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Environmental Assessment

Steamboat Lake Restoration

Mt. Adams Ranger District, Gifford Pinchot National Forest
Skamania County, Washington
Sections 31 and 32, T.8N, R.9E; and Section 5, T.7N, R.9E, W.M.

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SUMMARY

The Gifford Pinchot National Forest proposes to decommission approximately 1.2 miles of Forest Road 8854-040 and all adjoining roads. The project area is located about 20 miles northwest of Trout Lake, WA, and is within the Mount Adams Ranger District, Gifford Pinchot National Forest, Washington. This action is needed, because high traffic on authorized and unauthorized roads is creating erosion and sediment into Steamboat Lake. The roads are eroded and fill with water, which creates sediment in Steamboat Lake as well as Steamboat Creek.

Following internal and public scoping, the Forest Service identified no potentially significant issues that would lead to the development of an alternative other than the proposed action (Alternative 1).

Alternative 2 is the No Action alternative and is the baseline for consideration of effects from other alternatives.

CHAPTER 1—INTRODUCTION

Background ---

Steamboat Lake provides camping, swimming, fishing, and non-motorized boating. Hiking is also possible via Steamboat Lake Trail which connects to the Pacific Crest National Scenic Trail. Use is light most of the summer, peaking on weekends and holidays. People access the lake shore and dispersed campsites via unauthorized and authorized roads which snake around half of the lake's shoreline. Unauthorized road proliferation is particularly rampant on the southeast side of the lake. These native surface roads are eroded, fill with water in the spring, and are a source of sedimentation to both Steamboat Lake and Steamboat Creek. The project area is located about 20 miles northwest of Trout Lake, WA, within Sections 31 and 32, T.8N, R.9E.; and Section 5, T.7N, R.9E, W.M. (Skamania County).

Purpose and Need for Action ---

In order to improve water quality and maintain recreational opportunity, a multifaceted project is proposed. Foremost, Forest Service Road 8054-040 and all adjoining unauthorized roads would be decommissioned. In order to allow some vehicle access to the lakeshore for the loading of boats and camping gear, an unauthorized road on the north side of the lake would become an authorized road and nominally surfaced with rock. Because this road is narrow with limited turnouts, its use would be for loading and unloading only and signed accordingly. Parking along this road would be prohibited. Parking would be provided at the entrance to Forest Service Road 8854-040, an area already denuded of ground vegetation and with a pit toilet. To connect the parking area to the boat launch, a trail would be constructed. This trail would continue around the east side of the lake, incorporate portions of decommissioned road and link to the existing Steamboat Lake Trail. This trail would provide hike-in access to dispersed campsites.

The purpose of this initiative is to decommission Forest Service Road 8054-040. This action is needed, because the high traffic on the authorized and unauthorized roads are creating erosion and sediment into Steamboat Lake and Creek. This action responds to the goals and objectives outlined in the Gifford Pinchot National Forest Plan, as amended, and helps move the project area towards desired conditions described in that plan.

Management Direction ---

This action responds to the goals and objectives outlined in the *Gifford Pinchot National Forest Land and Resource Management Plan* (LRMP, 1990), as amended by the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl* (Northwest Forest Plan, 1994, amended 2004). The LRMP and the Northwest Forest Plan were combined into a convenient

reference, referred to in this document as Amendment 11. This action helps move the project area towards desired conditions described in the LRMP.

Steamboat Lake lies within the matrix and riparian reserve land allocation according to the Northwest Forest Plan. Matrix areas are lands where most vegetative management would occur. The Steamboat Lake area is also considered in a General Forest Management Area according to the LRMP. General Forest Management Areas are lands that contribute to a predictable supply of timber and other resources while maintaining a healthy ecosystem.

This action is also consistent with all applicable local, state and federal laws.

Proposed Action

The Gifford Pinchot National Forest proposes to meet the purpose and need and to improve water quality and maintain recreational opportunity at Steamboat Lake by decommissioning Forest Road 8854-040 beginning at mile 0.2 and all adjoining unauthorized roads. The approximate length of road decommissioning is 1.2 miles. Compacted surfaces would be loosened by an excavator. Boulders would be placed at the beginning of the road decommissioning to discourage vehicle travel on decommissioned road and the pioneering of new roads down to Steamboat Lake.

A currently unauthorized road on the north side of the lake would be surfaced with rock and available to access the lake shore. To connect the parking area to the boat launch area, a trail would be constructed that would continue around the east side of the lake for 0.7 miles. Portions of unauthorized road that are to be incorporated into the Steamboat Lake Trail would be partially decommissioned leaving an intact compacted trail tread. Finally, a primitive dock, constructed out of native logs, would be placed on the lack shore for easy access to the lake for non-motorized boats and watercraft.

Decision Framework

The Responsible Official for this proposal is the District Ranger for the Mt. Adams District, Gifford Pinchot National Forest. Based on the analysis in this document, and considering public comments received during the scoping and 30-day comment period, the Responsible Official will decide:

- Whether to decommission Forest Service Road 8854-040
- To select another alternative and/or modify an alternative, or
- To take no action at this time.

Public Involvement

The proposal was listed in the Schedule of Proposed Actions on April 2007. The proposal was provided in a letter to the public and other agencies traditionally interested in projects on the Mt. Adams Ranger District for a 30-day comment during starting on August 9, 2007. We received four letter or emails from individuals and organizations interested in the project. Three letters were in support of the project and proposed minor changes to ensure effectiveness of the closure. One individual expressed concern over the proposal and was in general not supportive of road decommissioning or reducing access to recreational opportunities. Using the comments from the public the interdisciplinary team developed a list of issues to address. In the late summer of 2007, signs indicating the proposed closure of Forest Road 8854-040 were displayed at the Steamboat Lake Restoration area.

