous activities. A foreseeable action is re-construction of the Cultus Lake boat ramp and associated parking areas. There would be no anticipated measurable cumulative adverse effects to the fisheries/water resources from implementation of this alternative.

#### **Analysis of Effects to the Aquatic Conservation Strategy (ACS) Objectives**

Alternative 1 (No Action), Alternative 2 (Proposed Action), and Alternative 3 would not retard or prevent attainment of the 9 ACS objectives. The Cultus Lake 6th field subwatershed (23,868 acres), Cascades Lakes Watershed, is a Tier 2 Key Watershed, an important source of high water quality. The ACS objectives are to ensure protection of aquatic systems, maintain connectivity, maintain water quality, maintain water and sediment storage and transport regimes, maintain and restore fish, wildlife, and plant



populations and diversity. The proposed activities are within the subwatershed. The ACS Objectives are listed on page B-11 of the Record of Decision for the NWFP.

**ACS Objective 1: Maintain and restore the distribution, diversity, and complexity of watershed and landscape-scale features to ensure protection of the aquatic systems to which species, populations and communities are uniquely adapted.** None of the alternatives would retard or prevent attainment of this objective. The small size of the project site and the associated potential effects would be minimal on a watershed scale. Alternatives 2 (Proposed Action) and 3 would result in new development of less than 0.2 acre (.0008 percent of sub-watershed). Landscape scale aquatic systems are maintained.

**ACS Objective 2: Maintain and restore spatial and temporal connectivity within and between watersheds. Lateral, longitudinal, and drainage network connections include flood plains, wetlands, upsweep areas, headwater tributaries, and intact refugia. These network connections must provide chemically and physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic and riparian-dependent species.** None of the alternatives would retard or prevent attainment of this objective. Connectivity within and between watersheds would not be affected under any alternative. The proposed project areas are within partially developed areas. The existing condition is providing network connections for fulfilling life history requirements.

**ACS Objective 3: Maintain and restore the physical integrity of the aquatic system, including shorelines, banks, and bottom configurations.** None of the alternatives would retard or prevent attainment of this objective. There would be no additional shoreline developed under the action alternatives. The shoreline under the existing condition has experienced some development, but the physical integrity is intact.

**ACS Objective 4: Maintain and restore water quality necessary to support healthy riparian, aquatic, and wetland ecosystems. Water quality must remain within the range that maintains the biological, physical, and chemical integrity of the system and benefits survival, growth, reproduction, and migration of individuals composing aquatic and riparian communities.** None of the alternatives would retard or prevent attainment of this objective. Under existing conditions, water quality is very good. Mitigations have been identified to reduce adverse impacts to water quality during construction of the proposed parking area (page 11).

**ACS Objective 5: Maintain and restore the sediment regime under which aquatic ecosystems evolved. Elements of the sediment regime include the timing, volume, rate, and character of sediment input, storage, and transport.** None of the alternatives would retard or prevent attainment of this objective. There would be potential for short-term overland flow of sediments during parking area construction. Sediment that could enter Cultus Lake from the proposed activities would not be substantial, estimated to be less than 0.25 cubic yard, and would not affect the overall sediment regime. Surfacing with crushed rock would reduce the potential of overland flow of sediment. With approximately 0.2 acres proposed for activities (.0008 percent of the watershed), the project would not substantially increase sedimentation on a watershed scale. Under existing conditions, the elements of the sediment regime are maintained. The overland flow from the partially developed parking area is minimal is presently estimated to be less than 0.25 cubic yard.

**ACS Objective 6: Maintain and restore in-stream flows sufficient to create and restore riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing. The timing, magnitude, duration and spatial distribution of peak, high, and low flows must be protected.** None of the alternatives would retard or prevent attainment of this objective. No streams are in the project area. In-stream flows would not be affected by any of the alternatives.

**ACS Objective 7: Maintain and restore timing, variability, and duration of flood plain inundation and water table elevation in meadows and wetlands.** None of the alternative would retard or prevent attainment of this objective. There are no floodplains, meadows, or wetlands in the project area. There would be no effects to floodplain inundation or wetland and meadow water tables under any of the alternatives.

