ENVIRONMENTAL ASSESSMENT

LUNDGREN LAND EXCHANGE

Lead Agency:

USFS Deschutes National Forest
Sisters Ranger District
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Sisters, OR 97759

Project Applicant:

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Environmental Consultant:

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April 3, 2002

ENVIRONMENTAL ASSESSMENT
for the
Lundgren Land Exchange

Deschutes National Forest
Sisters Ranger District

Lead Agency:	USDA Forest Service
Cooperating Agencies:	US Fish and Wildlife Service State of Oregon Historical Preservation Office
Responsible USFS Official:	Leslie Weldon, Forest Supervisor USDA Forest Service Deschutes National Forest 1645 Highway 20 East Bend, Oregon 97701

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LIST OF ACRONYMS

ACS Aquatic Conservation Strategy

AINW Archaeological Investigations Northwest, Inc.

BA Biological Assessment

BE Biological Evaluation

BLM US Department of the Interior, Bureau of Land Management

BMPs Best Management Practices

CFR Code of Federal Regulations

cfs cubic feet per second

CRA Congressionally Reserved Area

CSRR-5 Camp Sherman Rural Residential Zone-Five (zoning designation)

DEA David Evans and Associates, Inc.

DEQ Oregon Department of Environmental Quality

DSL Oregon Division of State Lands

EA Environmental Assessment

ESA Endangered Species Act of 1973

ESU Evolutionarily Significant Unit

FEMA Federal Emergency Management Administration

FR Forest Service Road

LRMP Land and Resource Management Plan

LSR Late-Successional Reserve

NFS National Forest System

NRF nesting, roosting, foraging (spotted owls)

NMFS US Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service

NEPA National Environmental Policy Act

NF National Forest

NWFP Northwest Forest Plan

NWI National Wetlands Inventory

ODFW Oregon Department of Fish and Wildlife

ONHP Oregon Natural Heritage Program

OPRD Oregon Parks and Recreation Department

ORCA Oregon Resource Conservation Act

PETS Proposed (for ESA listing), Endangered, Threatened, and Sensitive (species)

PIG Policy Implementation Guide

ROD Record of Decision

S**&**M Survey and Manage (species)

SHPO State Historical Preservation Office

ST shovel test

SUP Special Use Permit

TES Threatened and Endangered Species

TSP Transportation System Plan

TU test unit

USDA US Department of Agriculture (U.S. Forest Service)

USDI US Department of the Interior (Bureau of Land Management, Fish and Wildlife Service)

USFS US Department of Agriculture, Forest Service

USFWS US Department of the Interior, Fish and Wildlife Service

US United States

WSR Wild and Scenic Rivers

WRSMP Wild and Scenic River Management Plan

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1.0 PROJECT DESCRIPTION

1.1 LOCATION OF THE PROPOSED PROJECT

The project area is within the boundary of the Deschutes National Forest, northwest of Sisters, Oregon, in Jefferson County. Three sites constitute the project area, primarily near the community of Camp Sherman and on the Metolius River (see Figure 1: Vicinity Map; site photographs are in Appendix A). The three properties involved in the proposed exchange are within approximately three miles of one another. Federal Parcel 1, also known as the Cliff parcel, is located between the Metolius River on the east and the private land developed as the House on the Metolius resort. (The owner of the resort, Metolius, LLC, is a sponsor of this Environmental Assessment and the property exchange.) This parcel is 2.5 acres in size and is located in T12S., R9E, Section 34.

Federal Parcel 2 (4.8 acres) borders the community of Camp Sherman and is on the south side of the Sherman-Suttle Road. This property is referred to as the School property because it contains uses associated with the Black Butte School. The Metolius River is 0.25 miles to the east. This parcel is located in T13S, R9E, Section 10.

Non-Federal Parcel 1 (5.99 acres) is near the confluence of Lake Creek and the Metolius River and is referred to as the Lake Creek property. This parcel is located in T13S, R9E, Section 10.

1.2 SCOPE AND NATURE OF THE PROPOSED ACTION

The Proposed Action is to exchange the Lake Creek property (Non-Federal Parcel 1-5.99 acres of non-federal, privately-owned land) for the Cliff and School properties (Federal Parcels 1 and 2-7.3 acres of federally-owned land that is managed by the Forest Service [USFS]). Metolius, LLC owns the Lake Creek property and would deed that property to the federal government in exchange for ownership of the Cliff property (Federal Parcel 1, the 2.5-acre federal property that directly abuts the House on the Metolius resort) and the School property (Federal Parcel 2, the 4.8-acre federal property near Camp Sherman). The Cliff property has an encroachment currently authorized by a Special use Permit held by The House on the Metolius. The 4.8-acre School property contains church and school uses, also authorized by Special use permit. Following the exchange, Metolius, LLC would donate the School property to the Black Butte School District. There is no development activity associated with the Proposed Action. The proposed exchange must meet specific land exchange criteria established by

USFS to protect forest resources.

1.3 INTERRELATIONSHIPS WITH OTHER USES AND JURISDICTIONS

1.3.1 Land Ownership

The Cliff and School properties are federally-owned lands in the Deschutes National Forest that are managed by USFS. The Lake Creek property is located inside the Deschutes National Forest boundary, but is owned by Metolius, LLC.

Figure 1: Vicinity Map **NOT AVAILABLE ON LINE**

1.3.2 Planning by Others

Several government agencies are responsible for land use management and planning in the vicinity of the project sites. The agencies and their applicable land-use plans and programs are listed below. The proposed project has been found to be consistent with the applicable guidelines from these plans and programs, which are discussed in detail in Section 4.2.7.

USFS, a division of the US Department of Agriculture, manages National Forest lands. Three forest management plans govern uses on federal lands in the Deschutes National Forest:

- Deschutes National Forest Land and Resource Management Plan, 1990 (USFS 1990)
- Northwest Forest Plan, 1994, via the Metolius Watershed Analysis, 1996 (USFS 1996a) and the Metolius Late-Successional Reserve Assessment, 1996 (USFS 1996b)
- Metolius Wild and Scenic River Management Plan, 1996 (USFS 1996c)

The Land and Resource Management Plan (LRMP) (USFS 1990) established management areas within the forest. The Northwest Forest Plan (USFS 1996 a and 1996b) modified and renamed those land allocations but retained some of the Standards and Guidelines from the LRMP. The Metolius Wild and Scenic River Plan (USFS 1996c) further modified both documents, providing more specific direction for the Metolius River corridor, but also retained by reference specific elements of both previous documents.

Oregon Parks and Recreation Department administers the Oregon Scenic Waterways Program (OPRD 1970), which protects the free-flowing nature of designated waterways and ensures that new development is consistent with the expected aesthetic and recreational experiences on scenic waterways. The program applies to all potential development along the waterway.

The Oregon Plan for Salmon and Watersheds (Oregon 1997) requires coordination between agencies to restore salmon runs and improve watershed health.

The Jefferson County Comprehensive Plan (Jefferson County 1981) and Zoning Ordinance govern uses on private land in unincorporated Jefferson County.

1.3.3 Overview of the Land Exchange Process

The exchange is being conducted under the authority of the Wild and Scenic Rivers Act of 1964, the General Exchange Act of 1922, and the Federal Land Policy and Management Act of 1976, as amended by the Federal Land Exchange Facilitation Act of 1988. In general, those regulations allow USFS land within a Wild and Scenic River Corridor (all properties under consideration are in the corridor) to be exchanged for non-federal lands within the corridor that have higher resource and public values.

The steps in the Land Exchange process for the Proposed Action are summarized as follows:

- Request by property owner for USFS to examine the potential for an exchange
- Preliminary assessment of properties proposed for exchange (Consultation Report under Standards Rule 5 of the Uniform Standards of Professional Appraisal Practice)
- Forest Service signs an Agreement to Initiate Decision
- Publish public notice for the Environmental Assessment (EA)
- Preparation and publication of the EA
- Publish Decision Notice, based on results of the EA
- Prepare title package, deeds, and required USFS forms

Exhibit E (Implementation Schedule) of the Agreement to Initiate between USFS and Metolius, LLC contains a list of individual action items that fall under the general activities listed above.

Deschutes and Ochoco National Forests Website

http://www.fs.fed.us/centraloregon/manageinfo/nepa/documents/sisters/lundgren/eechap1.html

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2.0 PURPOSE OF AND NEED FOR THE PROJECT

2.1 INTRODUCTION

USFS and Metolius, LLC are proposing the land exchange for the main purposes of acquiring important riparian and aquatic habitat and relieving the administrative burdens associated with three Special Use Permits on forest land. Other net benefits from the exchange are better public recreation values and access to Recreation Residences that are currently without legal access.

The Northwest Forest Plan directs USFS to "use land acquisition, exchange, and conservation easements to meet Aquatic Conservation Strategy objectives and facilitate restoration of fish and other species at risk of extinction." The proposed exchange would result in USFS trading frontage on a portion of the Metolius River that is fast-flowing with steep, rimrock banks, with little public access, for higher value fish and wildlife habitat along Lake Creek, near the confluence with the Metolius River. Without the project, the Lake Creek property could be developed with a single-family residence, and the existing riparian habitat could be removed or altered. In addition, there are USFS leased cabin sites on a parcel abutting the Lake Creek property to the north (Tract E). Formerly, a bridge across the Metolius River provided legal access to the Tract E cabins. After the bridge failed, it was removed in 1995 and the cabins have had no legal access since then.

The House on the Metolius is a resort on private property near the Metolius River. In the 1930s, two guest cabins were inadvertently built over the property line that divides the House on the Metolius property from the Cliff property. Every five years, the owner (Metolius, LLC) is required to apply for and obtain a Special Use Permit for the cabins. The proposed project would allow the House on the Metolius uses to continue and eliminate the need for the Special Use permits, thus relieving both parties of the time and effort needed to obtain the permits every five years.

Portions of the Black Butte School and the entire Camp Sherman Community church are located on property managed by USFS. As with the House on the Metolius, the proposed project would eliminate two USFS Special Use Permits authorizing the school and church uses, as well as site improvements and maintenance. Private ownership would provide long-term flexibility for the community to manage the church and school facilities and uses.

2.2 ISSUES

Public and internal USFS issues raised during the scoping process are often used to formulate alternatives and mitigation measures, and are used to evaluate alternatives.

Issue 1: Development of private lands degrades water quality and riparian habitat
Jefferson County zoning ordinance allows construction of a single-family residence on the Lake Creek property to within 100 feet of Lake Creek. Private owners are not required to manage riparian habitats for the benefit of water quality, and increasing streamside development usually degrades riparian habitat and water quality. For example, vegetation is often removed to enhance views of the water. The Proposed Action would result in protection of the riparian habitat along both sides of Lake Creek on that property. If the proposed exchange is not completed, additional streamside development could occur along Lake Creek, and water quality in the basin may be negatively impacted.

Issue 2: Forest Service obtaining permanent access to Tract E Recreation Residences
USFS does not have a road easement for legal access to Tract E Recreation Residences and other National Forest System (NFS) lands adjacent to the Lake Creek property. The proposed exchange would provide USFS with the parcel and easement facilitating such access.

Issue 3: Management inefficiency of issuing Special Use Permits for uses that are more consistent with community and private use than forest land use
The School property is not accessible to the public or used as forest land due to long-term school and church uses in a rural residential setting. The Cliff parcel is not very accessible to the public because of the terrain, and has been used as part of the House on the Metolius resort for over 50 years. The users are restricted in their use of the properties and must apply for the permit every five years. USFS incurs the costs of reviewing the applications and managing land that is not too consistent with intended forest land uses. The Proposed Action would remove the requirement for Special Use Permits, provide the Camp Sherman community with flexibility in managing and using the School property, legitimize recreation use of the Cliff property by the House on the Metolius, and eliminate USFS management of two developed properties in exchange for land that has higher recreation and natural resource value.

Issue 4: Reduction of federal ownership of Wild and Scenic River frontage
Under the proposed land exchange, 759 feet of river frontage along the Metolius River on the Cliff property would be removed from federal ownership without replacement.

Issue 5: Encumbrances on property deed for the Lake Creek property.
The bridge accessing Tract E residences is on USFS land with an easement to six private landowners, and a bridge maintenance agreement including USFS and the six private landowners. The road (currently owned by Metolius, LLC) allows access to the residences via an easement and maintenance agreement between Metolius, LLC and the six landowners. USFS currently has no legal easement in place, but will acquire the road with the title, and continue the existing easement agreement with the six private landowners. The six private landowners will enter into a shared maintenance agreement for the road and the bridge, but USFS will not assume any responsibility for maintenance.

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3.0 ALTERNATIVES CONSIDERED

3.1 PREFERRED ALTERNATIVE

The Preferred Alternative is an exchange of 5.99 acres of non-federal land for 7.3 acres of federal land in the Camp Sherman and Metolius River area near Sisters, Oregon, in Jefferson County. All three properties are within the boundary of the Deschutes National Forest. The exchange must meet USFS regulations for balanced land exchanges. Under the Preferred Alternative, no changes in existing land uses would occur.

