

## ***Appendix D: Wildlife Biological Assessment and USFWS Concurrence Letter***

### **Changes between Draft and Final EIS:**

- USFWS concurrence letter added.



# **Biological Assessment for the Tamarack Quarry Expansion Project**

**Mt. Hood National Forest  
Zigzag Ranger District  
Clackamas County, Oregon**

**March 2004**



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**Mt. Hood National Forest  
Zigzag Ranger District  
Clackamas County**

*Prepared for and Reviewed by:*

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**March 2004**

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## INTRODUCTION

David Evans and Associates, Inc. (DEA) prepared this biological assessment (BA) for the Tamarack Quarry Expansion Project on the Mt. Hood National Forest, Zigzag Ranger District, Clackamas County, Oregon. This BA was prepared as a tool for coordination between those agencies responsible for the compliance of this project with the federal Endangered Species Act (ESA). These agencies are the U.S. Forest Service-Mt. Hood National Forest (FS), and the US Fish and Wildlife Service (USFWS). The applicant (FS) is seeking permission under the National Environmental Policy Act (NEPA) and related special uses permits to complete the project. This BA addresses potential effects to federally-listed northern spotted owl (*Strix occidentalis caurina*) that are likely to occur within the project area, as indicated by the FS.

This BA was presented to the Level 1 team for concurrence of the analysis on July, 24, 2003 and January 14, 2004. The comments and edits that were suggested at that meeting have been incorporated into this report for submittal to the USFWS.

## PROJECT LOCATION

The project area is located approximately four miles south of Government Camp and US Highway 26, in Section 2, Township 4 South, Range 8 1/2 East, Willamette Meridian, Clackamas County, Oregon. The Tamarack Quarry, located approximately 3800 feet in elevation, is approximately one mile east of Trillium Lake. Figure 1 shows the project location and vicinity.

The project area encompasses approximately 48 acres adjacent to (generally north and east of) the existing 22 acre Tamarack Quarry. The project area also includes a corridor, approximately 3.1 miles long, along the existing haul route to the quarry from Highway 26. The haul route is along FS roads 2656 and 2656-955. The Northwest Forest plan land use allocation is matrix.

## PROPOSED ACTION

The proposed action is to expand the existing Tamarack Quarry (Figure 2) (formerly known as the Mud Creek Quarry) to encompass a total area of approximately 50 to 70 acres of National Forest system land. There are three alternatives under consideration for this project. Under the no action alternative the quarry could expand within the existing permitted boundary by up to 7 acres. Alternatives 1 and 2 would expand the existing quarry beyond the permitted boundary by 48 and 28 acres, respectively. Rock would be excavated from the existing quarry and the expansion area. The excavated material would be used by ODOT and the FS for road maintenance and construction, including improvements to Highway 26 and Oregon Highway 35.



Through analysis, ODOT and the FS have determined that the site of the Tamarack Quarry is preferred over other quarry sites in the vicinity of Mt. Hood. Tamarack Quarry has the potential to be a relatively large quarry. It has been excavated and managed in a manner that facilitates continued excavation and appears to have reserves of quality source rock. The quarry has a relatively short haul route (approximately 3.1 miles) to Highway 26. However, the size of the existing quarry is inadequate to provide the amount of rock material needed over the next 20 years.

Activities would include blasting, rock crushing, screening, batching, loading and hauling, importing excess materials (e.g., from slides and ditch cleanings) for reprocessing or quarry reclamation, and stockpiling of excavated rock and soils. Materials would be stockpiled on-site either for reprocessing or for use in reclamation. Sanding rock would be hauled out of the quarry and stockpiled at various locations: junction of Highway 26 and Highway 35, Government Camp maintenance station, Bennett Pass, Parkdale, and junction of Highway 216 and Highway 26. Construction rock would be quarried as needed and used shortly after crushing.

The haul route is approximately 3.1 miles long and includes FS roads 2656 and 2656-955. FS road 2656 is surfaced with asphalt. FS spur road 955 is gravel surfaced. No improvements would be made to the haul route except for routine maintenance, which may include resurfacing, striping, placement of safety reflectors, and placement of additional traffic signs. Traffic control, which may include flaggers and signs, would be implemented during hauling. Most trucks to haul the material would have a 20-yard capacity.