**ACS Objective 8: Maintain and restore the species composition and structural diversity of plant communities in riparian areas and wetlands to provide adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration and to supply amounts and distribution of coarse woody debris sufficient to sustain physical complexity and stability.** None of the alternatives would retard or prevent attainment of this objective. There would be no development of riparian areas under either action alternative. The species composition and structural diversity of plant communities would be maintained. Under the existing condition, some riparian vegetation has been impacted from the resort, including the resort boat ramp, and foot traffic along the shoreline. The riparian vegetation zone is very narrow along the lake, often less than 10 feet wide. The species composition and structural diversity would be maintained when put in context of the entire lake, which has 8.1 miles of shoreline.

**ACS Objective 9: Maintain and restore habitat to support well-distributed populations of native plant, invertebrate, and vertebrate riparian-dependent species.** None of the alternatives would retard or prevent attainment of this objective.

There would be no effect to the distribution within and between watersheds of native plants, invertebrates, and vertebrates. Some trees would be removed under the action alternatives, but this action would not be anticipated to affect the distribution of these native plants. Under existing conditions, there is sufficient habitat to support native plants, invertebrates, and vertebrates.

**Executive Orders 11988 (Floodplain Management) and 11990 (Protection of Wetlands)**

Neither action alternative is located within a wetland or floodplain or has specific actions that would adversely affect wetlands and floodplains, either short- or long-term. Proposed activities in Alternatives 2 (Proposed Action) and 3 are compliant with the orders and USDA Departmental Regulation 9500-3.

### Wildlife Resource

**Affected Environment:** The project area is: 1) within nesting, roosting, and foraging (NRF) habitat and the 0.7-mi buffer of a historic spotted owl nest; 2) in a designated Critical Habitat Unit for the spotted owl; 3) within a 300 foot Riparian Reserve; 4) is in an established recreation facility; and 5) currently in a disturbed condition. The area immediately surrounding the project area is vegetated primarily by late-successional mixed conifer. There are some remnant large ponderosa pine, Engelmann spruce, and Douglas fir in and around the parking areas, as well as some smaller lodgepole pine, ponderosa pine, and true fir. Although the proposed activities are located in sites that have been disturbed and are currently being utilized for parking and boat launching, the site is within a Critical Habitat Unit. Spotted owls were last seen using the nearby home range in 1988; subsequent surveys in the 1990s and the early 2000s yielded no response.

**Tables 2, 3, and 4** display the wildlife and habitats that have been reviewed for determination of effects from proposed activities. Each species potentially represents a community of animals that have specific requirements, many of the requirements overlapping with other species. The Northern Spotted Owl was the only identified ecological indicator species and is addressed in the biological evaluation and the biological assessment, located in the official Record.

**Table 2: Forest Plan Management Indicator Species (MIS) and Habitats**

Deer	Transition Range	Raptors*1	x*2
	Summer Range	Woodpeckers	x
	Winter Range	Great Blue Heron	
	Fawning Habitat	Waterfowl	x
Elk	Transition Range	California Wolverine	
	Summer Range	American Marten	
	Winter Range	Western Big-Eared Bat	
	Calving Habitat	Logs/Down Wood spp.	
	Key Elk	Special Habitats	x
*1 - Includes Northern spotted owl, bald eagle, golden eagle, peregrine falcon northern goshawk, redtail hawk, Cooper's hawk, sharp-shinned hawk, great gray owl (also a Survey and Manage spp.), and osprey.			
*2 - x = potentially affected by project/activity. No habitat resulting from survey.			

**Table 3: Species of Concern (USFWS)**

Northern Goshawk	Black Tern
Harlequin Duck	Olive -Sided Flycatcher
Tri-Colored Blackbird	Western Sage Grouse
Ferruginous Hawk	Pygmy Rabbit
Pacific Western Big-Eared Bat	Small-Footed Myotis
Long-Eared Myotis	Long-Legged Myotis
Yuma Myotis	Fringed Myotis
California Wolverine	Pacific Fisher
Preble's Shrew	Northern Sagebrush Lizard
Tailed Frog	Cascades Frog

**Table 4: Northwest Forest Plan \***

S&M Mollusks	x	Great Gray Owl (S&M)	
Snags (matrix)		Coarse Woody Debris (matrix)	
Riparian Reserves	x	Late Successional Reserves	x
Green Tree Retention (matrix)		LOS Retention (matrix)	
Bats (matrix)		Woodpeckers (PB)	
Flammulated Owl		Canada Lynx	

\* **PB**: Protection buffer species (NWFP).