The federal lands are in two separate parcels. The Cliff property is 2.5 acres and is between the House on the Metolius resort and the Metolius River, a congressionally-designated Wild and Scenic River. The Cliff property has 759 feet of frontage on the Metolius River. One entire cabin and part of another cabin belonging to the resort encroach on the Cliff property by authority of a Special Use Permit. The Preferred Alternative would convey title to the property to Metolius, LLC and remove the need for the Special Use Permit. The second federal property, the School property, is 4.8 acres in the community of Camp Sherman. The property contains developments by the Black Butte School District-Camp Sherman School-and the Camp Sherman Community Church for a playground, bus garage, and church. Upon acquisition of the School property, the parcel would be donated to the school district by Metolius, LLC, which would then lease a portion to the church. Both parcels would likely be rezoned from forest land to a Jefferson County zoning designations that would allow the existing uses to continue. Although new zoning and private ownership would allow some expansion of uses on both properties, the future owners indicated that no expansion is planned.

The non-federal land, the Lake Creek property, is a 5.99-acre parcel of unimproved timber and meadowland with over 400 feet of frontage on Lake Creek, a tributary of the Metolius River. USFS would manage the property in accordance with management direction for Riparian Reserves, a designation of the Northwest Forest Plan, and the Metolius Wild and Scenic River Management Plan, and have the opportunity to apply Aquatic Conservation Strategy objectives to the parcel. Although no development would be allowed on the property, public access to Lake Creek and other adjacent forest land would be enhanced.

The acquired Lake Creek property would be allocated to the Metolius Wild and Scenic River in the Deschutes NF LRMP, making it consistent with the surrounding federal land allocation. Because most

or all of the property is riparian meadow or within the 320 foot Riparian Reserve widths designated for Lake Creek and the Metolius River, the property would also be allocated to Riparian Reserve under the Northwest Forest Plan.

Mitigation measures are proposed as part of the Preferred Alternative. Extensive cultural resources found throughout the School property would be protected by a conservation easement. No development would occur on the parcel without recovering the artifacts that would be affected.

3.2 NO ACTION ALTERNATIVE

Under the No Action Alternative, the land exchange would not occur. Special Use Permits from USFS would continue to be needed for the House on the Metolius encroachment, Black Butte School District, and community church. Uses on the School and Cliff properties would continue to be restricted to the terms of the permits as is the case currently. The Lake Creek property could be developed with a single-family residence, and riparian habitat could be impacted during and after construction.

USFS would proceed with obtaining an easement over the privately-owned road to gain legal access to forest land with Recreation Residences on it.

3.3 ALTERNATIVES CONSIDERED BUT NOT DEVELOPED

The Small Tracts Act (1983, United States Code, Section 521c) permits the sale, exchange, or interchange by quitclaim deed, of USFS lands. If allowed under this act, selling the properties to Metolius, LLC could accomplish many of the same goals as the Preferred Alternative. However, the provisions for selling property through quitclaim deeds does not apply to lands that are part of the National Wild and Scenic Rivers (WSR) System. Since the properties are part of the WSR, the sale or exchange of property would not be permitted under the Act and this alternative was not developed further.

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6.0 COORDINATION AND CONSULTATION
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4.0 AFFECTED ENVIRONMENT

4.1 NATURAL SETTING

4.1.1 Soils and Geology

The project site is in the Lower Cascades ecological subsection, one of three that constitute the watershed. (USFS 1996a). The land is dominated by gently sloping plains of glacial outwash and by hills and ridges of lava that rise above the outwash plains. The landforms of the Metolius Watershed are a product of early Cascade volcanism modified later by at least three periods of glaciation which carved big, deep canyons and left outwash fans of sand and gravel when glaciers melted. The landform is dominated by immature soils developed from volcanic ejecta and soils with more developed profiles derived from glacially deposited materials. The Metolius River has cut through these outwash fans, and in some places, into older sediments and lava beneath.

The river area is mostly a gently east-sloping basin of generally low relief. Bottomlands, terraces, and gentle sideslopes are the predominant soil type along the majority of the Metolius River. The soils are often gravelly and subject to periodic flooding and washing. Near the river, the sediments are composed almost entirely of sands and silts. Slopes average 15 percent. These soils are stable with low to high (due to periodic flooding) surface erosion potential. Soils are poorly to moderately well drained.

Soils in the Central Basin area of the Metolius Watershed have high to moderate inherent quality, which is determined by combining a site index, soil characteristics, and climatic influences. Management activities in the area have resulted in the degrading of soils from inherently high and moderate quality to moderate and low existing quality. Mass wasting in the form of landslides, debris torrents and slumps is not a significant concern in this watershed.

4.1.2 Climate

The climate of the Metolius Watershed is characterized by a major precipitation gradient from west to east. Along the Cascade crest, average annual precipitation is about 100 inches. Nine miles east, precipitation decreases to about 30 inches. Annual precipitation at Camp Sherman from 1984 to 1993 was 29.8 inches. About two-thirds of the annual precipitation falls between October and March. A

secondary peak of precipitation occurs in May and June due to thunderstorms and upper-level low pressure systems.

January nighttime temperatures average about 20 degrees F, while July daytime temperatures rise to between 80 and 90 degrees F. Daytime humidity is generally low. Winters are long and relatively cold with considerable cloudiness. Summer days are usually warm with cool nights and low rainfall. Moist subtropical air often brings thunderstorms and localized heavy rains.

4.1.3 Hydrology/Water Quality

The Metolius River originates from springs near the base of Black Butte, and runs northward for 28 miles to Lake Billy Chinook. The uppermost reach, from Metolius Springs to the House on the Metolius (about 4 miles), changes from a broad, low-gradient, shallow channel at the upper end to a narrow, confined gorge. Averaging about 50 feet wide, the Metolius is a fast-moving stream with an average gradient drop of 35 feet per mile. The area drained by the Metolius River is 316 square miles. The river is noted for its stable flow levels. Because it is spring-fed, and because the soils are generally porous and absorb rainfall well, the river experiences very little fluctuation in flow levels. Another important feature of the river is its cold water. At Metolius Springs the water is 43 degrees F; in the Camp Sherman area it warms to 56 degrees F, and then becomes colder as tributaries enter the river downstream. The cold temperature regime may limit rainbow trout growth but may be beneficial to species such as bull trout.

Several tributaries, many of which also are spring-fed, join the Metolius before it reaches the lake. All of the significant tributaries run into the Metolius from the west. Lake Creek and Spring Creek are the tributaries nearest the Lake Creek and School properties, while First Creek is the tributary nearest the Cliff property. Lake Creek and First Creek are mostly surface flow from the Cascade mountains to the west.

Fish migration routes have mostly remained open in the Metolius River watershed. The connection between the Metolius and Suttle Lake may be restricted due to small, low dams for pond and irrigation management.

4.1.4 Aquatic Conservation Strategy

To manage riparian reserves, the Northwest Forest Plan identifies an Aquatic Conservation Strategy (ACS). The ACS objectives are a fundamental part of the Northwest Forest Plan and apply to USFS administered lands within the range of the northern spotted owl. The purpose is to restore and maintain the ecological health of watersheds and aquatic ecosystems on public lands. USFS lands will be managed to:

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.

2. Maintain and restore spatial and temporal connectivity within and between watersheds. Lateral, longitudinal, and drainage network connections include floodplains, wetlands, upslope 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.
3. Maintain and restore the physical integrity of the aquatic system, including shorelines, banks, and bottom configurations.
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.
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.
6. Maintain and restore in-stream flows sufficient to create and sustain 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.
7. Maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands.
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 distributions of coarse woody debris sufficient to sustain physical complexity and stability.
9. Maintain and restore habitat to support well-distributed populations of native plant, invertebrate, and vertebrate riparian-dependent species.

4.1.5 Wetlands

The School and Cliff properties do not contain any wetlands. Lake Creek and a narrow wetland along the edge of the creek are located on the southern part of the Lake Property.

4.1.6 Floodplains

All three parcels are located within the Metolius River Watershed. The Cliff property is adjacent to the Metolius River. The School property has no lakes, ponds, or streams located within or adjacent to the parcel.

Lake Creek, which flows through the Lake Creek property, is a fairly stable permanent tributary to the Metolius River. Lake Creek is a lake-controlled stream system and outlet to Suttle Lake, and has a warming influence on the Metolius River. The hydrograph for Lake Creek shows an increase in stream flow during December, continuing until peak flow in May. The Metolius River generally has a flat

hydrograph with a slight increase in flow during the winter. In these streams, summer low flows are moderated by the groundwater sources in the watershed.

4.1.7 Vegetation

The Cliff property along the Metolius River has steep slopes, including vertical cliffs, leading to the river. The undeveloped area outside of the cabin encroachment supports a forest of ponderosa pine (*Pinus ponderosa*) with grand fir (*Abies grandis*), Douglas fir (*Psuedotsuga menziesii*), Engelmann spruce (*Picea engelmannii*), western juniper (*Juniperus occidentalis*), and quaking aspen (*populus tremuloides*). The shrubs found outside the developed areas include vine maple (*Acer circinatum*), Saskatoon serviceberry (*Amelanchier almifolia*), greenleaf manzanita (*Arctostaphylos patula*), Oregon grape (*Berveris nervosa*), golden chinkapin (*Castanopsis chrysophylla*), scotch broom (*Cytisus scoparius*), oceanspray (*Holodiscus discolor*), mallow ninebark (*Physocarpus malvaceus*), chokecherry (*Prunus virginiana*), bitterbrush (*Purshia tridentata*), elderberry (*Sambuscus sp.*), and common snowberry (*Symphoricapros albus*).

The School property has a ponderosa pine/grand fir/Douglas fir forest that extends to the west and south of school and church grounds. On the school and church grounds there are scattered trees and a large, open, grass athletic field. Common shrubs located on this property, outside the developed areas, include: Saskatoon serviceberry, Oregon grape, bitterbrush, and common snowberry. There are no wetland or aquatic habitats on the property.

The Lake Creek property has a large grassy pasture surrounded by a ponderosa pine forest with grand fir and Douglas fir. The common shrubs found on this property include chokecherry, bitterbrush, green rabbitbrush (*Chrysothamnus viscidiflorus*), common snowberry, black hawthorn (*Cratageus douglasii*), Oregon grape, Saskatoon serviceberry, and mountain alder (*Alnus incana*). The ponderosa pine forest on the eastern edge of the property provides an important extension of the riparian buffer to the Metolius River. Lake Creek and a narrow wetland along the edge of the creek are located on the southern part of this property. There are no other wetlands on this property.

4.1.7.1 Noxious Weeds

All three parcels contain small populations of noxious weeds including Canada thistle (*Cirsium arvense*), bull thistle (*Cirsium vulgare*), scotch broom, and St. Johns wort (*Hypericum perforatum*). All these populations are small in size and found either as individual plants or in small clusters.

4.1.7.2 Federal Threatened and Endangered Plant Species, Species of Concern and Forest Sensitive Species

USFS policy is to protect and manage for the recovery of all plant and animal species listed, or proposed to be listed, as threatened or endangered under the Endangered Species Act of 1973 (ESA). Plant species that are "proposed" (P) for federal listing, those federally listed as "endangered" (E) or "threatened" (T),

and those considered to be "sensitive" (S) by USFS Region 6 are collectively known as PETS species. This section discusses the botanical PETS species that occur or may occur in the project site and vicinity. For more information, refer to the Botanical Biological Evaluation and Noxious Weed Report for the Lundgren Land Exchange Project (BE) prepared for the Proposed Action by DEA in March 2002.

A review of existing information determined following PETS plant species that have the potential to occur within the proposed area of exchange:

Agoseris elata, tall agoseris, is known from near meadow lakes, and along the Metolius river.

Astragalus peckii, Peck's milkvetch, is known from an area about eight miles east of the project area. Though generally thought to be a non-forest species, populations have recently been found in lodgepole forests and along the Sprague river in Southern Oregon. Because of this wide amplitude of habitat, Astragalus peckii could occur within the proposed area of exchange.

Lobelia dortmana, water lobelia, is documented from a lake about seventeen miles north of the area. There is also an historical sighting of this plant in the Metolius river.

Penstemon peckii, Peck's penstemon, is documented on the School and Cliff properties. *Penstemon peckii* is endemic to the east slope of the Cascades in northern Deschutes and southern Jefferson counties. It is known to grow in seasonally moist habitats, including flood plains, meadow edges and open canopies of Ponderosa pine. The distribution of *Penstemon peckii* is thought to be limited to the availability of soil moisture during seed germination.

Thelypodium howellii, Howell's thelypody, is known from an historical sighting about seven miles east of the project area. It is also known from several disjunct populations around central and eastern Oregon.

Aster gormanii, Gorman's aster, occurs in mixed conifer rocky ridges, outcrops and slopes.

Calamagrostis breweri, Brewer's reedgrass, is a riparian associated species of generally higher elevations.

Carex hystericinia, porcupine sedge, is a riparian species known from Deschutes, Klamath and Jefferson counties.

Carex livida, pale sedge, is an obligate wetland species of peat-lands, fens, bogs and still water.