Issue

The Forest Service identified one significant issue raised during scoping.

Issue Statement: Decommissioning Forest Service Road 8854-040 would remove the ability of disabled persons from accessing Steamboat Lake.

This issue is addressed in the No Action Alternative in which Forest Service Road 8854-040 would not be decommissioned and access would not be reduced. In addition, it is mitigated in the Proposed Action by allowing road access to the boat launch.

CHAPTER 2—ALTERNATIVES, INCLUDING THE PROPOSED ACTION

This chapter describes and compares the alternatives considered for the Steamboat Road Decommissioning project.

Alternatives

Alternative 1

The Proposed Action

The Gifford Pinchot National Forest proposes to meet the purpose and need to improve water quality and maintain recreational opportunity at Steamboat Lake by decommissioning Forest Road 8854-040 beginning at mile 0.2 and all adjoining unauthorized roads. The approximate length of road decommissioning is 1.2 miles. Compacted surfaces would be loosened by an excavator. Boulders would be placed at the beginning of the road decommissioning to discourage vehicle travel on the decommissioned road and the pioneering of new roads down to Steamboat Lake. Portions of Road 8854 -040 that are to be incorporated into the Steamboat Lake Trail would be partially decommissioned, leaving half of the width intact to function as trail tread.

UNAUTHORIZED ROAD NORTH OF STEAMBOAT LAKE (INCORRECTLY SIGNED AS ROAD 040)

The entire length of this road would be surfaced with “pit run” rock (~4 inch minus diameter). Minor grade adjustment may be made prior to rock surfacing. The intent is to establish this road in its present configuration and geometry, yet harden the surface for vehicle traffic and minimize erosion. The road is 700 feet long, 8-10 feet in width, with occasional turnouts. This road would be signed as “No Parking, Loading and Unloading Only.” This road would become an authorized road and assigned a number.

BOAT DOCK

The end of the above described road is presently used to launch boats. To facilitate the use of small watercraft (rafts, canoes, float tubes) and minimize disturbance to the lake shore, a primitive dock would be constructed. This dock would be constructed with native logs.

STEAMBOAT LAKE TRAIL #70

Steamboat Lake Trail would be extended along Steamboat Lake to the new boat dock and up to the long term parking area at the entrance of Road 8854-040. Boulders would be placed at this new trailhead to prevent highway vehicle access. Trail signs would be installed at this new trailhead. The total length of additional trail would be approximately 0.7 miles, including 0.4 miles of partially decommissioned road. This trail would be managed for hikers and stock, and closed to all other uses.

Alternative 2

No Action

Under the No Action alternative, current management plans would continue to guide management of the project area, but no physical actions would occur. Forest Service Road 8854-040 and user created roads in the vicinity would not be decommissioned. The Steamboat Lake Trail would not be extended, and the unauthorized road on the north side of lake would not be surfaced with rock.

Mitigation Common to All Alternatives _____

Mitigation measures were developed to ease some of the potential impacts the proposed action may cause. The following mitigation measures are essential in the protection of resources and have been considered in the effects analysis found in Chapter 3.

Wildlife

1. Activities that generate noise above ambient levels, such as the use of heavy machinery, would only be allowed between June 30 and March 1.

Botany

1. To prevent the introduction of noxious weeds into the project area, all heavy equipment, or other off- road equipment used in the project is to be cleaned to remove soil, seeds, vegetative matter or other debris that could contain seeds. Cleaning should be done before entering National Forest Lands, and when equipment moves from or between project sites or areas known to be infested into other areas, infested or otherwise. Cleaning of the equipment may include pressure washing. An inspection will be required to ensure that equipment is clean before work can begin. (Equipment cleaning clause Wo-C6.35) (Standard 2).
2. Use weed-free straw and mulch for all projects, conducted or authorized by the Forest Service, on National Forest System Lands. If State certified straw and/or mulch is not available, individual Forests should require sources certified to be weed free using the North American Weed Free Forage Program standards or a similar certification process (Standard 3). Mulch species shall preferably be from native seed sources or annual rye or cereal grain fields. Local contacts for weed free straw can be found in the project file.
3. Inspect active gravel, fill, sand stockpiles, quarry sites, and borrow material for invasive plants before use and transport. Treat or require treatment of infested sources before any use of pit material. Use only gravel, fill, sand, and rock that is judged to be weed free by District or Forest weed specialists (Standard 8).
4. Use native plant materials as the first choice in revegetation for restoration and rehabilitation where timely natural regeneration of the native plant community is not likely to occur. Non-native, non-invasive plant species may be used in any of the following situations: 1) when needed in emergency conditions to protect basic

resource values (e.g., soil stability, water quality and to help prevent the establishment of invasive species), 2) as an interim, non-persistent measure designed to aid in the re-establishment of native plants, 3) if native plant materials are not available, or 4) in permanently altered plant communities. Under no circumstances will non-native invasive plant species be used for re-vegetation. (Standard 13). Contact Forest Service representative for appropriate seeding and site preparation prescription. When seed is used it should be either certified noxious weed free or from Forest Service native seed supplies

Fisheries

There will be a Pollution and Erosion Control Plan (PECP), which will include a Spill Prevention Control and Containment Plan (SPCCP), in writing and ready to execute at all times during implementation, and it will include the following elements:

1. Minimize site preparation impacts
 - a. Establish staging areas for construction equipment storage, vehicle storage, fueling, servicing, hazardous material storage, etc. at least 200 feet beyond Steamboat Lake in a location and manner that will preclude erosion into or contamination of the lake and small streams within project area
 - b. Minimize clearing and grubbing activities when preparing staging, project, and stockpile areas.
 - c. Materials used for implementation such as large wood, vegetation, sand, topsoil, and other excavated material may be staged within 200 feet of the lake
 - d. Place sediment barriers prior to construction around sites where significant levels of erosion may enter the stream directly or through road ditches. Maintain these throughout construction
2. Minimize heavy equipment impacts
 - a. The size and capability of heavy equipment will be commensurate with the project
 - b. All equipment used for work within 200 feet of Steamboat Lake or its associated streams will be cleaned and leaks repaired prior to entering the project area. Remove external grease and oil, along with dirt and mud, prior to construction. Thereafter, inspect equipment daily for leaks or grease accumulations and fix identified problems before entering streams or drainage areas to streams or wetlands.
 - c. All equipment will be cleaned of all dirt and weeds before entering the project area.
 - d. Equipment will be fueled and serviced in an established staging area outside of riparian zone (at least 200 feet away from Steamboat Lake and its associated streams). When not in use, vehicles shall be stored in staging area.
 - e. Existing roadways or travel paths will be used whenever possible
3. Site restoration
 - a. Upon project completion, remove project-related waste.
 - b. Initiate rehabilitation of all disturbed areas in a manner that results in similar or better conditions than pre-project. Planting if required for this project, be

completed no later than spring planning season of the year following construction

- c. All riparian plantings shall follow FS direction on use of native and non-native plants on National Forests and Grasslands.
 - d. When necessary, loosen compacted areas, such as access roads, stream crossings, staging, and stockpile areas.
4. Where road decommissioning is immediate to the lake edge, log barriers would be placed to stem erosion.

Heritage

1. Place geofilter fabric over the boat launch area prior to the placement of gravel.
2. No ground disturbance (grading, etc.) should occur within the boundaries of the existing boat launch.

CHAPTER 3—ENVIRONMENTAL CONSEQUENCES

This section summarizes the affected project area and the potential changes to those environments due to implementation of the alternatives.

Recreation/Social Impacts ---

Alternative 1 (Proposed Action)

Direct and Indirect Effects

The objective of this proposal is to improve recreational enjoyment at Steamboat Lake. Although it is difficult to make any quantitative assessments of recreational enjoyment, the Forest Service received many complaints about vehicular use at Steamboat Lake. Three of the four letters received during the public comment period were in support of the project. It is possible; however, that some visitors to Steamboat Lake would be disappointed at the reduced vehicular access to the lake. In the late summer of 2007, signs indicating the proposed closure of Forest Road 8854-040 were displayed at the Steamboat Lake Restoration area which should help to prepare people for the change and minimize the disappointment.

As described in the “Issue Statement” section above, “Decommissioning Forest Service Road 8854-040 would remove the ability of disabled persons from accessing Steamboat Lake.” The change in the proposed action would limit access to disabled persons. This should be reduced by the mitigation included in the proposed action that would allow road access to the boat launch for dropping-off watercraft and gear. Those persons not able to physically access the lakeshore on foot, could be dropped-off.

Cumulative Effects

There has been an overall decline in road maintenance across the Forest due to funding. This trend could lead to fewer access across the Forest into areas that were once roaded.

Alternative 2 (No Action)

Direct and Indirect Effects

Under this alternative, Forest Service Road 8854-040 and user-created roads in the vicinity would not be decommissioned. The Steamboat Lake Trail would not be extended, and the unauthorized road on the north side of lake would not be surfaced with rock. Vehicular access and parking would continue right up to the lakeshore and allow disabled persons no limitations. The opportunity to control parking and user-created roads would be lost and the enjoyment of Steamboat Lake may continue to be diminished by the majority of recreationists to the area.

Wildlife ---

Table 1 lists the Threatened, Endangered, and Forest Service Sensitive (TES) species considered in this evaluation, and summarizes the effect to each.

Table 1. Summary of effects to Threatened, Endangered, Proposed, and Sensitive species.

SPECIES NAME	SPECIES STATUS	Species habitat present within or adjacent to the project area?	Species documented in the project area?	Effect Determination
Gray Wolf <i>Canis lupus</i>	Endangered	No	No	No Effect
Grizzly Bear <i>Ursus arctos</i>	Threatened	No	No	No Effect
Canada Lynx <i>Lynx canadensis</i>	Threatened	No	No	No Effect
Pacific Fisher <i>Martes pennanti pacifica</i>	Candidate	No	No	No Impact
California Wolverine <i>Gulo gulo</i>	USFS Sensitive	Potential	No	No Impact
Western Gray Squirrel <i>Sciurus griseus</i>	USFS Sensitive	No	No	No Impact
Townsend’s Big-eared Bat <i>Corynorhinus townsendii</i>	USFS Sensitive	No	No	No Impact
Bald Eagle <i>Haliaeetus leucocephalus</i>	Threatened	No	No	No Effect
Northern Spotted Owl <i>Strix occidentalis caurina</i>	Threatened	Yes	Yes	May Affect, Not Likely to Adversely Effect
Critical Habitat for the Northern Spotted Owl	Designated	No	No	No Effect
Marbled Murrelet <i>Brachyramphus marmoratus</i>	Threatened	No	No	No Effect
Critical Habitat for the Marbled Murrelet	Designated	No	No	No Effect
Common Loon <i>Gavia immer</i>	USFS Sensitive	Potential	No	No Impact
Ferruginous Hawk <i>Buteo regalis</i>	USFS Sensitive	No	No	No Impact
American Peregrine Falcon <i>Falco peregrinus anatum</i>	USFS Sensitive	Potential	No	No Impact
Green-tailed Towhee <i>Pipilo chlorurus</i>	USFS Sensitive	No	No	No Impact