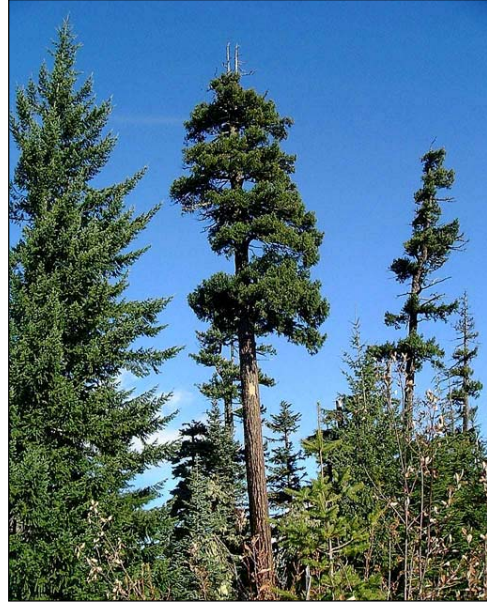
To date, a quarry excavation plan has not been developed. The amount of material to be removed each year could range from less than 40,000 cubic yards to more than 100,000 cubic yards.

Detailed reclamation plans would be developed and implemented as expansion occurs. Overburden soil has been and would continue to be saved for use during later reclamation of the quarry. The soil would be pushed back into the quarry benches and floors and planted with erosion-preventing, native grasses and other vegetation when the excavation is completed. Portions of the quarry could be reclaimed in stages, depending on the final quarry excavation plan.



## EXISTING CONDITIONS

Vegetation within the project area is within the Pacific Silver Fir Zone (FS, 1982). Remnant old growth Douglas fir (*Pseudotsuga menziesii*) trees are scattered throughout the proposed expansion area and comprise what is remaining of the overstory canopy (see below). Pacific silver fir (*Abies amabilis*), western hemlock (*Tsuga heterophylla*), mountain hemlock (*Tsuga mertensiana*) and



western redcedar (*Thuja plicata*) occur in the midstory and understory within this area. Pacific rhododendron (*Rhododendron macrophyllum*) dominates most of the expansion area with scattered areas dominated by huckleberry (*Vaccinium* spp.). The herb layer is sparse with bear-grass (*Xerophyllum tenax*) as the dominant herb. There is a high density of down woody debris and snags within the proposed expansion area.

## METHODS

A pre-field review of existing information and references for federally listed species was conducted for the project area. The Mt. Hood National Forest provided a list of the federally listed wildlife and fish species that could potentially occur in the project area. Habitat conditions for threatened and endangered species was evaluated on November 14, 2002. No surveys for threatened or endangered species were conducted for this project however several surveys have been conducted for species listed as “survey and manage” under the Northwest Forest Plan

# ENVIRONMENTAL CONSEQUENCES

## NORTHERN SPOTTED OWL

### *Status*

The northern spotted owl is a federally listed threatened species in Oregon (January 15, 1992, CFR Vol. 57 No. 10), and is also a state listed threatened species under Oregon State Law (ORS 496-172).

### *Life History and Habitat Requirements*

Throughout their range and during all seasons, spotted owls consistently concentrate their foraging and roosting in old-growth or mixed-age stands of mature and old-growth trees. Definitions of stands used by spotted owls have often varied among studies. Old-growth forests have usually been defined as having a dominant overstory of trees greater than 200 years old with a multi-layered, multiple tree species canopy, relatively high canopy closure, snags, and down logs. Mature stands used by spotted owls typically have included a mostly even-aged stand with a minimum age of dominant trees ranging from 70 to 100+ years old, and a minimum diameter at breast height (dbh) ranging from 16 to 21 in (40.6 to 53.3 cm) (Thomas et al., 1990).

Most spotted owl nests have been found in old-growth stands. A variety of nest structures have been used, including tree cavities, trees with broken tops, and platforms. Platform nests have included natural accumulation of debris in tree limbs and the abandoned nests of hawks, squirrels, or woodrats. Platform nests are frequently located in deformed clumps of limbs resulting from dwarf mistletoe infestation.