Cicuta bulbifera, bulb-bearing water-hemlock, is known from historical sightings at Klamath lake.

Lycopodiella inundata, bog club-moss, is known to occur in wet meadows and sphagnum bogs.

Lycopodium complanatum, ground cedar, is known to occur meadow edges to mid-slope areas within coniferous forests.

Ophioglossum pusillum, adder's-tongue, occurs in marsh edges, vernal ponds and moist meadow terraces.

Rorippa columbiae, Columbia cress, occurs in wet to vernally moist sites. It can occur along perennial streams, irrigation ditches and reservoir edges.

Scheuchzeria palustris ssp. *Americana*, Scheuchzeria, is known to occur in wetlands within coniferous forests.

Scirpus subterminalis, water club-rush, is an obligate wetland plant, usually submerged or emergent in quiet water.

4.1.7.3 Northwest Forest Plan Survey and Manage Species

The review of the existing literature also determined the following Survey and Manage (S & M) vascular plants, bryophytes, lichens, and fungi species that have the potential to occur within the proposed area of exchange:

Cypripedium montanum, mountain lady's slipper, occurs on a wide variety of substrates in mixed conifer forests.

Schistostega pennata, luminous moss, grows on mineral soil of damp eaves, shaded rock outcrops and soil bearing root masses of fallen trees.

Tetraphis geniculata, ant spearmoss, occurs on rotten stumps and logs in shaded humid sites of stream terraces and floodplains.

4.1.8 Fish and Wildlife Species

The diverse habitats found within the Metolius River watershed provide potential habitat for about 300 terrestrial- and riparian-associated wildlife species. Edge habitats make up a significant portion of the watershed. Riparian habitats make up only about 2 percent of the watershed, but contribute significantly

to habitat and species diversity.

A variety of fish, including native rainbow trout, bull trout, mountain whitefish, longnose dace, bridgelip suckers, largescale suckers, and three species of sculpins are present. Anadromous forms of native sockeye salmon were probably eliminated from the watershed by 1940 by small dams on Lake Creek. Brown trout, brook trout, and kokanee have been introduced to the system. Hatchery rainbows were stocked each year in the upper Metolius River, until the State discontinued the practice in 1995. Species uniquely adapted to the cold and stable habitats of the watershed are bull trout, the Cascade Apatania caddisfly, and tailed frogs.

4.1.8.1 Federal Threatened and Endangered Species, Species of Concern and Forest Sensitive Fish and Wildlife Species

This section discusses the PETS fish and wildlife species that occur or may occur in the project site and vicinity. There is no habitat or species presence for any federally endangered species. For more information, refer to the Biological Assessment/Evaluation (Fisheries) for the Lundgren Land Exchange Project (DEA April 2001) and the Biological Evaluation and Wildlife Report for the Lundgren Land Exchange Project (BE) (DEA February 2001) prepared by DEA.

4.1.8.1.1 Listed Threatened Species

Bull Trout. The Columbia River population segment of bull trout (*Salvelinus confluentus*) is currently classified as threatened by the U.S. Fish and Wildlife Service (USFWS).

Bull trout were historically found throughout most of the Deschutes basin (Ratliff et al. 1996). Bull trout were distributed in the Metolius drainage, Blue/Suttle Lake complex, Crescent Lake and Crescent Creek, Odell Lake and Odell Creek, Davis Lake, the upper Deschutes River (above Lake Billy Chinook), several lower Deschutes River tributaries, and the Crooked River upstream from Prineville (ODFW 1994).

The Metolius River bull trout population contains a mixture of both fluvial and adfluvial fish. All life strategies use small tributaries to the Metolius River for spawning. Mainstem river spawning has been documented in only a 0.5-mile reach of the upper Metolius River near the mouth of Jack Creek. Surveys have been conducted documenting streams used by bull trout in the Metolius drainage. Spawning occurs in spring-fed reaches of Jack Creek, Heising Spring, Canyon Creek, Roaring Creek, Candle Creek, Jefferson Creek, and Whitewater River. Rearing habitat is found in all spawning streams and also in Brush Creek, Abbot Creek, Spring Creek, and the Metolius River (USFS 1996b).

Lake Billy Chinook (Round Butte Dam) provides additional rearing habitat. Most juveniles move out of the spawning and rearing streams at age 2 and move into the Metolius River and eventually into Lake Billy Chinook. Primarily, bull trout age 3 and older reside in the lake. At age 5, most bull trout mature and move up the Metolius River and into the spawning tributaries to spawn. All tributaries used by bull

trout are influenced by groundwater springs. The historic distribution of bull trout in the Metolius system has been reduced (Ratliff 1992).

Migration routes have mostly remained open in the Metolius River watershed. The connection between the Metolius and Suttle Lake may be restricted due to small, low dams for pond and irrigation management. The Round Butte and Pelton dams on the Deschutes River prevent access for migrating bull trout to the lower Deschutes River and Columbia River. The connection of the Metolius River with the Warm Springs River and Shittike Creek bull trout populations has been severed since the dams were constructed, preventing genetic interaction between the two segments of the Lower Deschutes River metapopulation (USFS 1996b).

The Metolius River/Lake Billy Chinook bull trout population is healthy, as stated by Ratliff and Howell (1992) and Buchanan and Gregory (1997). The Metolius River within the project area mainly provides rearing habitat and a migration route to upstream spawning habitat. As mentioned above, the only spawning habitat in the mainstem of the Metolius River is within 0.5 mile of the mouth of Jack Creek. M. Riehle (pers. comm., 2001) indicated that bull trout spawn in the Metolius approximately 4 miles downstream of Lake Creek in a 0.5-mile section only, which places the spawning habitat downstream of Jack Creek. The Cliff property is 0.5 miles upstream from Jack Creek, and the Metolius River would not provide spawning habitat in this area. There is no spawning or rearing habitat for bull trout associated with Lake Creek.

Northern Spotted Owl. There are no known spotted owl home range territories within 1.2 mi of the project area. Spotted owl surveys were not conducted for this project. The project area is not located within Critical Habitat.

The project area is located within a late-successional reserve (LSR) [RO-245]. The project area is primarily meadow habitat, with some forested stands on the School property and Lake Property. These forested stands may provide spotted owl dispersal habitat. The School property has a high level of human disturbance, and this area may not be used by spotted owls for dispersal. The closest nesting, roosting, and foraging habitat is located over 2 miles from the project area.

Bald Eagle. Bald eagles are federally listed as threatened by USFWS (43 FR 6233). The species is currently being considered for de-listing from the federal list of endangered and threatened wildlife (64 FR 36454).

The Metolius River provides season-long foraging habitat and suitable nesting, roosting, and perching habitat for the bald eagle (USFS 1996b). There are three known bald eagle nests within the Metolius watershed. Bald eagles are known to winter and migrate through the watershed. The closest known nest is approximately 2 mi from the project area. There are no known winter concentrations or night roost sites within the project area (USFS 1996b). The habitat within the project area is primarily meadow or forested stands that lack suitable nest trees for bald eagles. Bald eagles may occur in the project area as they forage along the Metolius River.

Canada Lynx. The Canada lynx is a federally threatened species in the contiguous US distinct population segment (March 24, 2000, 65 FR 16051). This population segment includes the forested portions of 13 states, of which Oregon and Washington are included.

Current and historical records from the west side of the Cascade Crest in Washington, or in the Cascade Range of Oregon, are extremely rare (USDA/USDI/ USFWS 1999). There have been 12 museum-documented occurrences of lynx in Oregon from 1897 to 1993, two of which were in the Cascade Mountains. The occurrences in Oregon are likely from individuals that emigrate from occupied areas farther north and persist for a short time (Verts and Carraway, 1998).

Potential lynx habitat in the Deschutes National Forest has been mapped based on plant association groups that either currently provide or have the potential to provide structure necessary for denning and foraging habitat. There is no potential lynx habitat identified in the project area (L. Turner, pers. comm. 2001). While lynx are known to have large home ranges and to be able to travel long distances, they generally stay well above 3,000 feet; the elevation of the project area prevents it from serving as a habitat or as a travel corridor for the lynx. Therefore lynx are not expected to occur in the project area, and lynx occurrence has not been verified within the proposed project area.

The proposed project does not occur in lynx habitat, and no known sightings of lynx have occurred in the area.

4.1.8.1.2 Forest Sensitive Species

There are 12 wildlife and 1 fish species on the Regional Forester's Sensitive Species List for the Deschutes National Forest. The wildlife species, their habitat associations, and suitable habitat within the project area are discussed in Table 1. The Harlequin duck and interior redband trout are the only two wildlife species with potential habitat in the project area.

Table 1 - Forest Service Sensitive Fish and Wildlife Species

Species	Habitat Requirements	Suitable Habitat In Project Area?
Bufflehead (*Bucephala albeola*)	Inhabits and nests near mountain lakes surrounded by forests containing snags. Preferred nesting trees are aspen, also nest in ponderosa pine or Douglas fir. After breeding season, these birds are found in open water, along major rivers, and along the coast.	No suitable nesting habitat in project area.

California wolverine (*Gulo gulo*)	Remote high elevation mixed coniferous forest with shale or rock slide areas.	No suitable habitat in project area
Harlequin duck (*Histrionicus histrionicus*)	Clear, clean, swiftly flowing second to fifth order streams.	Potential habitat in project area.
Horned Grebe (*Podiceps auritus*)	Inhabits areas with open water surrounded with emergent vegetation. Nests in inland marshes and winters in the shallow waters of the coast.	No suitable habitat in project area.
Interior redband trout (*Onchorhynchus mykiss*)	Prefers cool, clear swift streams and rivers where riffles are the dominant habitat type.	Potential spawning and rearing habitat within the project areas.
Pacific Fisher (*Martes pennanti*)	Inhabits mature, closed canopy, dense coniferous and mixed coniferous/deciduous forests, along riparian corridors.	No suitable habitat in project area.
Peregrine falcon (*Falco peregrinus*)	Nest on cliffs near large concentrations of waterfowl or flocking birds.	No suitable nesting habitat in project area.
Pygmy rabbit (*Brachylagus idahoensis*)	Associated with Great Basin sagebrush and deep, friable soils.	No suitable habitat in project area.
Red-necked grebe (*Podiceps grisegena*)	Inhabits open waters over 5 feet deep intermixed with hard-stem bulrush. Breeds in lakes and ponds that are usually in forested areas.	No suitable nesting habitat in project area.
Spotted frog (*Rana pretiosa*)	Waters with vegetated shorelines; slow flowing streams with decaying vegetation on the bottom.	No suitable habitat in project area.
Tricolored blackbird (*Agelaisus tricolor*)	Associated with cattail and tule marshes.	No suitable habitat in project area.
Western sage grouse (*Centrocercus urophasianus phaios*)	Associated with big sagebrush.	No suitable habitat in project area.
Yellow rail (*Coturnicops noveboracensis*)	Inhabits freshwater marshes and wet meadows containing sedges and usually surrounded by willows.	No suitable habitat in project area.

Source: Corkran et. al, 1996; Csuti et. al, 1997.

Harlequin Duck. The Metolius River in the project area is swift, wide, and shallow, and does not provide typical habitat for the harlequin duck (*Histrionicus histrionicus*) (L. Turner, pers. comm. 2001). In the project area, the Metolius River lacks loafing sites, logs, and rocks. Surveys were conducted upstream of the project area, and no harlequin ducks were found. An unconfirmed sighting of this species was reported on the Metolius River outside the project area.

Interior Redband Trout. The interior redband trout (*Onchorhynchus mykiss*) is the only fish species identified on the Regional Foresters Sensitive Species List for the Deschutes National Forest. In general, redband trout prefer cool, clear, swift streams and rivers where riffles are the dominant habitat type. Potential spawning and rearing habitat occurs within the project area. Spawning habitat occurs in Lake Creek and in the Metolius River near Lake Creek (M. Riehle, pers. comm. 2001).

4.1.8.2 Northwest Forest Plan Survey and Manage Species

This section addresses species classified as survey and manage species in the Northwest Forest Plan (USDA/USDI 1994a) and those species classified as management indicator species in the LRMP for the Deschutes National Forest (USFS 1990).

4.1.8.2.1 Survey and Manage Species

One species is classified as survey and manage species, Category B in the ROD (USDA/USDI/ USFWS 2001; USDA/USDI 1994a) may occur in or near the project area (Table 2).

Table 2 - Survey and Manage Species on the Deschutes National Forest

Species	Habitat Association	Potential to Occur and Survey Requirements
Crater lake tightcoil (*Pristiloma arcticum crateris*)	Moist conifer forests above 2,000 ft elevation; among mosses and other vegetation near wetlands, springs, seeps, and riparian areas.	Marginal habitat is present in the project area; surveys not required as no ground disturbing activity are proposed.

Source: Furnish 1997

4.1.8.2.2 Terrestrial Mollusks

In general, there is a lack of suitable habitat on portions of the School property and the Cliff property and the pasture on the Lake Creek property, due to large areas of the properties being maintained as lawns. USFS did complete one terrestrial mollusk inventory to regional protocol standards for the project. No individuals were found during these surveys. Surveys for survey and manage species are not required since land exchanges are not "ground or habitat disturbing" projects and therefore no species will be impacted.