SPECIES NAME	SPECIES STATUS	Species habitat present within or adjacent to the project area?	Species documented in the project area?	Effect Determination
Northwestern Pond Turtle <i>Clemmys marmorata marmorata</i>	USFS Sensitive	No	No	No Effect
Striped Whipsnake <i>Masticophis taeniatus</i>	USFS Sensitive	No	No	No Effect
California Mountain Kingsnake <i>Lampropeltis zonata</i>	USFS Sensitive	No	No	No Impact
Oregon Spotted Frog <i>Rana pretiosa</i>	Candidate	No	No	No Impact
Larch Mountain Salamander <i>Plethodon larselli</i>	USFS Sensitive	No	No	No Impact
VanDyke's Salamander <i>Plethodon vandykei</i>	USFS Sensitive	No	No	No Impact
Cope's Giant Salamander <i>Dicampton copei</i>	USFS Sensitive	No	No	No Impact
Cascade Torrent Salamander <i>Rhyacotriton cascadae</i>	USFS Sensitive	No	No	No Impact
Mardon Skipper <i>Polites mardon</i>	Candidate	No	No	No Impact
Puget Oregonian <i>Cryptomastix devia</i>	USFS Sensitive	No	No	No Impact
Burrington's Jumping Slug <i>Hemphillia burringtoni</i>	USFS Sensitive	Yes	No	No Impact
Warty Jumping Slug <i>Hemphillia glandulosa</i>	USFS Sensitive	Yes	No	No Impact
Malone's Jumping Slug <i>Hemphillia malonei</i>	USFS Sensitive	Yes	No	No Impact
Panther Jumping Slug <i>Hemphillia pantherina</i>	USFS Sensitive	No	No	No Impact
Columbia Dusksnail <i>Lyogyrus n. sp. 1</i> (<i>Amnicola sp. 4 - G2</i>)	USFS Sensitive	No	No	No Impact
Blue-gray Tailedropper <i>Prophysaon coeruleum</i>	USFS Sensitive	Yes	No	No Impact

SPECIES NAME	SPECIES STATUS	Species habitat present within or adjacent to the project area?	Species documented in the project area?	Effect Determination
Dalles Sideband <i>Monadenia fidelis minor</i>	USFS Sensitive	No	No	No Impact

Species Dropped from Further Analysis

The species from Table 1 for which it has been determined that there would be no effects or impacts because there is no suitable habitat in the project area will not be addressed further in this BE.

Description of Affected Federal Species and Sensitive Species, and Effects Analysis

Northern Spotted Owl

Species Account

The northern spotted owl (*Strix occidentalis caurina*) was listed as a threatened species throughout its range in Washington, Oregon and northern California effective July 23, 1990 (USDI, 1990a). Loss of late-successional forest habitat from timber harvest was the primary reason for the listing.

Steamboat Lake is surrounded by habitat that is mapped as suitable spotted owl nesting habitat. There have been no recent surveys in the area, but the closest historic spotted owl activity center is about 0.6 miles east from the lake. See Figure 1 for a map of spotted owl habitat.

The project area is not within designated Critical Habitat.