Although spotted owls consistently selected mature and old-growth forests in the studies reviewed, considerable use of mid-age and young stands also occurred. This use suggests that as forests develop along the continuum from young to old, they gradually become more suitable for spotted owls. At the same time, structural components typical of old-growth forests are sometimes found in young forests, especially those that have regenerated after fire or other disturbances, which have left behind large trees, snags, and logs from previous stands (Thomas et al., 1990).

### *Distribution and Occurrence at Project Area*

The present range of the spotted owl approximates the limits of the historic range, which encompasses an area from southwestern British Columbia south through the coastal mountains and Cascade Range (both east and west sides) of Washington and Oregon, south into southwestern Oregon and northwestern California (Thomas et al., 1990).

There is a known spotted owl nest site near the project area located over 0.5 miles (mi) (0.8 kilometers [km]) but within 1.0 mi (1.6 km) of the project area. This location is to the west of the project area in the Mud Creek drainage. Spotted owl surveys were not conducted for this project.

The project area is not in a Critical Habitat Unit (CHU). The closest CHU (OR-1) is location over 2.0 mi (3.2 km) to the north.

### *Existing Habitat Conditions*

The FS has mapped suitable spotted owl nesting, roosting, and foraging (NRF) habitat across the forest based on aerial photograph interpretation. DEA has analyzed this map for the project area and determined the area is dispersal habitat. A field reconnaissance of the proposed expansion area determined that this area does not provide suitable NRF habitat for spotted owls. The majority of the expansion area has an open canopy (less than 50% total canopy closure) with remnant Douglas fir trees that are 20-60 feet above the canopy layer. The height of the overstory canopy layer is approximately 50-80 feet with numerous snags and large woody debris that are the remnants of the prior stand. Based on the FS habitat map and field reconnaissance the project area, at best, serves as dispersal habitat.

### *Analysis of Project Impacts*

No northern spotted owl NRF habitat will be removed in conjunction with this project. However, there is field verified suitable NRF habitat within one mile of the quarry and 0.25 mile of the haul route. These distances were used to evaluate potential disturbance to nesting spotted owls and is based on the Programmatic Biological Assessment for Activities with the Potential to Disturb Northern Spotted Owls and /or Bald Eagles in the Willamette Province for FY 2002-2003 (BLM/USFS 2002) and the Estimates of Distances at which Incidental Take of Murrelets and Spotted Owls Due to Harassment are Anticipated from Sound-Generating, Forest-Management Activities in Olympic National Forest Appendix F. (USFWS 2003).

Since surveys were not conducted for this project, the adjacent NRF habitat is assumed to be occupied for the purposes of determining impacts. Depending on the selected alternative, up to 48 acres of dispersal habitat may be removed to expand the quarry.

The proposed project will generate noise above local ambient levels when the quarry is in operation. The sources of the noise will include blasting (of over 2 pounds of explosives), rock crushing, bulldozers or similar type equipment to move rock within the quarry and load trucks. The trees would in the expansion area would be most likely removed over a several year period as expansion is expected to occur slowly over the 20 year period. The duration of these activities will depend on the need for rock over the next 20 years. There are two known ODOT road construction projects on Hwy. 35 scheduled to begin in summer 2005 that would require rock from the quarry. Sanding rock will be needed for the winter of 2004. Noise-generating quarry operations, including hauling, would occur on weekdays (Monday at 7:00 a.m. through Friday at noon) during the summer and fall when the haul road is clear of snow. Snow in this area typically persists until the end of May making for a limited work window.

### *Determination of Effect*

There will be no modification to NRF habitat for northern spotted owl in conjunction with this project however up to 48 acres of dispersal habitat may be removed to expand the quarry. Blasting at the quarry would not begin until after July 15 of each year to minimize disturbance to adjacent nesting owls during the critical breeding period of March 1 to July 15. Quarry operations such as crushing, stockpiling, hauling and road maintenance may occur in the breeding season as access to the quarry allows. Access to the quarry is difficult in the spring due to typically large snowpacks. It is assumed that ODOT will plow to quarry no earlier than April of each year. These activities would occur within 0.25 miles of what is considered occupied habitat. Although no NRF habitat will be

removed, dispersal habitat will be removed and the quarry operations in particular blasting could disturb nesting spotted owls after the critical nesting period. It is therefore determined that this project would **may affect, not likely to adversely affect** the northern spotted owl.

