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**Forest
Service**

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Environmental Assessment

Three Pools Day Use Site Rehabilitation Project

**Detroit Ranger District
Willamette National Forest
Marion County, Oregon**

Legal Location: Township 8.S., Range 4.E., Section 34. **W.M.**



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Environmental Assessment

Three Pools Day Use Site Rehabilitation Project

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Chapter 1. Introduction

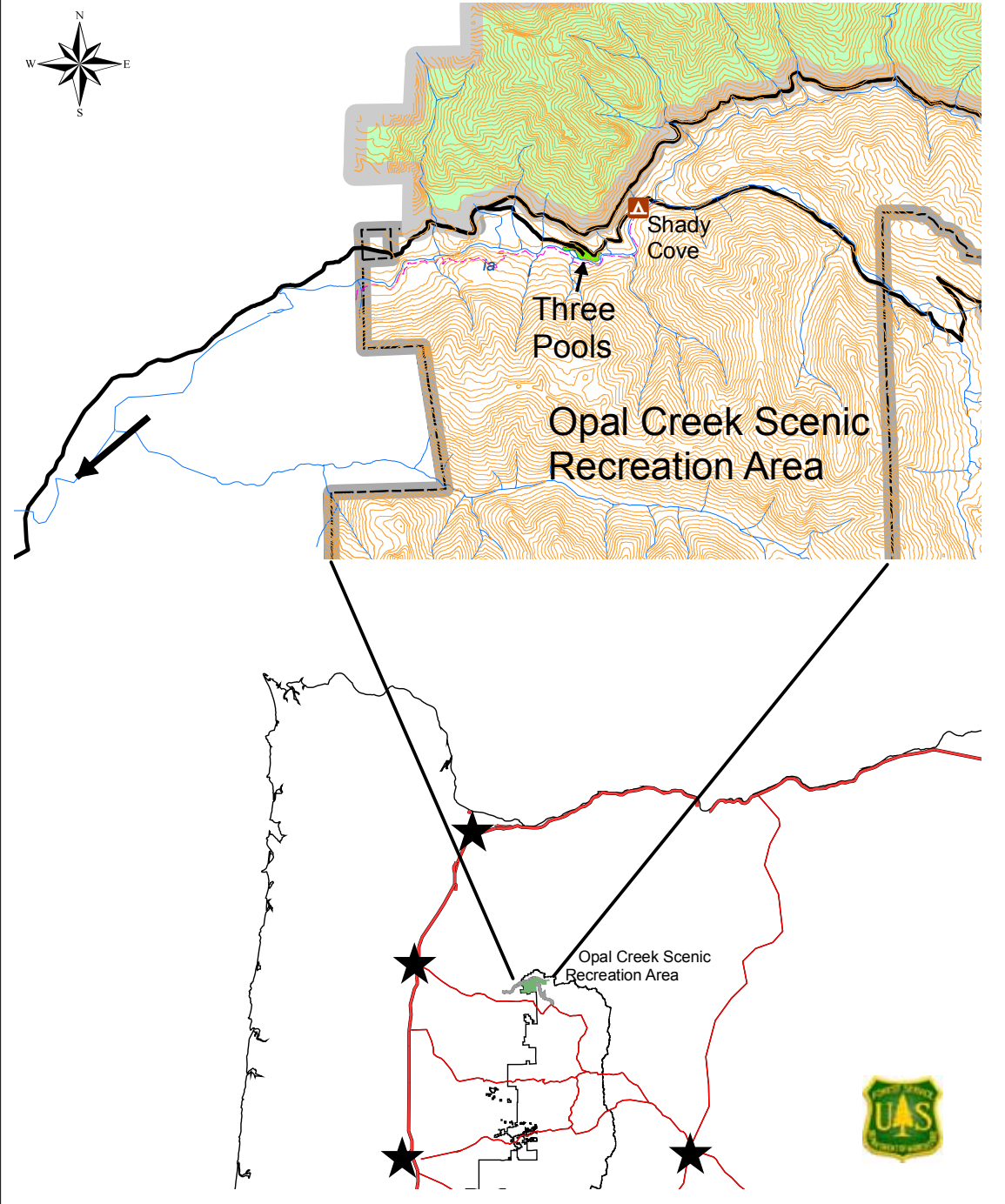
Document Structure

The Forest Service has prepared this Environmental Assessment in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This Environmental Assessment discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. The document is organized into four parts:

- **Introduction:** The section includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal and how the public responded.
- **Comparison of Alternatives:** This section provides a more detailed description of the agency's proposed action. This discussion also includes possible mitigation measures. Finally, this section provides a summary table of the environmental consequences associated with each alternative.
- **Environmental Consequences:** This section describes the environmental effects of implementing the proposed action and other alternatives. This analysis is organized by resource area. Within each section, the current condition of the affected environment is described first, followed by the effects of the No Action Alternative that provides a baseline for evaluation and comparison of the other alternatives that follow.
- **Agencies and Persons Consulted:** This section provides a list of preparers and agencies consulted during the development of the environmental assessment.
- **Appendices:** The appendices provide more detailed information to support the analyses presented in the environmental assessment.

Additional documentation, including more detailed analyses of project-area resources, may be found in the project planning record located at the Detroit Ranger District Office in Detroit, Oregon located at 44125 North.Santiam Highway SE.

Three Pools Day Use Site Rehabilitation Vicinity and Site Map



Area Description and Background

Three Pools Day Use Area is situated within the Opal Creek Scenic Recreation Area (SRA) on the western slopes of the Cascade Mountains, about 35 miles east of the City of Salem. This 15 acre area is nestled along the picturesque Little North Santiam River, a State Scenic Waterway, and Forest Road 2207 in Township 8.S., Range 4.E., Section 34, within the Detroit Ranger District, Willamette National Forest, Marion County. The site is within the eastern portion of the Little North Santiam watershed which is almost entirely National Forest.

Three Pools is the only day use site in the SRA. It is a popular summer destination and touted as “the grandest swimming hole complex in the Little North Santiam River.” These clear emerald pools attract well over 15,000 visitors each year. About 68% of visitors are from the Willamette Valley including local residents of the North Santiam Canyon, and 25% are from the Portland metropolitan area (Pavoni, 2000). The site has about a 71% repeat visitation rate with half of these visitors returning more than 4 times a year. Common recreational activities at the site include swimming, fishing, picnicking, sightseeing, gold panning and kayaking. The site is mostly known by word of mouth through family and friends but is also publicized in a book titled *Oregon’s Swimming Holes* and featured in various websites.



The amount of visitor use at Three Pools is directly dependent on weather. Three Pools receives its heaviest use in July and August on hot days when it’s most conducive to swimming - the most popular activity at this site. A few peak weekend days, between 1-6 days, will yield about 160-180 vehicles or about 500-600 people at one time. On one hot day in July of 2006, nearly double this use was observed. Normal summer weekend use varies from 35-100 vehicles at one time or up to about 300 people at one time. Generally, use begins in the late-morning and picks up during the heat of the day, around 3:00-6:00 pm, and gradually decreases until dusk. After hours or overnight use occurs occasionally and is difficult to deter without active law enforcement.

Parking within the site is along an 1100-foot, single-lane primitive road with turnouts or parking “bubbles” and no formally designated parking spaces. The parking area usually fills on hot weekend days and vehicles sometimes overflow onto the 2207 Road. About 60-80 vehicles can be found parked in the site with over 100 vehicles observed parked along Road 2207 within ½ a mile of the site.

Three Pools was established as a day use area in 1993 by a Code of Federal Regulations special order to help deal with law enforcement’s concerns about illegal and inappropriate behaviors. These problems often turned visitors’ away especially families that felt threatened or

didn't want to be exposed to offensive behaviors. While the overall situation has improved by the evidence of more families returning, unlawful and unruly activities continue to be documented at the site such as under-aged drinking, drug use and possession, fighting and boisterous behavior (exacerbated with alcohol use), littering & deliberate breaking of glass bottles, illegal campfires and camping, vandalism, vehicle break-ins, target shooting, nudity, sex offenses, and domestic disputes. There have been several injuries and deaths at this popular swimming hole as a result of jumping from rocks or drowning sometimes attributed to intoxication.

The intensity of use and inappropriate behaviors caused concerns about public health and safety, and impacts to resources and visitor experiences. Modest facility improvements were made in 1992-93 to resolve some of these issues. An increase in Forest Service and law enforcement presence has also helped. To deal with sanitation problems, vault toilets were installed and garbage cans were placed at the site. A 50-foot stairway was constructed to provide safe designated access to the popular lower pool area. Facilities such as picnic tables and informational & regulatory signing have minimally been provided because of recurring vandalism. Signs are placed high on trees to avoid being removed or damaged. In 2003, the vault toilet was burned down by vandals and was replaced in 2005. Currently, no recreation fees are charged at this site.

Purpose and Need for Action

This section describes the existing condition and desired condition at Three Pools, and explains the need for the project proposal. A need for action is usually triggered when the existing conditions do not meet the desired conditions. Implementing the proposed action would resolve the discrepancies between the existing and desired condition.

Statement of Need for Action

The District Ranger of the Detroit Ranger District of the Willamette National Forest has determined there is a need to take management actions that help promote a safer, family-friendly, healthful and aesthetic environment at Three Pools by providing basic physical infrastructure that will:

- Accommodate existing recreational use and provide for some increased demand on most non-peak days,
- Provide formal organized parking and set a vehicle capacity to reduce road and parking congestion,
- Provide safe road access into the site and trail access along the river,
- Provide modest day use facilities at Three Pools to help meet minimum public safety and sanitation standards and visitor needs, and provide some barrier-free opportunities to persons with disabilities,
- Restore resource conditions combined with new facilities to provide for sustainable protection of the resources, and
- Improve and support onsite visitor management strategies.

Purpose for Action

The underlying purpose for this project is to implement direction in the Opal Creek Scenic Recreation Area Management Plan to help improve safety, social and resource conditions within the Three Pools day use area to align with the desired condition. Current management and facilities at Three Pools do not meet Management Plan objectives for providing a quality recreation setting.

Assessment of Need for Action

Existing Condition

Public Health and Safety:

- Traffic safety problems stem from insufficient and unorganized parking, road congestion, and poor ingress/egress into the site from Forest Road 2207. Some of the overflow and congestion occurs when other recreation sites in the Little North Santiam recreation corridor are busy.

The existing parking area can not accommodate the number of vehicles the site receives during the summer, resulting in overflow parking along Forest Road 2207 causing further congestion. Parking within the site is along an 1100-foot, single-lane road with wide spots and no designated parking spaces, which causes uncontrolled and indiscriminate parking. Often vehicles are haphazardly parked in a manner that blocks other



Parking congestion along Road 2207

vehicles and inconveniences visitors. At this point, the site becomes inaccessible for emergency vehicles and hinders law enforcement, ambulance and fire engine personnel's ability to respond to situations. It also compromises officer safety by either not having vehicle access into the site or ability to readily leave the site.

The site entrance is unsafe for two-way traffic. It is a single lane approach on a steep pitch with limited visibility. Exiting passenger vehicles have difficulty negotiating a right-turn onto Road 2207 because of the acute angle of the intersection.

- Many user-created trails that access popular swimming holes and large "jump-off rocks" into the river are located on very steep and exposed slopes causing potential safety concerns. Injuries have been reported as a result of jumping from rocks.
- A recently installed double vault toilet is not sufficient for the volume of use at the site. The toilet is located in a forested canopy and does not get adequate radiant heating from sun exposure to dissipate odors. Many visitors are not satisfied with the facilities because the toilet smells bad and some avoid using it. Others elect not to walk the distance to use the toilet. This results in human waste being disposed in an unsanitary and exposed manner around the site, and is unsightly.

- Littering and intentional breaking of bottles on the site has become a health and safety concern, and is unsightly. Each year numerous injuries from stepping on broken glass are reported.

Resources:

- Years of intensive use at Three Pools and unconfined foot and vehicle travel on the site has resulted in damage and some loss of vegetation. When the parking area is full, other vehicles park on vegetation in places where no natural barriers are present. This causes soil compaction and negatively effects tree health and denudes the area of vegetation. A network of user-created trails along the river located on steep slopes causes some displacement of soil. The current condition of the riparian area does not meet the intent of the Northwest Forest Plan Aquatic Conservation Strategy objectives.

Facilities:

- Limited investment has been made to the existing facilities. Facilities are provided primarily for site protection and sanitation purposes including regulatory signing, toilet, garbage receptacles and stair access to the main swimming hole. Vandalism has been a problem particularly during times of limited administrative or law enforcement presence.
- There is an unmet public need for facilities and improvements such as more and improved parking, toilet facilities, and trails, more picnic sites and interpretation, improved litter and sanitation management, and improved road conditions. Local communities desire adequate facilities to improve the attractiveness of the area as a safe place to visit and to enhance quality of life and economic benefits in the area.

Desired Condition

The Omnibus Parks and Public Lands Management Act of 1996 (Public Law 104-333, referred to as the “Opal Creek Act”) designated the Opal Creek Scenic Recreation Area to: 1) protect and provide for the enhancement of the natural, scenic, recreational, historic and cultural resources of Opal Creek, 2) protect and support the economy of North Santiam Canyon communities and 3) provide increased protection for an important drinking water source for communities served by the North Santiam River. The Opal Creek Scenic Recreation Area (SRA) Management Plan was developed to comply with the act and amends the 1990 Willamette National Forest Land and Resource Management Plan (Forest Plan). The SRA Management Plan guides all management activities within the SRA. The plan defines the desired condition that is sought within all or portions of the SRA, and identified applicable standards to achieve these management goals.

The SRA is divided into four management zones based on recreation use intensity that determine: types of experiences and relative amount of use recreationists can expect; types and level of developments and where facilities are appropriate; and degrees to which visitors are

regulated or managed by onsite controls as well as the types of information and interpretive services provided. Specific desired conditions are identified within the Opal Creek SRA Management Plan (USDA FS 2002) for each management zone. Three Pools day use area falls within the High Intensity Management Zone and the Desired Condition for this area is as follows:

- **Recreation Opportunity Spectrum:** The high intensity zone is managed to provide visitors opportunity to recreate in a roaded natural environment of high scenic integrity with moderately but rustically developed facilities. Frequently there are numerous people present particularly during summer weekends, when contacts among recreationists are very high and may last for a moderate-to-long period of time.
- **Use and occupancy** are managed to protect natural resources, minimize depreciative behavior, prevent conflicting uses, and to ensure healthy, safe and enjoyable recreational experiences. Resource destruction, vandalism and disturbances to visitors are minimal. A higher degree of regulation and management presence occurs in management zones of intensive use. Recreation activities are permitted at a level not less than those that existed on the date of enactment of the Opal Creek legislation. The SRA accommodates increasing numbers of visitors while ensuring that ecosystem values are protected, and quality of recreational experiences and objectives for which the SRA was established are maintained.
- **Management and law enforcement** presence, and on site visitor management controls such as informational and regulatory signs, established parking areas, and barriers, are obvious. An information and education program to enhance visitors' knowledge, understanding and enjoyment of the SRA is very apparent, and encourages appropriate and safe use.
- **Information and education** enhance visitors' knowledge, understanding and enjoyment of the SRA, and encourage appropriate and safe use.
- **Roads:** Access to recreation sites and facilities in existence on the date of enactment of the Opal Creek legislation is maintained. The roads provide safe access to recreation sites with minimal dust and noise around major use areas. Road congestion around recreation sites is minimal with adequate parking to protect resources and aesthetics, and ensure safety. Roads are maintained to a standard appropriate for the setting they traverse, the volume of traffic and the types of vehicles commensurate with recreation and resource management objectives.
- **Facilities:** Day use developed facilities such as parking areas, picnic sites, sanitation facilities, vehicle control barriers, kiosks, river access, viewing platforms, boardwalks, and hiking trails are provided. Developed recreation sites are located close to the road and provide the necessary infrastructure to accommodate concentrated recreation use and protect resource values. Facilities accommodate high concentrations of users, protect

fragile natural resources and meet sanitary and safety needs. Facility development is initiated in selected areas to accommodate increasing use, minimize user conflicts, and for the enjoyment, understanding and protection of natural aspects of the area. Development planning considers such factors as user needs and demand patterns, specific site suitability, resource objectives and cost efficiency of installation, operation and maintenance. Facilities are designed for the enjoyment of the SRA's natural resources while preserving the focal points of interest, rather than serving as attractions in themselves. Facilities are subordinate to the focal attraction, are simple and durable in design, and harmonize with the surrounding natural environment. Facilities are kept in good condition and appear well maintained to desired standards and service levels. New and upgraded facilities comply with accessibility standards.

- **Trails** are primarily used by hikers and provide some challenge and require a low to moderate level of physical ability and skill to travel. Some trail segments may provide access for people with disabilities.
- **Local Communities and Economies:** The economies of local communities benefit from safe, reasonable access to and use of the SRA. In addition to adequate facilities, the quality and variety of the recreational opportunities create a positive visitor experience, and encourage new and return visitation. Recreational and educational opportunities offered within the SRA, as well as the attractiveness of the area as a safe place to visit, benefit the local economy by drawing visitors many of whom will patronize local businesses. People are attracted to the natural and scenic amenities of the SRA and move to nearby communities, bringing income and new businesses.
- **Vegetation:** Cutting of trees is allowed for public safety and activities related to administration of the SRA consistent with the Opal Creek SRA Management Plan.

The Forest Plan as amended by the 1994 Northwest Forest Plan describes other desired conditions relevant to this project area:

- **Riparian Reserves:** Recreation facilities and roads within Riparian Reserves meet, and to the extent practical, contribute to the attainment of Aquatic Conservation Strategy objectives. Recreation practices that are preventing the attainment of ACS objectives are adjusted through measures such as education, use limitations, traffic control devices, relocation of facilities, and/or specific site closures.

Proposed Action

This section describes the proposed action developed by the USDA Forest Service to meet the purpose and need for action. A proposed action is not a decision. Upon completion of initial public scoping, alternatives to the proposed action are developed and analyzed; however, no new alternatives were generated since no significant issues were raised (see Issues section below). Alternatives, the no action and the proposed action, are described in Chapter 2 of the Environmental Assessment, and will be considered in the final decision after the 30-day public comment period. A decision is expected on the proposal in April 2007.

Proposed Action

The Forest Service proposes to reconstruct the road and parking areas within the Three Pools Day Use Area to accommodate public access and use. It would set a vehicle capacity and confine vehicles to designated locations. Other improvements would include: delineating and improving trails and obliterating undesirable or unsafe routes; installing features to protect resources and rehabilitate damage caused by unconfined travel and parking; and installing minor recreation facilities and sanitation facilities.

The proposed improvements would generally accommodate existing use and demands but would not support the maximum number of vehicles that have been observed on a few peak days. These physical improvements would help regulate use more effectively and improve the area's character to a more positive image that is "family-friendly."