### Management Indicator Species (MIS), Survey and Manage Species (S&M), Species of Concern

Alternative 1 (No Action), Alternative 2 (Proposed Action), and Alternative 3: The project area is currently not providing habitat for any MIS or S&M species. Although the proposed shower/laundry/ employee housing facility and the facility parking area would be located within an LSR and the proposed parking area would be located within an LSR and a Riparian Reserve, these areas have had substantial disturbance from resort operations. These areas are not currently meeting standards for either LSR or Riparian Reserves. The projects would have a neutral effect on the condition of the LSR and the Riparian Reserve in the Cultus Lake Subwatershed. The proposed parking area would benefit nearby vegetation by defining and restricting vehicle parking to already disturbed areas. The short-term tendency of visitors to park vehicles in currently undisturbed areas would be reduced. The proposed shower/laundry/employee housing facility would be located in an area that has had substantial disturbance and would not change stand structure. Some trees may need to be removed for the associated drainfield. No negative impacts were identified.

### Threatened, Endangered, and Sensitive Species

The threatened, endangered or sensitive animal species listed in **Table 5** are known to occur or may potentially occur on the Bend-Ft Rock District. Suitable habitat occurs in the project area for only the northern spotted owl and bald eagle. The project is subject to the Project Design Criteria described in the 2001-2003 Deschutes National Forest Programmatic Biological Assessment (BA). Project Design Criteria are described in Appendix A, pages 33 to 36 and Appendix B, pages 42 and 43.

**Table 5: Threatened, Endangered or Sensitive Animal Species - Bend-Ft. Rock Ranger District**

Species	Common Name	Federal Classification
<b><i>Haliaeetus leucocephalus</i></b>	<b>Northern bald eagle</b>	<b>T</b>
<b><i>Strix occidentalis caurina</i></b>	<b>Northern spotted owl</b>	<b>T</b>
<i>Buteo regalis</i>	Ferruginous hawk	S, SOC
<i>Falco peregrinus anatum</i>	American peregrine falcon	S
<i>Histrionocus histrionicus</i>	Harlequin duck	S, SOC
<i>Numenius americanus</i>	Long-billed curlew	S
<i>Centrocercus urophasianus</i>	Western sage grouse	S, SOC
<i>Grus canadensis tabida</i>	Greater sandhill crane	S
<i>Lynx canadensis</i>	Canada lynx	T
<i>Gulo gulo luteus</i>	California wolverine	S, SOC
<i>Corynorhinus townsendii</i>	Western big-eared bat	S, SOC
<i>Sorex preblei</i>	Preble's shrew	S, SOC
<i>Sylvilagus idahoensis</i>	Pygmy rabbit	S, SOC
<i>Rana pretiosa</i>	Oregon spotted frog	C

**Bolded species** are those with suitable habitat within the project area.

**Federal Classification:** **T** = Threatened, **E** = Endangered, **P** = Proposed for Federal listing, **S** = USFS Region 6 Sensitive, **C** = USFWS Candidate species, **SOC** = USFWS Species of Concern

### Northern Bald Eagle

**Affected Environment:** The project area contains suitable habitat. The closest known eagle nest to the project area is approximately 2.4 air miles away. Although eagles are occasionally observed near the project area, they are not regular inhabitants of this area.

#### **Alternative 1 (No Action), Alternative 2 (Proposed Action), and Alternative 3**

**Direct, Indirect, and Cumulative Effects:** There are no known eagle nest sites within ¼ mile (½ mile line-of-sight) of the project area. It is likely that current levels of recreation on Cultus Lake would prevent regular use by eagles. All alternatives would be consistent with the PDCs for the northern bald eagle. No direct, indirect, or cumulative effects are expected to result from the any alternative.