In the event that the no action alternative is selected, the FS would still continue to operate the quarry under the existing permits. However, prior consultation for these activities has not occurred and informal consultation will need to be initiated. Quarry expansion and associated operations would be limited to the existing permitted boundary, which includes removal of vegetation up to 7 acres. There would be no modification of NRF habitat but dispersal habitat will be removed. Quarry operations, rock haul, and road maintenance would be the same as the action alternatives stated above. Blasting would only take place after July 15. Therefore the no action alternative would **may affect, not likely to adversely affect** the northern spotted owl.

## CONSERVATION MEASURES FOR LISTED SPECIES

- Blasting will only take place after July 15.
- Blasting and quarry operations (including hauling) will be limited to daylight hours.
- Mufflers will be placed on equipment during operation to minimize noise.
- A blasting plan and quarry operation plan will be developed that outlines the hours of operations, blasting times.
- A reclamation plan will be developed and native vegetation will be used.

## INTERRELATED, INTERDEPENDENT, AND CUMULATIVE IMPACTS

Secondary impacts include interrelated projects that have no independent utility apart from the proposed action, and interdependent projects that are a part of a larger action and depend on the larger action for justification. Cumulative impacts are defined as those impacts that “result from the incremental consequences of an action when added to other past and reasonably foreseeable future actions” (40 CFR 1508.7). The cumulative effects of an action may be undetectable when viewed in the individual context of direct and even secondary impacts, but can nonetheless add to other disturbances and eventually lead to a measurable environmental change.

Future Federal actions are subject to the consultation requirements established in section 7 of the ESA, and therefore are not considered cumulative in the proposed action. There were no known significant non-Federal projects occurring near the project area, or within the watershed, that were available for the analysis of secondary or cumulative impacts. It is anticipated that this project, even in combination with Federal projects, will not have a significant impact on listed, proposed, or candidate species.

## CONCLUSION

Based on field investigations, review of literature and data, and conversations with FS staff, and the Level 1 team, the proposed project **may affect not likely to adversely affect** the northern spotted owl.

## PREPARERS AND CONTRIBUTORS

This report was written by Kristine Marshall, DEA Wildlife Biologist.

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## BIBLIOGRAPHY

Franklin, J.T. and Dyrness, C.T. 1973. *Natural Vegetation of Oregon and Washington*. USDA Forest Service General Technical Report PNW-8.