Some minor construction could begin as early as June of 2007 and the site would continue to be open to public use. Major construction activities would begin as soon as September of 2007, however, the site would be closed to public use until the project is completed. Elements of the proposal include:

Road and Parking Improvements

- Within a 2.7 acre area, provide a one-way graveled loop road with clusters of delineated parking spaces for about 100 passenger vehicles. It would involve approximately 900 feet of road construction and 1100 feet of reconstruction. The design and reconstruction shall consider future paving which will be analyzed in this environmental assessment.
- Clear approximately 0.43 acres of trees or vegetation to allow for construction of new portions of road and parking areas. The design would integrate and retain existing trees where possible to minimize the amount of vegetation removed and to maintain the desired scenic forested setting. Removed trees would not be sold and would be used for barriers, habitat improvements or for other purposes consistent with the Opal Creek SRA Management Plan. Remaining slash would be treated either mechanically by chipping or by piling and burning to comply with the State of Oregon's Smoke Management Plan.

- Reconstruction would utilize existing access roads, parking areas and other disturbed areas to the greatest extent possible to keep the footprint of the project as small as possible.
- Delineate parking spaces with curb stops and other methods of designation to confine vehicles. Install traffic control devices such as boulders, wooden or log traffic barriers, and traffic directional and regulatory signing along road shoulders and no-parking areas.
- Provide emergency vehicle parking and short-term loading/unloading areas closest to the lower pool access point. Some wheel chair accessible parking spaces would be designated to access the scenic overlook, picnic tables and toilet.
- Reconstruct the site entrance perpendicular to Road 2207 to improve ingress/egress and allow for two-way traffic. The two-way section of the road would be delineated by a centerline curb to prevent vehicles from being parking on road shoulders and narrowing it down to one-lane.
- Designate and post a “No Parking” zone along Road 2207 within ½ mile of either direction from Three Pools.

Access Trails

- Reconstruct about ¼ mile of trail from the eastern parking area to the east end of the site to allow safe access to the upper pools. The existing 150 foot stairway to the lower pool would be reconstructed. Two overlooks would be created along the trail with wooden rails for safety. A 117-foot stairway would be constructed to the lower overlook.
- Reconstruct a portion of the east trail to create a wheel-chair accessible route to the upper scenic overlook of the pools.
- Obliterate and rehab about 0.3 miles of user-created trails and unsafe river access points. Install wooden post fences to discourage use of unsafe routes and discourage new routes from being created.

Recreation Facilities

- Provide information and interpretive kiosks to orient and educate visitors. Signs would inform visitors of regulations and instill safety awareness such as the inherent dangers of the river environment and other pertinent safety messages.
- Install picnic tables and benches at the site, including some that are barrier-free.
- Install one additional barrier-free double vault concrete toilet that would include a men’s and women’s family unit. The toilet would be located closer to the lower pool but serviceable from the parking lot.
- Install additional garbage receptacles at key locations and increase education to help reduce litter.

Design Criteria to Protect Resources

- Design and reconstruct roads and trails to meet Federal General Water Quality Best Management Practices to ensure water quality is protected (see Design Measures for Hydrology and Fisheries in Chapter 2).
- Drainage of the site will be designed to spread run-off over the landscape and allow water to infiltrate through the soil. No point source discharge or runoff is allowed under the Three Basin Rule for the North Santiam; therefore, water runoff cannot be collected from road and parking surfaces and discharged directly into a stream channel.
- Install approximately 3500 linear feet of wooden post fence between river and trails or parking areas for resource protection and improve visitor safety. This will effectively direct traffic to stay on trails and access the river at safe locations and prevent user created trails.
- Prepare soil and re-vegetate shoulders of reconstructed road and abandoned old roadbed and user created trails with competitive seeding and native plantings.

Decision Framework ---

The Responsible Official for this proposal District Ranger of the Detroit Ranger District on the Willamette National Forest. The Responsible Official shall review the proposed action and consider whether or not they meet the purpose and need to implement direction in the Opal Creek SRA Management Plan (USDA FS 2002) to help improve safety, social and resource conditions within the Three Pools Day Use Area to align with the desired condition. After completion of the Environmental Assessment (EA), there will be a 30-day public comment period. Based on the response to this EA and the analysis disclosed in the EA, the Responsible Official will make a decision and document it in a Decision Notice. The Responsible Official may decide to either:

- Select the proposed action,
- Modify the proposed action, or
- Select the no-action alternative

The Responsible Official would also determine if all actions within the selected alternative are consistent with the Willamette Forest Plan as amended by the Opal Creek SRA Management Plan.

Management Direction and Tiered Documents

Relationship to the Forest Plan and the Northwest Forest Plan

This environmental assessment is tiered to and relies upon the analysis in the 1990 Final Environmental Impact Statement (FEIS) and Record of Decision (ROD) for the Willamette National Forest Land and Resource Management Plan (hereafter referred to the Forest Plan) (USDA, 1990) and all subsequent NEPA analyses for plan amendments including the Final Supplemental Environmental Impact Statement on the Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl (USDA, USDI, 1994). The Willamette Forest Plan, as amended, provides a Forest-level strategy for managing land and resources, and the Northwest Forest Plan provides a regional strategy for management of old-growth and late-successional forest ecosystems on federal lands. The plans provide direction, land allocations (management areas) and standards and guidelines for the management of National Forest lands within the project area. The project falls within two management areas: MA-2c Opal Scenic Recreation Area and MA-15 Riparian Reserves.

MA-2c Opal Creek Scenic Recreation Area

The goals are described in the Desired Condition Section above for this management area. The SRA Management Plan guides all management activities within the SRA. The underlying purpose for this project is to implement direction in the Opal Creek Scenic Recreation Area Management Plan to help improve safety, social and resource conditions within the Three Pools day use area to align with the desired condition

MA-15 Riparian Reserves

Riparian Reserves are one of the six designated management areas identified in the Northwest Forest Plan. The primary goal for lands located in this management area is to maintain the ecological function of rivers, streams, wetlands, and lakes within the landscape. Riparian Reserves usually include at least the water body, inner gorges, all riparian vegetation, 100-year floodplain, landslides, and landslide-prone areas. Recreation facilities and roads within Riparian Reserves should meet, and to the extent practical, contribute to the attainment of Aquatic Conservation Strategy objectives.

Relationship to the Watershed Analysis

The Aquatic Conservation Strategy in the Northwest Forest Plan included a requirement to prepare comprehensive watershed analyses for all fifth field watersheds. The Little North Santiam (LNS) Watershed Analysis was completed in December 1997 and is incorporated by reference. The 72,460 acre LNS watershed is comprised of eleven subwatersheds (sixth field), 7 of which are on the National Forest. This document provides the Responsible Official with comprehensive information upon which to base land management decisions and establishes a consistent, watershed level context to project level analysis. The watershed analysis provides descriptions of the reference and existing conditions of the important physical, biological, and

social components of the fifth field watersheds. The study analyzed activities and processes that cumulatively altered the LNS landscapes over time and recommends watershed management activities based upon landscape and ecological objectives. The watershed analysis is used to characterize elements of the watersheds, provided background information for the direct, indirect and cumulative effects analyses, and provided recommendations for management activities.

Public Involvement

Opal Creek Scenic Recreation Area Advisory Council

As directed by the Opal Creek Act, the Forest Service consults with a federally appointed advisory council on matters relating to the management of the SRA. The advisory council consists of 13 members, each of whom represents a particular interest including recreation, education and research, environmental organizations, economic development, mining, Marion County (law enforcement), City of Salem, State of Oregon, Indian tribes, inholders, and adjacent communities and landowners.

The Advisory Council identified Three Pools as a high priority area within the SRA needing improvement to meet the Desired Condition. The Opal Creek Advisory Council originally submitted a letter of support in May 2006 to the Hood-Willamette Resource Advisory Committee to fund improvements at Three Pools through the Secure Rural Schools and Community Self-Determination Act of 2000 (Public Law 106-393) otherwise known as "Payments to Counties." The project was supported by the Hood-Willamette Resource Advisory Committee who approved \$124,875 of funding on September 29, 2006 for site improvements upon completion of the environmental analysis.

The proposed action was developed based on previous discussions and site visits with the advisory council. A presentation about the project was made by the Forest Service to the Opal Creek Advisory Council on October 25, 2006 to assist with the development of the proposed action. Since there was no quorum, a subcommittee was formed and provided input to be presented at a subsequent meeting. At the December 6, 2006 meeting, the Opal Creek Advisory Council held discussion and made a recommendation to unanimously support the proposed action as presented and no issues were raised

Public Scoping

Scoping is an ongoing process used to determine the scope and significance of a proposed set of actions, to determine the issues that should be addressed in analyzing proposed actions, and to determine the alternatives that need to be addressed when accomplishing the analysis.

The first announcement of this proposal was made in the Willamette National Forest Schedule of Proposed Actions (SOPA) - Fall Quarter, October 1, 2006.

The scoping document for this project, a more comprehensive and focused solicitation of public comment, was mailed on November 9, 2006 to a list of 54 individuals, Indian Tribes, organizations, elected officials and other agencies which have expressed or may have interest in

this project. A news release about the proposed project resulted in articles published in the *Salem Statesman-Journal* on November 20 & 23, 2006, and in the *Mill City Independent Press* on November 22, 2006. A copy of the scoping notice cover letter, project proposal, and a comment form was also available on the Willamette National Forest web page. Seven written comments were received and are summarized in the Issues section below. In addition, two verbal comments were also received

Issues

Issues are points of concern about environmental effects that may occur as a result of implementing the proposed action. They are generated by the public, other agencies, organizations, and Forest Service resource specialists and are in response to the proposed action.

The Forest Service separates the issues into two groups: significant and non-significant issues. Significant issues describe a dispute or present an unresolved conflict associated with potential environmental effects of the proposed action. Non-significant issues are identified as those: 1) outside the scope of the proposed action; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) irrelevant to the decision to be made; or 4) conjectural and not supported by scientific or factual evidence. The Council on Environmental Quality (CEQ) NEPA regulations require this delineation in Sec. 1501.7, "...identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)..." A list of non-significant issues and reasons regarding their categorization as non-significant can be found in the project planning record and is summarized below. No significant issues were identified for the proposed action.

In summary, eight of nine public comments received were in support of the proposal. One comment was made to minimize site capacity to reduce visitor use levels, which does not meet the Opal Creek SRA Management Plan (USDA FS 2002). Minimizing and maximizing site capacity were both considered but eliminated from detailed study and are discussed in Chapter 2.

Other public comments suggested options for managing recreation use or design criteria. Several comments reflected design considerations such as picnic table, toilet and fence placement, which are consistent with the proposed action and will be incorporated into the final design, where feasible. While important considerations to the management of the area, comments suggesting a bottle ban or to increase law enforcement presence are being addressed administratively throughout the Little North Santiam Recreation Corridor; but is outside the scope of this particular project analysis. Road improvements, traffic controls and designating parking spaces creates orderliness within the site which improves law enforcements ability to safely access the site and their responsiveness to deal with situations more effectively.

A comment regarding concern for safety on county and forest roads due to road condition, high traffic and driver behavior is partly being addressed through annual road maintenance and improvement projects but outside the scope of this project analysis. The Forest Service implemented a 25 mph speed limit on Forest Roads 2209 and 2207 is being strictly enforced.

Improvements to the County road are outside the scope of this analysis. The commenter further suggested limiting the volume of traffic “to weed out folks with less than desirable intentions” by implementing a permit system and requiring identification such as a driver’s license to enter the area. The project does limit the number of people by virtue of establishing vehicle parking capacity at the site. However, screening people that enter the area would not be legal; therefore, was outside the scope of the analysis.

The Forest Service identified visitor displacement as a non-significant issue since it is speculative and did not generate the formulation of an alternative. The effects of visitor displacement, however, are discussed in the pertinent sections of the effects analysis in Chapter 3 for Recreation, Heritage Resources, Hydrology, Fisheries, Botanical Species and Wildlife Habitat.

- **Visitor Displacement:** The capacity of the site would not accommodate the maximum number of vehicles that have been observed within and adjacent the site on a few peak weekend days when the weather is exceptionally hot (>90^o) in July and August. This may potentially result in visitor displacement to adjacent undeveloped areas or other popular swimming sites along the North Fork Road throughout the Little North Santiam River corridor or even outside of the watershed. Displacement is very difficult to predict as to how much there will be, where it will take place and what factors are attributing to it. Visitor demand for areas like Three Pools will continue to rise with population growth and may attribute to displacement.

Chapter 2. Alternatives, including the Proposed Action

This chapter describes and compares the alternatives considered for the Three Pools Day Use Site Rehabilitation project. It includes a description of each alternative considered. This chapter also summarizes alternatives considered but not developed further for this analysis and explains the rationale for not fully analyzing them. This section also presents the alternatives in comparative form, defining the differences between each alternative and providing a clear basis for choice among options by the decision maker and the public.

Actions Considered but Eliminated from Detailed Study _____

Federal agencies are required by NEPA to rigorously explore and objectively evaluate all reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not developed in detail (40 CFR 1502.14). The following alternatives to either minimize or maximize vehicle capacity were considered but eliminated from detailed analysis for the reasons stated.

- Minimize Vehicle Capacity: Reducing parking capacity would not accommodate existing use levels on many moderate to high use days (mostly during warmer summer weekdays and most weekends), and is not consistent with the intent of accommodating existing use levels as described in the Opal Creek Act. The SRA management plan permits increasing numbers of visitors while ensuring that ecosystem values are protected, and quality of recreational experiences and objectives for which the SRA was established are maintained. Reducing capacity would increase and magnify visitor displacement to adjacent riparian dispersed sites causing new impacts by compromising ecosystem values and recreation objectives. Significantly reducing capacity would shift visitor management and law enforcement issues to these dispersed sites.
- Maximize Vehicle Capacity: Increasing parking capacity to accommodate peak use days (average of 3 days of >90⁰ weekends) is not a standard design criterion for developing a recreation site. It would further diminish recreation experiences associated with overcrowding that already exists on these peak days. The site is limited by its size to accommodate vehicles. Additionally, increasing capacity would be more intrusive on the landscape, requiring more clearing, and would likely not meet desired conditions for the riparian resources, scenic recreation area values, or state scenic waterway objectives.

Alternatives _____

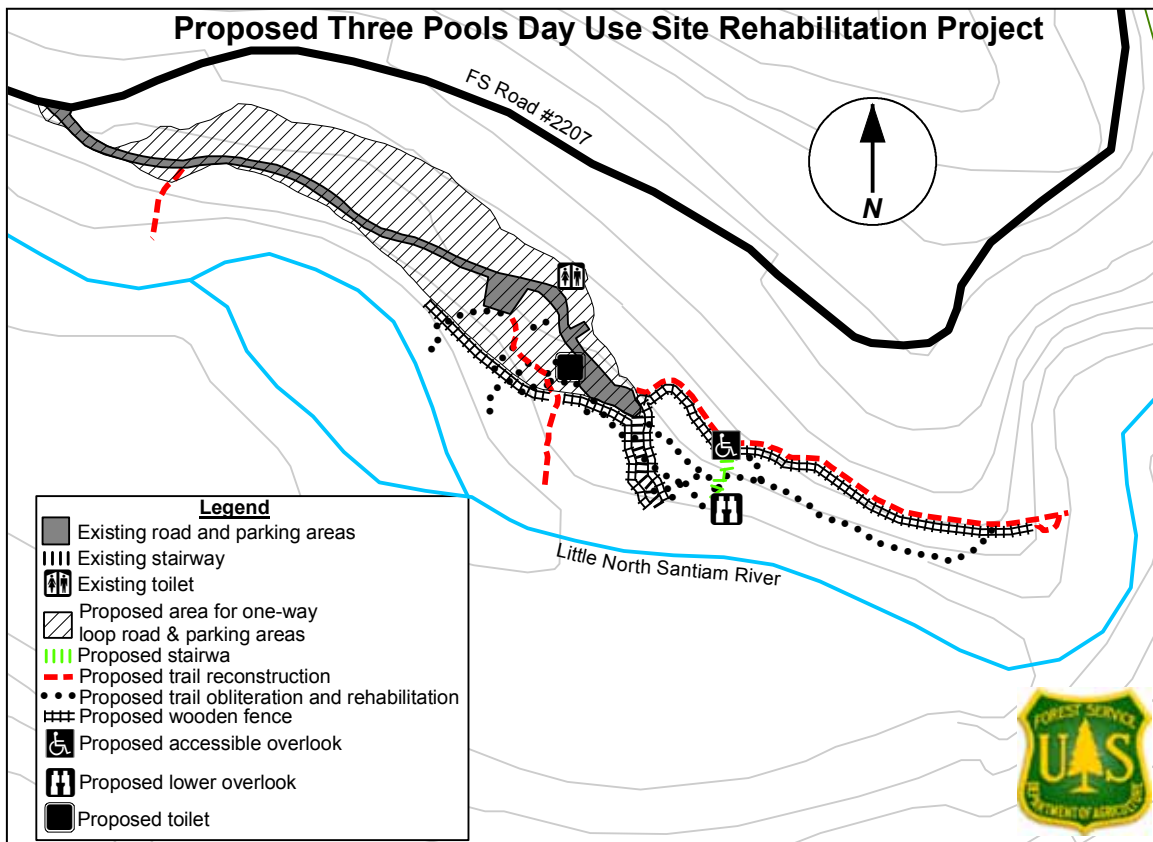
Alternative 1 - No Action

The No Action alternative proposes no change to the existing facilities or conditions at Three Pools Day-Use Area as described in the Existing Condition in Chapter 1. There would be no

change to existing facilities but maintenance would continue.

Alternative 2 - The Proposed Action

The Forest Service proposes to reconstruct the road and parking areas within the Three Pools Day Use Area to accommodate public access and use. It would set a vehicle capacity and confine vehicles to designated locations. Other improvements would include: delineating and improving trails and obliterating undesirable or unsafe routes; installing features to protect resources and rehabilitate damage caused by unconfined travel and parking; and installing minor recreation facilities and sanitation facilities.



The proposed improvements would generally accommodate existing use and demands but would not support the maximum number of vehicles that have been observed on a few peak days. These physical improvements would help regulate use more effectively and improve the area’s character to a more positive image that is “family-friendly.”