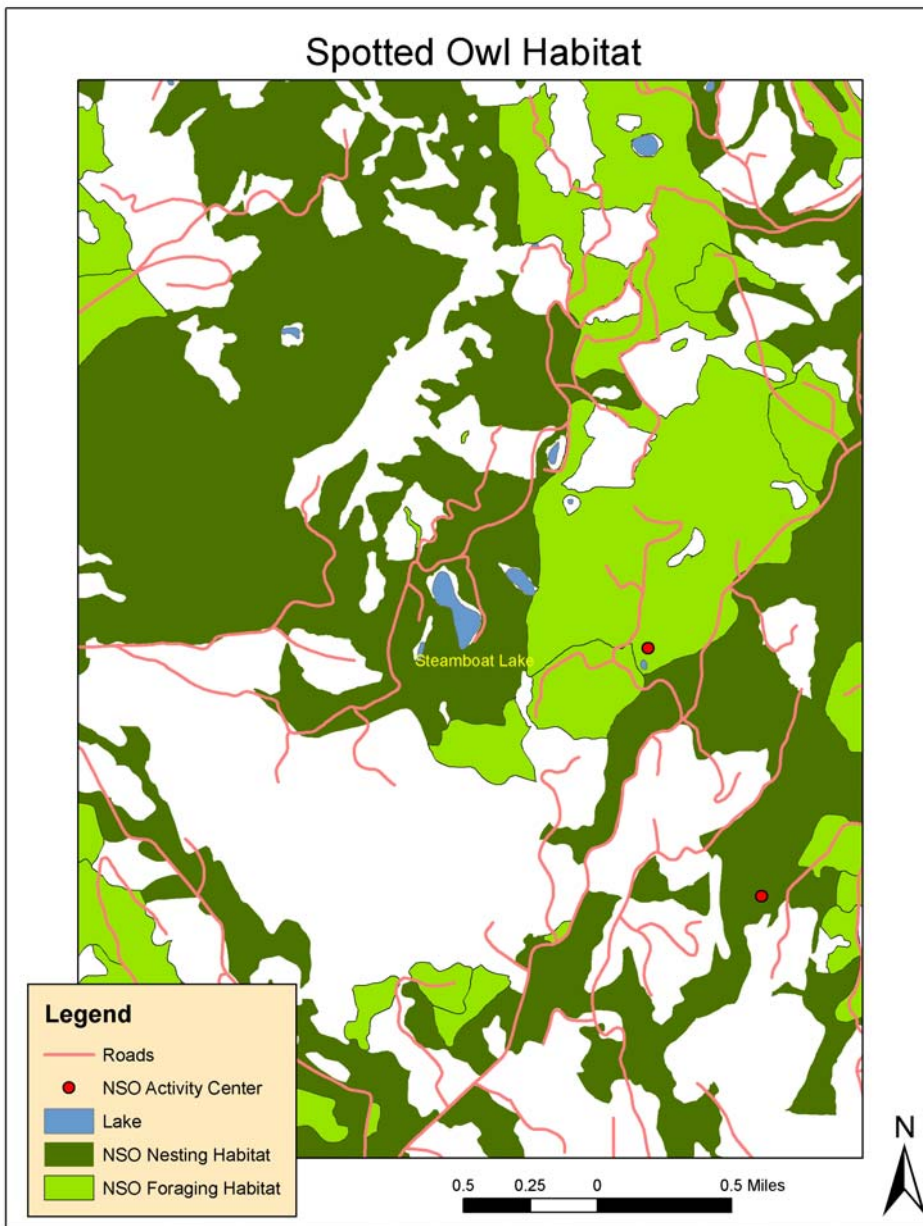


Figure 1. Spotted Owl Habitat in the Project Area.

Alternative 1 (Proposed Action)

Direct and Indirect Effects

The proposed action would not directly affect suitable habitat for spotted owls, and Critical Habitat would not be affected. Implementation of the proposed action would require the use of heavy equipment, which would generate noise above ambient levels adjacent to unsurveyed nesting habitat. If the activity took place during the early part of the nesting season, and spotted owls were nesting in the vicinity, the noise disturbance could affect the pair's ability to successfully raise their young. The area potentially affected by noise only

extends about 35 yards from the operating machinery. In addition the activity would be relative short-term. The completed project would likely result in less motorized activity around the lake, reducing noise disturbance in suitable nesting habitat.

The likelihood that spotted owls would be nesting within 35 yards of the activity area is low, so implementing the proposed action **may affect but is not likely to affect spotted owls**. In order to insure this determination the project would need to be implemented between June 30 and March 1. If implemented between these dates, the proposed action would also be covered by the Programmatic Biological Assessment for Forest Management, Gifford Pinchot National Forest 2001, which was renewed by agreement with The US Fish and Wildlife Service in 2006 and 2007.

Cumulative Effects

There would be no cumulative effects.

Alternative 2 (No Action)

Direct and Indirect Effects

Motorized use in the area may be having an effect on the Northern Spotted Owl. There would be no new impacts with continued motorized use at Steamboat Lake assuming the current use is not expanded.

Common Loon

Species Account

At about 13 acres and stocked with fish, Steamboat Lake would be minimally able to support a nesting pair of common loons. However, due to the regular camping and boating use on the lake during the nesting season, loons are not expected to nest there. There are no current records of loons nesting on the Gifford Pinchot National Forest but loons may visit the lake on the Forest during migration in the spring or fall.

Alternative 1 (Proposed Action)

Direct and Indirect Effects

Since common loons are not known to nest at Steamboat Lake, and may only be present during the spring or fall during migration, the project would have **no impacts** to loons. There would be no cumulative effects.

Alternative 2 (No Action)

Direct and Indirect Effects

Current dispersed camping may be discouraging common loon nesting.

Peregrine Falcon

Species Account

Steamboat Mountain is located about 0.6 mile from the lake. There are cliffs on the northeast and southeast sides of the mountain that appear to be suitable nest cliffs for peregrine falcons. Minimal surveys of the site were conducted by the Forest in the late 1990s, and no peregrine falcons were observed.

Alternative 1 (Proposed Action)

Direct and Indirect Effects

Management guidelines for Species of Concern published by the Washington Department of Fish and Wildlife indicate that human activities that take place below a nest site and are beyond one-half mile away would have no impacts. Since the activity area is more than one-half mile away from the cliffs, the project would have **no impacts** to peregrine falcons.

Alternative 2 (No Action)

Direct and Indirect Effects

Similar to Alternative 1, because the activity area is more than one-half mile away from the cliffs, the project would have **no impacts** to peregrine falcons.

Terrestrial Mollusks (Survey and Manage Species)

Species Account

The mollusk species listed in Table 1 that could be found in habitat around Steamboat Lake have been found on the Gifford Pinchot National Forest in conifer habitat ranging from 50 years old to old-growth. In most cases they are found in moist conifer stands that contain a shrub and forb layer, and moderate levels of large woody debris. The stands around Steamboat Lake appear to be suitable habitat for at least some of these species.

Alternative 1 (Proposed Action)

Direct, Indirect, and Cumulative Effects

The requirement to conduct surveys for these species before ground-disturbing activity is dependant on the likelihood that the activity has the potential to have significant negative impact on the species' habitat, its life cycle, microclimate, or life support requirements.

The proposed project would only impact areas that have previously been disturbed and compacted by previous human activity. Even the new trail construction follows existing footpaths. There is a possibility that previously undisturbed habitat could be affected on the fringes of the previously disturbed area, but this impact would be minor and would not affect the presence of the species at the site. For these reasons, surveys for mollusks are not required.

Since the project would primarily impact areas that are already disturbed and compacted, and disturb little to no previously undisturbed habitat, the project would have **no impact** to survey and manage mollusks. There would be no cumulative effects.

Alternative 2 (No Action)

Direct and Indirect Effects

There would be no new impacts with continued motorized use at Steamboat Lake assuming the current use is not expanded.

Management Indicator Species

There would be no effect to any of the Gifford Pinchot National Forest management indicator species.

Aquatics/Soils

This section summarizes the effects on the soil, water quality and fisheries of the proposed activities for the Steamboat Lake Restoration project. Professional judgment was used to evaluate soil and water quality in terms detrimental conditions.

