

Wildlife

3.9.1 Affected Environment

Terrestrial Species Assessment

Species considered in this project include Federal listed threatened and endangered species, Region 6 and Northwest Forest Plan sensitive and survey and management species, Forest Management Indicator Species (as per the Forest Land and Resource Management Plan of 1990) and other species of concern (Table 10).

A pre-Field Review was completed on May 24th, 2017 by a Forest Service wildlife biologist to compliment the review that was done in 2014 for a one year operating permit. The project site and adjacent habitat was examined and assessed for potential direct and indirect effects from the proposed project action activities.

Habitat conditions surrounding the project site include old growth forests with structure suitable for nesting, roosting, and foraging habitat for the spotted owl and nesting habitat for the marbled murrelet. Historic detections of both species in Wells Creek drainage are documented in District files. The habitat along Road 37-033 and 37-031 include second growth stands previously harvested, and the Brunt Knob rock pit provides a pocket opening in the forest cover of approximately 2 acres. Use of the roads for dispersed recreation and to access to the rock pit provides intermittent noise associated with vehicle traffic and human presence.

Table xx displays the list of species that are known or suspected to occur within the Nooksack River drainage, are within the project area or were historically present. A detailed discussion of the wildlife and habitat is available in the Wildlife Specialist Report in the Project Record which incorporated by reference (40 CFR 1502.21).

Table xx. Terrestrial Wildlife Species Considered with the Project Area Analysis

Species or Habitat	Status ¹	Preferred Habitats	Occurrences in or Adjacent to Project Area ²
Northern Spotted Owl (<i>Strix occidentalis caurina</i>)	Threatened/ MIS	Mature, old-growth forests (nesting, roosting, foraging); second-growth used for dispersal	Documented
Marbled Murrelet (<i>Brachyramphus marmoratus m.</i>)	Threatened	Mature, old-growth forests (nesting, roosting)	Documented
Grizzly Bear ² (<i>Ursus arctos horribilis</i>)	Threatened/ MIS	Core Security habitat with adequate forage and > 300 m from motorized roads and high-use trails	Suspected
Gray Wolf (<i>Canis lupus</i>)	Endangered/ MIS	Security habitat with reliable prey base and > 300 m from road and high-use trails	Suspected
American Peregrine Falcon (<i>Falco peregrinus anatum</i>)	Sensitive/ MIS	Cliff habitat for nesting near adequate prey base	Documented in drainage, not in project area
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	Sensitive/ MIS	Roost, nest habitat and forage areas near lakes, reservoirs, rivers with readily available food source (fish and carrion)	Documented in drainage, not in project area

Species or Habitat	Status ¹	Preferred Habitats	Occurrences in or Adjacent to Project Area ²
Harlequin Duck (<i>Histrionicus histrionicus</i>)	Sensitive	Swift, moving streams (rivers and creeks), adequate pool habitat for foraging and brooding.	Documented in drainage, not in project area
Common Loon (<i>Gavia immer</i>)	Sensitive	Large lakes	Not in project area
Northern Goshawk (<i>Accipiter gentilis</i>)	Sensitive	Mature or old forest habitat for nesting	Documented in drainage, habitat in project area
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	Sensitive	Abandoned mine shafts and other human-made structures for roosting and hibernacula; Foraging in forest edges	Documented in drainage, habitat in project area
Mountain Goat (<i>Oreamnos americanus</i>)	Sensitive/ MIS	Habitat of cliffs, isolated rock outcrops, forest cover in winter	Documented in drainage, no habitat in project area
California wolverine (<i>Gulo gulo luscus</i>)	Sensitive	Large expanse of minimally disturbed habitats, persistent snow fields, & reliable prey base.	Documented in drainage, habitat in project area
Little brown myotis (<i>Myotis lucifugus</i>)	Sensitive	Caves, mine tunnels, hollow trees, bridges or buildings as roost sites. Forest foraging	Suspected in drainage, habitat in project area
Cascade red fox (<i>Vulpes vulpes cascadenis</i>)	Sensitive	Mixture of forest and open country in alpine areas	Suspected in drainage, no habitat in project area
Giant Palouse Earthworm (<i>Driloleirus americanus</i>)	Sensitive	Native habitat consists of the bunch grass prairies of the Palouse region. The fertile soil consists of deposits of volcanic ash and rich layers of organic matter.	Not documented
Broadwhorl Tightcoil (<i>Pristiloma johnsoni</i>)	Sensitive	includes abundant ground cover, conifer or hardwood overstory, and moderate to deep litter	Suspected, but not documented in drainage
Shiny Tightcoil (<i>Pristiloma wascoense</i>)	Sensitive	Ponderosa pine and Douglas fir forests at moderate to high elevations	Not Suspected, and not documented in drainage
Western Bumblebee (<i>Bombus occidentalis</i>)	Sensitive	A generalist forager and has been reported to visit a wide variety of flowering plants	Documented in drainage, habitat in project area
Johnson's Hairstreak (<i>Callophrys johnsoni</i>)	Sensitive	Old-growth coniferous forests; associated with conifer mistletoe (genus <i>Arceuthobium</i>)	Suspected, but not documented, habitat in project area
Melissa Arctic (<i>Oeneis Melissa</i>)	Sensitive	Dry tundra, talus slopes, fellfields, rocky summits and saddles, ridges, and frost-heaved clear-cuts; generally occurs above the timberline, which, in Washington, is at about 7,000 to 8,000 ft.	Suspected in drainage, but not documented. No habitat in project area
Valley Silverspot (<i>Speyeria zerene bremnerii</i>)	Sensitive	Inhabits windy peaks with nearby forest openings. It is also found in native prairies and grasslands, often tending towards more mesic sites.	Suspected in drainage, but not documented. No habitat in project area
Larch Mountain Salamander (<i>Plethodon larselli</i>)	Sensitive/ Survey and Manage	Associated with hardwood logs, leaf litter, and beneath cool and moist rocks and talus. Not suspected north of Highway 2.	Outside of known range. Not Documented in north part of the Forest