Some minor construction could begin as early as June of 2007 and the site would continue to be open to public use. Major construction activities would begin as soon as September of 2007, however, the site would be closed to public use until the project is completed. Elements of the proposal include:

Road and Parking Improvements

- Within a 2.7 acre area, provide a one-way graveled loop road with clusters of delineated parking spaces for about 100 passenger vehicles. It would involve approximately 900 feet of road construction and 1100 feet of reconstruction. The design and reconstruction shall consider future paving which will be analyzed in this environmental assessment.
- Clear approximately 0.43 acres of trees or vegetation to allow for construction of new portions of road and parking areas. The design would integrate and retain existing trees where possible to minimize the amount of vegetation removed and to maintain the desired scenic forested setting. Removed trees would not be sold and would be used for barriers, habitat improvements or for other purposes consistent with the Opal Creek SRA Management Plan. Remaining slash would be treated either mechanically by chipping or by piling and burning to comply with the State of Oregon's Smoke Management Plan.
- Reconstruction would utilize existing access roads, parking areas and other disturbed areas to the greatest extent possible to keep the footprint of the project as small as possible.
- Delineate parking spaces with curb stops and other methods of designation to confine vehicles. Install traffic control devices such as boulders, wooden or log traffic barriers, and traffic directional and regulatory signing along road shoulders and no-parking areas.
- Provide emergency vehicle parking and short-term loading/unloading areas closest to the lower pool access point. Some wheel chair accessible parking spaces would be designated to access the scenic overlook, picnic tables and toilet.
- Reconstruct the site entrance perpendicular to Road 2207 to improve ingress/egress and allow for two-way traffic. The two-way section of the road would be delineated by a centerline curb to prevent vehicles from being parking on road shoulders and narrowing it down to one-lane.
- Designate and post a “No Parking” zone along Road 2207 within ½ mile of either direction from Three Pools.

Access Trails

- Reconstruct about ¼ mile of trail from the eastern parking area to the east end of the site to allow safe access to the upper pools. The existing 150 foot stairway to the lower pool would be reconstructed. Two overlooks would be created along the trail with wooden rails for safety. A 117-foot stairway would be constructed to the lower overlook.



Example of fencing to protect riparian areas

- Reconstruct a portion of the east trail to create a wheel-chair accessible route to the upper scenic overlook of the pools.
- Obliterate and rehab about 0.3 miles of user-created trails and unsafe river access points. Install wooden post fences to discourage use of unsafe routes and discourage new routes from being created.

Recreation Facilities

- Provide information and interpretive kiosks to orient and educate visitors. Signs would inform visitors of regulations and instill safety awareness such as the inherent dangers of the river environment and other pertinent safety messages.
- Install picnic tables and benches at the site, including some that are barrier-free.
- Install one additional barrier-free double vault concrete toilet that would include a men's and women's family unit. The toilet would be located closer to the lower pool but serviceable from the parking lot.
- Install additional garbage receptacles at key locations and increase education to help reduce litter.

Design Criteria to Protect Resources

- Design and reconstruct roads and trails to meet Federal General Water Quality Best Management Practices to ensure water quality is protected (see Design Measures for Hydrology and Fisheries in Chapter 2).
- Drainage of the site will be designed to spread run-off over the landscape and allow water to infiltrate through the soil. No point source discharge or runoff is allowed under the Three Basin Rule for the North Santiam; therefore, water runoff cannot be collected from road and parking surfaces and discharged directly into a stream channel.
- Install approximately 3500 linear feet of wooden post fence between river and trails or parking areas for resource protection and improve visitor safety. This will effectively direct traffic to stay on trails and access the river at safe locations and prevent user created trails.
- Prepare soil and re-vegetate shoulders of reconstructed road and abandoned old roadbed and user created trails with competitive seeding and native plantings.

Mitigation & Design Measures Common to Action Alternatives

Mitigation measures are developed to reduce or eliminate some of the potential impacts the action alternative may cause. Mitigation measures would be applied to the action alternative. Design measures are also specifically described in this section to provide resource protections that ensure implementation activities remain consistent with Willamette Forest Plan Standards and Guidelines. Mitigation measures and design measures would be implemented through project design, contract specifications, construction, contract administration and is monitored.

Wildlife Mitigation Measures:

- Restrict project activities from March 15 – July 15 to avoid potential disturbance to Harlequin Duck. Surveys may be conducted according to protocol between April 26 and May 23 to determine if harlequin duck activity is occurring adjacent to or within the project area. If harlequin ducks are determined to not be present in the project area, this restriction may be lifted for the year surveys are conducted.
- Prohibit activities with the potential to disturb nesting spotted owls during the critical nesting period of March 1 – July 15 unless the activity is occurring to protect public safety.

Wildlife Habitat Design Measures:

- Fall snags outside the project area which have the potential to fall into the project area and leave as down wood to improve prey base habitat for Northern Spotted Owls.

Heritage Resources Design Measures:

- Project activities planned outside of the area defined in the heritage resource inventory must be coordinated with the district archaeologist prior to initiation. This includes the establishment of storage areas, log placement locations and waste disposal sites.
- In accordance with federal regulations, in the unlikely event that cultural resources that have not been discovered are encountered during the course of this project, earth-disturbing activities in the vicinity of the find shall be suspended. The Detroit Ranger District Archaeologist shall be notified to evaluate the discovery and recommend subsequent courses of action.

Soils, Hydrology & Fisheries Design Measures:

Best Management Practices (BMP's) are used in the development of design measures to comply with Aquatic Conservation Strategy Objective's. These BMP's can be found in "General Water Quality Best Management Practices" Pacific Northwest Region, November, 1988. Utilizing BMP's for this project specifically address direction and guidance in the protection of water quality. Three Pools project objectives and design measures for water quality are to:

- *Objective:* Continue recovery of downstream riparian, channel and water quality conditions by designing project to insure channel bank stability, and provide adequate

buffers to reduce sediment inputs. *Design Measure:* Place a sediment fence between the project site and the Little North Santiam River during construction.

- *Objective:* Minimize the potential for contaminants to enter the stream. *Design Measure:* Keep a hazardous spill containment kit on site during construction activities.
- *Objective:* Maintain or improve the quality of water for domestic users and fisheries by minimizing disturbance to riparian reserves (vegetation loss). *Design Measure:* Coordinate design with Detroit Ranger District Hydrologist who will designate specific prescriptions for each individual site adjacent to stream courses requiring protection (eg. fence placement, trail location, traffic controls, barrier location, drainage structures, etc).
- *Objective:* Control the amount of sediment leaving the road system. *Design Measures:* Use appropriate clauses within the contract to insure that winter activities occur on roads with adequate surface rock. Control potential erosion by mulching bare soils associated to the road system and use sediment control techniques.
- *Objective:* Use erosion control methods to stabilize the soil and minimize the amount of erosion and sedimentation in areas cleared of vegetation. *Design Measures:* Mulch bare ground and re-vegetate within one growing season. Utilize barriers (eg. fence, curbing, log structures) to control foot and vehicular traffic along trails, parking areas and at picnic sites.

Invasive Weeds Design Measures:

Minimize the spread of noxious weeds and other invasive non-native plants through preventative measures taken prior to and during construction operations:

- Minimize areas of disturbance during road reconstruction/construction.
- Where practical and at the first appropriate opportunity following project work, prepare soil and re-vegetate shoulders of reconstructed road and abandoned old roadbed and user created trails with competitive seeding and native plantings.
- Use weed-free rock sources for any additional gravel needed for road construction and reconstruction.
- Use only certified weed-free seed and straw for erosion.
- Pressure wash all construction and logging equipment prior to working in the area.

Comparison of Alternatives

This section provides a summary of the effects of implementing each alternative. Information in the table is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives. Refer to Chapter 3 Environmental Consequences for detailed discussion.

Table 1. Comparison of Alternatives by Resource.

Cultural Resources	Alternative 1	Alternative 2
Affect on historic properties or sites	No effect	No effect
Hydrology / Soils	Alternative 1	Alternative 2
Riparian Reserve - Loss of vegetation and soil compaction	0.1 ac loss per year from unmanaged use; or 1 ac loss in 10 years	0.43 acres of new clearing, no increase loss over time
Fisheries	Alternative 1	Alternative 2
ESA Chinook salmon and steelhead	No effect	No effect
Essential Fish Habitat	No effect	No effect
Habitat Indicator Effects: ^{1/}		
Temperature	Neutral	Neutral
Sediment and Turbidity	Negative	Neutral
Road Density & Drainage Network	Neutral	Neutral
Riparian Reserves	Negative	Neutral
Botanical Sensitive and Survey & Manage Species	Alternative 1	Alternative 2
<i>Asplenium septentrionale</i>	No Impact	No Impact
<i>Carex scirpoidea</i> var. <i>stenochlaena</i>	No Impact	No Impact
<i>Dendrocaulon intricatum</i>	No Impact	No Impact
<i>Dermatocarpon luridum</i>	No Impact	No Impact
<i>Leptogium cyanescens</i>	No Impact	No Impact
<i>Nephroma occultum</i>	No Impact	No Impact
<i>Pellaea andromedaefolia</i>	No Impact	No Impact
<i>Pannaria rubiginosa</i>	No Impact	No Impact
<i>Peltigera neckeri</i>	No Impact	No Impact
<i>Peltigera pacifica</i>	No Impact	No Impact
<i>Pilophorus nigricaulis</i>	No Impact	No Impact
<i>Pseudocyphellaria rainierensis</i>	No Impact	No Impact
<i>Rhizomnium nudum</i>	No Impact	No Impact
<i>Scouleria marginata</i>	No Impact	No Impact
<i>Usnea longissima</i>	No Impact	No Impact

^{1/} Positive Effect = improves fish habitat conditions and moves indicators toward restoration.
 Neutral Effect = no perceivable change to baseline conditions and maintains habitat quality.
 Negative Effect = reduction of fish habitat quality.

Table 2. Comparison of Alternative by Resource Continued.

Wildlife Threatened, Endangered or Sensitive Species	Alternative 1	Alternative 2
American Peregrine Falcon	NI	NI
Black swift	HNP, NI	HNP, NI
Bufflehead	HNP, NI	HNP, NI
Harlequin duck	NI	NI
Northern Bald Eagle	NI	No effect
Northern Spotted Owl	NI	May affect not likely to adversely affect owls or their habitat
Baird’s Shrew	NI	May impact ^{2/}
California Wolverine	NI	NI
Pacific Fisher	NI	NI
Pacific Fringe-tailed Bat	HNP, NI	HNP, NI
Pacific Shrew	NI	May impact ^{2/}
Cascade Torrent Salamander	HNP, NI	HNP, NI
Foothill Yellow-legged Frog	HNP, NI	HNP, NI
Northwestern Pond Turtle	HNP, NI	HNP, NI
Oregon Slender Salamander	NI	May impact ^{2/}
Oregon Spotted Frog	HNP, NI	HNP, NI
Crater Lake Tight coil snail	HNP, NI	HNP, NI
Mardon Skipper	HNP, NI	HNP, NI
Wildlife Survey and Manage	Alternative 1	Alternative 2
Crater Lake Tightcoil snail	HNP, NSR	HNP, NSR
Great Gray Owl	HNP, NI	HNP, NI
Red Tree Vole	HP, NSR	Surveyed, No effect
NI: No Impact HP: Habitat Present HNP: Habitat Not Present NSR: No Surveys Required		
Other Wildlife Habitat	Alternative 1	Alternative 2
Migratory Land Birds	No effect	No effect
Management Indicator Species:		
Pileated Woodpecker & Pine Martin	No change to habitat	No effect
Deer and Elk	No change to habitat	No effect
Primary Cavity Excavators	No change to habitat	Habitat adjacent site, not maintained at site
Snag Habitat and Downed Woody Material	No change to habitat	Habitat adjacent site, not maintained at site

^{2/} Alternative may impact the species or their habitat but is not expected to jeopardize the species or move any of these species toward federal listing as a threatened and endangered species. Since the area of habitat removal is very small in terms of the overall habitat available in the upper half of the watershed, the impact on these species is inconsequential.

Table. 3 Comparison of Alternatives on Recreation and Scenery Quality

Purpose & Need	Alternative 1	Alternative 2
Accommodates existing recreational use and provide for some increased demand on most non-peak days	<ul style="list-style-type: none"> □ Accommodates up to 80 vehicles (no parking delineation, vehicle capacity varies). □ Does not accommodate peak use days (1-6 days a year). Up to 100 vehicles overflow onto road. □ Provides increased vehicle capacity for many non-peak days. 	<ul style="list-style-type: none"> □ Accommodates 100 vehicles (95% of days in July and August). Increases vehicle capacity by 20. □ Does not accommodate peak use days (1-6 days a year). No parking allowed on the road. □ Provides increased vehicle capacity for most non-peak days.
Improves and supports onsite visitor management strategies	<ul style="list-style-type: none"> □ Limited onsite on site visitor management controls primarily in the form of regulatory signing. □ Limited to no ability for emergency/administrative vehicle access and parking during high use days 	<ul style="list-style-type: none"> □ More obvious site visitor management controls such as informational, educational, traffic and regulatory signs, established parking areas, and barriers. □ Improved ability for administrative/emergency access and parking during high use days.
Provides formal organized parking and sets a vehicle capacity to reduce road and parking congestion	<ul style="list-style-type: none"> □ No, parking situation creates congestion within the site and along road, haphazard parking, inconveniences visitors, hinders emergency vehicle access and ability to respond during high use days. 	<ul style="list-style-type: none"> □ Yes, would provide for developed and organized (designated) parking, accommodates emergency vehicle access and ability to respond during high use days.
Provides safe road access into the site and trail access along the river	<ul style="list-style-type: none"> □ No, unsafe vehicle egress/ingress at site entrance. □ One safe access to main pool is provided. Other user created trails lead to steep banks and rock outcrops. 	<ul style="list-style-type: none"> □ Yes, would provide safe egress/ingress at site entrance. □ improved trails and safety fencing would be provided. Unsafe trails would be obliterated.
Provides modest day use facilities to help meet sanitation standards and visitor needs, and provides some barrier-free opportunities to persons with disabilities	<ul style="list-style-type: none"> □ Minimally developed. □ One existing toilet that does not accommodate use levels and is distant from river. Exposed human waste can be found at the site. □ No accessible opportunities are currently provided. 	<ul style="list-style-type: none"> □ Moderately developed. □ Provides one additional toilet closer to river to accommodate use level; adds picnic sites, and improves visitor information. □ A barrier-free trail to a scenic overlook and picnicking would be provided.
Restores resource conditions combined with new facilities to provide for sustainable protection of the resources	<ul style="list-style-type: none"> □ No, resource and scenic conditions would continue to decline (eg. vegetation loss) through indiscriminate parking and foot travel. 	<ul style="list-style-type: none"> □ Yes, would improve resource and scenic conditions and sustain set use level by formalizing parking with designated spaces and established trails.
Effect of visitor displacement	Alternative 1	Alternative 2
Visitor Displacement <i>Unit of Measurement:</i> Site capacity - The difference in the number of parking spaces available to the projected number of vehicles on peak days	<ul style="list-style-type: none"> □ The site accommodates 70-80 vehicles. Up to 100 vehicles park on the road. □ On few peak days some overflow would likely occur to adjacent areas. In the future as use increases, more displacement would occur. 	<ul style="list-style-type: none"> □ The site would accommodate 100 vehicles. No vehicles would be allowed to park on the road. □ The site would accommodate 20-30 extra vehicles. On a few peak days, up to 80 vehicles may be displaced elsewhere in the LNS river corridor or outside the watershed. Visitors may disregard the no parking zone and park along the road anyway.

Chapter 3. Environmental Consequences

This section summarizes the physical, biological, social and economic environments of the affected project area and the potential changes to those environments due to implementation of the alternatives. It also presents the scientific and analytical basis for comparison of alternatives presented in Tables 1-3 in Chapter 2. Environmental consequences include the direct and indirect effects of an alternative, as well as a disclosure of an alternative's cumulative effects. The cumulative effects of the proposed action and the alternatives in this analysis are primarily based on the aggregate effects of the past, present, and reasonably foreseeable future actions. Individual effects of past actions have not been listed or analyzed and are not necessary to describe the cumulative effects of this proposal or the alternatives. (CEQ Memorandum, Guidance on the Consideration of Past Actions in Cumulative Effects Analysis, June 24, 2005).

Past, Present and Reasonably Foreseeable Future Actions_____

The cumulative effects discussed in this section include an analysis and a concise description of the identifiable present effects of past actions to the extent that they are relevant and useful in analyzing whether the reasonably foreseeable effects of the proposed action and its alternatives may have a continuing, additive and significant relationship to those effects.

Past and Present Actions

The following list of actions mostly focuses on the eastern (upper) half of the Little North Santiam Watershed managed by the US Forest Service (36,144 acres). The western half of the watershed, 35,587 acres, is comprised of 13,222 acres of Bureau of Land Management land, with the remainder in state, city, and private ownership including major industrial forest landowners. Only known actions for the western portion of the watershed that provide context for pertinent cumulative effect analysis discussions are described.

Vegetation Management

- About 3841 acres of the 36,144 acres within the eastern half of the LNS watershed have been harvested on National Forest Lands between 1952 and 1991. Most of the harvesting occurred within the Cedar Creek drainage, on the upper slopes and ridgelines within Elkhorn and Opal Creek drainages, and on 660 acres of private land acquired by the USFS.
- In 1993, the Forest Supervisor placed a moratorium on timber harvest and road construction in the Opal Creek, Battle Axe and Little North Santiam River drainages.
- On November 13, 1996 when the Omnibus Parks and Public Lands Management Act of 1996 (Public Law 104-333) was passed, designating the Opal Creek Wilderness, Opal Creek SRA and Elkhorn Creek as a Wild and Scenic River. Timber harvesting is prohibited within these areas. Cutting of trees is permitted for the purposes of public safety such as hazard tree removal and to prevent the spread of forest fires, or activities related to the administration of the SRA outlined in the management plan.
- In 1994, the upper Cedar Creek drainage was designated as a Late Successional Reserve under the Northwest Forest Plan to protect and enhance old-growth forest conditions.

- About ½ of watershed on National Forest burned in the mid to late 1800's.
- Within the western half of watershed, intensive timber management occurred and will continue on matrix lands within the Bureau of Land Management and in areas of State and private ownership.
- Invasive weed removal has been done watershed-wide. On National Forest, chemical sprays have been applied to a small area of false brome along Rd. 2209 and a small patch of evergreen blackberry has been treated on the 2209-201 two years ago.

Land use

- Within the western watershed, industrial forest production is the predominant private land use. Agriculture use (and irrigation) is very limited and small in scale. There are few hundred year-round and vacation residences, most which are adjacent or near the LNS River and will likely increase with new developments.
- The only private land within the eastern half of the watershed is a 15-acre rejuvenated historic mining camp adjacent to Opal Creek known as "Jawbone Flats." The Opal Creek Ancient Forest Center is a non-profit organization that operates a forest ecosystem environmental education center and cabin rentals at Jawbone Flats.