4.1.8.3 Forest Service Management Indicator Species

The following species or groups of species are classified as management indicator species for the Deschutes National Forest: golden eagle (*Aquila chrysaetos*), red-tailed hawk (*Buteo jamaicensis*), and osprey (*Pandion haliaetus*); accipiter hawks; great gray owl (*Strix nebulosa*); great blue heron (*Ardea herodias*); woodpeckers; waterfowl; peregrine falcon; wolverine; elk (*Cervus elaphus*); mule deer (*Odocoileus hemionus*); pine marten (*Martes americana*); Townsend's big-eared bat (*Plecotus townsendii*); and species associated with logs and downed woody debris (USFS 1990).

4.2 CULTURAL SETTING

4.2.1 Archaeological and Historical

Archaeological Investigations Northwest, Inc. (AINW) was retained by Metolius, LLC to review historical records and to inspect the three project sites for evidence of cultural resources. The results of the research were presented in a technical memo (*Cultural Resources Reconnaissance Survey of Three Parcels of Land Near Camp Sherman*, Letter Report No. 390, AINW 2000). AINW conducted additional tests at targeted locations on the Lake Creek and School parcels. The results of the shovel probes were recorded in a technical memo (*Archeological Investigations Along the Metolius River Corridor for the Proposed Lundgren Land Exchange*, Report No. 235, November 2001). The results of these investigations are described in detail in Section 4.2.1.2.

4.2.1.1 Setting

Prehistoric use of the Metolius Watershed extends back at least 7,000 years. Little is known about the dates of use, the users, the specific uses, and how and why uses may have varied over time (USFS 1996b). It is likely that bands of Columbia Plateau, Mollala and northern Paiute used the resources of the watershed at different times in prehistory, and in some cases concurrently. The watershed was not the exclusive territory of any group, nor was it occupied year round. Prehistoric resources consist mostly of

open air lithic scatters, some rock shelters or shallow caves, and reports of scattered pictographs.

The history of the watershed is well documented. Significant events include the establishment of the Warm Springs Reservation in 1855, construction of the Santiam Wagon Road (1860s), beginnings of the Forest Reserve and Camp Sherman (1890s), expansion of USFS lands in the 1920s and 1930s and the completion of Highway 20 over Santiam Pass in 1938. Much of the watershed was used for grazing cattle and sheep from the 1860s to the 1930s. Recreational use began in the 1910s by Sherman County residents, leading to a seasonal community at Camp Sherman. Development began with road construction and houses along the Metolius River and slowly expanded westward into high elevations as trails and roads were built for recreation and timber harvest. Most of the historic structures, features, and sites remaining on the Metolius are related to the development of recreation along the river, with a few remains of early homesteads (USFS 1996b).

Camp Sherman originally got its name from wheat farmers from Sherman County who started travelling there for vacations after the summer fallow was ploughed (Heising 1957). In 1915, some of the first lots for summer homes were obtained from USFS via a 30 year special-use permit, and the Camp Sherman store was opened around 1917 (Hatton 1996). By 1922 Camp Sherman had a post office (Landis 1969) and more summer homes were being built along the Metolius River. In 1948 the Camp Sherman community hall was under construction and by 1950 a modern school was built to replace one of the few remaining log schoolhouses left in Oregon (Foster and Bruns 1957; Hatton 1996). Today, most of the early ranches and homes such as the House on the Metolius, The Circle M Ranch, and the Lake Creek Lodge are now resorts and summer homes, and Camp Sherman continues to be a popular vacation spot in central Oregon.

4.2.1.1.1 School Property

The School Property is an irregularly shaped 4.8-acre parcel located south of Suttle-Sherman Road (also known as FR 1419) and east of Cold Springs Resort Road (FR 4619). A bike and walking path runs from north to south through the western portion of the property. An approximately 0.98-acre, privately-owned parcel adjacent to Suttle-Sherman Road contains the Black Butte School. The northern portion of the property contains a historic-period church (Chapel in the Pines) that was moved to this location in 1957. A recent school bus garage (west of the school) is adjacent to the church. A grass-covered recreational field located south of the school building is used by the students. There is a 1917-era horse barn at the edge of the recreational field and bordering the forested portion of the property. The horse barn was moved from the original school site to its current location in 1950 (Hatton 1996).

Local residents mentioned that the current location of the Black Butte School and the open field or playground used to be part of a dairy that operated in the late 1920s and into the 1930s. The area where the school and field are located was a pasture for grazing livestock, as was the property to the east. According to Hatton (1996), a George Updike homesteaded on Spring Creek, just southeast of the current project area. The homestead was later acquired by Barney Madsen. Mr. Madsen built a home and operated a dairy that supplied the summer visitors and the Camp Sherman area with milk, cream, and

other products during the season (Foster and Bruns 1957; Hatton 1996). The current School Property appears to be situated within one of the pastures that belonged to Mr. Madsen.

4.2.1.1.2 Cliff Property

The Cliff Property contains two 1930s cabins that are associated with the House on the Metolius (Hatton 1996). The parcel is located on a high bench above the Metolius River, which is located west of the cabins. The area immediately surrounding the cabins contain lawn and non-native bushes, but there are stands of ponderosa pine trees to the south and east. During the 1970s, the cabins were remodeled to give them a rustic external appearance (Hatton 1996).

4.2.1.1.3 Lake Creek Property

The northern portion of the Lake Creek Property consists of a low-lying grassy meadow located along the Metolius River. The Metolius River runs along the northeast property line, and the southern end of the property borders Lake Creek. The southern portion of the property is much narrower than the northern portion, and a gravel driveway runs along the southern half parallel to the property line. A small utility building sits on the eastern property boundary, and a recreational vehicle is parked near the southern boundary. A wooden split rail fence runs parallel with the driveway. A wooden water flume runs parallel to the eastern boundary of the narrow portion of the property and leads to the meadow. This flume was used to run water from Lake Creek for irrigation purposes to the meadow and to the private property, owned by John Gunnson, that is adjacent to the Lake Creek property. Mr. Gunnson, who has owned the property next to the Lake Creek property since 1968, stated that the flume was built in the 1960s (J. Gunnson, pers. comm. 2001). The flume is no longer in service and there are no water rights associated with the property.

4.2.1.2 Field Investigations

A pedestrian survey of the three parcels was completed on December 20, 1999. The survey was conducted by walking meandering transects spaced ten meters apart. All exposed ground was examined for evidence of prehistoric or historic-period cultural resources. AINW returned in July 2001 to conduct subsurface research to determine the nature and extent of the artifacts found on the 1999 walking survey, which revealed obsidian flakes on portions of the Lake Creek and School properties.

4.2.1.2.1 School Property

During the first site survey (AINW 2000), a scatter of five obsidian flakes and two isolated obsidian flakes were found on the School Property. The small lithic scatter was located in a 20x20-inch area in front of the horse barn. The two isolated flakes were found near the northeast corner of the school bus garage and in a small disturbed patch of ground in the northeast corner of the field adjacent to the basketball court. The locations of the flake scatter and the two isolated flakes were re-examined, and the artifacts were relocated. Subsurface testing was conducted to determine if there were buried

archaeological deposits in these locations and in the adjacent portion of the parcel being considered as part of the Lundgren land exchange.

Eleven shovel tests (ST) and two test units (TU) were excavated at the School Property. The shovel tests extended from the location of previously recorded surface flakes noted near the corner of the school bus garage to the southern boundary of the property. Placement of the test units was based on subsurface recovery from the shovel tests. Ten of the eleven shovel tests were positive. TU-1 was placed 3.3 feet north of ST-10, which produced 21 obsidian flakes. Excavations at TU-1 recovered 220 obsidian flakes and three tools. TU-2, located 24.7 feet southwest of ST-8, was the most productive of the two test units, with a total of 357 artifacts. Ten of the recovered artifacts from TU-2 were tools, including three projectile point fragments. The southern portion of the project area appears to be undisturbed and contains deep, intact deposits of prehistoric cultural materials.

4.2.1.2.2 Cliff Property

Three shovel tests were excavated on the Cliff Property. One of the three, ST-1, was positive and contained a non-diagnostic ceramic fragment. ST-1 was located behind the cabin near the northern property boundary. ST-2 was located near the northeast corner of the southernmost cabin and ST-3 was southeast of this cabin. Because of their age and the modifications made to the cabins they do not appear to be significant cultural resources and AINW recommends no further studies at this time.

4.2.1.2.2 Lake Creek Property

During the first survey of the Lake Creek Property a lithic scatter encompassing most of the meadow within the property boundaries was recorded and given site number 35JE523. The site extends from approximately the fence line on the west side of the meadow to within 100 feet of the bank of the Metolius River to the east, and extends from the fence line and gravel road on the north down to the private property owned by Mr. John Gunnson to the south. The largest concentration of surface artifacts was located near the eastern boundary of the site, along the edge of the meadow where it meets the wooded area that is adjacent to the river; however, artifacts were noted throughout the parcel. Many of the artifacts were found in the backdirt from rodent burrows. The placement of test units and quarter test units was based on the location of artifact concentrations observed on the surface of the ground

Testing of the Lake Creek property confirmed the presence of a buried prehistoric archaeological site, 35JE523, consisting of obsidian debitage extending to a depth of 3.3 feet below the surface. Based on surface survey and subsurface testing, 35JE523 covers most of the meadow that constitutes the Lake Creek property. Two test units and four quarter test units were excavated at 35JE523. All excavated units were positive, with the exception of QTU-1. Recovered artifacts consisted of obsidian debitage, with some fire-cracked rock noted but not collected from TU-2. A total of 168 artifacts was recovered from 35JE532.

4.2.2 Recreation

The Metolius River is in both the National Wild and Scenic Rivers system and the State Scenic Waterways system. As noted in the previous section, the natural resources in the Metolius corridor have long been a recreational destination for regional residents and visitors from across the country. The upper Metolius is classified as a "recreational" river; therefore, a cultural landscape character is expected. People, vehicles, recreational residences, resorts, commercial development, ranches, and recreational facilities often dominate but relate and interact with the "natural appearing" landscape. In general, these enclaves of cultural landscape have a high degree of integrity, and deviations such as contemporary architecture, brilliant paint colors, and urban style landscaping are not very evident. Visitors surveyed by USFS in 1990 said that the most important factor influencing the quality of their visit was the natural setting of the river.

The quality of the river water and abundant fish attract many anglers. Visitors interested in wildlife viewing are attracted by the diversity of local wildlife, including elk, deer, bear, smaller mammals, and birds. The Scenic river segment has a fast current and rapids, providing opportunities for rafting, kayaking, and whitewater canoeing. During the summer months, many USFS campgrounds along the Recreation river segment are used by campers. There are over 100 private summer homes maintained under special use authority on National Forest lands. Campgrounds in the corridor received 65,041 visits in 1992. Two popular day-use sites are the fish-viewing platform at Camp Sherman (81,000 visits) and the Head of the Metolius (130,000 visits). The 1990 USFS visitor survey found that fishing, hiking, sightseeing, and viewing wildlife were the most frequent day-use activities. Other activities included bicycling, photography, picnicking, swimming, and boating.

The encroachment of the House on the Metolius cabins onto the Cliff parcel means that there is recreation use of the NFS parcel by users of the private facilities. However, due to swift water, rough access, and no trails on the Cliff parcel, the opportunity for public recreation use is low. There is no recreation occurring on the private Lake Creek parcel. Recreation activities on the School parcel are associated with the Black Butte School's athletic field.

4.2.3 Scenic Resources

The upper portion of the Metolius River, from its headwaters to the Gorge, is viewed by large numbers of forest visitors annually and is a nationally recognized scenic destination. The area is the most heavily visited segment of the river due to the concentration of residential, commercial, and recreational development in the vicinity of Camp Sherman.

Views of the Metolius Wild and Scenic River corridor are confined primarily to immediate foreground landscapes, although a few opportunities exist for expansive, distant views. Foreground views in the upper and middle stretches of river are characterized by strips of riparian vegetation and flat open stands of ponderosa pine forests, interspersed with limited residential and recreational developments. Expansive views of more distant, scenic landforms such as Green Ridge, Black Butte, and the Cascade Range are also available from select locations within the corridor.

None of the subject properties contains distant, expansive views of popular or scenic landforms. The views from the Cliff and Lake Creek properties are foreground views of the river and riparian vegetation. Views from the School property are limited to those of adjacent residential or commercial uses.

4.2.4 Transportation/Circulation

Many roads in the area follow original trails. General Land Office maps from the 1860s and 1870s, which coincide with the homesteading of the earliest white settlers, through the early 1900s, often refer to "Indian Trails" with a general location depicted on their plats. The locations of the trails often correspond to existing roads.