Although bald eagles are occasionally seen at Cultus Lake, there are no known nesting locations in the near vicinity. The project area is not within a Bald Eagle Management Area, and eagle use near the project area is incidental. The project is not expected to result in a substantial increase in recreational use of Cultus Lake. The project would have no adverse effect on bald eagles or their habitat. All project design criteria are met or were not applicable (Appendix A, pages 33 and 34).

### Northern Spotted Owl

**Affected Environment:** The Cultus Mountain LSR is approximately 18,000 acres, with 3,851 acres of Nesting, Roosting, and Foraging (**NRF**) and 15,086 acres of spotted owl Critical Habitat Unit (**CHU**). Within the CHU, there are approximately 13,751 acres of suitable spotted owl habitat (NRF and dispersal habitat) and 1,335 acres of unsuitable habitat. The project area is within the 0.7-mile buffer surrounding an historic spotted owl nest. Spotted owl surveys were completed to two-year protocol in 2002 and 2003. The site has been previously surveyed (1993, 1995, 1996, and 2000) since owls were last detected in 1990. Current levels

of recreational use at Cultus Lake likely preclude any sustained use of adjacent habitats by spotted owls.

#### **Alternative 1 (No Action)**

**Direct and Indirect Effects:** There would be no immediate change to the present NRF habitat of the northern spotted owl. The site would maintain the stand structure and trends to that structure that are presently occurring on approximately six tenths (0.6) of an acre.

#### **Alternative 2 (Proposed Action) and Alternative 3**

**Direct Effects:** The proposed activities would begin during the recreation season (summer and early fall) of 2003, nesting season of the northern spotted owl. Ambient noise associated with the project is not likely to be greater than the existing noise created by vehicle traffic, watercraft motors, and the routine operation and maintenance of the resort. If owls nest near the project area, noise from the project would not likely affect them. The project would involve direct removal of habitat from a CHU. Although the project area is located in disturbed sites currently being utilized for parking and storage, the habitat could still be considered potential owl foraging and/or dispersal habitat. The projects would not affect more than one (1) acre of land, affecting .005% of the LSR, .006% of the CHU, .025% of the NRF stand, and .004% of the Cultus Lake Subwatershed.

**Indirect Effects:** The project would utilize areas that are presently in a disturbed condition as a result of past resort use. These areas would be located within the surveyed and marked resort permit boundary. The project is intended to manage existing recreational use at the Resort, and is not expected to result in additional recreation-associated disturbance. No indirect effects due to increased disturbance are expected.

**Cumulative Effects:** The Cultus Lake Forest Service Improvements Project could be implemented beginning in late summer, 2003. The project would be within the Cultus Mountain LSR. This project would include the replacement of the Cultus Lake Boat Ramp and redesign and improvement of the adjacent parking areas. A neutral effect on spotted owl habitat is expected. An additional reasonably foreseeable action could occur if the new drain field should fail, in which case a new drain field, similar to the one described in this document, would need to be constructed. The proposed project is of limited scope and is unlikely to substantially increase cumulative effects in the Cultus Lake area.

**Summary of Effects:** The project is of limited scope and would occur in disturbed areas of the resort that are receiving recreational and resort use. The resort is not currently functioning as habitat for the spotted owl, and is not expected to provide habitat in the foreseeable future. Disturbance associated with current levels of recreation would likely exclude any sustained use of this area by spotted owls. The proposed action would alter, but would not downgrade or degrade existing habitat in the CHU. The project May Affect but is not likely to Adversely Affect the spotted owl and its habitat.

**LSR determination of Neutral or Beneficial to the creation and maintenance of late-successional habitat:** The Cascades Lake Watershed covers 165,772 acres. Currently, 24 percent (39,840 acres) of the watershed provides suitable nesting, foraging, and roosting habitat (NRF) for the northern spotted owl. The Cultus Mountain Late-Successional Reserve is approximately 18,000 acres, with 3,851 acres of NRF and 15,086 acres of spotted owl Critical Habitat Unit (CHU). Within the CHU, there are approximately 13,751 acres of suitable spotted owl habitat (NRF and dispersal habitat) and 1,335 acres of unsuitable habitat. Approximately 60 percent (10,820 acres) of the 18,000 acres has canopy cover of 71 percent or greater, including the area of the proposed activities. Of the 18,000 acres, approximately 9,950 acres (55 percent) is designated as Late and Old Growth. This project would remove trees from approximately one-third (0.35) of an acre in areas of usual and customary use of the resort. This is substantially less than one-half of one percent (0.005) of the Late and Old Growth acreage within the Late-Successional Reserve, continuing to meet or exceed 15 percent of the area that is defined as Late and Old Growth. The proposed activities would have a neutral effect on present spotted owl habitat and riparian habitat because:

- The locations of the proposed activities would be the most logical locations.
- The locations have had substantial usual and customary use and substantial vegetative removal.
- The proposed activities would reduce vegetative and soil disturbance in areas of undefined parking.
- The improvements would have continued maintenance to maintain the integrity of the surrounding environment.
- The locations would be in areas with seasonal activities associated with boat motors, passenger vehicles, and non-motorized activities.
- Short-term ambient noise associated with the project would not likely be greater than the existing noise created by vehicle traffic, watercraft motors, and the routine operation and maintenance of the resort.
- The locations would be located in a defined permit boundary that would prohibit resort improvements to occur outside of that boundary without prior analysis.

**Informal Consultation:** Informal consultation with the U. S. Fish and Wildlife Service (USFWS) was begun on February 13, 2003.

Informal consultation concluded with project concurrence on April 17, 2003. Concurrence was based on the following supporting rationale:

- The project will impact up to one acre of suitable habitat that previously has been disturbed in an area that experiences a high rate of recreational use.
- There are 3,851 acres of suitable habitat within the 18,000-acre Cultus Mountain Late-Successional Reserve. Therefore, the removal and downgrading of 1 acre of suitable habitat (i.e., 0.026% of suitable habitat within the LSR) that has been previously disturbed will have a negligible effect on spotted owl habitat.
- There are 15,086 acres (13,751 acres of suitable habitat) within the Critical Habitat Unit. Therefore, the project will affect 0.007% of the area within the CHU. The proposed action would take place within an existing resort. This area currently does not provide suitable habitat for spotted owls. Therefore, the project will not affect the function of existing habitat within the Critical Habitat Unit.
- The nest site has not been active since 1990. Most recently, this home range was surveyed four times in 2002 and no owls were detected.

## Botany Resource

### Affected Environment

**Proposed, Endangered, Threatened, and Sensitive (PETS) Plants:** A October 23, 2001 pre-field review revealed no potential habitat for any PETS plant species (Appendix D, page 50).

**Noxious Weeds:** Currently, there are no known sites of noxious weeds within the project area. The following species, provided in Table 6, are listed by the Oregon Department of Agriculture as noxious weeds. These are species designated by the Oregon State Weed Board as injurious to public health, agriculture, recreation, wildlife, or any public or private property (Appendix D, pages 56 and 57).

#### Noxious Weeds Of Concern For The Project Area

- **Spotted knapweed**, *Centaurea maculosa*, is very competitive on disturbed dry to moderately moist sites and grows in early Spring before many native plants. Distribution over large areas is linked to transportation systems. There are known sites along Highway 46 that are currently being treated under the Deschutes National Forest Noxious Weed Control Environmental Assessment (1998).
- **Canada thistle**, *Cirsium arvense*, is not of serious concern in forest communities because population levels decrease as the forest canopy overtops it. It can readily invade moist, open areas and meadows. Scattered new sites have been observed along Highway 46 between Elk Lake and Crane Prairie Reservoir.

**Table 5: Deschutes National Forest Noxious Weed List**

Scientific Name	Common Name	Presence
Agropyron repens	Quackgrass	Documented
Cardaria (=Lepidium) draba	Whitetop	Potential
Carduus nutans	Musk thistle	Potential
Carduus pycnocephalus	Italian thistle	Potential
Centaurea diffusa	Diffuse knapweed	Documented
Centaurea maculosa	Spotted knapweed	Documented
Centaurea pratensis	Meadow knapweed	Documented
Centaurea repens	Russian knapweed	Potential
Centaurea solstitialis	Yellow star-thistle	Potential