Mining

- Mining in the Little North Santiam District occurred in 1860 to 1896 resulting with 150 claims being filed with small scale operations. Most production started after 1915 and continued for about 20 years.
- The Amalgamated Mine was the largest and operated in the 1930's. In 1991, the log cribbing containing tailings from this mine had deteriorated and was sloughing towards Battle Axe Creek. In 1997, 7000 cubic yards of waste tailings which had high concentrations of heavy metals such as lead, cadmium, copper and zinc which was removed from the site. The site has been reclaimed and restored to a natural condition.
- Numerous abandoned mines with tunnels and exploration shafts exist throughout the watershed, several of which have been closed for public safety.
- Subject to valid existing rights, the Opal Creek SRA was withdrawn from entry under the Mining and Mineral Leasing Laws when the area was established in 1998 (PL. 104-333). Several patented claims were donated or acquired by the United States and managed as Wilderness or SRA. Five unpatented placer mining claims are within the SRA, one adjacent to Three Pools, and were located prior to the withdrawal. Until valid existing rights are verified, only assessment level work can be conducted on these claims. Claimants have not conducted prospecting activities in the last few years. Recreational mineral collecting and panning is allowed within the SRA, outside the boundaries of unpatented mining claims.

Roads and Transportation

- Over eight miles of roads were closed with the establishment of the Opal Creek Wilderness Area.
- About 37 miles of road exists within the Opal Creek SRA. A transportation plan for the

SRA was completed for the SRA that determined which roads would be retained or closed. About 25 miles are to be retained. Another 12 miles, or 27 mostly short spur roads less than 0.5 miles, are to be closed and one 2.31 mile segment converted to a trail. Most are not drivable and overgrown with vegetation.

- No motorized vehicles off of open roads are permitted under the Opal Creek SRA Management Plan.
- In 2004, a 25 mph speed limit has been established on Rd 2207 and Rd 2209.
- Some level of maintenance has occurred on roads throughout the watershed.

Recreation

- In the western half of the watershed, Marion County Public Works Department manages three county day use parks: Salmon Falls, North Fork and Bear Creek Parks, along the LNS River. The Bureau of Land Management operates two recreation sites along the LNS River: Elkhorn Valley Campground with 22 camp units and Canyon Creek, a day use site.
- On National Forest, Shady Cove Campground with 12 camp units will continue to be operated and maintained.
- Of 119 inventoried dispersed sites that exist in the eastern watershed, 109 are primarily used for camping but may also be occupied for day use activities, e.g. swimming access, picnicking, fishing, viewing scenery, or day use parking. The other ten sites are used primarily for day use activities only and are along the river and streams.
- In the western half of the watershed, numerous dispersed sites along the North Fork County Road are used by the public for parking and access to the LNS River. Although overnight use is prohibited, a limited amount still occurs. A fairly limited amount of dispersed use and camping occurs on BLM and State Forest lands due to road closures.
- Other facilities within the western portion of the watershed are privately owned and operated such as a private camp resort, a golf course, and a bed and breakfast.
- No target shooting corridors were established along the 2207 and 2209 Roads.

Reasonably Foreseeable Future Actions

Reasonably foreseeable actions will mostly be a result of implementing the Opal Creek SRA Management Plan. Most activities manage the existing use to allow for public use and enjoyment of the area while ensuring SRA values are protected. Reasonably foreseeable projects include:

- Continued operation and maintenance of developed recreation sites within the watershed.
- Installing and replacing toilets at recreation sites such as Opal Creek Trailhead and Shady Cove Campground.
- Recreational activities mostly non-motorized in nature would continue: such as hiking, picnicking, camping, fishing, swimming, scenic viewing, nature study and hunting. To a lesser extent (<1% of use), activities include: kayaking/rafting, horseback-riding, mountain-biking, snow-shoeing, Nordic skiing, recreational panning and sluicing, and ATV use on roads.
- Hardening and restoration of existing high use dispersed sites, Shady Cove Campground and river/creek access points to reduce recreation impacts.

- Annual trail maintenance, reconstruction including reroutes of the Opal Creek and Opal Lake Trails, and a feasibility study for a new trail between the Little North Santiam Trail at Shady Cove to Opal Creek is anticipated.
- Interpretation and education at key areas, recreation sites and along trails in the SRA including signing, visitor contacts, brochures and special use permittee education activities. An interpretive plan will be developed to determine interpretive themes, messages, locations and delivery medium.
- Ongoing road maintenance of system roads including hazard tree falling.
- About 12 miles of logging spurs ranging between 0.10 and 2.74 miles are planned for closure or decommissioning according to the Opal Creek SRA Transportation Plan.
- Invasive weed treatments within the watershed.
- Charging a day-use fee for Three Pools or within Opal Creek SRA, and BLM managed day use sites to help operate and maintain recreation facilities. Establishing fee sites falls under the Recreation Enhancement Act and involves a separate evaluation and public involvement process to determine whether the USFS or BLM would charge a recreation fee and what it would be. A decision is not being made as part of this analysis.
- A prohibition of alcohol use was recently established for Marion County Parks in January 2007. The Forest Service will be evaluating options for a bottle ban or alcohol ban at Three Pools. A decision is not being made as part of this analysis.

Recreation and Scenic Quality

Analysis Method

The need for action was driven by the need to implement the Opal Creek SRA Management Plan and achieve desired goals. The analysis methods used to evaluate the effects of the alternatives on recreation and scenery resources were based on a review of the Opal Creek SRA Management Plan (USDA FS 2002) and the Opal Creek SRA Recreation Assessment (Pavoni 2000), and current knowledge and information about the site including use data and trends, Opal Creek Advisory Council and public comments, discussions with adjacent land managers and law enforcement, site observations, past experiences and professional judgment.

Current Condition

The current condition is described in detail in the Introduction/Background section on Page 3 and in the Existing Condition discussion on Page 6, both in Chapter 1.

Direct and Indirect Effects

Alternative 1 - No Action

The existing condition would be maintained as described in Chapter 1, Pages 3 and 6. Population growth and popularity of the area would likely contribute increased visitation to the site. Increasing use would likely exacerbate the existing condition primarily parking congestion, sanitation and safety issues, inappropriate behaviors and hindering law enforcement and emergency response. The scenic quality would further deteriorate with continued vegetation loss, vandalism, trash and exposed human waste.

Cumulative Effects

As other recreation sites throughout the corridor are improved with reasonably foreseeable actions, visitors would be displaced to Three Pools if no action is taken. Actions such as an alcohol ban at the adjacent county parks would likely displace and increase use at Three Pools. Overcrowding would continue to increase and the issues described in the existing condition would get worse.

Alternative 2 – Proposed Action

All actions would help achieve the Desired Condition for this area as described in Chapter 1, page 7 and meet the purpose and need for action by providing basic infrastructure to manage use.

Recreation activities are permitted at a level not less than those that existed on the date of enactment of the Opal Creek legislation. The SRA management plan permits increasing numbers of visitors in the “high intensity zone” as long as resource values are protected and recreation experiences are enhanced. The proposed action would accommodate most existing recreational use and provide for increased demand on most non-peak days. However, it would not accommodate use on one to six peak weekend days each year. A possible indirect effect is that visitors may self-regulate by shifting their visits to other days when use isn’t expected to be as

high eg. summer weekdays. This phenomenon already exists based on comments that some individuals prefer to visit on weekdays to avoid the unruly crowds.

The proposed physical improvements would help regulate use more effectively. Road improvements and designated parking would provide safer access, reduce congestion, eliminate haphazard parking, and improve law enforcement and emergency vehicle access to the site. Onsite visitor management strategies such as improved regulatory, traffic and informational signing, established parking areas, traffic controls such as barriers and fencing, would be obvious and more enforceable. In conjunction with active law enforcement, these improvements would provide the visitor with a better and safer visit, and improve the area's character. A well-managed and cared-for site can indirectly have a positive influence on changing the social setting, fostering more appropriate behaviors and subsequently improve visitor experiences.

Information and education would enhance visitors' knowledge, understanding and enjoyment of the area, and encourage appropriate and safe use. Improved designated trails and fencing would provide safer access and discourage use of unsafe routes along steep cliffs and rock outcrops. Sanitation is expected to improve by having an additional toilet closer to the main pool and more garbage receptacles at the site.

All actions would meet scenic integrity objectives and provide moderate and rustic developed facilities. Parking clusters would be designed to integrate and retain existing trees where possible to minimize the amount of vegetation removed and would maintain the desired scenic forested setting. Proposed facilities would accommodate high concentrations of users, protect natural resources and meet sanitation and health needs thus improving the aesthetic quality of the site. Facilities would be designed for the enjoyment of Three Pools while protecting this focal point by limiting travel to designated roads and pathways. Facilities would be subordinate to the focal attraction, are simple and durable in design and harmonize with the surrounding natural environment. Although development is constrained by the terrain, new opportunities to view the pools and picnicking would be created to provide wheelchair access.

Visitor Displacement

The site would accommodate up to 100 vehicles or about 20-30 extra vehicles over the current condition. It would provide enough parking 95% of the time in July and August during a normal temperature year. The proposed action would not allow for the overflow parking along the road. This would result in an average of 3 peak days each summer of up to 80 vehicles that may be displaced to other developed and undeveloped popular swimming sites throughout the Little North Santiam River corridor including County or BLM parks, or even outside of the watershed. Visitors may disregard no parking signs along Road 2207 as observed in other parts of the corridor, and becomes difficult to enforce on these few peak days.

Displacement is somewhat speculative and different factors may affect or contribute to it. It is difficult to project precisely how much there will be and where it will take place. Three Pools parking may overflow to the two nearby dispersed sites to the west of Three Pools. Visitors may be displaced altogether to four other adjacent dispersed sites to the west along Roads 2209 or 2207 or hike into several other swimming holes along the Little N. Santiam or Opal Creek Trails.

Access to the Little North Santiam in the eastern portion of the watershed is limited by the terrain and minimal roads and trails. Monitoring adjacent dispersed sites and popular swimming areas would be ongoing to determine if issues or impacts exist as a result of displacement, and subsequent management actions for these sites would be evaluated and taken. The Opal Creek Monitoring Plan calls for annual review of these high impact sites.

Cumulative Effects

When combined with other past, present or reasonably foreseeable actions this project significantly helps to reduce recreation impacts and congestion, improves visitor safety, recreation experiences and scenic quality, and aligns with the goals for the Opal Creek SRA. Future projects are aimed at hardening, restoring and managing dispersed use and would help alleviate potential displacement impacts. Federal agencies will be evaluating a no alcohol policy at their developed day use sites similar to the county parks. If implemented, this may reduce the issues that stem from alcohol use throughout the corridor and shift use, including the number of visitors, to areas outside of the watershed.

Conclusion

If no action is taken, the current condition would continue to decline. The proposed action best meets the purpose and need for action to attain the Desired Condition prescribed in the Opal Creek SRA Management Plan. Physical improvements would help improve safety, social and resource conditions within the Three Pools day use area, and provide the necessary basic infrastructure to organize, support and effectively manage the area. The summary of effects is illustrated in the table at the end of Chapter 2.



Consistency with Direction and Regulations

The Forest Plan was amended by the Opal Creek Scenic Recreation Area Management Plan as stipulated by the Opal Creek Act of 1996 (P.L. 104-333). The action alternative is consistent with the Forest Plan and aligns Three Pools Day Use Site with the Desired Future Condition as prescribed by the Opal Creek SRA Management Plan (USDA FS 2002).

Heritage Resources

Analysis Method

District Archaeologist designed a unit-base heritage resource inventory based on information from the district heritage resource files (inventory reports, site reports, historic maps, government land office maps and ethnographic information), topographic maps, and Geographic Information Systems (GIS).

The archaeological field work conducted at Three Pools included two phases in order to comply with laws and regulations. First, a systematic surface pedestrian search was conducted of the entire Area of Potential Effect in accordance with current survey standards.

Second, archaeological testing was conducted at one pre-contact lithic scatter site: 1) to make a preliminary determination about the nature, depth, and extent of subsurface cultural deposits; 2) to estimate the nature depth, and extent of past natural and human-caused disturbances to the site; and 3) to evaluate the scientific value of the site with regard to future research at the site and in consideration of the site's potential for eligibility to the National Register of Historic Places (NRHP). This exploratory testing refers to the placement of a number of 30-x-30cm round shovel probes and 50-x-50cm test units in order to make a preliminary determination of the nature of site deposits, depth, and boundaries. Testing included the excavation of seventeen 30cm diameter round shovel probes and nineteen 50x50cm square test pits.

Current Condition

The prehistory and history of the North Santiam Subbasin and the Upper North Santiam Watershed have previously been summarized in *The Prehistory of the North Santiam Subbasin, on the Western Slopes of the Oregon Cascades* (Kelly 2001), and in the *Cultural Resource Overview of the Willamette National Forest, Western Oregon* (Minor 1987). In summary, ethnographic evidence suggests that highly mobile groups indigenous to the western Cascade Mountains lived during the winter along low elevation streams, accessing the uplands during the summer and fall to hunt game and gather berries and other important plant resources. Extensive trail networks were important for traversing the Cascade Mountains, linking the Molalla Indians with each other, surrounding tribes and important resource procurement and trade centers. The common activity at many of the sites is the manufacture and maintenance of lithic tools and biface reduction.

One pre-contact lithic scatter site was recorded in the project area. Subsurface testing determined that the site is not eligible for inclusion in the NRHP. This recommendation is based on the generally low density of recovered artifacts, the extensive damage to the site from recreation use over the past 30 years and the lack of a distinct buried cultural component. No organic material or time sensitive artifacts were recovered from the site making it impossible to provide information regarding site age.

Environmental Consequences

Alternative 1 - No Action

Direct and Indirect Effects

Implementation of the no action alternative would not directly nor indirectly affect heritage resources within the project area since the one known cultural site was evaluated and determined not eligible to the NRHP.

Cumulative Effects

There are no anticipated cumulative effects to heritage resources as a result of no action.

Alternative 2 – Proposed Action

Direct and Indirect Effects

Implementation of the Proposed Action would not directly nor indirectly affect heritage resources within the project area since the one known cultural site within the proposed project area was evaluated and determined not eligible to the NRHP.

Visitor Displacement: A vehicle capacity would be set with implementation of this project, which could result with visitor displacement to other river access locations on a few peak days in the summer. Displacement would be confined to a limited number of areas near the river due to topography and access, but may have potential to disturb heritage resources. Monitoring of these locations will identify any disturbance to heritage resources. If heritage resources are discovered, they would be evaluated along with determining appropriate courses of action.

Cumulative Effects

There are no anticipated cumulative effects to heritage resources as a result of this proposed action.

Consistency with Direction and Regulations

The following direction and regulations were considered during the heritage resources analysis of this project: Section 106 of the National Historic Preservation Act (NHPA) of 1966 (amended in 1976, 1980, and 1992); regulations that clarify and expand upon the NHPA include 36 CFR 800 (Protection of Historic Properties), 36 CFR 63 (Determination of Eligibility to the National Register of Historic Places), 36 CFR 296 (Protection of Archaeological Resources), Executive Order 13007 (Indian Sacred Sites), the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990, and the Archaeological Resources Protection Act (ARPA) of 1979

A more thorough discussion of the Regulatory Framework is contained in the Heritage Resources Specialist Report (Kelly, 2007) in the project planning record. An assessment of how the action alternative meets this guidance is provided near the end of Chapter 3, under Compliance with Laws, Regulations and Policies.

Soils Stability and Productivity

Analysis Method

A field investigation consisted of site reconnaissance and two dozen, hand-auger, soil borings within the proposed project area to evaluate the potential for reconstructing the access and creating additional parking sites.

Current Condition

The site is located on an elevated terrace ranging 40 to 60 feet above the Little North Santiam River. This stream terrace is comprised of nonplastic, silty sands and gravels with numerous sub-rounded to rounded cobbles and small boulders. This fluvial deposit may have formed from glacial outwash from early Pleistocene glaciations. The terrace deposit ranges from less than 10 feet to over 40 feet in thickness. This material is stable and well-drained, and has good to excellent bearing strength. Outcrops along the terrace scarp appear to grade with heavier concentrations of cobbles and small boulders in some areas. The site investigation did not reveal any evidence of seepage or wet soil areas within the project area. Indication of potential slope instability is not present.

Direct and Indirect Effects

Alternative 1 - No Action

The site would continue to be impacted by indiscriminate vehicle parking and dispersed foot traffic. Heavy uncontrolled use would result in increased compaction as vehicles are parked haphazardly along the existing access road.

Cumulative Effects

The context for cumulative effects on soils is at the project area level. No other additional development is foreseen at this site in the future. From a cumulative standpoint over time, the no action and the proposed action are about equal.

Alternative 2 – Proposed Action

The proposed action would greatly improve traffic flow and provide designated parking areas. With standard construction design and practice, off site erosion during construction is not anticipated and long term stability would be maintained. The proposed action would have limited effects on soils. About 0.43 acres would be changed from forest land to roads and parking areas, resulting in an irretrievable loss of soil productivity. Development of this site would result in compaction and loss of productivity, however, the project is consistent with recreation development and management of the area which does not include timber commodity production.

In summary, the proposed expansion of the parking lot is located on a stable, elevated stream terrace with well drained soils that have good bearing strength. No extraordinary conditions related to the soil or geology resource exist.

Cumulative Effects

Same as the no action.

Hydrology, Water Quality, Riparian Areas, Stream Channels _____

Analysis Method

The method of analysis involved a walk-through examination of the site and surrounding area. Streams and wet areas encountered were recorded on either a map base or aerial photo. These were integrated with maps for development of site specific prescriptions. Stability, slope, soil types, vegetation present, aspect and juxtaposition of the site were all considered in developing a prescription that protects and or enhances the hydrology, stream channels, water quality and riparian reserves. All actions were considered and risks were evaluated, utilizing past management track records and professional judgment.

Current Condition

The proposed project is located in the Little North Santiam (LNS) watershed, a 5th field watershed. The LNS watershed is 72,460 acres which includes 36,144 acres of National Forest system lands (eastern half), 13,222 acres of Bureau of Land Management (BLM) land, with the remainder in state, city, and private ownership including major industrial landowners. The Little North Santiam River is designated as a Tier 1 Key watershed by the Northwest Forest Plan and is crucial for maintaining and recovering habitat for at-risk anadromous salmonids.

The river's headwaters originate at the confluence of Battle Ax and Opal Creeks within the National Forest, about 6.6 miles upstream of Three Pools. The proposed project area located within the Elkhorn Creek subwatershed (HUC 170900050503) that flows into the Little North Santiam River Watershed (HUC 1709000505). The Three Pools project area is 80% within the riparian reserve (344 feet either side) of a perennial fish bearing stream as described in the Northwest Forest Plan. The Little North Santiam River is the southern boundary of the site.

This portion of the LNS watershed is stable and actively transporting material. Point bars and mid channel bars with vegetation exists along this segment. Bedrock outcrops create a series of pools interspersed between the boulder-dominated bars. The existing access road ranges 50' horizontal distance from the river at its closest point near the western end of the site to over 350' near the eastern end. Approximately 0.47 acres is already in a disturbed state due to the existing unmanaged parking and is increasing in size as a result.