Highway 20 is a highway of statewide significance and connects Central Oregon to Salem and the Willamette Valley. It is the busiest highway pass in the Oregon Cascades, and serves as an arterial in the Metolius area. The rural access roads serve as collectors to this arterial. From Highway 20, access to the Metolius River corridor is via the primary FR 12, or via State Highway 126 to primary FR 14. Primary FR 14 originates south of Metolius Springs and Black Butte and provides access to Camp Sherman via secondary FRs 1419 and 1216 or 1217. In addition to these two primary roads, the Metolius Watershed in the vicinity of the project sites is served by several secondary FRs (1216, 1217, 1419, and 1425), and numerous unimproved spur roads.

The Cliff property does not have road frontage and is accessed via roads serving the House on the Metolius site. The Lake Creek property is served by a local road, Spring Creek Lane, which leads to FR 1419-700 on the east side of the Metolius River. The School property abuts Suttle-Sherman Road and FR 1419-500 traverses the southern portion of the property.

Much of the land is resource land, which limits the potential for residential development and therefore the need for more roads (DEA, 1996). Camp Sherman, in particular, does not want new roads constructed in its area and is working with USFS to close some roads. However, the 1996 projections for the model year 2015 indicated that conditions on Highway 20 at Camp Sherman would drop to LOS E, which is below the accepted standards for that facility. Nevertheless, the Transportation System Plan (TSP) (Jefferson County 1996) did not recommend any new road improvements to Highway 20 in this area, due to the desire to maintain the rural residential character of the area. The TSP did recommend adoption of a comprehensive plan policy to protect the rural character of Camp Sherman as a short-term improvement option.

4.2.5 Public Services and Utilities

Many types of utilities are under Special Use Authorization within the watershed. The Deschutes Land and Resource Management Plan has standards that address utilizing existing corridors to capacity and grouping utilities within corridors to minimize the area committed to utilities. Central Electric Co-Op has a line supplying electric power to the Camp Sherman area from the Cloverdale substation east of

Sisters.

The Camp Sherman area, which belongs to the Black Butte School District No. 41, contains the Black Butte Elementary School. High school students attend Sisters High School.

For solid waste, the county has a landfill site at Box Canyon, which should serve the needs of the area through 2003 or later. An additional container site is on USFS land in the vicinity of Camp Sherman. The site is serviced by contract with solid waste operators from Redmond.

Residences in the unincorporated areas are on drywells or septic systems for sanitary waste. Septic tank sludge is handled at the Madras City Lagoon site. The comprehensive plan notes that failures of septic systems can eventually threaten water quality in the area, particularly as residential density increases.

Domestic water sources are the Metolius River (to cabins along the river), shallow wells close to the river, and drilled wells and springs.

The Metolius River area is mostly served by the Jefferson County Sheriff Department and the Oregon State Police on state routes. Camp Sherman has a Jefferson County Resident Deputy. The county's comprehensive plan notes that the Camp Sherman area is underserved due to the distance from the county seat. The Sheriff Department cannot adequately service the seasonal growth in population. Services include the Search and Rescue squad, and coordination of the county's Emergency Operations Plan. Jefferson County provides enforcement of state and local laws on public lands in the Metolius Basin through a cooperative law enforcement agreement with USFS.

The Camp Sherman Rural Fire Protection District merged with the Sisters Fire Department and supports paid staff. The State Forestry Department and USFS provide forest fire protection for properties under their jurisdictions. Due to concerns about residential development in forest areas, the agencies enforce additional protection standards when such development is proposed.

4.2.6 Socioeconomics

As noted in other sections of this document, the integrity of the Metolius River corridor results in recreation revenue for the local economy, which is centered in Camp Sherman. Madras, Metolius, and Warm Springs are other population centers. The closest incorporated city is Sisters in Deschutes County, population 959 (2000 census). Jefferson County population has grown from nearly 14,000 in 1990 to 19,000 in 2000. The Oregon Office of Economic Analysis projects that the county's population will expand by 50 percent to over 30,000 by 2020. The annual growth rate is expected to be close to 2.6% per year. Deschutes County has grown from 76,000 in 1990 to nearly 113,000 in 2000.

Rural recreation and residential communities adjacent to, and within, the Deschutes National Forest are dependent primarily upon forest-based recreation activities and recreation residences for their livelihood. Towns and settlements along the Metolius are included in this community type. Local service-oriented

businesses provide convenience items and cater to tourists, residents, and sportsmen. In 1986 the Deschutes National Forest was ranked third among the 19 National Forests in the Pacific northwest, and 25th among 125 National Forests in the country. Recreation visitor use in 1986 was nearly 2.6 million visitor days. Assuming that people's propensity to recreate will remain relatively constant over the foreseeable future, the demand for recreation in the Forest is projected to grow at the same rate as the projected population growth for the state (approximately 1.2% annually).

In 1997, the $3.2 million annual payroll of the accommodation and foodservices industry in Jefferson County ranked fourth of the major industry sectors. This industry was also the third highest in terms of numbers of employees.

4.2.7 Land Use

Land around the Metolius River is included within the boundaries of the Deschutes National Forest and is administered by USFS. Although much of the land is publicly owned, there are numerous private parcels interspersed with forest land.

The federally-owned, triangular Cliff parcel is 2.5 acres and has 759 feet of Metolius River frontage, north of First Creek and the Gorge Campground. The slope leading to the river is very steep and includes vertical cliffs. Two cabins belonging to the House on the Metolius resort encroach on the parcel. The Cliff parcel is zoned Forest Management with a minimum lot size of 60 acres. Consequently, the parcel is non-conforming with respect to size. A Special Use Permit is issued to the resort to permit the encroachment of the cabins. The parcel is bordered by private land on the west and north, with NFS land to the south, and the Metolius River and NFS land to the east.

The 4.8-acre School property is federally-owned and contains an athletic field, a church, a garage, and a parking area. It is located on the south side of the Suttle-Sherman Road also known as FR 1419. Cold Springs Road, a private road, runs through the southern end of the property. The south and west margins are forested. Two Special Use Permits are issued to the Black Butte School and Camp Sherman Community Church for the playground, bus garage, and church. East of the School property is the settlement of Camp Sherman. The property is bordered by private land to the east, with NFS lands to the south, west, and north. The Metolius River is a quarter-mile to the east.

The Lake Creek property, near the confluence of Lake Creek and the Metolius River, is owned by Metolius, LLC. It comprises three parcels totaling 5.99 acres. Most of the middle third of the property has been cleared and is a grassy pasture. The forested areas at the eastern edge and north of Lake Creek form a riparian buffer to both the river and the creek. Lake Creek traverses the southern portion of the parcel, providing 410 feet of frontage on both sides of the creek, over which is a private bridge. The lot is vacant. The parcel is bordered by NFS lands on the north, east, and south boundaries, with Lake Creek also on the south, and private land to the west.

The existing roads on the Lake Creek property are contained within 20-foot-wide easements. One road

accesses a private 2.1-acre parcel and the other accesses private land to the west. Those two private parcels are otherwise land-locked. The Sisters Ranger District has initiated acquisition of an easement across the parcel for access to the Metolius Recreation Residence Tract on nearby NFS lands. One of the existing roads provides the only access to Recreation Residence Tract E, which has four cabins. Former access had been by a bridge, which was removed after a failure and not reconstructed, in accordance with direction in the Metolius Wild and Scenic River Plan.

4.2.7.1 Plans and Guidelines

The plans and guidelines that apply to land uses along the Metolius River are overlapping and include the following:

USDA Forest Service

- Deschutes National Forest Land and Resource Management Plan, 1990
- Northwest Forest Plan, 1994
- Metolius Wild and Scenic River Management Plan, 1996

The Land and Resource Management Plan (LRMP) established management areas within the forest. The Northwest Forest Plan modified and renamed those land allocations but retained some of the Standards and Guidelines from the LRMP. The Metolius Wild and Scenic River Plan further modified both documents, providing more specific direction for the Metolius river corridor, but also retained by reference specific elements of both previous documents.

Oregon Parks and Recreation Department

- Oregon Scenic Waterways Program, 1970

Other state agencies

- The Oregon Plan for Salmon and Watersheds, 1997

Jefferson County

- Comprehensive Plan, March 1981
- Zoning Ordinance

4.2.7.1.1 Deschutes National Forest, Land and Resource Management Plan (LRMP), 1990

The LRMP establishes broad management direction and standards and guidelines for resources and activities on the entire Deschutes National Forest and within specific land allocations, referred to as

Management Areas. One broad goal that pertains to the project calls for protecting the characteristics of floodplain and riparian zones and maintaining or improving water quality and fish habitat. Another set of goals is to provide a full range of quality outdoor recreation opportunities within a forest environment that can be modified for visitor use and provide forest visitors with visually appealing scenery.

The main activity-type Standards and Guidelines that apply to the project are Riparian Areas/Wetlands, Streamside Management Units, and Flood Plains, Special Uses, and Land Adjustments. Other more peripherally applicable standards and guidelines are Fisheries, Water-Best Management Practices, and Transportation.

The general Standards and Guidelines for Riparian Areas call for protecting stream flows, managing streamside vegetation, and enhancing habitats. The number of stream crossings are to be minimized and recreation activities managed to prevent site deterioration. Special Use Permits are to include measures to protect riparian resources.

The Goal for Special Use activities is to provide for the use and occupancy of the NFS by individuals or federal, state, and local governments when such use will not detract from specific management area direction, when it is in the public interest, and when it cannot reasonably be served by development on non-NFS land. The uses on the School property come under standard or guideline SU-15, which states that USFS will consider applications for other uses as they received.

With respect to Land Adjustments, public and private lands in the Deschutes National Forest have been classified and prioritized to encourage the best land use pattern for the Forest in the long term. The two federal parcels are identified in the plan as being in the Land Adjustment Category of Group 3, Subgroup C. That category includes areas of mixed private and federal ownership. The objective for the category is to rearrange ownership patterns to benefit commodity production goals for public and private lands and to utilize National Forest lands to acquire higher priority lands for National Forest use. Rearrangement of ownership may be permitted for the mutual benefit of the owners.

All three properties are within Management Area 28, Metolius Wild and Scenic River, but the plan currently only applies to the federally-owned properties. Standards and guidelines for Management Area 28 have since amended by the 1994 Northwest Forest Plan (NWFP) and the 1996 Metolius Wild and Scenic River Plan (see below). The Goal for the area is "to protect and enhance those outstandingly remarkable values that qualified segments of the Metolius River for inclusion in the National Wild and Scenic rivers system." The standards and guidelines for the area were designed to provide management direction until a separate management plan was completed. The primary objectives are to protect the values as stated in the Goal and maintain the free-flowing nature of the river.

4.2.7.1.2 The Northwest Forest Plan (NWFP), 1994

In 1994, the federal government adopted the ROD for Amendments to USFS and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl (USDA/USDI 1994a

and 1994b). The ROD amended the LRMP and applied new land allocations and standards and guidelines (The Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl, commonly referred to as the Northwest Forest Plan) that overlay and usually supersede the Deschutes National Forest allocations of the LRMP.

The NWFP allocates Wild and Scenic Rivers as Congressionally Reserved Areas (CRAs). The Metolius CRA is also contained within the network of land allocations named "Riparian Reserves" and "Late-Successional Reserves" (LSR). The network of allocations is the means by which USFS can conserve and protect habitat. LSRs are designed to "maintain a functional interactive, late-successional and old-growth forest ecosystem." Riparian Reserves are areas along all permanent and intermittent water bodies and wetlands where the main purpose is to "protect the health of the aquatic system and its dependent species." The NWFP relies heavily on an Aquatic Conservation Strategy, which is implemented to protect and improve the health of the region's aquatic ecosystems. Riparian Reserves are one component of that strategy. "Key Watersheds" are another component, and the Metolius River and its tributaries are identified as a Key Watershed, primarily because of the presence of sensitive salmonids (bull trout). Key Watersheds require a Watershed Analysis prior to implementing most management activities. The Metolius Watershed Analysis Report was published in 1996 by the Sisters Ranger District (USFS 1996a).

Most of the forest lands in the Metolius Wild and Scenic River corridor will be included in Riparian Reserves (roughly 320 feet on either side of the river and tributaries). The rest of the corridor is included in the LSR that encompasses the entire Metolius Basin. Consequently, the NWFP management allocation for the School parcel is Late Successional Reserve, while the allocation for the Cliff parcel is Riparian Reserve. The NWFP management allocation surrounding the Lake Creek parcel is Riparian Reserve and Late Successional Reserve. If the Lake Creek parcel is exchanged for the other two federal properties, the likely allocation would be Riparian Reserve.

4.2.7.1.3 Metolius River/Wild and Scenic River Management Plan (WRSMP), 1996

With adoption of the WRSMP, only selected standards and guidelines from the LRMP and the NWFP still apply to the Metolius River. The WRSMP lists those that still apply, and adds Standards and Guidelines that apply specifically to the Metolius River corridor. They include management direction for water quality and quantity, ecological values (including riparian vegetation), fish and wildlife and their habitats, aesthetic and scenic resources, transportation, cultural values, recreation, commercial development, recreation residences, and interpretation.

The following Standards and Guidelines (with numbers from the WRSMP)are most applicable to the Proposed Action:

- MTRV-3 Vegetation management in riparian areas will only be performed to restore desired conditions.