Centaurea virgata var. squarrosa	Squarrose knapweed	Potential
Cirsium arvense	Canada thistle	Documented
Cirsium vulgare	Bull thistle	Documented
Conium maculatum	Poison hemlock	Potential
Cynoglossum officinale	Common houndstongue	Documented
Cytisus scoparius	Scot's broom	Documented
Dipsacus sylvestris	Teasel	Potential
Euphorbia esula	Leafy spurge	Documented
Hypericum perforatum	St. Johnswort	Documented
Isatis tinctoria	Dyer's woad	Documented
Kochia scoparia	Kochia	Potential
Linaria dalmatica	Dalmation toadflax	Documented
Linaria vulgaris	Butter and Eggs	Documented
Lythrum salicaria	Purple loosestrife	Potential
Onopordum acanthium	Scotch thistle	Documented
Phalaris arundinacea	Reed canarygrass	Documented
Ranunculus repens	Creeping buttercup	Potential
Salvia aethiopsis	Mediterranean sage	Potential
Senecio jacobaea	Tansy ragwort	Documented
Taeniatherum caput-medusae	Medusahead	Potential

**Documented:** there is at least one known site on the Deschutes National Forest; **Potential:** species is not recorded on the Forest, but the potential for infestation exists (e.g., weed occurs within the range of seed transport or events or practices are occurring which makes the transport likely).

**Prevention Strategy:** Prevention of noxious weeds is always the preferred strategy because it is most effective and least costly. Prevention measures are found in botany mitigations, 5 through 8, page 11.

**Survey and Manage (Appendix D, pages 54 and 55)**

**Vascular Plants:** There is no known Botrychium minganense and B. montanum, grape-fern, habitat or sites present within the project area requiring pre-disturbance surveys or management of those sites. A Fall 2002 field review determined that no habitat for Tetraxis geniculata was present.

**Non-Vascular Plants:** There is no known habitat or sites present within the project area that requiring pre-disturbance surveys for bryophytes Schistostega pennata, Marsupella emarginata var. aquatica and Tritomaria exsectiformis.

**Lichens:** There is no habitat or sites present within the project area for Pseudocyphellaria rainierensis requiring pre-disturbance survey.

**Fungi:** There is no habitat present within the project area for Bridgeoporous nobilissimus requiring pre-disturbance survey. There are no known sites present within the project area for Bondarzewia mesenterica, Otidea leporina, Otidea smithii, Polyozellus multiplex, or Sowerbyella rhenana).

**Alternative 1 (No Action):**

**Direct and Indirect Effects:** A low risk ranking was given for Noxious Weeds because there is risk that weed parts and seed will accidentally be introduced into the area by human activity. There are no expected direct, indirect, or cumulative effects to Survey and Manage species in this alternative, because there are no Survey and Manage sites located within this area. There is no PETS plant habitat within the project area

**Alternative 2 (Proposed Action) and Alternative 3:**

**Direct and Indirect Effects:** Implementation of either action alternative would have no direct, indirect, or cumulative effects upon any PETS plants because no PETS plant habitat was located within the project area. A moderate risk ranking was given for noxious weeds because, although there are no known noxious weeds within the project area and mitigation measures would be implemented, the project involves extensive ground disturbance and the use of heavy equipment and the importation of gravel from outside the area increases the risk of the introduction of noxious weeds during project activities. There are no expected direct, indirect, or cumulative effects from the implementation of this alternative to Survey and Manage species because there were no sites located within the proposed project area. A Fall 2001 prefield review determined a low probability for *Tetraphis geniculata*, a Survey and Manage moss species.

**Cumulative Effects:** The project area could be affected if native plants did not quickly revegetate disturbed ground. Noxious weeds could be accidentally introduced in the disturbed areas.

**Cultural Resource**

**Affected Environment:** Several previous projects adjacent to the current project area located no historic properties, including historic and prehistoric sites in the vicinity of the resort. Surveys for this project located no historic properties or potential historic properties.

**Alternative 1 (No Action), Alternative 2 (Proposed Action), and Alternative 3:** No adverse or beneficial effects to Cultural Resources are expected from any of the alternatives.