The hydrology of the site consists of dispersing rain and snowmelt from compacted areas of the existing road, parking areas and trails. Surface water disperses and filters into the glacial soils and no direct discharge exists into the LNS. No wetlands or springs were identified on the site. Main water quality concerns are socially orientated and mostly attributed to human waste and trash entering the river.

Water quality within the eastern (upper) half of LNS watershed is high due to the erosion resistant geology and soils. However, temperatures in the summer months exceed the state's requirements for salmonid rearing so it is listed as a 303d stream as water quality impaired by Oregon's Department of Environmental Quality (See Fisheries discussion in the next section). The majority of the eastern watershed is within the Opal Creek Wilderness and SRA. Management activities such as timber harvesting were prohibited since the moratorium in 1993

and were limited prior to that. For these reasons, it is anticipated that this condition is anthropocentric and presumed to be functioning naturally for this temperature indicator.

Environmental Consequences

Alternative 1 - No Action

Direct and Indirect Effects

Current use would continue to expand the area of disturbance within the riparian reserves under this alternative. Uncontrolled parking and indiscriminate foot travel creating user trails would net approximately 0.1 acres of vegetation loss each year over the next 10 years. Indiscriminate travel causes vegetation loss, compacted soils and exposed roots. Overstory trees then become susceptible to disease and damage that kills them. Within 10-20 years, the loss of the overstory from increasing use would also increase the disturbance area to over 1 acre based on historic rate of growth. As vegetation is lost and soils are compacted from uncontrolled access to the river, channel banks would become rounded and result in accelerated erosion potential down stream.

Cumulative Effects

When combined with other past, present or reasonably foreseeable actions this project has the same effects on hydrology, stream channels, riparian areas, and water quality as the no action. It is anticipated no adverse cumulative effect would result from no action.

Alternative 2 – Proposed Action

Direct and Indirect Effects

Due to the size of the watershed, it is not anticipated that the proposed project would have any detrimental effects to riparian reserves found within the watershed. It is anticipated that 0.9 acre of land would be disturbed as a result of this project. Presently, about half of this area is in a disturbed state due to the existing uses and roads. The proposed action would benefit the riparian reserve by controlling the disturbance and expansion potential of an unmanaged site, thereby reducing the impacts resulting from erosion and loss of riparian vegetation.

Under the Three Basin Rule no developed discharge may occur. The proposed action meets this requirement by designing drainage facilities to disperse runoff. Disturbance would create bare soil temporarily, for about one month, until ground cover or vegetation is reestablished. Drainage of the site would spread run-off over the landscape and allow water to infiltrate through the soil so no runoff would be directly discharged into the stream channel. In addition, due to the project location on a terrace above the river and its well-drained soils and vegetated slopes, it is not anticipated that sediment would reach the river. Any further risk of sediment would be reduced by use of an erosion fence between the project area and river during construction until ground cover is established. This would allow for wet weather ground disturbing work to occur and reduce the risk of sediment leaving the site. As a result of the location and the type of work anticipated, it is not expected that sediment would leave the site and enter the river.

New improvements such as installing another toilet and additional garbage cans would help manage sanitation and reduce potential impacts to water quality. Decommissioning steep trails and managing foot travel to established paths would also reduce erosion potential.

A potential indirect effect is for trees to blow down along the edge of the parking area created openings (Rashin et al 2006), subsequently producing sediment. Due to the distance of the small created openings from the river and potential risk of increased blow down, it is not expected that sediment would reach the river if this does occur. Rashin shows that a 30 foot undisturbed buffer effectively catches sediment. At the closest point, project disturbance would be 50 horizontal feet from the river and greater than 50 feet slope distance.

Aquatic Conservation Strategy Objectives are met at the 5th field level (LNS watershed) with the action alternative. This is due to the size of the project in context to the entire watershed and the design of the project to reduce effects and maintain critical components of the riparian reserve

Visitor Displacement: An additional indirect effect may occur if users are displaced to other river access locations when the parking area becomes full at Three Pools. Impacts could include vegetation loss and soil compaction. The geology and topography of the area reduces the risk associated with displacement because the terrain limits areas where people can go and the soils are well-drained thus limiting erosion potential.

Cumulative Effects

When combined with other past, present or reasonably foreseeable actions this project helps reduce any negative effects on hydrology, stream channels, riparian areas, and water quality. It is anticipated that a positive cumulative effect would occur for these resources as a result of project implementation. Increased presence and education within the area would help reduce the impacts visitors have on riparian areas. The terrain dictates the places in which displacement would occur and is confined to a limited number of access points to the river. Implementing actions that reduce current use impacts combined with the foreseeable future efforts to harden and restore dispersed sites and manage use is a beneficial effect, improving hydrological conditions within the watershed. There would be a net decrease of 11.7 road miles within the SRA when combined with the proposed action.

Conclusion

In summary, the benefits of the proposed action outweigh any possible indirect effects to the riparian reserve. Establishing formal parking, trails and traffic controls minimizes the expansion potential of this intensively used site which currently lacks traffic controls resulting in loss of riparian vegetation.

Consistency with Direction and Regulations

Table 4 shows the various direction and regulations that were used in the development of the prescriptions for this proposal. The proposed action meets all laws, regulations and direction governing water quality, hydrology, riparian protection and stream channel stability. Aquatic Conservation Strategy Objectives are being met at the 5th field watershed. A more thorough discussion of the regulatory framework is contained in the Hydrology Specialist Report (Halemeier, 2007) in the project planning record. An assessment of how the action alternative meets this guidance is provided near the end of Chapter 3, under Compliance with Laws, Regulations and Policies.

Table 4. Consistency with Direction and Regulations for Hydrology, Stream Channels, and Water Quality.

Regulation	Hydrology	Stream Channels	Water Quality
Willamette National Forest Land and Resource Management Plan for Watersheds	Consistent	Consistent	Consistent
Northwest Forest Plan and Aquatic Conservation Strategy Objectives	Consistent	Consistent	Consistent
Clean Water Act	Consistent	Consistent	Consistent
DEQ Sufficiency Analysis for Stream Temperature 303d listing Water Quality Management Plan.	Consistent	Consistent	Consistent
General Water Quality Best Management Practices	Consistent	Consistent	Consistent
Executive Orders 11988 and 11990	Consistent	Consistent	Consistent

Fisheries

Analysis Method

Analysis methodology for this project included: an on-site investigation of the proposed activities, field review and discussions regarding past management; review of pertinent sections and standard and guidelines of the Willamette National Forest Land and Resource Management Plan as amended by the Northwest Forest Plan; review of the Little North Fork Santiam River Watershed Analysis (USDI, BLM 1997); Geographical Information System (spatial database) interpretation; and reviews of data, surveys and reports produced by local offices of the US Geological Service, Oregon Department of Fish and Wildlife, Steelhead and Chinook Above Barriers, and National Oceanic and Atmospheric Administration Fisheries.

A Biological Assessment (BA) was prepared for this project and can be found in the project planning record. The BA evaluates the effect of the proposed action on Upper Willamette River Chinook salmon (*Onchorhynchus tshawytscha*), and Upper Willamette River steelhead (*Onchorhynchus mykiss*) and their designated critical habitat, and evaluates the effect of the project on Essential Fish Habitat (EFH) as designated by the Magnuson-Stevens Fishery Conservation and Management Act. The elements of the proposed action were analyzed in-depth in the BA for potential effects on the Upper Willamette Chinook salmon and Upper Willamette steelhead using habitat pathways of water quality, habitat access, habitat elements, channel conditions and dynamics, flow/hydrology and watershed conditions.

Current Condition

The Little North Santiam (LNS) River is designated as a Tier 1 Key watershed by the Northwest Forest Plan and is crucial for maintaining and recovering habitat for at-risk anadromous salmonids. The LNS watershed information is described in the Hydrology section above. In order to analyze the affects of the alternatives on Fisheries, the context of the entire Little North Santiam basin must be understood. The LNS watershed is used primarily for timber production, agriculture, and recreation. Industrial forest production is the predominant private land use in the lower portion of the watershed, and agricultural use is very limited and small in scale. There is a fairly large number of year-round and vacation residences, most of which are adjacent to or near the Little North Santiam River downstream of Evans Creek. The Elkhorn Valley Golf Course also extends for over a mile along the Little North Santiam River (USDI 1997).

Current recreation use is moderate to high compared to other areas in the North Santiam River Basin. Several Forest Service, Bureau of Land Management and Marion County developed recreation sites are located along the Little North Santiam River throughout the watershed. The Opal Creek Scenic Recreation and Wilderness areas are popular for day use activities such as hiking, nature study and swimming and include some camping. Elkhorn Creek, on both USFS and BLM land, is designated a Wild & Scenic River. Little North Santiam River is a designated State Scenic Waterway.

Aquatic inventories have been conducted by ODFW on about 44 miles of streams in the watershed between 1991 and 1995, including 22 miles of the mainstem Little North Santiam

River. Mainstem habitat is in better condition than in surveyed tributaries with the exception of Opal Creek most of which is within the Opal Creek Wilderness area. Opal Creek has good habitat conditions; however, it has no listed fish species due to a downstream natural barrier. Large Woody Debris (LWD) loading levels are low throughout the watershed. Harvest of riparian timber, roads in riparian areas, stream cleaning and past fires have all contributed to the low levels of LWD. LWD recruitment potential is generally low mostly due to large areas of young conifer stands, particularly in the west half of the watershed. Such stands are most prevalent in the Canyon Creek, Evans Creek, Kiel Creek and Sinker Creek sub-watersheds. The Opal Creek, Gold Creek and Cedar Creek sub-watersheds have the highest potential for LWD recruitment.

The majority of USFS administered lands has had limited harvesting due to political considerations. Presently, all of the lands are in SRA, LSR or wilderness designations. No timber harvesting is allowed within the Scenic Recreation Area or Wilderness Area. By contrast, the BLM administration and private ownerships have had a history of intensive forest management. The USFS-administered lands have a history of mining on a small scale with tunnels and mine tailings throughout the watershed. There are currently 5 unpatented mining claims in the watershed.

Table 5. Federal Land Management Allocations US Forest Service (USFS) & Bureau of Land Management (BLM)

Management Areas	Riparian Reserve	Outside Riparian	Total Acres
Late Successional Reserve (USFS)	1,200	1,997	3,197
Matrix -General Forest (BLM)	3,124	3,556	6,680
Connectivity/Diversity Blocks (BLM)	2,154	2,562	4,716
Scenic Recreation Area (USFS)	3,653	6,699	10,352
Wilderness (USFS)	8,361	11,857	20,218
Elkhorn Creek Wild Scenic River Corridor (USFS/BLM)	1,520	1,968	3,488
District Designated Reserve (BLM)	296	419	715
Total	20,308	29,058	49,366

Baseline conditions are used as a starting point to compare effects of a project to aquatic conditions. This analysis tiers to the Biological Assessment where baseline conditions are fully discussed using existing data. Data for stream reaches in the LNS River watershed is not complete, so determination of the appropriate condition category of “Properly Functioning,” “Functioning at Risk,” or “Not Properly Functioning” was made using professional judgment of available information. The following is a summary of baseline conditions.

Summary of Baseline Conditions:

Water quality for temperature, sediment, turbidity and chemical factors within the Little North Santiam Basin is generally considered to be “functioning at risk” primarily due to water samples taken downstream portion of the watershed.

Habitat elements including substrate, pool quality and off-channel refugia are all considered to be in “properly functioning” condition. Historically, Salmon Falls at river mile 15.9 was a barrier to upstream movement. A fish ladder was installed in 1958 and steelhead are now suspected to migrate as far as a barrier falls near Jawbone Flats at river mile 23.9. Although spring Chinook salmon are known to be able to ascend the ladder they are seldom seen above the falls. Large woody debris and pool frequency are the two habitat elements that are considered to be in “not properly functioning” condition. Large woody debris is generally in short supply averaging less than five pieces per mile in the main stem of the LNS, while some reaches of Elkhorn and Opal Creek exceed 70 pieces per mile. Pool frequency was very low through the LNS River basin with only two reaches of Opal Creek meeting properly functioning.

Channel conditions and dynamics were considered to be in “not properly functioning” condition due to high width to depth ratios throughout the LNS River basin and relatively high amounts of streambank instability in three watersheds in the downstream portion of the drainage off National Forest system lands.

Hydrological flow impacts in the form of high swings between peak and base flows, possibly due to the over-allocation of water rights and past management activities, rated the basin as “not properly functioning” for this category. A relatively high number of forest roads within riparian areas in the downstream portion of the drainage contribute to an increase in drainage network and an “at risk” rating.

Overall, watershed condition is rated as “at risk.” Road density ranges from less than one mile per square mile in the upper part of the watershed on National Forest system lands to greater than five miles per square mile in Sinker and Evans Creeks in the lower part of the watershed that has mixed ownership. The LNS watersheds disturbance history leads to a “functioning at risk” rating primarily due to past activities in the west end of watershed.

Project effects to these baseline indicators are rated as positive, neutral, or negative. Positive effects to a baseline indicator would improve fish habitat conditions and move indicators toward restoration. Neutral effects to habitat indicators result in no perceivable change to baseline conditions and maintain habitat quality. Negative effects to baseline conditions result in impacts that reduce fish habitat quality.

Environmental Consequences**Alternative 1 - No Action*****Direct and Indirect Effects***

Implementation of the No Action alternative would maintain the current use of the Three Pools recreation site. Direct effects of haphazard parking, unmanaged trail use, and minimal services for trash and human waste would continue to degrade riparian habitat and water quality. Unmanaged

parking at the site allows users to drive and park on riparian vegetation exposing and compacting soil, which increases run off and sediment transport to the river and damages roots of overstory trees. As popularity of the site increases, more vehicles would access the site. If parking is not managed, soil compaction is likely to creep into currently vegetated areas. There are more access trails from the parking area to the river than needed. In this alternative, trails would remain unchanged and continue to act as conduits for sediment transport to the river. There is one toilet and 4 small garbage receptacles at one location at the site. During peak visitation these facilities are inadequate. Visitors leave trash and exposed human waste, some of which ends up in the river and degrades water quality. Continued unmanaged use would occur with implementation of the No Action alternative. As a result, there would be continued negative effects on the sediment/turbidity, water quality, and riparian reserve indicators.

There are no indirect effects to the fisheries or aquatic resource as a result of the current recreational use of the site.

Cumulative Effects

Past and present actions affecting resources are described as part of the existing condition information. Reasonably foreseeable future actions on federal, state and private lands in the watershed include recreation, timber harvesting, mining and agriculture irrigation withdrawals. Development on private land could result in increased stream temperatures and sediment reaching streams. Summer irrigation withdrawals in the over allocated Little North Fork increases water temperatures and reduces available fish habitat.

Sediment delivery to the streams and reduced shade are primary mechanisms for affect to the fisheries resource; however, all would incorporate amended Forest Plan direction for Riparian Reserves and would minimize soil erosion. Recreation effects in the watershed include trail maintenance and developed and dispersed recreation use. Restoration and management of dispersed recreation sites on National Forest system lands is likely to occur in the next three years with ongoing maintenance continuing into the foreseeable future.

Alternative 2 – Proposed Action

Direct and Indirect Effects

Implementation of Alternative 2 would organize vehicle traffic, provide an additional toilet and manage foot traffic. It would manage use and inhibit expansion of soil compaction and loss of vegetation at the site. Managing vehicle traffic would improve water quality by delineating the access road and parking. Decreased soil compaction and vegetation loss combined with design features such as bioswales would control runoff and decrease sediment input and chemical contamination of the LNS River. Paving of the access road would further decrease sediment transport to the river. An additional toilet would decrease the amount of human waste reaching the river. Construction of more than 3500 feet of fence to manage foot traffic would decrease soil compaction and allow vegetation recovery which would improve downstream water quality.

There would be no direct effects associated with the road and parking area improvements and trail obliteration. No soil or sediment movement is expected to leave the terrace that defines the

project area boundary during implementation. Mechanisms that affect fisheries resources are described in detail in the Biological Assessment for this project. Only the relevant indicators that could possibly affect fish or habitat including temperature, sediment and turbidity, road density, and drainage network and riparian reserve are discussed below.

Visitor Displacement: A common indirect effect to all of the relevant indicators would be displacement of users to other unmanaged recreation sites in the watershed. By reducing the parking capacity and developing the Three Pools recreation site some users may seek other locations to access the river causing similar soil compaction and loss of vegetation in other dispersed recreation areas along the LNS River. The extent of displacement resulting from this project is unknown, but there the potential for negative impacts to fish. However, water quality is tempered by the geology of the LNS River canyon which has limited areas suitable for dispersed recreation. Dispersed recreation management is a reasonably foreseeable future action that would include monitoring, education and restoration of recreation use impacts.

Temperature

Removing trees from the Riparian Reserve can affect the temperature indicator by reducing shade and increasing thermal radiation exposure to the river. Implementation of the Three Pools project would involve 0.43 acres of clearing within a 2.7 acre area to accommodate the improved portion of the access road and parking. The trees are located inside of the Riparian Reserve, but their location on the terrace greater than 50 feet above the river and outside of the primary shade zone reduces effect of the trees on aquatic indicators. There would be a small reduction in canopy on the north side of the site away from the LNS River. The trees that are to be removed are outside of the area of influence for the river and would not be recruited to the river. The Three Pools Day use site is a managed recreation area where hazard trees and blowdown are removed for safety and access reasons further reducing the possibility of recruitment to the river. There would be no reduction of shade in the LNS River as a result of this project, and therefore no mechanism to affect stream temperature. This project would have a “neutral” effect on this indicator.

Sediment and Turbidity

Road and parking improvements and trail maintenance and obliteration activities have a very small potential to affect the sediment and turbidity indicators.

New road improvements would occur on 0.43 acres of the 2.7 acre project area to complete the turnaround loop. Improvements include clearing and grubbing of all vegetation, blading and shaping the ground and surfacing with crushed rock. Road improvements on the existing road would occur on a stable flat terrace above the river. The junction of Forest Road 2207 and the access road to the Three Pools recreation site would be modified to a ninety degree intersection for safety reasons. This would include reshaping the current approach and installing appropriate drainage. Road reconstruction includes blading, shaping and then laying a crushed rock surface in preparation for paving. These activities are not likely to have any direct sediment input due to the flat topography and the distance from the LNS River. Soil displacement during the project would be controlled and mitigated by BMP's by installation of a silt fence and design features

such as sloping the road and parking areas into bioswales. There is no probability that activities would deliver any sediment to the LNS River.

Trail obliteration and reconstruction would also be completed as part the project. The trails at the site follow the terrace contour and lead from the parking area and restroom to the beach and other access points along the river. The effects of trail relocation and obliteration would cause soil disturbance during implementation, but the location of the trails on the terrace and slope above the river are more than 50 feet from the river. Implementation of BMP's and location of the trails reduce the probability of sediment impacts to a discountable level with no probability of affecting listed fish or habitat indicators.