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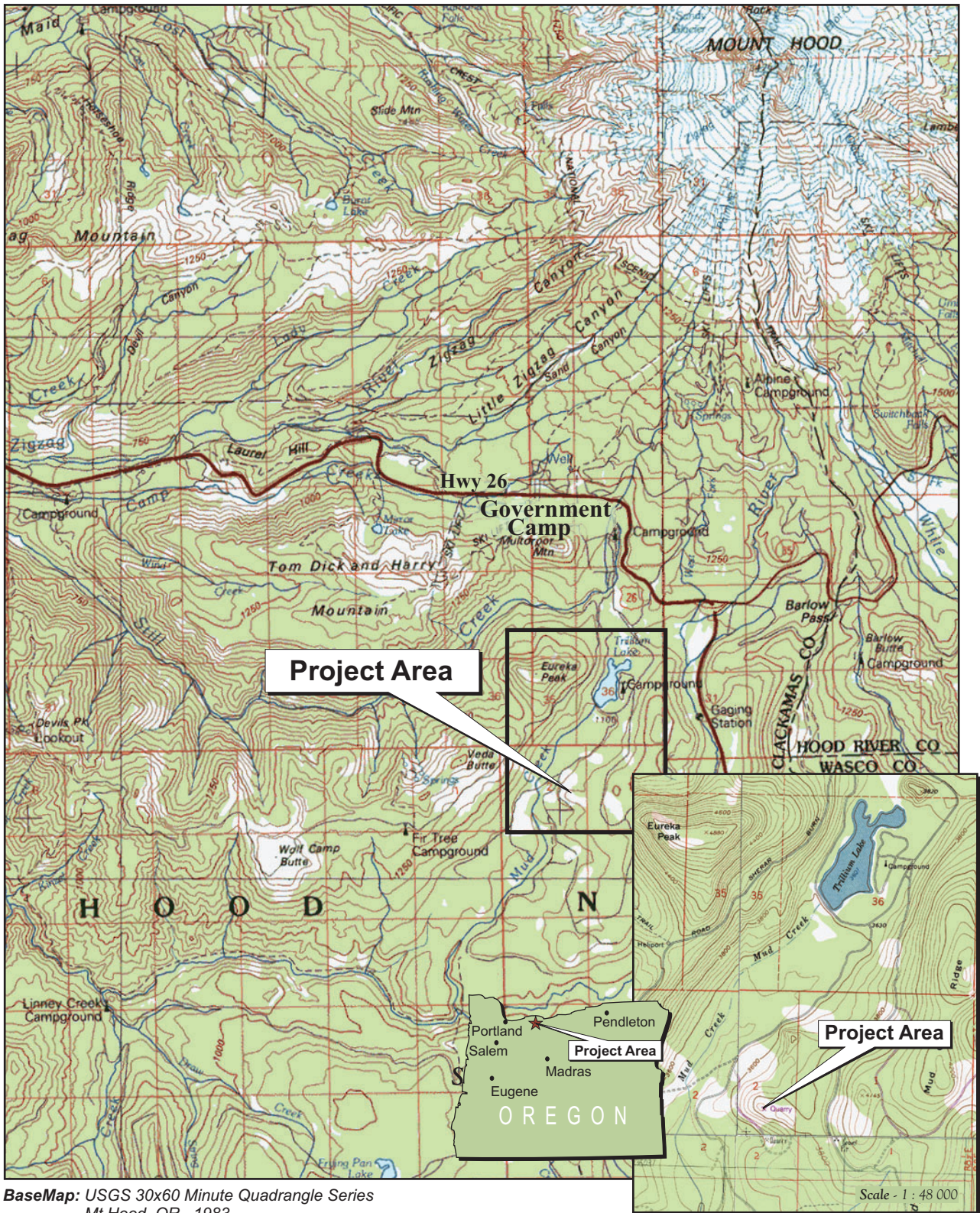
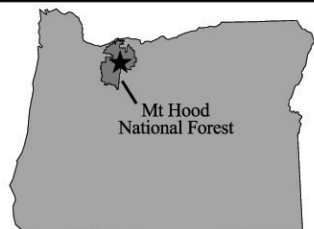
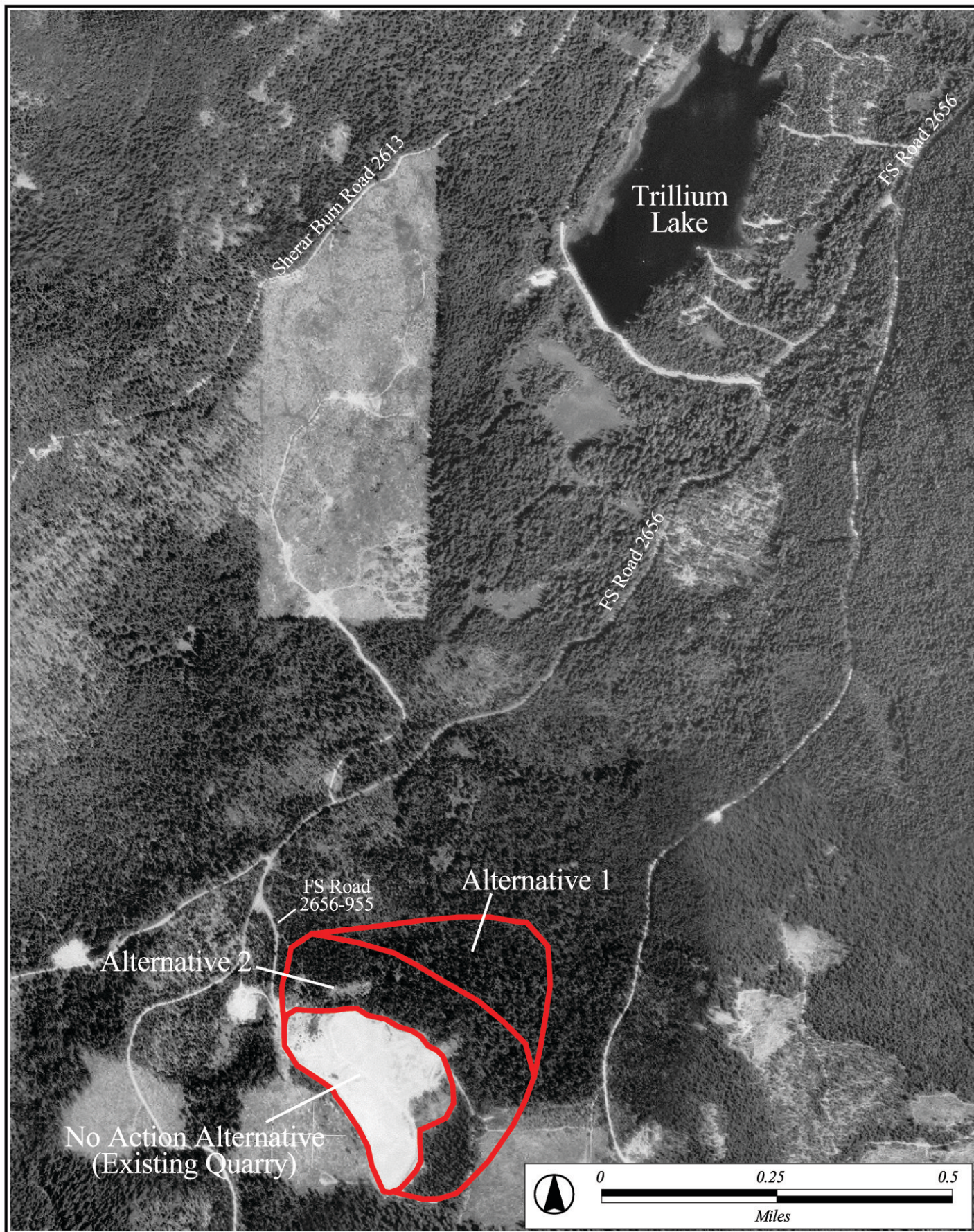