**Scenic Resource**

**Affected Environment:** The project area is located within the Foreground viewing distance zone. The existing scenic integrity provides a variety of disturbed and undisturbed areas. Past human activities (recreation development) have intruded into the "natural appearing" landscape character within the Cultus Lake area. Current recreation use is high at Cultus Lake. Existing developed recreation facilities are well established with strong historical, cultural, and recreational values and usage. Most of these facilities blend into and are subordinate to the natural environment. The impact on landscape character will always be evidenced. Although recreational use of Cultus Lake is growing, the proposed projects would not be expected to substantially modify recreational use numbers.

The effect on scenic resources, specifically on landscape character and scenic integrity, can be classified into two categories, short-term (0 to 5 years) and long-term (5 years and beyond). Effects from the proposed management activities would be most evident to the visiting public within the immediate Foreground landscape (0 to 300 feet). Landscape character and scenery are directly correlated to the levels of development.

**Alternative 1 (No Action):** There would be no change to the existing landscape character or scenic quality level. Routine and basic site maintenance would continue as required to meet basic health and safety standards and guidelines.

**Alternative 2 (Proposed Action):** The effect to scenic resources would be expected to be minimal from construction of the proposed parking area and construction of the proposed shower/laundry/ employee housing facility with associated parking area and drain field. The removal of some existing vegetation from this site is unavoidable in order to meet the project goal and objective, as well as design criteria. The proposed activities are within the Intensive Recreation management allocation that is within the Roaded Natural classification. The Roaded Natural (Recreation Opportunity Spectrum (ROS) classification) and Intensive Recreation experience are consistent with the Forest Plan and the setting would be expected to remain unchanged or slightly improved upon with the completion of this project. The overall effect on scenic view, landscape character, and recreation experience is expected to be minimal during reconstruction activities. With effective mitigation measures (Mitigation Measures, Scenic Resource, page 13), the effect(s) on scenic view and landscape character is expected to fully meet the Forest Plan and ROS classification for project area.

**Alternative 3:** The effect on scenic resources would be similar to Alternative 2. The removal of additional vegetation to improve vehicular circulation and parking efficiency could slightly alter the existing landscape character and scenic integrity level. Upon completion of this reconstruction project, including site rehabilitation of any impacted area during construction, the overall scenic quality and recreation experience would be expected to be maintained or benefit from the proposed activities. The Roaded Natural experience and setting would be expected to improve upon the completion of this project. The overall effect on scenic view, landscape character, and recreation experience is expected to be minimal during reconstruction. With effective mitigation

measures, the effect(s) on scenic view and landscape character is expected to fully meet the Forest Plan and ROS classification for project area

### Soil Resource

**Existing Condition:** Soils, in general, are typically volcanic ash and sand-sized pumice tephra with moderate to high porosity. Sites may vary depending on soil particle size. As particle size increases, porosity increases. The area of the proposed parking area is compacted from previous years of storage and other unknown uses. This area has also served as access to areas not contained within the resort boundary and has been used for Forest Service administrative use. The areas surrounding the proposed drainfield site are compacted as a result of the proximity of facilities, temporary summer housing, storage, and the entry road to the resort.

**Alternative 1 (No Action):** Uses within the resort permit boundary would continue as has been usual and customary. There would be no change to soils.

**Alternative 2 (Proposed Action) and Alternative 3:** Soil suitability for the proposed drainfield site will be analyzed and determined by the Deschutes County Community Development and Environmental Health or the Oregon Department of Environmental Quality. If the soils are determined to be suitable, a permit would be issued for drainfield construction.

### Public Health and Safety

Proposed activities in Alternatives 2 (Proposed Action) and 3 would improve public health and safety by: 1) the reduction of the risk of auto/human collision; 2) the reduction of the risk of human conflict; and 3) the reduction of the risk from reduced line-of-sight from vegetation.

No significant adverse effects to public health or safety have been identified. The effects of implementation of the alternatives are well known, not highly controversial, and do not involve any unique or unknown risks. Effects meet or exceed state water quality standards.

### Public/Commercial Firewood Gathering

The proposed activities would not generate wood products that would provide firewood for the public. Trees that would be removed during project activities would be used for fish and/or wildlife habitat enhancement activities and for use by the resort.