The potential effects of the proposed activities include a risk of increased sediment input into the Steamboat Lake water body caused by soil disturbance and erosion. There is a risk to surface flow and infiltration rates as a function of surface roughness.

The potential effects of the proposed activities on soil productivity are compaction, puddling, displacement, erosion and reductions in the numbers of species and abundance of soil organisms.

Efforts to minimize soil disturbance, maintain organic matter, and encourage rapid growth of native vegetation would help to maintain soil quality, conserve soil organisms, facilitate their re-colonization, and maintain forest productivity. Slope stability is not an issue in the activity area, defined and the area enclosed by the roads surrounding the lake.

Water Quality

Detrimental effects to water quality would be low in magnitude and duration of impact. An increase in the amount of fine sediment may occur from the proposed actions, but is not likely to be excessive due to the proposed barriers to trap sediment from entering the lake. Disturbed conditions are expected to return to a baseline level following decommissioning.

The environmental baseline is assumed to be either properly functioning or at an acceptable level of risk. Steamboat Lake is not listed as a 303(d) impaired water body in the state of Washington¹.

There would be a minor positive long-term effect on water quality due to a change in surface flow and infiltration rates as a function of surface roughness in the road decommission and road surfacing. There would be no effects on peak or base flows in stream drainages in the short-term and in the long-term.

Alternative 1 (Proposed Action)

Direct and Indirect Effects

Road Decommission and Surfacing of Unauthorized Road

Effects on water turbidity due to sediment production would be negative in the short term and positive in the long term. Effects on chemical conditions or nutrients would be neutral. Effects on water temperatures would be neutral.

A positive effect would be that the extent of drainage avenues into the lake would decrease because of the contribution of roads to sediment when they act as part of the drainage network. There would be a neutral short-term and long-term effect to stream channel conditions and dynamics in the very limited amount of stream leading to the lake. However,

¹ Washington State's Water Quality Assessment [303(d)] home page, <http://www.ecy.wa.gov/programs/wq/303d/index.html>, last visited 6/4/2008.

based on the reduction in connectivity of drainage avenues, the effects would generally be positive in a larger network.

Trail Construction

Effects on water turbidity due to sediment production would be negative in the short term and neutral in the long term. There would be a small increase in the drainage avenues for sediment to enter the lake, but the extent and effects would be more than offset by the road decommissioning and the fact that trail construction would be designed to Forest Service standards.

The effects to other indicators would be similar to that for road decommissioning above.

Soil Productivity

Soil productivity would be lost (Table) where developed areas are newly created because the surface organic layer which provided nutrients for vegetative growth generally is displaced and not available. Under the proposed action, the standards and guidelines for soil productivity would be achieved in all activity areas. Full recovery of productivity on roads and developed areas would not be anticipated despite efforts to reclaim these areas because of the nutrient loss.

Soil biological processes are important to nutrient cycling and maintenance of soil structure. Organic matter and topsoil removal has a potential for reducing soil nitrogen and Mycorrhizae. Biological soil crusts are living communities of cyanobacteria, algae, mosses, liverworts and/or lichens growing on the soil surface and binding it together; commonly found in arid or semi-arid environments, they are not known to exist in the activity area.

Table 2. Magnitude and Intensity of Losses to Soil Quality

Duration	Magnitude and Intensity of Soil Productivity Loss
Short term	Very Low Magnitude, Low to Moderate Intensity
Long term, more than 50 years	Insignificant (not measurable) to Very Low

In the long term, greater than 50 years, conditions in disturbed areas would have improved where restored by subsoiling and revegetation.

Cumulative Effects

Cumulative effects on water quality and soil resources include all past, present, and reasonably foreseeable actions that cause soil disturbance within the project area.

Water Quality

The cumulative effects for the road decommissioning would result in a trend toward restoring the long-term function and process of the aquatic ecosystem, mainly due to the decrease in road density and control of future unauthorized vehicle access. Minor levels of sediment generated from ground disturbance will be short-term and should not reach detectable quantities.

Soil Productivity

In general, the losses predicted are relatively minor in intensity, and vary with time. Short-term losses would be low to moderately damaging to soil quality. This should translate to similar effects on soil productivity.

Road Decommission

Road decommissioning would restore detrimental soil conditions where soil compaction is reduced by subsoiling and ripping. Restoration of soil quality conditions will occur through road decommission of National Forest System roads in the proposed action.

Soil Organisms– Locally Concentrated Losses

Soil dwelling organisms are not specifically addressed by standards and guidelines at either Forest or Regional levels. No long term net loss in populations of soil organisms would be expected in any of the units. Locally concentrated losses would occur in the short term due to compaction and displacement, but populations would recover in the long term as conditions improve and they have time to re-colonize disturbed areas.

Recreation Trails

Recreational use of developed trails is spread out and limited in extent so that the cumulative effects would be minimal. An increase in popularity of the area could conceivably increase the extent of soil disturbance, however the magnitude and intensity is not known. The extent of trail construction is normally very limited and would not affect soil productivity.

Alternative 2 (No Action)

Direct and Indirect Effects

Although there would be no effects from management actions, there would continue to be a decline in water quality due to sedimentation entering Steamboat Lake from erosion on current systems and user-created roads.

Fisheries Effects

Table 3. Summary of effects to Threatened, Endangered, Proposed, and Sensitive species.