Figure 1  
Vicinity



**Figure 2**  
*Alternatives Under Consideration*



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Oregon Fish and Wildlife Office  
2600 SE 98<sup>th</sup> Avenue, Suite 100  
Portland, Oregon 97266  
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Reply To: 8330.04274(04)  
File Name: Tamarack Quarry Expansion Concurrence letter.doc  
TS Number: 04-2589

June 23, 2004

Gary Larsen  
Mt. Hood National Forest  
16400 Champion Way  
Sandy, OR 97055-7248

RE: Request for concurrence on Tamarack Quarry Expansion Biological Assessment. (Log # 1-7-04-I-0427)

Dear Mr. Larsen:

This letter is in response to your April 29, 2004 request for concurrence with your determination of effects for the proposed action, Tamarack Quarry Expansion Project. On May 3, 2004, the U.S. Fish and Wildlife Service (Service) received your biological assessment (BA) evaluating the impacts of the proposed project on the federally threatened northern spotted owl (*Strix occidentalis caurina*) listed under the Endangered Species Act (Act) of 1973, as amended, (16 U.S.C. 1531 et seq.). On May 25, 2004, the Service, along with Mt. Hood National Forest and David Evans and Associates (DEA) representatives visited the project location. DEA prepared the Tamarack Quarry Expansion Project BA. From this visit, the Service determined that additional information was needed in support of the BA. On June 3, the Service received the requested information (Log # 04-2998) from DEA.