Overall, the terrace is stable and well-drained with good bearing strength with no indication of slope instability. The project is not expected to affect sediment indicator conditions for stream reaches potentially occupied by Chinook salmon and steelhead. This project would have a "neutral" effect on this indicator.

Road Density and Drainage Network Increase

The road work for this project would occur within the existing site. There would be an estimated 900 feet of road construction and 1100 feet of reconstruction on approximately 0.9 acres of the 2.7 acre project area. The access road does not interact with the stream network and is on a flat stable well-drained terrace. About 0.36 miles of road would be reconstructed and a net loss of 0.3 miles of trail would result from the Three Pools recreation project. There would be no change in drainage network as a result of this project. The project would maintain the current runoff dispersal and not collect or channelize runoff. The access road does not intersect any drainage features in the project area. There is no change to the indicator so the project would be "neutral."

Drainage network is a measure of active channel length created by construction of roads and trails that intercept and concentrate overland flow and subsurface. There would be no net gain of drainage network as a result of this project. The road reconstruction would occur mostly within the existing site and obliteration of 0.3 miles of trail would mitigate effects to this indicator. The topography is flat and soil in the project area is well-drained and design features of the access road and parking areas would provide appropriate drainage. Implementation of Alternative 2 would have a "neutral" effect on the indicator.

Riparian Reserve

The project does occur in the riparian reserve, and there would be a small reduction in canopy on the north side of the site away from the LNS River. However, because the project located on an elevated terrace 50 feet above the river there would no change to the shade, large woody debris recruitment, connectivity or refugia indicators. The Three Pools day use area is currently managed as a recreation site where hazard and downed trees are removed for safety and public access reducing LWD recruitment to the river. Implementation of Alternative 2 would have a "neutral" effect on the riparian reserve indicator.

Cumulative Effects

Cumulative effects for this alternative would be the same as described in Alternative 1, but

include user displacement and short term effects to the sediment and riparian reserve indicators described in the direct and indirect affects of this alternative. User displacement as a result of this project could result in riparian impacts in other dispersed recreation sites in the watershed. However, the topography of the LNS River canyon limits dispersed recreation opportunities.

Endangered Species Act cumulative effects include the future effects of state, tribal, local, and private actions that are reasonably certain to occur within the action area associated with the federal action. The management designations on USFS lands in the project area include the Opal Creek Wilderness and SRA, which limit management action that would affect listed fish species. For this assessment, no ESA cumulative effects were identified.

Conclusion

The analysis of potential effects to Chinook salmon and steelhead using a habitat approach is discussed in detail in the BA. The topography and BMPs mitigate affects of soil disturbance during implementation of the proposed action and would have a neutral effect on all indicators.

The proposed Thee Pools Day Use Site Rehabilitation would have No Effect on Chinook or steelhead. There is critical habitat for Chinook and steelhead located adjacent to the action area. The project would occur on a glacially created terrace perched above the LNS River. There is no mechanism for effect of habitat indicators; there would be no effect on designated critical habitat.

When the Magnuson-Stevens Act of 1976 was re-authorized in 1996, it directed Regional Fishery Management Councils to identify Essential Fish Habitat (EFH) for commercial fish species of concern. Chinook salmon is a commercially valuable species is present adjacent to this project area. Effects analysis contained in the Biological Assessment addresses potential effects to EFH. There is no mechanism for effect of habitat indicators; therefore there would be no effect on EFH.

Consistency with Direction and Regulations

The Biological Assessment was prepared in accordance with the following guidance and direction: Endangered Species Act of 1973 (as amended), 50 CFR § 402.12 (Interagency Cooperation, Biological Assessments), Endangered Species Consultation Handbook (USFWS and NMFS, March 1998), Streamlined Consultation Procedures for Section 7 of the Endangered Species Act (FS, NMFS, BLM & USFWS, July 1999), and Magnuson-Stevens Fishery Conservation and Management Act (§ 305(b)) and its implementing regulations (50CFR § 600). An assessment of how the action alternative meets this guidance is provided near the end of Chapter 3, under Compliance with Laws, Regulations and Policies.

Botanical Species

Analysis Method

Threatened, Endangered and Sensitive plants, Invasive Weed, and Special Habitat Geographical Information System data layers, and Ranger District maps were assessed for known sites of these botanical resources. Additional analysis of aerial photos determined high probability habitats. Fourteen sensitive species were identified as having potential habitat within the project area. In areas where pre-field review identified potential habitat, field reconnaissance was done in accordance with established protocols and level of detail. A botanical field survey was conducted on October 26, 2006 using the intuitive controlled method for survey. The results of the survey form the basis for analyzing effects. A Biological Evaluation was completed for the Three Pools Day Use Site Rehabilitation Project on February 23, 2006 and can be found in the project planning record.

Current Condition

Sensitive and Survey & Manage Botanical Species: Five lichen species (one Survey & Manage species and four that are both Sensitive and Survey & Manage botanical species) are documented in the upper Little North Santiam River (LNS) watershed.

Survey & Manage Species:

- *Dendrocopula intricatulum*: epiphytic on the lower twigs of suppressed understory western hemlock and Pacific silver fir trees, in low to mid-elevation old growth Douglas-fir forests.

Sensitive and Survey & Manage Species:

- *Nephroma occultum*: can be found on conifer boles and branches, mostly mid to upper canopy, found in litter.
- *Peltigera pacifica*: can be found on down logs, soil, moss, rocks, tree bases.
- *Pilophorus nigricaulis*: can be found on volcanic rock substrates, low to mid-elevation old growth Douglas-fir forests; also in vine maple shrub communities and open sites.
- *Pseudocyphellaria rainierensis*: can be found on hardwood and conifer branches and boles, and in litter.

Only one species, *Peltigera pacifica*, occurs within a mile of the project area and the others occur at more distant sites. Sensitive and Survey and Manage species are generally associated with old growth Douglas-fir forests, or mature forests that contain remnant old growth Douglas-fir. The Three Pools project area does not contain old growth characteristics typical for these species.

Invasive Weeds: Invasive weeds are found primarily along roads and some naturally occurring areas such as gravel bars. There has been relatively little disturbance in the upper Little North Santiam watershed due to limited forest management and road construction. Invasive weeds that do occur include scotch broom, St. John's wort, tansy ragwort, digitalis, false brome, Himalayan and evergreen blackberry and meadow knapweed. The first four of these listed weeds

are most predominant in the locality of the project area. The Three Pools site is relatively weed-free with a few scattered occurrences of scotch broom and St. John's wort.

Special Habitats: The predominant special habitats in the upper LNS watershed are those associated rock outcrops, cliffs, dry ridgetop meadows and talus slopes. Special habitats such as meadows, shrub-land and interior wetlands are limited in number within the upper watershed and do not exist in the Three Pools project area. A small area of rock outcroppings, associated with the Little North Santiam riparian area, is present within the project area.

Environmental Consequences

Alternative 1 - No Action

Direct and Indirect Effects

Sensitive Botanical Species: Fourteen sensitive species (see Table 1, Chapter 2) were identified as having potential habitat within the project area, however, four of these occur within the watershed. Surveys done on October 26, 2006, found no evidence of the occurrence of these or any other Region 6 sensitive plant species. Therefore, no adverse impacts to sensitive plant species are anticipated as a result of the selection of the No Action alternative.

Survey and Manage Botanical Species: In a pre-field review, one additional species not included on the Sensitive Species List, *Dendroica intricatulum*, was identified as having potential habitat within the project area and also occurs within the watershed. Surveys done on October 26, 2006, failed to locate this species within the project area. Therefore, no adverse impact to this additional Survey & Manage species is anticipated as a result of the selection of the No Action alternative.

Invasive Weeds: Effects of the No Action alternative would include the continuing and increasing ground disturbance within the area as a result of indiscriminate foot travel and uncontrolled vehicle traffic. This degrades native vegetation habitat and increases risk of invasive weed invasion. No controls on vehicle access and parking increases the risk of vehicle-aided transport of weed seed into the area from off site areas.

Special Habitats: Effects to the rock outcrop habitat are similar to those discussed under invasive weeds. Disturbance to these sites would likely increase under the No Action alternative.

Cumulative Effects

No cumulative effects are anticipated for botanical resources as a result of the enactment of Opal Creek legislation designating most of the upper watershed as Wilderness and Special Recreation Areas. This legislation and the resulting management directives limit the amount of disturbance projects that can be implemented such as no timber harvesting or no new system roads.

Alternative 2 – Proposed Action

Direct and Indirect Effects

Sensitive and Survey & Manage Botanical Species: Results of the Biological Evaluation and survey indicates an absence of Sensitive and Survey & Manage botanical species occurrence in the project area and supports an assessment of low risk to these species from project implementation. The removal of mature trees in the proposed action represents the removal of

possible future habitat for some special status species, however, clearing less than 0.43 acre of trees is not considered significant in the context of the entire watershed.

Visitor Displacement: The issue of visitor displacement may represent an indirect effect, if these potential displaced visitors relocate to and disturb an area with occupied special status species habitat. Since peak use occurs on only a few hot days a year and visitors have limited available options to access the river, the risk of major disturbance to Sensitive and Survey & Manage botanical species habitat is low. Therefore, no adverse impacts to sensitive and Survey & Manage plant species are anticipated as a result of implementation of the Proposed Action alternative.

Invasive Weeds: Direct effects from implementation of the Proposed Action alternative would include road and trail construction disturbance to the area creating potential invasive weed habitat. In contrast to Alternative 1, indirect effects include the possibility of increasing the number of visitors to the improved site over time on non-peak days, thus increasing the risk of vehicle-aided transport of weed seed into the area from off site areas. These risks are off-set by vehicle controls and project design activities such as weed removal and re-vegetation of disturbed areas.

Visitor Displacement: Visitor displacement may represent an indirect effect and may potentially increase the risk of vehicle-aided transport of weed seed to these areas. Risk of the occurrence would remain low to the extent visitor caused disturbance is limited. Monitoring of these sites would identify any weed establishment, which would subsequently be eradicated.

Special Habitats: Effects to the rock outcrop habitat are similar to those discussed under invasive weeds. Trail improvements to direct foot travel around the site in addition to fencing for visitor safety and resource protection should result in less overall disturbance to rock outcrop special habitat.

Visitor Displacement: Visitor displacement may represent an indirect effect and potentially displace people to special habitats. Special habitats throughout the watershed are relatively undisturbed because of their location and the ruggedness of the terrain. Since peak use occurs on only a few hot days a year and visitors have limited available options to access the river, the risk of major disturbance to special habitats is low.

Cumulative Effects

If the proposed action is effective in addressing the purpose and need for this project, the outcome should be a net benefit for all native species habitat in the project area and detrimental to invasive weed invasion. The Opal Creek legislation and the resulting management plan directives limit the amount of disturbance projects that can be implemented such as no timber harvesting or no new system roads. Implementing actions that reduce current use impacts combined with the foreseeable future efforts to manage use is a beneficial to botanical resources.

Consistency with Direction and Regulations

The following direction and regulations were considered during the botanical species analysis of this project: *Special Habitats:* The Forest Plan as amended and associated FEIS (USDA Forest Service, 1990) and the Willamette National Forest Special Habitat Management Guide (USDA

Forest Service, 1996). *Sensitive Botanical Species*: Northwest Forest Plan (USDA, 1994), The Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (USDA, USDI, 2001) and Forest Service Manual (FSM) 2670 direction. *Invasive Weeds*: The Pacific Northwest Region Final Environmental Impact Statement for the Invasive Plant Program (R6 2005 FEIS), Willamette National Forest Integrated Weed Management Plan (USDA, 1999), Region 6 Preventing and Managing Invasive Plants FEIS (R6 2006 FEIS), Guide to Invasive Weed Prevention Practices (2001), Executive Order 13112 (1999), Mediated Agreement (1989), Invasive Weed Control and Eradication Act (2004), and Willamette National Forest Invasive Weed Prevention Guidelines (2005).

A more thorough discussion of the Regulatory Framework is contained in the Botanical Species Specialist Report (Roantree, 2007) in the project planning record. An assessment of how the action alternative meets this guidance is provided near the end of Chapter 3, under Compliance with Laws, Regulations and Policies.

Wildlife Habitat

Analysis Method

Threatened, Endangered, and Sensitive Species (TE&S)

Threatened, Endangered and Sensitive species (TE&S) are summarized in Table 6. Analysis of effects and impacts was done based on the process established in Section 2670 of the Forest Service Handbook and the R-6 Interim Direction R-6 2670-92-1. Personal knowledge of the area, professional judgment, aerial photographs, geographical information system maps, and other studies were used to assess the risk of the proposed project adversely affecting Threatened, Endangered, or Sensitive Species. In addition to the Land and Resource Management Plan, Willamette National Forest, as amended, 1990, the following documents were used to assess the risk for the following species:

- Spotted Owls: Record of Decision, for amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl, U.S. Department of Agriculture, Forest Service; U.S. Department of the Interior, Bureau of Land Management, April 13, 1994.
- Bald Eagles: Pacific States Bald Eagle Recovery Plan, USFWS, 1984.
- American Peregrine Falcons: Pacific Coast Recovery Plan for the American Peregrine Falcon, USFWS, 1982 and Biological Assessment Supplement, Project Design Criteria: Protection Measures for Peregrine Falcons, R-6, USDA Forest Service, 1998.

Field surveys were not conducted for TE&S species.

Migratory Bird Treaty Act / Migratory Land Birds

The project would not change the dominant habitat type so further analysis was not needed.

Raptors and Colonial Nesting Birds

Field surveys were not conducted to determine the presence or absence of active raptor or colonial nesting bird roosts or nest sites during the nesting season. However, field surveys were conducted in the fall of 2006 to determine the presence or absence of nest structures in the project area.

Management Indicator Species

For TE&S species, the analysis methods are described above. For other indicator species, there would be no change from the current condition so further analysis was not needed.

Snag Habitat and Downed Woody Material

This habitat type was not analyzed in detail since high use recreation sites are not expected to provide snag and down woody material.

Survey and Manage Species

Habitat was analyzed for suitability and surveys were conducted for species where habitat with potential for occupancy occurred. In fall 2006, surveys were completed using regional Survey Protocol for the Red Tree Vole (Version 2). Surveys for Crater Lake Tightcoil snail, amphibians and great gray owl were not needed.

Current Condition

Threatened, Endangered, and Sensitive Species

Table 6 lists the proposed, threatened, endangered and sensitive species on the Willamette National Forest (USDA Forest Service, 2004) and whether there is potential habitat in the planning area. Additional detailed information about these species and their habitat is documented in the Biological Evaluation and can be found in the project planning record.

Table 6. Threatened, Endangered, and Regionally Sensitive Species Presence of Habitat within Three Pools Day Use Area

Species	Presence of Habitat	Status		
		Federal	USFS – R6	State
Birds				
American peregrine falcon	Nesting habitat	N/A	Sensitive	Endangered

Current Condition: Potential peregrine nesting habitat is present within 3 air miles and consists of four locations between 1.0 and 2.2 miles either to the north or northeast of Three Pools. Preferred nesting sites are sheer cliffs located near water with an abundant prey source (Willamette FEIS, 1990). No known nest sites occur within 3 miles. Potential nesting habitat has not been surveyed for occupancy by peregrine falcons. Potential nesting areas are not in direct line of sight from the project area.

Black swift	No	N/A	Sensitive	Peripheral or naturally rare
Bufflehead	No	N/A	Sensitive	Undetermined
Harlequin duck	Foraging & nesting	Candidate	Sensitive	Undetermined

Current Condition: About 0.4 mile of potential harlequin duck foraging and nesting habitat occurs in the project area. They use rivers and streams as feeding habitat and are ground nesters, commonly on banks. Shrubby riparian vegetation, lack of human disturbance and loafing sites are important factors for these species (Cassirer and Groves, 1989). Harlequin duck nesting has been documented approximately 6 miles upstream from the project.

Northern bald eagle	Foraging	Threatened	N/A	Threatened
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Current Condition: Bald eagles require habitat consisting of scattered old-growth conifer trees near available fish sources. They also scavenge on carcasses such as deer and elk. Foraging habitat is of low quality along the Little North Santiam River and the surrounding area. Bald eagles may infrequently forage along the river. In the past forage quality was low and is expected to remain low over time. The Three Pools area is not within a bald eagle management area. Bald eagles sightings have not been documented in the project area.

Species	Presence of Habitat	Status		
		Federal	USFS – R6	State
Birds				
Northern spotted owl	Suitable Foraging	Threatened	N/A	Threatened

Current Condition: The northern spotted owl is primarily an inhabitant of old growth and mature forests. Two major fire events occurred in the eastern LNS watershed, one around 1700 and another around 1900. The habitat in the watershed is improving for spotted owl use as the young stands mature. Some areas are transitioning from dispersal habitat into foraging habitat and more is expected to develop in the next few decades. Wilderness and SRA designations are expected to preserve existing forested habitat and result in an increase of spotted owl foraging habitat over time. In about 200 to 300 years, some of this habitat is expected to develop into multi-storied old growth suitable for spotted owl nesting.

Three Pools Day Use Site is not located in a late successional reserve or a critical habitat area for spotted owls. The project area is classified as foraging habitat based on tree diameter and crown closure. Much of the area is heavily impacted by unregulated recreation use with little ground vegetation due to user created trails, parking areas and roads. The condition of the project area is poor for foraging and is more characteristic of dispersal habitat. Nesting habitat is not identified in the project area. The nearest nesting habitat is 1.2 miles to the southeast and 1.4 miles to the northwest. A block of foraging habitat is located to the west with its center about 0.8 miles west. In 1980, 1991 and 1992, three individual spotted owl sightings have been documented within this foraging area between 0.8 miles and 1.5 miles away. If individual trees suitable for nesting are located in this foraging block it is possible spotted owls could nest there.

Mammals				
Baird’s shrew	Yes	N/A	Sensitive	N/A

Current Condition: Baird’s shrew is known to inhabit forested riparian areas in the Cascade mountains. Most of the 10,522 acres of riparian reserve on National Forest (NF) system land are in a forested condition. Most of the eastern LNS watershed is designated as Wilderness, Scenic Recreation Area or Wild & Scenic River where timber harvesting is prohibited or is protected by a late successional reserve allocation. Riparian habitat is expected to remain forested and suitable for Baird shrew occupancy. Three Pools is located in a riparian reserve.

California wolverine	Yes	Candidate	Sensitive	Threatened
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Current Condition: Wolverines have a wide home range between 170 to 270 square miles but remote areas with limited human activity or presence appears essential for maintaining viable populations (Hornocker and Hash, 1981). Historical records indicate wolverines have occurred on the District with the closest documented near Opal Lake about 6 miles southeast of Three Pools and 2500 feet higher in elevation. Wolverine surveys have been conducted on the Detroit Ranger District between 1997-2004. No wolverines were detected and no dens or tracks were located. Potential foraging may occur, however, contiguous forested habitat decreases the suitability for foraging. The long term future condition of the area is expected to remain forested with low suitability for wolverine use.