SPECIES NAME	SPECIES STATUS	Species documented in project area?	Effect Determination
Columbia River bull trout <i>(Salvelinus confluentus)</i>	Threatened	No	No Effect
Coastal Puget Sound bull trout <i>(Salvelinus confluentus)</i>	Threatened	No	No Effect
Lower Columbia River steelhead <i>(Oncorhynchus mykiss)</i>	Threatened	No	No Effect
Middle Columbia River steelhead <i>(Oncorhynchus mykiss)</i>	Threatened	No	No Effect
Upper Columbia River steelhead <i>(Oncorhynchus mykiss)</i>	Endangered	No	No Effect
Lower Columbia River chinook <i>(Oncorhynchus tshawytscha)</i>	Threatened	No	No Effect

Upper Columbia River spring-run chinook (<i>Oncorhynchus tshawytscha</i>)	Endangered	No	No Effect
Snake River fall-run chinook (<i>Oncorhynchus tshawytscha</i>)	Threatened	No	No Effect
Snake River spring/summer-run chinook (<i>Oncorhynchus tshawytscha</i>)	Threatened	No	No Effect
Lower Columbia River coho (<i>Oncorhynchus kisutch</i>)	Threatened	No	No Effect
Columbia River chum (<i>Oncorhynchus keta</i>)	Threatened	No	No Effect
Snake River sockeye (<i>Oncorhynchus nerka</i>)	Endangered	No	No Effect
CANDIDATE OR SENSITIVE SPECIES			
Southwestern Washington/Columbia River coastal cutthroat trout (<i>Oncorhynchus clarki clarki</i>)	Sensitive	No	No Impact
Interior Red Band Trout (<i>Oncorhynchus mykiss gairdneri</i>)	Sensitive	No	No Impact
Pygmy Whitefish (<i>Prosopium coulteri</i>)	Sensitive	No	No Impact

The only waterbodies located within the Steamboat Lake Restoration Project area known to be fish-bearing are Steamboat Lake, Steamboat Lake Creek, and the small unnamed inlet and outlet to the lake. These waterbodies contain brown trout (*Salmo trutta*) and eastern brook trout (*Salvelinus fontinalis*). These fish species are stocked annually by the Washington Department of Fish and Wildlife (WDFW). The next downstream location where there are fish present is the mainstem of the White Salmon River. The distance between the project area and the White Salmon River, where there are resident fish present, is approximately 17 river miles (RM). The river contains rainbow trout (*Oncorhynchus mykiss*), and eastern brook trout (*Salvelinus fontinalis*).

Anadromous Fish

The Upper White Salmon River watershed begins at approximately 26 miles from its confluence with the Columbia River. There are no anadromous fish species present in the Steamboat Lake project area or the Upper White Salmon River watershed. Several migration barriers exist in the White Salmon River, including Condit Dam at river mile 3.3 (no fish ladder at facility), a 21-foot waterfall at river mile 16.2, and several other falls greater than 8 feet in height. Condit Dam has blocked upstream migration of salmonids since 1913. Fish inhabiting the lower White Salmon River below the dam include coho, fall and spring Chinook, and summer and winter steelhead. Condit Dam is due to be removed in October 2008. It is unknown if anadromous fish would surmount the falls barriers in the river and inhabit the Upper White Salmon River. There is no known official documentation of anadromous fish inhabitation above the falls at river mile 16.2, although anecdotal

information exists claiming steelhead were found in Trout Lake prior to Condit Dam installation.

Resident Fish

In 1905, Steamboat Lake was stocked for the first time with rainbow trout (*Oncorhynchus mykiss*). In 1936, the lake was again stocked with 13,200 eastern brook trout. More currently, WDFW and USFS records show only eastern brook trout and brown trout being stocked annually, with tiger trout (a hybrid cross of eastern brook trout and brown trout) being stocked only a few times. The total numbers of fish of all species being stocked varies annually between about 1,000 and 2,500.

The next downstream location where there are resident fish present is the mainstream of the White Salmon River. The distance between the project area and the White Salmon River, where there are resident fish present, is approximately 17 river miles (RM). Resident fish species in the Upper White Salmon River include rainbow trout and brook trout. No known proposed, endangered, threatened, or sensitive fish species have been documented on Forest Service lands within the Upper White Salmon River watershed. Extensive stocking of hatchery cutthroat, rainbow, and brook trout has occurred in the White Salmon River and began in the 1930s. Washington Department of Fish and Wildlife records show cutthroat trout inhabited the Upper White Salmon River in the 1930s, but it is unclear if these fish were native or stocked. Recent population inventories have not found cutthroat trout in the Upper White Salmon River or in any of its tributaries.

Alternative 1 (Proposed Action)

Direct and Indirect Effects

The proposed action associated with the Steamboat Lake Restoration Project would have **no effect** on any proposed, threatened, or endangered fish species. In addition, the implementation of the Steamboat Lake Restoration proposed action would have **no impact** on any of the fish species listed on the Regional Forester's Sensitive Species List (see Table 2 for all species names, status, and distribution with relation to this project).

Of the sensitive fish species that may be found within the portions of the White Salmon River and Upper Lewis River 5th-field watersheds that may be impacted by the proposed action, there are no documented sightings, records, and/or habitat for Southwestern Washington/Columbia River coastal cutthroat trout, interior red band trout, or pygmy whitefish in Steamboat Lake, Steamboat Lake Creek, Trout Lake Creek, or Trout Lake.

Of the proposed, threatened, or endangered fish species that may be found within the portions of the White Salmon River and Upper Lewis River 5th-field watersheds that may be impacted by the project, there are no documented sightings, records, and/or habitat for Lower Columbia River steelhead or Columbia River bull trout.

There is a slight chance that the stocked, resident fish populations at Steamboat Lake and its small perennial and intermittent tributaries could be affected from implementation of the proposed action. Trail construction and decommissioning, road improvements and decommissioning, and the construction of a primitive log dock may result in short-term

sedimentation of Steamboat Lake. The sediment can be expected to settle out for the most part due to the low water flow rate out of the lake, but there could be small sediment flushes during winter storm events. When management activities change the hydrology of an area to such an extent that the sedimentation rate is increased above that which a stream has the capacity of transporting out of the lake or stream system, the result is a loss in fish habitat quality, including altered streamflows and temperatures. In this case, however, the mitigation measures that would be implemented during the work phase of the proposed action will result in only minor, short-term sedimentation effects to the fish and fish habitat. Also, the long-term benefits of this proposed action to the fisheries resource far outweigh any short-term detrimental effects.