- MTTP-5 No new road bridges are constructed, and reconstruction is authorized only when it is the sole means of access.
- MTSQ-3 Scenic Easements on private lands that are important to meet Scenic Integrity Objectives are pursued from willing sellers.
- MTCV-1 Significant prehistoric resources are managed to avoid damage or detrimental change. Where damage or change cannot be mitigated, rehabilitated, or avoided, data recovery and recording is undertaken.

The three project sites are within Segment 1, covering the corridor from the south Deschutes National Forest boundary near the headwaters to Bridge 99. Segment 1 is designated as a recreational river to be managed by the Secretary of Agriculture. Designated recreational river areas are readily accessible by road or railroad, may have some development along their shorelines, and may have undergone some impoundment or diversion in the past.

All three parcels involved in the project are within the WSR boundary, but only the two federally-owned parcels are subject to the WSR Management Plan.

4.2.7.2 Proposed USFS Projects in the Vicinity of the Project

The only other USFS projects in the vicinity are:

1. The Heritage Demo Project, west of the river between Camp Sherman and Allingham Crossing. This is a vegetation management demonstration project on 24 acres. A decision was signed in fall 2001.
2. The Metolius Basin Forest Management Project is a 17,000 area being analyzed for potential thinning and fuel reduction. A draft EIS is expected to be issued in fall 2002.
3. The East Metolius River Trail is a small trail maintenance project scheduled to be implemented summer 2002.

4.2.7.3 Oregon Scenic Waterways Program, 1970

All activities within Oregon scenic waterways must be undertaken according to the Oregon Scenic Waterways Act (1970) and its rules. The Oregon State Parks and Recreation Department (OPRD) administers the act. The Scenic Waterways Program promotes cooperative protection and use of rivers in the system by all agencies, individual property owners, and recreation users. The goals of the program are to protect the free-flowing character of designated rivers, protect the numerous resource values (such as aesthetic, scenic, etc.), protect property owners against nuisance development, and encourage coordination with actions by other agencies.

Proposed land use changes within 1/4 mile of both sides of the river must be evaluated for their potential impacts on aesthetic and scenic values, as viewed from the river. How well the new development fits in with the adjacent uses and is concealed from view from the river determines its acceptability. The

proposed project must be found to be compatible with the scenic waterway. The Department's evaluation of the project is coordinated with the local planning jurisdiction and other state and federal natural resource agencies that have regulatory responsibilities.

The Cliff and School parcels are within the State Scenic Waterway.

4.2.7.4 The Oregon Plan for Salmon and Watersheds, 1997

The goal of the Oregon Plan is to restore declining salmon runs and watershed health. The plan involves (1) coordination of efforts by all affected agencies, (2) development of action plans with relevance and ownership at the local level, (3) monitoring, and (4) making appropriate corrective changes in the future. It emphasizes effective implementation and enforcement of existing state and federal natural resource protection laws and regulations.

4.2.7.5 Jefferson County Zoning Ordinance and Comprehensive Plan

4.2.7.5.1 Zoning Ordinance

The Lake Creek property is zoned CSRR-5, Camp Sherman Rural Residential Zone-Five. Section 344 of the Jefferson County Zoning Ordinance states that permitted uses include single-family residences (attached and detached), and crops or farm gardens. Conditional uses include a limited home occupation, community halls (<2,400 square feet), and fire stations. The minimum lot size is five acres, and all structures have 100-foot setback from waterways. Forest land is zoned Forest Management.

Section 316, Flood Plain Combining Zone, of the Zoning Ordinance sets out restrictions of uses and development that are dangerous to health and safety or that alter natural flood plains, stream channels; and that control filling and excavating that may affect flood waters or flood hazards. The section applies to all areas within the 100-year flood plain as shown on the Flood Insurance Rate Maps for Jefferson County. There are flood-prone areas along the Middle Fork of Lake Creek, including the frontage of the Lake Creek parcel (Flood Insurance Rate Index Map, 410101 0001-0500).

Section 325, Riparian Corridor Buffer Combining Zone-RB, ensures that riparian corridors identified in the County's Goal 5 riparian corridor inventory as critical for the survival of the fish species and wildlife are protected from the effects of conflicting uses that are not subject to the Forest Practices Act. The required buffer is either 50 or 75 feet, depending on whether the flow is less than 1,000 cubic feet per second (cfs) and fish-bearing, or over 1,000 cfs. Permitted uses in the underlying zone are conditional in the buffer. Removal of vegetation and building structures is generally prohibited.

Section 417, Historic Site Protection, requires approval for altering, moving, or demolishing a designated historic site or structure in the county. The regulations apply to those resources identified in the Jefferson County Comprehensive Plan. No resources identified in the plan are within the project sites.

Section 420, Endangered Species, requires an applicant for a permit that may disrupt an endangered species to develop a program to protect the site and/or habitat.

4.2.7.5.2 Comprehensive Plan, 1981

The goals and policies of the comprehensive plan generally do not address land exchanges as in the Proposed Action. Indirectly related are objectives or policies to: protect commercial forest land (4-A); conserve forestry resources (4-A-2); preserve open space (5-A); protect scenic resources (5-G), fish and wildlife (5-H), riparian areas with buffers (5-H-6), and listed historic sites (5-J); and cooperate with state management of the State Scenic Waterways Program (5-L). An exception to Goal 4 for forest lands was taken for nearly 900 acres in the Camp Sherman area and appears to include the lake creek parcel.

A sub-area plan for the Camp Sherman area is appended to the Comprehensive Plan. The Camp Sherman Area comprises approximately the southern half of the western one-third of the county. The intent of the plan is to be more detailed and provide more specific planning guidelines and procedures to maintain the natural beauty of the area and the rural atmosphere. Goals in the plan include preservation of forest lands for timber products but protecting the visual resources, insuring open space and protecting scenic and historic resources, maintaining the level of quality of the recreation experience, and provision of emergency services to cover all segments of the population, both seasonal and permanent. Other recommendations include:

- new trails
- adherence to sanitary waste regulations by local residents
- allowing moderate residential and visitor growth so long as the ability of the environment to accommodate growth safely is not compromised
- additional police protection, fire district equipment, solid waste facilities, and public restrooms

The transportation element of the sub-area plan recommends that several hundred miles of USFS roads be closed to the public. No new roads are proposed. The element also calls for bike and pedestrian paths between USFS campgrounds, resort areas, and the Camp Sherman "Service Center." Parking facilities in the Camp Sherman "Service Center" need to be increased as well.

4.2.8 Hazardous Materials

There are no known hazardous materials on the project sites.

4.2.9 Natural Resources and Energy

Natural Resources and energy issues relate to the irretrievable commitment of resources to a project. In this case, because there will be no physical change to any of the sites, no development that hinges on approval of the project, there is no commitment of natural resources or energy associated with the project.

Deschutes and Ochoco National Forests Website
http://www.fs.fed.us/centraloregon/manageinfo/nepa/documents/sisters/lundgren/eachap4.html
Last Update: 4/17/02
R.A. Jensen

ENVIRONMENTAL ASSESSMENT

LUNDGREN LAND EXCHANGE

5.0 ENVIRONMENTAL IMPACTS

5.1 NATURAL SETTING

5.1.1 Soils and Geology

The Preferred Alternative would not result in any cuts or fills. No development would be permitted on the Lake Creek property after its conversion to forest land. Under private ownership, the School property could potentially be developed, but the occupants of the School property have stated that there are no plans to expand the uses or structures. As it is flat and does not have unstable soils, no impacts on soils or geology would be expected, even with an expansion.

The No Action Alternative would allow future development on the Lake Creek parcel. Although the watershed basin does not generally suffer from mass wasting or landslides, any future development on that parcel could entail some risk of impacts to the soils, including erosion into the creek. There would be no impacts on the soils and geology of the USFS parcels.

5.1.2 Hydrology/Water Quality

The Preferred Alternative would indirectly result in a protection of the existing high water quality of the Metolius River, by prohibiting development on the Lake Creek property and in the riparian area of the Cliff property. There would be no effect on hydrology or water quality on the School property.

The No Action Alternative would not result in any direct impacts on hydrology or water quality. However, future construction and development on the Lake Creek parcel could result in clearing of vegetation, increasing the risk of soil erosion and sedimentation into the creek and the Metolius River. Other water quality impacts could come from homeowner application of fertilizers and pesticides or herbicides. Private residential development could result in placement of septic systems, which in the long run can have an adverse impact on water quality if the system fails.

5.1.3 Aquatic Conservation Strategy (ACS)

The proposed land exchange is consistent with the ACS Objectives listed below. In summary, the

preferred alternative meets the attainment of ACS Objectives in the long term at the landscape level. USFS management would provide the opportunity to apply ACS objectives to parcels that would otherwise remain in private ownership and could be developed. As there will be no development of any parcels involved in the exchange, the objectives are not expected to be impacted by the exchange. Analysis was completed at the 5th and 6th field watershed scale.

The No Action Alternative would be consistent with the ACS Objectives on the Cliff property, which is within the Riparian Reserves of the Metolius River, and new development would be prohibited. The No Action Alternative would be less consistent because a single family residence could be built on the Lake Creek property, which could increase the risk of erosion and potentially result in removal of riparian vegetation along the creek frontage. The Lake Creek property borders good bull trout rearing habitat, which could be negatively affected by such development. Development or removal of vegetation would not be consistent with ACS Objectives that require maintaining habitat, water quality, and physical integrity of the aquatic system.

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.

The Proposed Action will not affect the distribution, diversity, and complexity of watershed and landscape-scale features. The exchange will have no measurable adverse effects to the system at the watershed level.

ACS Objective 2: Maintain and restore spatial and temporal connectivity within and between watersheds. Lateral, longitudinal, and drainage network connections include floodplains, wetlands, upslope 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.

The Proposed Action will not affect the spatial and temporal connectivity within and between watersheds. No actions are proposed that would adversely affect riparian areas. The Lake Creek property would be protected from development impacts because of the change to federal ownership. The Cliff property would be protected from development via deed restriction.

ACS Objective 3: Maintain and restore the physical integrity of the aquatic system, including shorelines, banks, and bottom configurations.

The transfer of the Lake Creek Property from private to federal ownership will maintain the physical integrity of the aquatic system and provide opportunities for future restoration. Under the No Action Alternative, it is likely the property would be developed, with resulting adverse impacts to shoreline integrity from loss of riparian vegetation, and soil disturbance.

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.

The Proposed Action will retain water quality within the range necessary to support healthy riparian, aquatic, and wetland ecosystems. Under the No Action Alternative, it is likely the property would be developed, with resulting adverse impacts to water quality from septic systems, loss of riparian vegetation, and soil disturbance.

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.

The Proposed Action will not affect sediment transport. Under the No Action Alternative, it is likely the property would be developed, with resulting adverse impacts to sediment regimes from loss of riparian vegetation, and soil disturbance.

ACS Objective 6: Maintain and restore in-stream flows sufficient to create and sustain 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.

Neither the Proposed Action nor the No Action Alternative will have measurable effect to in-stream flows.

ACS Objective 7: Maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands.

Neither the Proposed Action nor the No Action Alternative will affect the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands.

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 distributions of coarse woody debris sufficient to sustain physical complexity and stability.

The Proposed Action will not affect this objective. Under the No Action Alternative, it is likely the property would be developed, with resulting adverse impacts to riparian and wetland plant communities.

ACS Objective 9: Maintain and restore habitat to support well-distributed populations of native plant, invertebrate, and vertebrate riparian-dependent species.

The project will maintain habitat to support well-distributed populations of native plant, invertebrate, and vertebrate riparian-dependent species.

5.1.4 Wetlands

Only the Lake Creek property contains wetlands. The Lake Creek wetlands would be protected from development or the impacts from development by the Preferred Alternative. The No Action Alternative would allow the property to be developed, which could have impacts on the wetland from clearing and the risk of erosion and sedimentation, even if directly filling the wetland were not an option under federal regulations.

5.1.5 Floodplains

A review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for Jefferson County, Oregon Panel # 325, was made to determine the floodplain effects on each parcel. Areas impacted by 100-year floodplains were measured graphically from the data provided on this map.

Review of aerial photos from the National Wetlands Inventory (NWI) for Black Butte in Jefferson County, Oregon (USFWS n/d) was made to determine the areas impacted by seasonal wetlands.

FEMA and NWI hydrologic information pertaining to floodplain/wetland mapping does exist for the exchange areas. The FEMA and NWI maps were obtained for the appropriate areas of interest (FEMA n/d; USFWS n/d). Other hydrologic information pertaining to the three parcels was located in the Metolius Watershed Analysis completed in 1996 by the US Forest Service - Sisters Ranger District (USFS 1996a.)

Part of the Lake Creek property is within the Lake Creek 100-year floodplain, which is described on the NWI aerial photo as palustrine scrub-shrub wetland that is seasonally flooded. However, neither the School Property nor the Cliff Property supports seasonal wetlands or floodplains.

There are no critical facilities located on the lands under consideration or downstream of them. Table 3 shows the amount of wetland and floodplain acres to be exchanged from the proposed land exchange.