Species	Presence of Habitat	Status		
		Federal	USFS – R6	State
Mammals				
Pacific fringe-tailed bat	No	N/A	Sensitive	Vulnerable
Pacific Fisher	Yes	Candidate	Sensitive	Critical

Current Condition: Fishers are more likely to associate with stands that contain structural components more commonly associated with older stands. Mature stands and/or stands with 70% canopy closure are located throughout most of the eastern LNS watershed, and possess sufficient structural diversity to serve as suitable fisher resting and denning habitat (Yaeger, 2005). Potential forage and dispersal habitat is more extensive, and includes much of the remaining forested habitat across the eastern LNS watershed. A review of local records between 1979 and 2005 revealed no reports of fisher sightings on the Detroit Ranger District. Surveys were conducted on the Detroit Ranger District during the winters of 2002 & 2003. No evidence of fishers were detected nor tracks found. Region-wide carnivore surveys detected fishers in southern Oregon only and are likely descendants from individuals transplanted from other states (Aubry and Lewis 2003).

Pacific shrew	Yes	N/A	Sensitive	N/A
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Current Condition: The Pacific shrew is found in humid forests of western Oregon so potential habitat may exist in the project area. About 30,000 acres out of the eastern LNS watershed 36,144 acres on National Forest system lands are in a forested condition. Timber harvesting is prohibited in most of the eastern watershed or is protected by a Late Successional Reserve allocation. Forested habitat is expected to remain forested and suitable for Pacific shrew occupancy.

Herpetiles				
Cascade torrent salamander	No	N/A	Sensitive	Vulnerable
Foothill yellow-legged frog	No	N/A	Sensitive	Vulnerable
Northwestern pond turtle	No	N/A	Sensitive	Critical
Oregon slender salamander	Yes	N/A	Sensitive	Undetermined

Current Condition: Oregon slender salamander habitat is under bark and moss in Douglas-fir trees. About 110 years ago most of the LNS drainage was burned leaving much of the forested habitat severely degraded or removed. Some areas along the river retained overstory trees. Conditions after past fires would have maintained conditions for some Oregon slender salamanders to inhabit the area. Since this species relies on down wood and bark as hiding cover, this habitat was likely created from dead trees falling to the ground after the fire. Timber harvesting is prohibited in most of the eastern watershed or is protected by a Late Successional Reserve allocation. Forested habitat is expected to remain forested and suitable for Oregon Slender Salamander occupancy.

Species	Presence of Habitat	Status		
		Federal	USFS – R6	State

Herpetiles				
Oregon spotted frog	No	N/A	Sensitive	Critical
Crater Lake tightcoil snail	No	N/A	Sensitive	N/A
Insects				
Mardon skipper	No	Candidate	Sensitive	None

The following species have no habitat in the project analysis area; therefore, will not be discussed further in the analysis of this environmental analysis: Black Swift, Bufflehead, Pacific fringe-tailed bat, Cascade Torrent Salamander, Foothill Yellow-legged Frog, Northwestern Pond Turtle, Oregon Spotted Frog, Crater Lake tightcoil snail and Mardon Skipper.

Migratory Bird Treaty Act / Migratory Land Birds

Generally forested habitats will contain warblers, swallows, swifts and other migratory species. Riparian areas with alder and maple may contain the same species as the forest with higher densities of riparian specialized species of warblers, flycatchers, etc. Three Pools is located within a coniferous forest adjacent to riparian habitat. The Forest Plan provides a wide array and distribution of habitat types to promote conditions that are favorable to migratory birds.

Raptors and Colonial Nesting Birds

A field survey was conducted to determine the presence or absence of nest structures during the fall of 2006. No nest structures are located within the project area.

Management Indicator Species

Management Indicator Species (MIS) are addressed in the Forest Plan (USDA Forest Service, 1990). They include the spotted owl, bald eagle, peregrine falcon, pileated woodpecker, pine marten, elk, deer and primary cavity excavators. All of the management indicator species may occur in the project area.

- **Northern Spotted Owl, Northern Bald Eagle, and Peregrine Falcon:** Current conditions for the spotted owl, bald eagle and peregrine falcon are discussed in the Wildlife Habitat section under Threatened, Endangered, and Sensitive Species.
- **Pileated Woodpecker or Pine Marten:** No pileated woodpecker or pine marten management areas are located in the upper Little North Santiam River watershed.
- **Deer and Elk:** Most of the upper LNS watershed is thermal cover habitat for big game deer and elk
- **Primary Cavity Excavators:** Forested habitat of older trees in the Opal Creek Wilderness and Scenic Recreation Areas are providing habitat for cavity excavators. High use recreation sites do not provide primary cavity excavator habitat as snags represent safety hazards to recreation use in the area and are felled. Cavity excavator habitat is discussed in the snag habitat and downed woody material section below.

Snag Habitat and Downed Woody Material

Large standing dead trees within the developed recreation area are felled for safety reasons and are not expected to function as snag habitat. Snag habitat and down woody material are at naturally occurring levels in adjacent areas within the Opal Creek Wilderness and Scenic Recreation Areas.

Survey and Manage Species

Potential habitat does not occur for amphibians, Crater Lake tightcoil snails and great gray owls, therefore, will not be discussed further in the analysis of this document.

Red Tree Vole: Potential habitat does occur for red tree voles within the proposed project area, however, no active or inactive red tree vole nests structures were found. Based on the literature, old-growth habitat appears to provide optimum conditions for red tree vole populations. The tall, multi-layered canopies of old growth retain humidity and intercept fog, which functions as a climatic buffer and a source of free water. Large branches provide stable support for nests, protection from storms, and travel routes (Gillesberg and Carey 1991, as cited in the Survey Protocol for the Red Tree, Vole Version 2.1). Active nests have been found in remnant older trees in younger stands indicating the importance of legacy structural characteristics (Biswell Pers. Comm. as cited in the Survey Protocol for the Red Tree, Vole Version 2.1). Little is known about the minimum number or size of conifer trees, or other stand characteristics, required to sustain a local population of red tree voles. Red tree voles have been documented in conifer stands from sea level to 5,500 feet in elevation (Manning and Maguire 1999 as cited in the Survey Protocol for the Red Tree, Vole Version 2.1).

Environmental Consequences

Alternative 1 - No Action

Direct and Indirect Effects

Threatened, Endangered, and Sensitive Species

Since there would be no change from the current condition, there are no impacts or effects to threatened, endangered and sensitive species.

Migratory Bird Treaty Act / Migratory Land Birds

Since there would be no change from the current condition, there are no impacts or effects to migratory land birds.

Raptors and Colonial Nesting Birds

Since there would be no change from the current condition, there are no impacts or effects to raptors and colonial nesting birds.

Management Indicator Species

No change to habitat of management indicator species would occur; forest stands would continue to develop natural successional pathways.

Snag Habitat and Downed Woody Material

Since there would be no change from the current condition, there are no impacts to snag habitat and downed woody material.

Survey and Manage Species

Potential red tree vole habitat would not be disturbed.

Cumulative Effects

Threatened, Endangered and Sensitive Species, Migratory Land Birds, Raptors and Colonial Nesting Birds, Management Indicator Species, Snag Habitat and Downed Woody Material, and Survey and Manage Species:

There are no effects associated with past, present and reasonably foreseeable activities in the watershed that when added to the effects of no action are expected to result in cumulative effects to any of these species or habitats.

Alternative 2 – Proposed Action

Direct and Indirect Effects

Threatened, Endangered, and Sensitive Species

American Peregrine Falcon (*Falco peregrinus anatum*): If peregrine falcon pairs occupy potential habitat in the project area, nesting is not expected to be disrupted by project activities. Potential nesting habitat is not in direct line of sight from the project so it would not disturb peregrines. Peregrines are sensitive to activities which can be seen from nesting areas. The potential sites are buffered by geographical features and an elevation difference of approximately 2,000 feet. Habitat for peregrine prey species would be altered by the project, however, the habitat would continue to be suitable for prey species. No change in prey species numbers are expected to result from project related activities.

Harlequin Duck (*Histrionicus histrionicus*): Heavy recreation use of the area and river for water sports during the summer is expected to influence harlequin duck foraging activities. Activities with potential to disturb nesting and foraging harlequin ducks would continue to occur from seasonal summer recreational use. Harlequin ducks using the area are habituated to in-stream recreation activities. Recreational activities are not expected to reduce survival or significantly negatively impact adult harlequin ducks or chicks using the area.

Proposed project activities are not expected to impact foraging activities of harlequin ducks using the Little North Santiam River. However, if harlequin ducks are nesting in or adjacent to the project area, disturbance could occur as a result of project activities. Project related activities would be seasonally restricted from March 15 to July 15 to eliminate the potential for disturbing nesting harlequin ducks. Surveys may be conducted according to protocol between April 26 and May 23 to determine if harlequin duck activity is occurring adjacent to or within the project area. If nesting pairs are determined not to be present in the project area, this restriction may be lifted for the year surveys are conducted.

Northern Bald Eagle (*Haliaeetus leucocephalus*) No effects are expected to occur from disturbance as eagles use this area infrequently for foraging. Potential nesting habitat would not

be altered by the project. The proposed project would not likely to affect bald eagles or alter their habitat.

Northern Spotted Owl (*Strix occidentalis caurina*): About 0.43 acres of clearing ground vegetation and individual trees would be removed as a result of road and parking reconstruction, and installing a new toilet. Parking areas would utilize existing small openings within the stand to retain as many trees as possible. About 0.47 acres are already cleared of vegetation by existing roads, parking and areas impacted by uncontrolled use. The area is expected to remain as dispersal habitat after the project is completed with clusters of small openings where parking spaces are located. Project activities with any potential to disturb nesting spotted owls would occur outside the March 1 and July 15 critical nesting period unless the activity is occurring to protect public safety.

Snags outside the project area that have potential to fall into the project area were identified during field reconnaissance. Those trees that pose a public safety hazard would be felled and left on the ground. Felling of these hazard trees could occur at any time of the year and may be felled during the critical breeding period.

Programmatic consultation with the U.S. Fish and Wildlife Service for activities implemented in 2007-2008 that have the potential to adversely affect Northern Spotted Owls due to habitat modification and disturbance was conducted and Biological Opinion 1-7-06-F-0179 was received. The Biological Opinion covers habitat modification projects involving individual trees in recreation sites and public safety hazards adjacent to the site.

Baird's shrew (*Sorex bairdi permiliensis*): The proposed project may impact the Baird's shrew or its habitat if this species is present or using the forested riparian environment in the project area. The proposed parking area lies within a 2.7 acre area. About 0.47 acres is occupied by existing roads and parking areas and this proposal would remove 0.43 of new acres. The eastern LNS watershed within National Forest lands contains approximately 9,987 acres of forested riparian reserves. The proposed project would impact 0.43 of those acres or 0.0043 percent of the overall habitat. Since the area of habitat removal is very small in terms of the overall habitat available in the eastern LNS watershed, the impact on Baird's shrew is inconsequential. Impacts are not expected to jeopardize the species or move it toward federal listing as a threatened or endangered species.

California wolverine (*Gulo gulo luteus*): Potential foraging may occur through the area as wolverine home ranges usually are between 170 to 270 square miles. Disturbance by equipment would be of limited duration and is not expected to impact wolverines which may forage through the area. Wolverine sightings have historically been at higher elevations than the project area. Ridgelines in the wilderness area to the north and east and remote areas in the Opal Creek watershed are more likely to have wolverine use, if they are present in the watershed. The potential for effects to wolverines is reduced because the potential of wolverines in the project area is low.

Pacific Fisher (*Martes pennanti*): The proposed project is not expected to have an adverse impact on the pacific fisher or its habitat. The potential for effects to fishers is reduced because

the potential that any fishers are in the area is low. Surveys as part of a regional survey detected fishers only in those areas of southern Oregon where existing populations are descendants from individuals transplanted from other states. Surveys on the Detroit Ranger District and throughout the Willamette National Forest did not detect fishers.

Pacific Shrew (*Sorex pacificus cascadenis*): The proposed project may impact the Pacific shrew or its habitat. There is a potential for habitat removal and disturbance of individuals if they are present in the project area. The proposed parking area lies within a 2.7 acre area. About 0.47 acres is occupied by existing roads and parking areas and this proposal would remove 0.43 of new acres. About 30,000 acres out of the eastern LNS watershed's 36,144 acres on National Forest system lands are in a forested condition. The proposed project would impact about 0.43 of those acres or 0.0014 percent of the overall habitat. Since the area of habitat removal is very small in terms of the overall habitat available in the eastern LNS watershed, the impact on Pacific shrews is inconsequential. Impacts are not expected to jeopardize the species or move it toward federal listing as a threatened or endangered species.

Oregon Slender Salamander (*Batrachoseps wrighti*): The proposed project may impact the Oregon Slender Salamander or its habitat. There is a potential for habitat removal and disturbance of individuals if they are present in the project area. The proposed parking area lies within a 2.7 acre area. About 0.47 acres is occupied by existing roads and parking areas and this proposal would remove 0.43 of new acres. About 30,000 acres out of the eastern LNS watershed's 36,144 acres on National Forest system lands are in a forested condition. The proposed project would impact about 0.43 of those acres or 0.0014 percent of the overall habitat. Since the area of habitat removal is very small in terms of the overall habitat available in the upper watershed, the impact on Oregon Slender Salamander is inconsequential. Impacts are not expected to jeopardize the species or move it toward federal listing as a threatened or endangered species.

Migratory Bird Treaty Act / Migratory Land Birds

The proposed project would not change the dominant habitat type which is coniferous forest; therefore, would have no expected effect on migratory birds.

Raptors and Colonial Nesting Birds

The proposed project would not change the dominant habitat type and no nests were located during surveys so the project is not expected to impact raptors or colonial nesting birds.

Management Indicator Species

Northern Spotted Owl, Northern Bald Eagle, and Peregrine Falcon: See effects discussion on Threatened, Endangered, and Sensitive Species above.

Pileated Woodpecker and Pine Marten: Habitat for both species would not be affected by the project. No pileated woodpecker management areas or pine marten management areas are located in the Little North Fork of the Santiam River drainage. Forested habitat of older trees in the Opal Creek Scenic Recreation and Wilderness Areas will naturally provide habitat for pileated woodpeckers and pine martens outside management areas for these species. These older

forested habitats are generally the same habitat as that identified as suitable habitat for spotted owls.

Deer and Elk: Big game are not being directly affected by the project. The proposed project would occur in thermal cover habitat. Most of the drainage is thermal cover habitat so this is not limiting big game populations. Foraging habitat is limiting populations in the area and this project would not decrease forage values.

Primary Cavity Excavators: Habitat would be removed by the proposed project within the high use recreation site. High use recreation sites are not expected to provide primary cavity excavator habitat as snags represent safety hazards to recreation use in the area and are felled. Forested habitat of older trees in the Opal Creek Wilderness and Scenic Recreation Areas would continue to naturally provide habitat for cavity excavators.

Snag Habitat and Downed Woody Material

Snag habitat is not expected to be present in high use recreation sites. Snags which may fall into the site were identified during reconnaissance. These trees are required to be felled for public safety concerns and should be left on the ground for downed woody debris where they would not interfere with use of the recreation site. Snag habitat and down woody material would continue to be maintained and naturally occur in areas adjacent recreation sites within the Opal Creek Wilderness and Scenic Recreation Areas.

Survey and Manage Species

Potential habitat occurs for red tree voles within the proposed project area. No nest structures were located during surveys conducted to protocol standards. No effects to survey and manage species would occur as the species was not located during protocol surveys.

Visitor Displacement on Wildlife Habitat and Species

Changing use patterns resulting from displacement is speculative and may or may not result in use of new areas or increased use at existing areas. Displaced visitors are most likely to utilize already existing sites and effects to wildlife species at these sites are not expected to increase due to increased use. Dispersed sites are periodically evaluated for impacts to wildlife along with determining appropriate courses of action if impacts are unacceptable. No effect is anticipated to occur for any wildlife species or their habitat from visitor displacement.

Cumulative Effects

To Threatened, Endangered and Sensitive Species, Migratory Land Birds, Raptors and Colonial Nesting Birds, Management Indicator Species, Snag Habitat and Downed Woody Material, and Survey & Manage Species:

There are no effects associated with past, present and reasonably foreseeable activities in the watershed that when added to the effects of the proposed action are expected to result in cumulative effects to any of these species or habitats. Foreseeable future projects in the eastern portion are not habitat altering and generally improve conditions of localized sites by restoring and revegetating areas impacted by recreation use.

Consistency with Direction and Regulations

With recommended mitigation measures, the proposed action is consistent with all applicable plans, directives, and regulations including: Willamette Forest Plan Standards and Guidelines as amended; Northwest Forest plan Standards and Guidelines as amended; Regional directives; the Endangered Species Act (ESA) of 1973 (as amended), and the Migratory Bird Treaty Act of 1918, Biological Assessments; USFWS Biological Opinions, letters of concurrence, reasonable and prudent measures & Terms and Conditions. An assessment of how the action alternative meets this guidance, is provided near the end of Chapter 3, under Compliance with Laws, Regulations, and Policies

Table 7. Consistency with Direction and Regulations

	Alternative 1	Alternative 2
Threatened Endangered and Regionally Sensitive Species	Consistent	Consistent
Migratory Bird Treaty Act	Consistent	Consistent
Raptors and Colonial Nesting Birds	Consistent	Consistent
Management Indicator Species	Consistent	Consistent
Survey and Manage Species	Consistent	Consistent
Snag Habitat and Down Wood	Consistent	Consistent

Monitoring

Two items would be monitored following project implementation:

Invasive Weeds: Post-construction noxious weed surveys would be completed by the District botanist to ensure mitigation measures for prevention was effective.

Visitor Displacement: As part of the Opal Creek Scenic Recreation Area Monitoring plan, high impact dispersed sites would get evaluated annually. Use on peak weekends would be monitored during routine patrols to observe trends and if displacement is occurring.

Monitoring results would determine if subsequent management actions are needed.

Compliance with Laws, Regulations and Policies

This section describes how the action alternative complies with applicable State and Federal laws, regulations and policies.

The Preservation of Antiquities Act, June 1906 and the Historic Preservation Act of 1966 (amended in 1976, 1980, and 1992)

Before project implementation, State Historic Preservation Office consultation is completed under the Programmatic Agreement dated June 2004, among the United States Department of Agriculture, Forest Service, Pacific Northwest Region (Region 6), the Advisory Council on Historic Preservation, and the Oregon State Historic Preservation Officer regarding Cultural Resource Management on National Forests in the State of Oregon. Field surveys where ground-disturbing activities would occur in the Three Pools project area have been completed. The action alternative would have no effect on heritage resources within the project area since the one

known cultural site within the proposed project area was evaluated and determined not eligible to the National Register of Historic Places. A letter of concurrence from the State Historic Preservation Office that no historic properties are affected by this project can be found in the project planning record.