Your BA correspondence provides the conclusion that the proposed project may affect, but is not likely to adversely affect the northern spotted owl. The following discussion provides the Service's concurrence on your effects determination in accordance with Section 7 of the Act.

### **Description of Project Location and Proposed Action**

The proposed project is located approximately 6 km (4 miles) south of Government Camp and US Highway 26, in Section 2, Township 4 South, Range 8.5 East, Willamette Meridian, Clackamas County, Oregon (Figure 1). The proposed project encompasses approximately 19 ha (48 acres) adjacent to (generally north and east of) the existing 9 ha (22 acre) Tamarack Quarry. The project area also includes a corridor, approximately 5 km (3.1 mile) long, along the existing haul route to the quarry from Highway 26. The haul route is on Forest Service (FS) roads 2656 and 2656-955. The Northwest Forest Plan land use allocation is Matrix.

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The proposed action is to expand the existing Tamarack Quarry to encompass a total area of approximately 28 ha (70 acres). Rock would be excavated from the existing quarry and the expansion area. The excavated material would be used by Oregon Department of Transportation (ODOT) and the FS for road maintenance and construction, including improvements to Highway 26 and Oregon Highway 35.

To date, a quarry excavation plan has not been developed. According to the BA, the amount of material to be removed each year could range from less than 40,000 cubic yards to more than 100,000 cubic yards.

Detailed reclamation plans would be developed and implemented as expansion occurs. Overburden soil has been and would continue to be saved for use during the later reclamation of the quarry. The soil would be returned into the quarry benches and floors and plated with erosion-preventing, native grasses and other vegetation when the excavation is completed. Portions of the quarry could be reclaimed in stages, depending on the final quarry excavation plan.

Specific activities of the proposed project would include the removal of northern spotted owl dispersal habitat, blasting, rock crushing, screening, batching, loading and hauling, importing excess materials (e.g., from slides and ditch cleanings) for reprocessing or quarry reclamation, and stockpiling of excavated rock and soils. The effects of these activities on the northern spotted owl are addressed below.

### **Status of the Species within the Project Area**

#### **Northern Spotted Owl**

There is one known spotted owl nest site located near (west of) the project area and is within the Mud Creek drainage. This site is over 0.8 km (0.5 mile) but within 1.6 km (1.0 mile) of the project area. Northern spotted owl surveys were not conducted for this project.

The project area is not in a designated Critical Habitat Unit (CHU). The nearest CHU (OR-1) location is over 3.2 km (2 miles) to the north of the proposed project area.

Based on aerial photograph interpretation, the FS has mapped suitable spotted owl nesting, roosting, and foraging (NRF) habitat across the Mt. Hood National Forest. DEA analyzed this map for the project area and determined that the habitat proposed for removal is best characterized as dispersal habitat. According to the USDA and USDI Willamette Programmatic Biological Assessment for Habitat Modification Projects FY 2005-2006, dispersal habitat consists of "...mid-seral stage stands between 40 and 80 years of age with canopy closures of 40 percent or greater and an average dbh of 11 inches...., spotted owls use dispersal habitat to move between blocks of suitable habitat..." The Service concurs with DEA's conclusion, as determined from the May 25, 2004 field visit.

NRF habitat is not within 0.4 km (0.25 mile) of the quarry. However, NRF habitat is within 1.6 km (1 mile) of the quarry and 0.4 km (0.25 mile) of the haul route.

### **Effects of the Proposed Action**

No northern spotted owl NRF habitat or designated Critical Habitat will be removed in association with the Tamarack Quarry Expansion Project. However, approximately 19 hectares (48 acres) of owl dispersal habitat is proposed for removal. This habitat would most likely be removed over several years as expansion is expected to occur slowly over the 20 year project period. Given the current condition of the habitat and physical factors of the site (i.e., very slow growing and low productivity), it is unlikely that within 20 years, dispersal habitat would transition into NRF habitat (personal communication with David Kennedy, DEA, and Alan Dyck, USFS, May 25, 2004).