### Prime Lands

There are no lands within the planning area that are classified as prime farm or rangelands. Proposed activities in Alternatives 2 (Proposed Action) and 3 would not change areas classified as prime forestland. There would be no direct, indirect, or cumulative adverse effect to these resources and thus are in compliance with the Farmland Protection Act and Departmental Regulation 9500-3, "Land Use Policy".

### Civil Rights and Environmental Justice

Civil Rights legislation and Executive Order 12898 (Environmental Justice) direct an analysis of the proposed alternatives as they relate to specific subsets of the American population. The subsets of the general population include ethnic minorities, disabled people, and low-income groups. The purpose of the analysis is to determine whether adverse civil rights impacts are anticipated on an underrepresented population. The analysis is to determine also whether disparate or disproportionate impacts associated with the alternatives are anticipated. A primary purpose of the alternatives is to provide for the health and safety of all members of the public by reducing the risk of endangerment from vehicles. Provision of these benefits does not discriminate between subsets of the general population.

### Compliance With State and Local Laws

Implementation of Alternative 1 (No Action), 2 (Proposed Action), or 3 would be consistent with relevant Federal, State and local laws, regulations, and requirements designed for the protection of the environment including the Clean Air and Clean Water Act. None of the alternatives establishes a precedent for future actions or a decision in principle about a future consideration.

### Other Effects and Findings

Wetlands, fisheries, water quality and designated floodplains would not be adversely affected by any of the proposed management activities (Appendix B, Official Record, Bend-Fort Rock Ranger District office).

No designated roadless areas, old growth stands, prime farmland, wild and scenic rivers, or parkland would be adversely affected by the proposed activities. No significant irreversible or irretrievable commitment of resources would occur under Alternatives 2 (Proposed Action), or 3. There would be some negligible irretrievable losses of fugitive dust caused by mechanical operations.

Proposed management activities are consistent with the Record of Decision for the Final Environmental Impact Statement for Managing Competing and Unwanted Vegetation and the subsequent Mediated Agreement of 1989 (Appendix D, Official Record of the project files at the Bend-Fort Rock Ranger District office).

The alternatives are consistent with the goals, objectives and direction contained in the Deschutes National forest Land and Resource Management Plan and accompanying Final Environmental Impact Statement and Record of Decision dated August 27, 1990, the Northwest Forest Plan, 1994, the Cascade Lakes Watershed Analysis, 1995, and the Cultus Mountain/Sheridan Mountain Late-Successional Reserve Assessment, 1996. The proposed activities would not be designed as a part of a new recreational development, page C-17, Record of Decision, Northwest Forest Plan. The proposed activities would be located within the permit boundary of the Cultus Lake Resort and are consistent with the resort master plan. The proposed activities would be located in areas of usual and customary use (areas of substantial disturbance). None of the alternatives establishes a precedent for future actions or a decision in principle about a future consideration. The Regional Ecosystem Office was consulted (personal communication) during the summer of 2001.

### REASONABLY FORESEEABLE ACTIONS ADJACENT TO THE PROJECT AREA

Cultus Lake Forest Service Improvements EA - This EA would: 1) Remove, reconfigure, and replace the boat ramp and docking area; 2) Dredge to improve access to open water from the boat ramp; 3) Redesign the parking areas to incorporate increased and designated parking. These proposed activities would be located where usual and customary use has occurred for several years. The boat ramp and parking areas are located within the riparian reserve and a Late Successional Reserve, Roaded Natural area, and Intensive Recreation Management Areas. The site-specific analysis has been completed. A decision on an Alternative has not been made.

A forested area has been identified that would be provided in the event of drainfield failure. This site is adjacent to the drainfield that is proposed in conjunction with the shower/laundry/employee housing facility.

### LIST OF PLANNING PARTICIPANTS

This section identifies the Forest Service Interdisciplinary Team specialists who participated in the analysis and the preparation of the EA. For a list of organizations and individuals contacted during the scoping process, refer to the official record located at the Bend-Ft. Rock Ranger District.

David Frantz	- Interdisciplinary Team Leader and Writer/Editor
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Charmane Levack	- Botanist
Pat Joslin	- Botanist
Vicki Ramming	- Recreational Planner
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- Landscape Architect  
- Archeologist  
- Facilities Civil Engineer  
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