Species or Habitat	Status ¹	Preferred Habitats	Occurrences in or Adjacent to Project Area ²
Van Dyke's Salamander (<i>Plethodon vandykei</i>)	Sensitive/ Survey and Manage	Associated with hardwood logs, leaf litter, and beneath cool and moist rocks and talus. Not suspected north of Highway 2.	Outside of known range. Not Documented in north part of the Forest
Puget Oregonian (<i>Cryptomastix devia</i>)	Survey and Manage	Mature to old growth conifers with bigleaf maples	Suspected, but not documented
Evening Fieldslug (<i>Deroceras hesperium</i>)	Survey and Manage	Perennially wet meadows in forested habitats	Suspected, but not documented
American Marten (<i>Martes americana</i>)	MIS	Old-Growth and Mature Forest for denning, resting	Documented in drainage, habitat in project area
Pileated Woodpecker (<i>Dryocopus pileatus</i>)	MIS	Old-Growth and Mature Forest	Documented in drainage, habitat in project area
Primary Cavity Excavators	MIS	Availability of various age and decay class snags and downed Logs	Documented in drainage, habitat in project area
Neotropical Migratory Birds	Species of Concern	Vegetation of all successional stages including diverse seral stages, water features and rock/cliff features.	Documented in drainage, habitat in project area
Mountain Goat Winter Range (MA-15)	MR	Forested stands, steep rocky cliffs, projecting pinnacles, ledges, talus generally tree-line and below.	Documented in drainage, no winter range in project area
Deer and Elk (MA-14)	Local Species of Concern	Forage in openings interspersed with closed canopy forests, meadows, grasslands,	Documented in drainage, habitat in project area

¹Threatened – a native species likely to become endangered in the foreseeable future

MIS – Management Indicator Species – any species identified as representative for a group of species with special habitat requirements.

Sensitive – plant and animal species identified by the Regional Forester for which population viability is a concern

Survey and Manage – species that fall under the Standards and Guidelines of the NWFP

Species of Concern – species that are of concern to MBS biologists. An informal designation.

MR – Management Requirements – minimum specific management requirements to be met in accomplishing goals and objectives of the NFS (36 CFR 129.27)

²Documented – species is known/documented to occur in or adjacent (within 1 mile) of the Project Area.

Suspected, but not documented – species is known (documented) to occur within the MBRD, but has not been documented within or adjacent to the Project Area.

Not Documented – species is considered locally extirpated, or not documented on the MBRD

Surveys were not conducted for spotted owl or marbled murrelet as the adjacent suitable habitat was assumed to be occupied by these two species. No surveys were conducted for other species listed in **Table xx** with impacts to wildlife and habitat conditions assessed for potential modification and disturbance from the proposed action. Forest Service policy limits the entry of employees into mine shafts, so no interior mine survey were done for bats. While no bat sign was detected at the mine portals or reported from the site operator, bat use of the project area is suspected given the rock strata and foraging areas along Wells Creek.