The Service evaluated the context of the removal of dispersal habitat for the project. This was accomplished by analyzing the connectivity of habitat (dispersal and NRF) within the project area's watershed and immediately adjacent 5<sup>th</sup> field watersheds. This analysis showed that each of the watersheds support the quantity of connectivity habitat intended by the Northwest Forest Plan. Based on this analysis, it is the Service's opinion that connectivity will not be limiting as a result of the removal of 19 hectares of dispersal habitat. According to the USDA and USDI Programmatic Biological Assessment with the Potential to Modify Habitat for the Northern Spotted Owl, Willamette Province, FY 2005-2006 (Table 14), removal of dispersal habitat in the context of the Tamarack Quarry project may affect, but is not likely to adversely affect the northern spotted owl.

Human caused noise will be associated with the following project related activities: blasting, quarry operations, and hauling. Each activity is addressed below. The duration of these activities will depend on the need for rock over the next 20 years. Noise associated with these activities can potentially negatively impact breeding northern spotted owls. These effects could include: nest abandonment, egg mortality due to exposure, and increased predation of eggs and hatchlings.

Blasting will occur > 0.4 km (0.25 mile) and < 1.6 km (1.0 mile) from NRF habitat and outside the northern spotted owl critical breeding period (March 1 to July 15). Blasting outside the critical breeding season minimizes disturbance to nesting owls. According to the USDA and USDI Willamette Programmatic Biological Assessment for Disturbance Projects FY 2004 to 2005 (Table 1), this type of activity is determined to may affect, but not likely to adversely affect the northern spotted owl.

The quarry operations of drilling, moving, crushing and intra-quarry hauling will generate noise above ambient levels when the quarry is in operation. These activities could occur during the breeding season, however, they will occur > 0.4 km (0.25 mile) from NRF habitat. According to the USDA and USDI Willamette Programmatic Biological Assessment for Disturbance Projects FY 2004 to 2005 (Table 1), this type of activity is determined to be no effect to the northern spotted owl.

The third disturbance activity, hauling, will occur on the main access road (FS Road 2656) to and from the quarry. Most haul trucks would have a 20-yard capacity. NRF habitat occurs within 0.4 km (0.25 mile) and along nearly 5 km (3 miles) of paved FS road 2656. Northern spotted owl surveys were not conducted for this project, therefore, adjacent NRF habitat is assumed to be occupied for the purpose of determining disturbance impacts. During the summer and fall seasons, this road receives a large volume of traffic from recreational vehicles, diesel powered

motor-homes, as well as aircraft occasionally landing at a nearby airstrip (personal communication with D. Kennedy, DEA). Hauling associated with the quarry operations is not likely to exceed existing ambient noise levels for the area (personal communication with D. Kennedy, DEA). The Service concurs with this assessment and is of the opinion that the hauling traffic will not likely disrupt the breeding behavior of owls that may occupy NRF habitat along FS road 2656.

### **Conservation Measures proposed by the Forest Service**

- Blasting will only take place after July 15.
- Blasting and quarry operations (including hauling) will be limited to daylight hours.
- Mufflers will be placed on equipment during operation to minimize noise.
- A blasting and quarry operation plan will be developed that outlines the hours of operation and blasting times.
- A reclamation plan will be developed and native vegetation will be used.

### **Concurrence**

In consideration of the current status of the northern spotted owl in the proposed project vicinity and an analysis of the project effects and proposed conservation measures, the Service concurs that the Tamarack Quarry Extension Project and related activities, as currently planned, **may affect, but are not likely to adversely affect** the northern spotted owl. We have no additional information at this time to provide which would alter your determination of effects to the northern spotted owl. The requirements established under section (7)(a) and 7(c) of the Act have been met, thereby concluding the informal consultation process. If new information reveals the proposed project may affect species in a manner or to an extent not considered in your correspondence, or new species or critical habitat is designated that may be affected by the proposed activity, work on the project should be halted and consultation should be reinitiated within one business day.

If you have any question or need more information, please contact Jim Thrailkill or Bob Progulske at (503) 231-6179.

Sincerely,

Kemper M. McMaster  
State Supervisor

cc: Mt. Hood National Forest *Attn:* Alan Dyck  
FWS-RO; *Attn:* L. Salata  
FWS-OSO; *Attn:* B. White