Table 3 - Deschutes National Forest Lands Wetland and Floodplain Acres to be Exchanged

Parcel	Wetlands	Floodplains
Cliff Property - 2.5 acre parcel	0.0 acres	0.0 acres
School Property - 4.8 acre parcel	0.0 acres	0.0 acres
Lake Creek Property - 5.9 acre parcel	0.9 acres	0.9 acres
Totals	**0.9 acres**	**0.9 acres**

There is a net gain to the government of approximately 0.9 acres of 100-year floodplains and seasonally flooded palustrine scrub-shrub located on the Lake Creek Property, and a net loss of approximately 0.7 acres of upland forest located on the School and Cliff Properties. No hazards to life or property are known to exist in the floodplain area involved.

5.1.6 Vegetation

5.1.6.1 Noxious Weeds

Under the Preferred Alternative, USFS would be exchanging control of existing noxious weeds on the School and Cliff properties for control of noxious weeds on the Lake Creek property. Noxious weeds on the Lake Creek property could be controlled by hand-pulling by USFS under the Preferred Alternative, because the size of the population is small. Control of noxious weeds on the School and Cliff properties would be the responsibility of the owner, Metolius, LLC. The property owner can be encouraged to keep the spread of noxious weeds under control by hand pulling as well.

Under the No Action Alternative, USFS would retain responsibility for control of noxious weeds on the School and Cliff properties, which would continue to be done by hand-pulling. Controlling noxious weeds on the Lake Creek property would remain the responsibility of the property owner, Metolius, LLC.

5.1.6.2 Federal Threatened and Endangered Plant Species, Species of Concern and Forest Sensitive Species

Surveys were performed on May 28 and June 15, 2001. An intensive method of survey using a ten-meter transect search pattern was performed for each parcel.

The exchange of land associated with this project would result in the loss of approximately 15 individual Peck's penstemon plants on the School and Cliff properties and 8 acres of suitable habitat. The 15 plants (considered to be two populations) being lost comprise a small percentage of the global population (less than 1%) and are classified as "managed" in Conservation Strategy, not "protected." This means these are in areas not under highest level of protection for population survival, but because of finite habitat of this endemic plant, all habitat and individuals are important.

The Lake Creek parcel that USFS will be acquiring is high-quality potential habitat even though there were no Peck's penstemon plants documented during the field survey. Future restoration of the parcel, employing different management strategies such as prescribed fire or passive/active seeding from adjacent areas, could yield plants on the parcel in the future.

The Conservation Strategy for Peck's penstemon does not address land exchanges or sanction permanent loss of habitat. Land exchanges are a cumulative effect in loss of habitat (under federal protection). The

plant has no protection on private lands. There have been three land exchanges within the Sisters Ranger District where Penstemon habitat has been lost in the past decade; therefore, there is a cumulative trend toward loss of habitat under federal protection.

Approximately 15 individual Peck's penstemon plants were located on the federal parcels. Because these plants comprise less than 1% of the global population, removing these individual plants from federal protection is not likely to cause a trend toward federal listing for the species.

No other PETS species were found within the survey areas.

5.1.6.3 Northwest Forest Plan Survey and Manage Species

As stated above, two field surveys were performed in 2001. No Survey and Manage vascular plants, bryophytes, lichens, or fungi were located within the survey areas.

5.1.7 Fish and Wildlife

The Preferred Alternative, by converting the Lake Creek property to federal ownership, would protect the property's connection with 330 feet of riparian zone along the Metolius River under USFS management (excluding the immediate 15 to 50 feet of riparian shoreline). This riparian area includes an approximately 50-foot-wide buffer of ponderosa pine trees and a grass field. The total area of the riparian zone on the Lake Creek property, based on a potential riparian zone within 300 feet of the river, is about 50% greater than the riparian zone on the Cliff property. So, while the loss of the Cliff property would reduce ownership of Metolius River frontage, the Forest Service acquisition of the Lake Creek property, in addition to acquiring the entire riparian area on both sides of Lake Creek, would consolidate total ownership of riparian land in this reach of the Metolius. The Cliff property does not contain habitat of as high a quality as that of the Lake Creek property, as the Cliff property habitat has a higher gradient, a bedrock substrate, and scarce floodplain. Due to the high gradient and swift flow of the river at this location, it provides relatively little (if any) spawning and rearing habitat for rainbow trout, brown trout, or bull trout.

The No Action Alternative would leave the 330-foot-long section of the Metolius River riparian zone in private ownership, and retain ownership of the 759 feet of river frontage on the Cliff property. Development of the Lake Creek property could pose some risk of negative impacts on the habitat from erosion, runoff from impervious surfaces, septic tank or field failure, and homeowner application of fertilizers and pesticides/herbicides. In addition, most private lands along streams in this area have been developed and owners often remove streamside habitat so the residents can view the waterway. The Cliff property would be preserved, but the quality and acreage of riparian area owned by USFS would be less than under the Preferred Alternative. The river at the Cliff parcel provides relatively little spawning and rearing habitat for rainbow trout, brown trout, or bull trout.

5.1.7.2 Threatened and Endangered Species

Because there are no plans to develop in the project area, no habitat of any of the listed species would be impacted. Furthermore, there is no spawning or rearing habitat for bull trout in Lake Creek. Since no development is proposed, no spotted owl nesting, roosting, or foraging (NRF) habitat would be affected, and no dispersal habitat of the spotted owl would be lost. Because bald eagle nesting habitat is lacking in the project vicinity, there will be no direct, indirect, or cumulative effects to nesting bald eagles as a result of the proposed project. There are no proposed changes to the existing habitat conditions within the project area, and the proposed land exchange would have no direct, indirect, or cumulative impacts to non-breeding bald eagles.

Bull Trout: The exchange of land associated with this project would not result in the loss of bull trout spawning or rearing habitat in the foreseeable future. There are no plans to develop in the project area and therefore no habitat would be impacted. Although unlikely, development could occur on the Cliff Property if the property were sold to another landowner. Development on the Cliff property could impact fish habitat by changing the potential for wood recruitment to the river, and impacting water quality from run-off from houses, pavement and trails to the river. Private property is subject to protective measures under the Oregon Scenic Waterways Program. These measures would minimize harmful impacts to fish and fish habitat.

The exchange of the Lake Creek Property would prevent development and might have a beneficial effect on riparian habitat along Lake Creek, which could improve downstream spawning and rearing habitat.

There will be no modification of either spawning or rearing habitat for bull trout with this project in the foreseeable future. Although unlikely, there is a potential for future development on the Cliff Property to impact fish habitat if the property is sold to another landowner. Therefore, it was determined that this project may affect, but is not likely to adversely affect the bull trout.

The No Action Alternative would not affect bull trout habitat in the Metolius River adjacent to the Cliff property as no development would be allowed. However, development on the Lake Creek property could affect rearing habitat and migration routes in the Metolius River to the extent that the buffer adjacent to the creek on the Lake Creek property could be removed by private development.

Spotted Owl: The No Action Alternative would not impact spotted owl habitat as the project areas are not within Critical Habitat or known spotted owl home range territories. No dispersal habitat of the spotted owl would be lost.

Bald Eagle: Since bald eagle nesting habitat is lacking in the project vicinity, there would be no direct, indirect, or cumulative effects to nesting bald eagles as a result of the No Action Alternative. There would be no change in the existing habitat conditions within the project area with the No Action Alternative and therefore no direct, indirect, or cumulative impacts to non-breeding bald eagles

Canada Lynx: There would be no change in the existing habitat conditions within the project area with

the No Action Alternative and therefore no direct, indirect, or cumulative impacts to the Canada lynx.

5.1.7.3 Section 7 Consultation

In accordance with section 7 of the ESA, USFS requested informal consultation with USFWS to confirm the potential effects on listed bull trout. A copy of the letter of concurrence from USFWS is included in the appendix. Section 7 consultation with National Marine Fisheries Service (NMFS) is not required because the biological assessment concluded there are no effects to any listed or proposed anadromous fish species or essential fish habitat.

5.1.7.4 Forest Service Sensitive Species

Potential habitat was shown to be present for only two species listed as Sensitive. There is no proposed development planned in the foreseeable future in the project area. The proposed project would not impact the potential use of the area by the harlequin duck and would not change its habitat. This alternative is also not likely to impact spawning and rearing habitat for interior redband trout.

The No Action Alternative would not impact harlequin duck or redband trout habitat.

5.1.7.5 Northwest Forest Plan Survey and Manage Species

Marginal habitat for the Crater Lake tightcoil is present in the project area; but surveys were not required as no ground- or habitat-disturbing activities are proposed, and no impacts are expected from the Preferred Alternative or the No Action Alternative. No terrestrial mollusks were found during surveys and in general there is a lack of habitat for them; therefore, no impacts are expected for either the Preferred or the No Action Alternative.

5.1.7.6 Forest Service Management Indicator Species

The proposed land exchange would not change the existing habitat conditions within the project area. In addition, there is no proposed or foreseeable future development in the project area. Therefore, the proposed project would not impact the forest management indicator species or their habitats that occur in the project area.

The No Action Alternative would not impact any habitat or individuals of these species.

5.2 CULTURAL SETTING

5.2.1 Archaeological and Historical Resources

The Preferred Alternative would result in the loss of federal protection for one significant historic

property (the School property), and the gaining of federal protection for another significant historic property (the Lake Creek property). Of the two, only the School property contains evidence of extensive subsurface prehistoric archaeological resources. A conservation easement will be placed on the School property before the deed is transferred to the school district. Recovery of the resources following the federal process of determining effects, developing mitigation measures for adverse effects, and review and approval by the State Historical Preservation Office (SHPO) would have to occur prior to any future possible development of the site (although no future development is planned by the occupants). USFS would receive the Lake Creek property, which also contains a known prehistoric site. No ground-disturbing development of the site is planned by USFS.

The No Action Alternative would allow development on the Lake Creek parcel, which contains a known prehistoric site with lithic scatter, only after compliance with ORS 358.920. Further investigation of these resources for their eligibility for protected status needs to be conducted. If the investigation determines that any of the resources are eligible for protection under federal laws, then appropriate mitigation would need to be developed to protect them from impacts from future possible development of the site.

5.2.2 Recreation

Neither the Preferred Alternative nor the No Action Alternative would directly alter any existing recreational facilities. Due to swift water, rough access, and lack of trails on the Cliff parcel, recreation use is low, and there would be no significant impacts from converting the property to private ownership. Transferring ownership of USFS properties to Metolius, LLC would obviate the need for Special Use Permits for encroachment of the recreational resort, creating management efficiencies for both parties. The Preferred Alternative would keep the Lake Creek parcel in its current undeveloped state, and would permit public access through that property to Lake Creek as well as to the National Forest (NF) cabins on Tract E, thereby helping access to public recreation facilities and enhancing management of the recreation residence special use permits. Since no development would be expected under this alternative, the existing recreation experience would continue and be preserved.

The No Action Alternative would maintain existing facilities. With the Lake Creek parcel remaining in private ownership, a dwelling would be permitted outright. Development on the property is subject to regulations for state Wild and Scenic Rivers, requiring buildings to blend with the surroundings. Since this section of the river is classified as recreational (which acknowledges evidence of man-made structures and recreation facilities), there would not be significant impacts on the expected recreation experience. To gain legal access to the Tract E cabins, the Sisters Ranger District would need to complete its acquisition of a separate easement. Otherwise the cabins will remain landlocked, restricting their use as public recreation residences.

5.2.3 Scenic Resources

The Preferred Alternative would protect the Lake Creek property from any further development.

Although the property does not have direct frontage on the Metolius River, the pine forest on the northeast portion is connected to the forested buffer along the river owned by USFS. Therefore, the quality of the scenic resources would be maintained on that parcel, as well as on the Cliff property, thereby maintaining undeveloped foreground views consistent with what is existing in the corridor.

With the Lake Creek property remaining in private ownership under the No Action Alternative, a dwelling would be permitted outright, and a community hall or fire station permitted conditionally, which could affect the scenic experience by people on Lake Creek, particularly as residents along the Creek have tended to remove streamside vegetation to improve their views. Development on the property is subject to regulations for state Wild and Scenic Rivers, requiring buildings to blend with the surroundings. Since this section of the river is classified as recreational, which acknowledges evidence of man-made structures and recreation facilities, buildings would not be unexpected, and there would not be significant impacts on the expected foreground scenic views.

Since there are no distant views from this location, none would be impacted by either alternative.

5.2.4 Transportation/Circulation

The Preferred Alternative would not change any existing traffic patterns or volumes. However, in the process of acquisition of the Lake Creek property, USFS will assume ownership of one road easement with the title for the Lake Creek property.

The No Action Alternative could result in development on the Lake Creek property. Depending on the use, traffic volumes could be affected, especially if a more intensive use were constructed. A single-family dwelling would not have a significant impact on traffic volumes or patterns.

Because there is no planned change in the status of roads managed by USFS, a full road analysis is not required for this project (FSM 7712.13c).

5.2.5 Public Services and Utilities

The Preferred Alternative would not change the demand for public services or utilities, as no development is likely to occur with that alternative. No impacts on any existing public facilities would occur.