The Endangered Species Act (ESA), December 1973

The ESA establishes a policy that all federal agencies would seek to conserve endangered and threatened species of fish, wildlife and plants. The action alternative is consistent with Endangered Species Act direction. Biological Evaluations for plants and wildlife and a Biological Assessment for fisheries have been prepared. These describe possible effects of the action alternative on sensitive and other species of concern that may be present in the project area (see Fisheries Botanical Species and Wildlife Habitat sections in this chapter). Biological Evaluations and the Biological Assessment can be found in the project planning record.

Results of the botanical Biological Evaluation and surveys indicates an absence of Sensitive and Survey & Manage botanical species occurrence in the project area and supports an assessment of low risk to these species as a result of the action alternative.

The wildlife Biological Evaluation findings for the action alternative may impact the Baird's shrew, Pacific shrew, Oregon slender salamander or their habitat but is not expected to jeopardize the species or move any of these species toward federal listing as a threatened and endangered species. Since the area of habitat removal is very small in terms of the overall habitat available in the eastern LNS watershed, the impact on these species is inconsequential. Consultation with the U.S. Fish and Wildlife concluded that the action alternative may affect and is not likely to adversely affect spotted owl habitat.

A Biological Assessment was prepared for threatened upper Willamette Chinook salmon and upper Willamette steelhead. The action alternative would have no effect on Chinook or steelhead or on designated critical habitat.

Magnuson-Stevens Fishery Conservation and Management Act, 1976, amended 1996 (MSA)

When the Magnuson-Stevens Act of 1976 was re-authorized in 1996, it directed Regional Fishery Management Councils to identify Essential Fish Habitat (EFH) for commercial fish species of concern (§ 305(b)) and its implementing regulations (50CFR § 600). Effects analysis contained in the Biological Assessment address potential effects to EFH and is discussed in the Fisheries Section of this chapter. Chinook salmon is the only commercially valuable species adjacent to the project area, and there would be No Effect to EFH.

The Clean Water Act, 1972

This act establishes a non-degradation policy for all federally proposed projects. The Pacific Northwest Region entered into an agreement with the State of Oregon adopting "General Water Quality Best Management Practices" in November 1988. Best Management Practices are practices or combinations of practices determined by the State after problem assessment, examination of alternative practices and appropriate public participation, to be the most effective,

practicable means of preventing or reducing the amount of pollution generated by non-point sources to a level compatible with water quality goals. (Federal Register, Volume 40, No.230 dated 11/28/75). Compliance with the Clean Water Act would be accomplished through planning, application and monitoring of General Water Quality Best Management Practices (BMPs). BMP's to achieve water quality standards are incorporated into the project design. BMP's would reduce the risk of off-site sedimentation by placing a sediment fence between the river and the project area to allow for wet weather ground disturbing activities, revegetating disturbed areas, and installing fencing and establishing trails that directs foot travel within the site.

Three Pools project has been designed to comply with the Sufficiency Analysis (USDA, USDI, 2005) to achieve and maintain stream temperature water quality standards. The proposed action would reduce the overall loss of riparian vegetation and erosion, and best meets the intent of the Total Maximum Daily Loads (EPA) for this watershed.

The Little North Santiam River is listed by Oregon Department of Environmental Quality as 303(d) water quality limited based on water temperature. Temperature data is recorded near the LNS River confluence with the North Santiam River below the more intensely managed portion of the watershed. Because the USFS portion of the Little North Santiam River is within the Opal Creek Wilderness and SRA it is presumed to be functioning naturally for the temperature indicator (Hydrology section, Chapter 3)

Three Basin Rule: OAR 340-041-470

The rule was developed to preserve or improve the existing high quality water for municipal water supplies, recreation, and preservation of aquatic life in the Clackamas, McKenzie and North Santiam River sub-basins. New or increased waste discharges are prohibited by the rule except under limited conditions (rules can be obtained from ODEQ). The action alternative meets this requirement by designing drainage facilities that would spread run-off over the landscape and would allow water to infiltrate through the soil so no runoff would be directly discharged into the stream channel.

Executive Orders 11988 and 11990: Floodplains and Wetlands

Executive Order 11988 requires government agencies to take actions that reduce the risk of loss due to floods, to minimize the impact of floods on human health and welfare, and to restore and preserve the natural and beneficial values served by floodplains. Executive Order 11990 requires government agencies to take actions that minimize the destruction, loss, or degradation of wetlands. No wetlands or floodplains are involved and the action alternative does not affect stream banks.

Clean Air Act Amendments, 1977

The State of Oregon has been delegated authority for attainment standards set by the 1990 Clean Air Act and the 1977 Clean Air Act and its amendments. Oregon Department of Environmental Quality and the Oregon Department of Forestry are responsible for regulating all prescribed burning operations. To achieve these standards, the state developed the Oregon Smoke Management Plan (Oregon Department of Forestry, 1995) and Oregon Visibility State

Implementation Plan (SIP) which establishes guidelines and regulations for prescribed fire smoke emissions in Oregon. The USDA Forest Service Region 6 has a Memorandum of Understanding with Oregon Department of Environmental Quality, Oregon Department of Forestry, and the USDI Bureau of Land Management regarding limits on emissions, as well as reporting procedures. The Oregon Smoke Management Plan establishes designated areas that are principal population centers and Class I Airsheds including wildernesses and other sensitive airsheds. One purpose of the Smoke Management Plan is to protect air quality in these high priority areas.

The closet designated area is the Willamette Valley and the closet Class I Airshed is the adjacent Opal Creek Wilderness. The action alternative consists of burning several slash piles of less than 5 tons of fuel and would comply with the SIP, and be coordinated through the Oregon Smoke Management System. Smoke emissions would be short term and local in nature. Piles would be burned between October through March when wilderness use is low and smoke management is usually not a concern. No adverse effects on the air quality would result from the proposed fuel treatment. Past management activities do not cumulatively add to air quality impacts with the proposed treatment. This project is consistent with the 1990 Clean Air Act and the 1977 Clean Air Act and its amendments.

Wild and Scenic Rivers Act, 1968

The Little North Santiam River, and its entire 7.8 mile length on National Forest lands, has been determined to be eligible for the inclusion into the National Wild and Scenic River System through the 1990 Forest Land Management Planning process, also known as a Section 5(d) river in the Wild and Scenic Rivers Act. This river has been classified “Scenic” with Outstandingly Remarkable Values tied to its variety and quality of recreational opportunities. For Section 5(d) Rivers, an analysis of how the proposed project might affect free-flowing characteristics and Outstandingly Remarkable Values must be addressed. The outstandingly remarkable, values recreation and scenery would be protected and enhanced (See Recreation and Scenic Quality Section in this Chapter). The “free-flowing” character of the river would not be modified. The project would have no adverse affect on the values for which the river was deemed eligible into the National Wild and Scenic Rivers System.

Oregon State Scenic Waterway: ORS 390.805 to 390.925, OAR 736-040-0005

The State established a system of designated scenic waterways to preserve free-flowing rivers of Oregon and lands adjacent that possess outstanding scenic, fish, wildlife, geological, botanical, historic, archaeological, and outdoor recreation values of present and future benefit to the public. The free-flowing character of these waters would be maintained in quantities necessary for recreation, fish and wildlife uses. The Little North Fork of the Santiam River from the confluence of Battle Ax Creek and Opal Creek downstream to the boundary of the Willamette National Forest was designated on September 20, 1985. The significant attributes for this scenic waterway are recreation and scenery. The Oregon State Parks and Recreation Department was contacted and they found the action alternative meets the objectives for the scenic waterway in the protection of the recreation and scenic attributes by improving access and safety, formalizing parking in clusters, minimizing disturbance to natural features, and better manages the use to

enhance recreation experiences. There are no water impoundments or changes to the stream channel as a result of the action alternative. The free-flowing character would be unchanged.

Inventoried Roadless Areas and Wilderness

There are no actions proposed within Inventoried Roadless Areas or Wilderness, and no actions would affect these designations where they occur adjacent to the project area.

Executive Order 13186: Migratory Bird Treaty Act

Executive Order 13186 requires the environmental analysis of Federal actions to evaluate the effects of actions on migratory birds, with emphasis on species of concern. There are 85 bird species recognized as neotropical migrants on the Willamette National Forest. Thirty-five of these species found on the Willamette have been identified as species of concern (Sharp, 1992). A Memorandum of Understanding was signed between the USFS and USFWS to complement the January 2001 Executive Order. The Three Pools Project Area contains populations of migratory land birds typical of the western Cascades. The action alternative would not change the dominant habitat type which is coniferous forest; therefore, would have no expected impact on migratory birds or habitat.

1872 Mining Law

Subject to valid existing rights, the Opal Creek Scenic Recreation Area was withdrawn from entry under the Mining and Mineral Leasing Laws when the area was established in 1998 (PL. 104-333). Five unpatented placer mining claims are within the SRA, one adjacent to Three Pools, and were located prior to the withdrawal. Those with valid existing rights within the Opal Creek SRA have the “the right of reasonable access” according to the 1872 Mining Law. Valid existing rights to these claims have not yet been verified. The action alternative would not affect any of these claims.

Executive Order 13112 (Invasive Species)

This 1999 order requires Federal agencies whose actions may affect the status of invasive species to identify those actions and within budgetary limits, "(i) prevent the introduction of invasive species; (ii) detect and respond rapidly to and control populations of such species... (iii) monitor invasive species populations... (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded;... (vi) promote public education on invasive species... and (3) not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species... unless, pursuant to guidelines that it has prescribed, the agency had determined and made public... that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions." The action alternative implements the direction from the Willamette Forest Plan and the Integrated Weeds Management Plan. The action alternative includes mitigating measure (see Chapter 2 – Mitigation & Design Measures Common to Action Alternatives – Invasive Weeds) which would limit the spread of invasive weeds. Mitigating measures include the cleaning of off road equipment between infested work sites, using weed free rock sources, re-vegetating all disturbed areas with

weed-free mulch and native seed, and monitoring weed infestations following project implementation.

Executive Order 12898: Environmental Justice

Executive Order 12898 requires that federal agencies adopt strategies to address “Environmental Justice in Minority Populations and Low-Income Populations” concerns within the context of agency actions.

The project area is located within Marion County. According the Census Bureau, 14.1% of Marion County residents were below the federal poverty level. Marion County is designated as a distressed county, according to the Oregon Economic and Community Development Department (OECD 2007), based on indicators of economic distress or dislocation, including but not limited to unemployment, poverty and job loss. North Santiam Canyon communities have experienced a significant decline in timber-based jobs since two decades ago contributing to some of the factors that determine a distressed area. In addition, the Opal Creek legislation prohibits the sale of trees and removed most of the upper watershed from the timber base. The North Santiam communities around the LNS watershed are still tied closely to the timber industry; however, loss of jobs has resulted in people commuting outside the North Santiam Canyon. North Santiam Canyon economic strategic goals are to diversify the economy and increase family wage jobs, and improve infrastructure, human resource services, education/workforce job skills, and quality of life.

Recreational opportunities offered within the SRA, as well as the attractiveness of the area as a safe place to visit, benefits the local economy by drawing visitors many of whom will patronize local businesses. People attracted to the natural and scenic amenities move to nearby communities, bringing income and new businesses. Implementation of the action alternative may indirectly create job opportunities or money spent in the communities that are trying to diversify their tourism economy.

Persons of Hispanic or Latino origin make up 20.9% of the population in Marion County with 6.2% of the population representing American Indian, Black, Asian, Pacific Islander groups. Sixty-eight percent (68%) of visitors to Three Pools live in the Willamette Valley and 25% in the Portland/Metro Area (Pavoni, 2000). The remaining 7% came from other areas within Oregon or from out-of-State. Three Pools draws a diversity of people and the action alternative is not expected to have any an impact on minority populations. The action alternative would create opportunities for people with disabilities that currently do not exist.

The action alternative complies with Executive Order 12989.

Consumers, Civil Rights, Minority Groups and Women

Implementation of this project would not favor or discriminate against any social or ethnic group. Contracting procedures would ensure that this project would be advertised and awarded in a manner that gives proper consideration to minority and women-owned business groups and meet Equal Employment Opportunity requirements. Because of this consideration, there would be no direct, indirect, or cumulative effects to consumers, minority groups with implementation of the action alternative.

American Indian Rights, Executive Orders 13084 and 13007

The Confederated Tribes of the Siletz, Grand Ronde, and Warm Springs, and Klamath Tribe were notified of the project by letter. The Confederated Tribes of Grand Ronde is represented on the Opal Creek Advisory Council and fully supported the action alternative. No other specific comments were received from these tribes as a result of scoping. No specific sacred sites have been identified in the proximity of the proposed units. No impacts, as outlined in the American Indian Religious Freedom Act, are anticipated upon American Indian social, economic or subsistence rights. The action alternative complies with Consultation and Coordination with Indian Tribal Governments Executive Order 13084 and Indian Sacred Sites Executive Order 13007.

The National Environmental Policy Act (NEPA), 1969

NEPA establishes the format and content requirements of environmental analysis and documentation. Preparation of the Three Pools Day Use Site Rehabilitation Project EA was done in full compliance with these requirements.

Energy Requirements and Conservation Potential

Some form of energy would be necessary for proposed projects requiring use of mechanized equipment: Clearing trees and vegetation would involve small machines, while projects such as road reconstruction could require heavy machinery for a small amount of time. Both would result in minor energy requirements.

Prime Farmland, Rangeland, and Forestland

Department of Agriculture Land Use Policy (DR 9500-3), as discussed in FSH 1909.15-93-1, 65.21 Exhibit 01, states that “Continued conversion of the Nation’s farmlands, forest lands, and rangelands may impair the ability of the United States to produce sufficient food, fiber, and wood to meet the domestic needs and the demands of export markets.” The Department’s responsibility is to assure that the United States retains a farm, range, and forest land base sufficient to produce adequate supplies at reasonable production costs of high quality food, fiber and wood. The Three Pools Day Use Site has no farm land or range land and therefore would have no effect on these resources. The cutting and selling of trees within the Opal Creek Scenic Recreation Area is prohibited by law; and producing fiber and wood is not an objective for this Congressionally Designated Area. Vegetation removal is limited to the protection of scenic recreation area values, health and safety, and preparation of the site for rehabilitation or recreation development. There would be no effect to the forest land base with implementation of the action alternative.

Urban Quality

The area is located in a rural forest setting and no effect to urban quality would occur as a result of implementing the action alternative.

Other Jurisdictions

The Oregon Department of Fish and Wildlife is responsible for management of fish and wildlife populations, whereas the Forest Service manages the habitat for these species. The Oregon

Department of Fish and Wildlife has been contacted regarding this analysis and no comments were raised regarding the action alternative.

Irreversible/Irretrievable Commitments of Resources

“Irreversible” commitment of resources refers to a loss of future options with nonrenewable resources. An “Irretrievable” commitment of resources refers to loss of opportunity due to a particular choice of resource uses.

About 0.43 acres would be changed from forest land to roads and parking areas, resulting in an irretrievable loss of soil productivity. Development of this site would result in compaction and loss of productivity, however, the project is consistent with recreation development and management objectives of the area which does not include timber commodity production.

The soil and water protection measures identified in the Forest Plan Standards and Guidelines, Mitigation and Design Measures in Chapter 2, and Best Management Practices are designed to avoid or minimize the potential for irreversible losses from the proposed management practices.

There are no irreversible and irretrievable commitments that would affect heritage resource by implementing any of the proposed alternatives.

Concerning threatened and endangered plant and wildlife species, the action alternative involves clearing an additional 0.43 acre of either habitat or future habitat to construct permanent parking areas which is irretrievable. In context of the watershed scale and protection measures defined by the Opal Creek legislation, impacts to habitat or species are inconsequential, and does not jeopardize or move any species to federal listing.

Chapter 4. Consultation and Coordination

The Forest Service consulted the following individuals, Federal, State, and local agencies, tribes and non-Forest Service persons during the development of this environmental assessment:

INTERDISCIPLINARY TEAM & LIST OF PREPARERS:

- Cara Kelly, Archeologist
- Dani Pavoni, Team Leader/Recreation Specialist/Scenic Resources
- Darren Cross, Fisheries Biologist
- Daryl Whitmore, Wildlife Biologist
- Dave Halemeier, Hydrologist
- Doug Shank, Soil Scientist
- Mike Roantree, Botanist
- Paul Bennett, Engineer
- Rich Hatfield, Natural Resource Planner

FEDERAL, STATE, AND LOCAL AGENCIES:

- Oregon Department of Fish and Wildlife
- USDI Fish and Wildlife Service
- State Scenic Waterways, Oregon Parks & Recreation Dept.
- City of Salem Dept. of Public Works
- Marion County Department of Public Works
- Marion County Sheriff Department
- Bureau of Land Management
- Oregon Department of Forestry, Santiam State Forest

ELECTED OFFICIALS:

- US Representative Darlene Hooley
- Senator Gordon Smith
- Senator Ron Wyden
- Mayors for the Cities of Detroit, Idanha, Mill City, Gates, Lyons, Stayton and Sublimity

TRIBES:

- The Confederated Tribes of the Grand Ronde
- The Confederated Tribes of the Siletz
- The Confederated Tribes of the Warm Springs
- Klamath Tribe

INDIVIDUALS & ORGANIZATIONS:

- Detroit Lake Recreation Area Business Association
- Lyons Fire District
- North Santiam Watershed Council
- Chemeketans
- Oregon Wild
- Pacific Rivers Council
- Oregon Water Resources Department
- Many Rivers Group – Sierra Club
- Cascadia Wildlands Project
- Oregon Trout
- Oregon Peace Works
- Oregon Paralyzed Veterans Association
- NW Environmental Defense Council
- Elkhorn Valley Inn
- Laura Pierce, Upward Bound
- Trygve Steen
- Shirley Brown
- Ann Cavangh
- Karen Sjogren
- Stan Holmes
- Duane Weaver
- Ed Reilly

OPAL CREEK SRA ADVISORY COUNCIL MEMBERS:

- Mia Mohr (economic development)
- Bruce Rogers (City of Salem)
- Brian Windrope, Opal Creek Ancient Forest Center (inholders)
- Sgt. Tim Steele (Marion County)
- Dan Hoynacki (alternate Marion County)
- Mike Wilson, Confederated Tribes of Grand Ronde
- Perri McDaniel (alternate for Confederated Tribes of Grand Ronde)
- Gary Wolf, Willamette Valley Miners (small independent miners)
- Heather Campbell (State of Oregon)
- Pat Smith (environment organization)
- Susan LaFontaine (alternate environment organization)
- Marty McCall (public at large)
- Keith Kernan (public at large)
- Sean Tate (public at large)
- Dorald Stoltz (public at large)

Appendix A

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This section lists the references used in preparing the EA. Those cited in the EA are **bolded**.

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