No cumulative effects were identified.

Alternative 2 (No Action)

Direct and Indirect Effects

Due to the fact that there are no documented sightings, records, and/or habitat of Proposed, Threatened, Endangered, and Sensitive species there would be **no effect** to these species.

Botany/Noxious Weeds

Threatened, Endangered, Proposed and Sensitive Plant Species

Alternative 1 (Proposed Actions)

Direct, Indirect and Cumulative Effects

There is no habitat for *Howellia aquatilis*, the only federally listed plant species suspected to occur on the Gifford Pinchot National Forest. Therefore it was found that there was **no effect**. There is potential habitat for many Sensitive species (for complete list of species suspected to occur within project area, consult pre-field review documentation, Mt. Adams Ranger District Botany files.)

The project area was surveyed for sensitive species on July 26, 2006 and no sensitive species were found. However, a number of Sensitive species (1 lichen and 13 fungi) are considered “survey impractical”; therefore we do not know whether they are present at the site (see pre-field documentation for complete list of species not considered “survey impractical”). For analysis purposes, we must assume that these species are present in the project area. Because the project scope and area is small, there will be very limited impact upon suitable habitat. As a result, the project was determined to have the potential to impact individuals and habitat, but project actions are not likely to contribute to a trend towards federal listing, or cause a loss of population or species viability for these Sensitive species.

No cumulative effects were identified.

Alternative 2 (No Action)

Direct, Indirect, and Cumulative Effects

Due to the fact that there is no habitat for *Howellia aquatilis*, there would be **no effect** to the species. Because no action is occurring, there would be **no impact** to any sensitive species.

Survey and Manage Botanical Species

There is potential habitat for a number of Survey and Manage botanical species within the area. However, the project was surveyed for species on 7/26/2006 and no sites were found. Therefore there are no mitigations for survey and manage species.

Noxious Weed and Invasive Non-native Species Risk Assessment with Project Design Criteria and Mitigations

Non-native plants include those species introduced intentionally or unintentionally to areas where they do not naturally occur. Invasive non-native plants in the Pacific Northwest most often originate from Europe and Asia. Problems can arise when the associated natural predators and diseases that controlled these species in their native habitats are not present in the habitat where they are introduced. If a species is unchecked by predators, it may become invasive, dominating the site and altering ecosystem balance. The results may include changes in biodiversity, fire frequency, soil erosion and hydrology of a site. Other effects include poisoning of livestock and reducing the quality of recreational experiences. There are an estimated 2,000 invasive and noxious weed species in the U.S and 130 class A, B & C weeds listed in Washington State in 2006.

Forest Service Manual direction requires that Noxious Weed Risk Assessments be prepared for all projects involving ground-disturbing activities. For projects that have a moderate to high risk of introducing or spreading noxious weeds, recent Forest Service policy requires that decision documents must identify noxious weed control measures that will be undertaken during project implementation (FSM 2081.03, 11/29/95). The Pacific Northwest Region Invasive Plant Program Record of Decision for Preventing and Managing Invasive Plants (USDA 2005) provides invasive plant prevention and treatment/restoration standards and direction on all National Forest System lands within the Pacific Northwest Region of the Forest Service.

Risk Ranking

Factors and Vectors considered in determining the risk level for the introduction or spread of noxious weeds are:

FACTORS

- A. Known noxious weeds in close proximity to project area that may foreseeably invade project.
- B. Project operation within noxious weed population.
- C. Any of vectors 1-8 in project area.

VECTORS

- 1. Heavy equipment (implied ground disturbance including compaction or loss of soil "A" horizon.)
- 2. Importing soil/cinders/gravel/straw or hay mulch.
- 3. ORVs or ATVs.
- 4. Grazing.
- 5. Pack animals (short term disturbance).

6. Plant restoration.
7. Recreationists (hikers, mountain bikers, etc...).
8. Forest Service or other project vehicles.

High, moderate, or low risk rankings are possible. For the high ranking the project must contain either a combination of factors A+C or B+C above. The moderate ranking contains any of vectors #1-5 in the project area. The low ranking contains any of vectors #6-8 in the project area or known weeds within or adjacent to the project area, without vector presence.

Weed Risk Ranking Results

Project	Factors	Vectors	Risk Ranking
Steamboat Lake	C	1,7,8	Medium

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:

FOREST SERVICE INTERDISCIPLINARY MEMBERS:

Erin Black
Stephanie Caballero
Cheryl Mack
Jon Nakae
Andrea Ruchty
Mitch Wainwright
Brittany Zapata

FEDERAL, STATE, AND LOCAL AGENCIES:

US Fish and Wildlife Service

The effects to the Northern spotted owl are covered by the *Programmatic Biological Assessment for Forest Management, Gifford Pinchot National Forest 2001*, which was renewed by agreement with The US Fish and Wildlife Service in 2006 and 2007.

Washington State Historic Preservation Officer

A heritage resource report was conducted and it was determined that the proposed activities would have no effect on heritage resources, as long as the mitigations measures are followed. The State Historic Preservation Office concurred with this finding and their concurrence can be found in the project file.

TRIBES:

The Cowlitz Indian Tribe, Nisqually Indian Tribe, and Yakama Indian Nation all received correspondence in regards to this project. None of the Tribes sent in comments or voiced any concerns with the proposed activities at Steamboat Lake.