Potential single-family development of the Lake Creek property under the No Action Alternative would not significantly increase demand for public services and utilities, particularly as there is already electricity and telephone service to adjacent parcels. A conditional use, such as the fire station or community hall, would increase demand for these services, particularly water, sewer, police, and emergency services. Approval of such a use should consider whether services are adequate to serve such uses without funding to increase supply of public services. No impacts on any existing public facilities would occur.

5.2.6 Socioeconomics

Management activities which result in changes in the environmental quality or appearance of the forest setting, amenities, and recreation opportunities all could have direct impacts on the local communities. Under the Preferred Alternative, there would be no change to the existing forest setting, amenities, and recreation opportunities, except to provide public access through the Lake Creek property. In addition, the House on the Metolius, School District, and church would not be required to apply for Special Use Permits for their activities on the respective parcels, which would reduce administrative costs for USFS as well as for the owners or administrators of those operations.

The No Action Alternative could result in changes to existing conditions on the Lake Creek property. The potential uses for the property-single family residence, community hall, or fire station-could provide benefits by employing people locally and providing amenities to local and seasonal residents. However, because the likely intent of including the conditional uses was to allow the existing community hall and fire station to be located in the Camp Sherman Rural Residential (CSRR) district, no such facilities would be expected to be proposed for the Lake Creek property. The construction of a single-family residence would temporarily employ a construction crew. In general, no significant impacts would likely occur. The House on the Metolius, School District, and church would still be required to apply for Special Use Permits for their activities on the respective parcels, which adds administrative costs for USFS and the owners/administrators of those operations.

5.2.7 Land Use

The Preferred Alternative would require zoning or re-zoning of the Cliff and School parcels to Jefferson County zoning and comprehensive plan designations that are appropriate for the existing uses. The School property has lost its forest land character, as it is no longer used by the public as a national forest. In the past, the School District approached USFS about acquiring the land, but did not have the funds. Both the school and the church support the exchange and would benefit from acquiring fee title to the land they use by having more freedom to manage that property to meet their needs.

While the Cliff parcel's designation as forest land is not as inconsistent with its uses as is that of the School parcel, its terrain precludes easy public use from the river, so its designation would be more suited to an extension of the designation in place for the existing House on the Metolius Resort, especially since that use has been occurring for a number of years.

The Lake Creek parcel would be converted to Forest Management zone and be federally owned and managed under the Preferred Alternative. Acquisition of the Lake Creek parcel would remedy the lack of legal access to the Recreation Residences on Tract E and would increase USFS management of the riparian buffer and corridor.

The No Action Alternative would not result in any change in land uses. However, existing conditions are

not optimal for the agencies and owners involved. The need to obtain Special Use Permits for the Cliff and School properties would remain; existing uses on the School property would continue to be inconsistent with the federal forest designation; less riparian corridor area would be protected from development on the Lake Creek property; and access to the Tract E Recreation Residences would need to be acquired.

5.2.7.1 Deschutes National Forest Land and Resource Management Plan (LRMP)

No LRMP amendments would be needed to incorporate the Lake Creek property into Deschutes National Forest management. The parcel is within the forest boundary, with surrounding areas already included in Management Area 28. In addition, the property is in the Land Adjustment Category of Group 3, Subgroup C, in the LRMP. Similar to the federal parcels proposed for exchange, this parcel is within areas of mixed private and federal ownership and rearrangement of ownership would be permitted for the mutual benefit of the landowners. USFS is in the process of reviewing the proposal at the regional and federal levels, which will determine (according to the criteria in the applicable USFS regulations) that the exchange would be beneficial under the Preferred Alternative. The values of the riparian resources on the Lake Creek property would be preserved, consistent with the goals of the LRMP. The removal of the Cliff property from the forest allocation would not be inconsistent, as the riparian area on the Cliff property is expected to function as it does presently. The School property is not used for forest-related activities, so there would be no impact to its removal from the public land base forest land.

Under the No Action Alternative, no changes to the LRMP would occur. The uses on the School parcel would continue to be inconsistent with the National Forest uses typical for Management Area 19 and to require Special Use Permits. Not acquiring the Lake Creek parcel could potentially negatively impact riparian areas on Lake Creek through private development and clearing. This would not be consistent with the intent of the provisions for Land Adjustments, which encourages land exchanges to benefit the riparian areas of the forest.

5.2.7.2 Northwest Forest Plan (NWFP)

A change to the NWFP would occur, to allocate the Lake Creek property as Riparian Reserves. The Preferred Alternative would be consistent with Standards and Guidelines under LH-5 that allow land exchanges to meet Aquatic Conservation Strategy objectives and facilitate restoration of fish stocks and other species at risk of extinction. The acquisition of the Lake Creek property would help protect spawning areas and riparian vegetation in Lake Creek. The removal of the Cliff property from the forest allocation LSR would not be detrimental, as the riparian area on the Cliff property is not expected to be developed, its function would remain, and no changes from current resort uses would occur. The School property is not used for forest-related activities, so there would be no impact from its removal.

Under the No Action Alternative, no changes to the NWFP would occur. The uses on the School parcel would continue to be inconsistent with the National Forest uses typical for Management Area 19 and

LSRs, and requiring Special Use Permits. Not acquiring the Lake Creek parcel could potentially negatively impact riparian areas on Lake Creek through private development and clearing. This would not be consistent with the intent of the provisions for Land Adjustments, which encourages land exchanges to benefit the riparian areas of the forest. Impacts under this alternative would be neutral to slightly negative.

5.2.7.3 Metolius River/Wild and Scenic River Management Plan (WRSMP)

The WRSMP does not have any specific guidelines for land exchanges and no changes to the plan would occur. However, the goals of protecting riparian and scenic values would be met under the Preferred Alternative through the protection of resources on the Lake Creek parcel. The free-flowing character of the river would be unaffected. The removal of the Cliff property from the forest would not have an adverse impact, as the function of the riparian area will be preserved. The School property does not contribute to the values considered critical to the Wild and Scenic River.

Under the No Action Alternative, no changes to the WRSMP would occur. However, the goals of protecting riparian and scenic values would not be optimized under the No Action Alternative because the resources on the Lake Creek property could be compromised by private development. The free-flowing character of the river would be unaffected. The Cliff and School properties would not be affected. The School property does not contribute to the values currently considered critical to the Wild and Scenic River

5.2.7.4 Oregon Scenic Waterways Program

There would be no impacts from the Preferred Alternative since no development would occur. USFS is in consultation with the Oregon Parks and Recreation Department to ensure that the objectives of the Oregon Scenic Waterways program are being achieved by the Proposed Action. A copy of their determination is included in the appendix.

The No Action Alternative would leave the Lake Creek property in private ownership, so that any proposed development would still be subject to the program.

5.2.7.5 The Oregon Plan for Salmon and Watersheds, 1997

The goal of the Oregon Plan is to restore declining salmon runs and watershed health. The Preferred Alternative would better protect spawning habitat for some fish species since the Lake Creek property has such habitat on its creek frontage, while the Cliff property does not on its river frontage.

Eventual private development of the Lake Creek property under the No Action Alternative could negatively impact spawning habitat.

5.2.7.6 Jefferson County Zoning Ordinance and Comprehensive Plan

Under the Preferred Alternative, the Lake Creek property would be removed from Jefferson County jurisdiction. The Cliff and School properties would likely be re-zoned CSRR-5, which would be more consistent with uses on those properties currently authorized by USFS as Special Uses. This would require action by USFS or the County to re-zone the properties. Metolius, LLC may be required to consolidate the Cliff parcel and House on the Metolius parcel to make the Cliff parcel conforming in size to the zoning designation.

Under the No Action Alternative, there would be no changes to the land use designations. The Lake Creek property would continue to be subject to the Jefferson County zoning ordinance and comprehensive plan, which would govern future development on the site.

5.2.8 Hazardous Materials

As no hazardous materials are known to exist in the area, there would be no impacts under either the Proposed Action or the No Action Alternative.

5.2.9 Natural Resources and Energy

Because there is no commitment of natural resources or energy associated with either the Proposed Action or the No Action Alternative, there would be no impacts.

5.3 ENVIRONMENTAL JUSTICE

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* of February 11, 1994 requires agencies undertaking federal projects to identify low-income and minority populations, assess whether adverse human health or environmental impacts would result from each of the alternatives, and addresses the project's public outreach program in relation to environmental justice issues.

In accordance with this order, the proposed land exchange has been reviewed to determine if it would result in "...disproportionately high and adverse human health and environmental effects on minorities and low-income populations." Due to the nature of the Proposed Action-a land exchange that does not include any existing permanent residences-no residents or businesses would be displaced. Since no development is proposed, there would be no future or long-term impacts that would affect the livability of the surrounding areas. Opportunities for recreation on the publicly-owned forest property would extend to minorities and people with low incomes in the area. Removal of the Cliff property from public use would not be impacted, since public use of the property is low already. The School property is currently used for public activities that would continue.

Under the No Action Alternative, there would be no impacts because no changes from existing land use patterns or economic activities would occur.

5.4 SECONDARY AND CUMULATIVE EFFECTS

Secondary, or indirect, effects are those effects that would not occur concurrently with the Proposed Action. Since some of the important impacts from the land exchange are indirect (such as protection of riparian resources from future development) they have been discussed in the previous sections with the direct impacts.

Long-term, cumulative impacts are those that result from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes the other actions. An example of a cumulative effect of concern to USFS is soil erosion and stream sedimentation from multiple timber permits and private logging operations in the same watershed. In this case, the cumulative effects could be the conversion of forest land to private ownership and vice versa, and effects from private development of riverside or streamside properties on habitat and water quality.

The proposed land exchange, in accordance with USFS policy and regulations, will result in a balanced land swap, taking into account the value of the properties, so that net immediate effect is neutral. If the swap were an anomaly in a historic trend of less equal exchange, then the neutral effect would not do anything to remedy the inequities. If there is the possibility that a negative trend could continue, there could be net cumulative and adverse effects. However, proposed land exchanges are reviewed by local, regional, and national USFS staff to ensure that the exchange does not compromise USFS policies for protecting forest resources. Specific criteria must be met to ensure that the proposal is consistent with USFS law, regulations, and policy. Furthermore, this is unlikely to occur, as there have not been historic trends in that direction.

Under the No Action Alternative, future development of the Lake Creek property with a residence would be consistent with trends on privately-owned stream-side sites in the Metolius River corridor. Often vegetation is removed to improve residents' views of the water. Continuing development and removal of riparian vegetation affects numerous aspects of critical spawning and rearing habitat, such as water temperature and erosion. These trends would be expected to continue as the popularity of the area keeps growing and as private lands are not governed by the same restrictions on vegetation removal as federal lands. Consequently, the No Action Alternative could indirectly contribute to cumulative adverse impacts on riparian habitats by not protecting the riparian area on the Lake Creek property.

There are three concurrent projects in the Metolius River corridor: Heritage Demo, Metolius Basin Forest Management Project, and the East Metolius River Trail project. Because the goal of the East Metolius River Trail project is to reduce impacts on riparian habitat from unauthorized vehicle crossings and make authorized non-motorized use of the trail crossing easier, it would not have adverse effects on spawning habitat, so no cumulative impacts from the combination of this project and the Proposed Action would occur. There are no other foreseeable state, federal, or private actions that would have secondary or cumulative effects on the project areas.

5.5 PRIME FARMLANDS, RANGELANDS AND FOREST LANDS DETERMINATION

Neither the Proposed Action nor the No Action Alternative would have an adverse impact to the productivity of farmland or rangeland which is not present in the project area, nor Forest Land which is not available for timber production under current management direction.

Deschutes and Ochoco National Forests Website
http://www.fs.fed.us/centraloregon/manageinfo/nepa/documents/sisters/lundgren/eachap5.html
Last Update: 4/17/02
R.A. Jensen

ENVIRONMENTAL ASSESSMENT

LUNDGREN LAND EXCHANGE

6.0 COORDINATION AND CONSULTATION

6.1 INTRODUCTION

Consultation with individuals, organizations, and other agencies has occurred throughout development of the Proposed Action. Public meetings, personal contacts, and interdisciplinary meetings were the basis for the list of issues discussed in Section 1.6.

6.2 PUBLIC MEETINGS

An open house was conducted on September 30, 2000, meeting in Camp Sherman. An advance agenda provided to a large mailing list of interested citizens and groups announced the topic of this presentation. General concerns and issues that were raised are discussed in Section 1.6.

6.3 OTHER AGENCIES

The following is a list of agencies that were consulted during the preparation of the proposed project design and this EA.

- Oregon Parks and Recreation Department
- US Fish and Wildlife Service
- National Marine Fisheries Service
- Oregon State Historic Preservation Office

1.0 PROJECT DESCRIPTION
2.0 PURPOSE OF AND NEED FOR THE PROJECT
3.0 ALTERNATIVES CONSIDERED
4.0 AFFECTED ENVIRONMENT

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ENVIRONMENTAL ASSESSMENT

LUNDGREN LAND EXCHANGE

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