3.9.2 Environmental Consequences

Common to All Alternatives

This section describes the impacts to wildlife associated with the Excelsior Mine Plan of Operation project, for those species in **Table xx** that are documented or suspected in the drainage and in the project analysis area. The analysis area for direct and indirect effects on wildlife resources is defined as those areas within the Wells Creek sub-drainage, experiencing ground disturbing and above-ambient noise generating activities for the duration of implementation (plan of operations 10 years).

Concerns addressed in this section include loss or conversion of wildlife habitat and disturbance to wildlife from noise and human activity. Impacts to wildlife habitat are analyzed through expected shifts in vegetation conditions from road or mine portal treatments where young vegetation has become established. Road maintenance, road use, dispersed recreation and rock pit use are part of the existing condition and expected to continue under both alternatives. Activities that create noise above background ambient levels were assessed for disturbance to wildlife.

Implementing either alternative would have negligible impact or no effect on the following Region 6 listed Sensitive species due to lack of habitat in the project area: peregrine falcon, bald eagle, common loon, harlequin duck, mountain goat, Cascade red fox, western bumblebee, Johnson's hairstreak butterfly, giant Palouse earthworm, broadwhorl tightcoil snail, shiny tightcoil snail, Mellissa arctic butterfly, valley silverspot butterfly, Van Dyke's or Larch Mountain salamander, or evening field slug. Therefore either action would not contribute to a negative trend in the viability of these sensitive species on the Forest and would not contribute towards federal listing.

Implementing any alternative would have a negligible impact or no effect on the following species of concern: pileated woodpecker, or primary cavity excavators, and the Puget Oregonian slug. There would be no impact because the suitable habitat that is present near the project area would not be substantially affected (directly or indirectly) by implementation of either alternative. Therefore, proposed activities would not contribute to a negative trend in the viability of these species, including management indicator species on the Forest by implementation of any alternative.

Alternative A - No Action

Direct and Indirect Effects

No direct or indirect effects on wildlife or wildlife habitat are anticipated from the No Action Alternative beyond those effects that currently occur. There would be no impacts to habitat, but wildlife within the project area would continue to be exposed to the existing levels of disturbance which includes road access and recreation associated with activities such as dispersed camping and hiking, and administrative activities (e.g., road maintenance and rock pit use). Wildlife may be temporarily displaced by noise disturbance on Road 37-033.

Alternative A would have no change in current effects on federally listed, Forest Service sensitive, Survey and Manage, or other species of concern. Minimal noise disturbance within old forest with nesting habitat for spotted owl and marbled murrelet would continue from road access to the mine portals. Alternative A would continue to have occasional mine entry for

exploration which has the potential to disturb roosting bat species if present. Alternative A would have no other effect to wildlife habitat outside of current road maintenance and rock pit use. Road maintenance and associated administrative and recreational use on roads would continue to provide noise disturbance, but would have no additional effects on management indicator species, other species of concern or their habitat outside the road corridors. Therefore, Alternative A would not contribute to a negative trend in viability for any management indicator species on the Forest.

Alternative B - Proposed Action

Direct and Indirect Effects

The proposed action would increase vehicular traffic, both in magnitude and duration, on a primitive temporary road to access mine portals through designated critical habitat for spotted owl and marbled murrelet. Road and mine maintenance would use motorized equipment with noise levels projected to impact forest stands within 110 yards of the road prism and mine portals. Vegetation removal at portal entrances and within the road prisms are calculated to be approximately 2 acres of ground disturbance. Activities within the mine have the potential to disturb bat population roosting in crevices or niches within the mine passage if present.

Effect Determinations

Habitat: Under Alternative B, there would be little change physically to the habitat conditions within the project area. Changes to habitat would be limited to minor impacts to vegetation where road maintenance activities and mine portal improvements occur with brush and sapling removal. There would be approximately 2 acres of ground disturbance within the footprint of the existing road prism and mine portals. Phase III of the plan of operations would decommission the access road which would provide additional core habitat for species sensitive to noise and human disturbance.

Disturbance: Project activities are expected to create sporadic periods of noise above ambient levels, which can impact wildlife during the critical breeding seasons. There would be a 10 seasons with an increase in human access during the Excelsior Mine Plan of Operations, followed by road decommissioning. Impacts to wildlife would include temporary displacement of use of the area during the work. Following road closure (after 10 years), wildlife would use road corridors for travel, foraging, and bedding. As the roads grow in, the roadbeds would become less attractive for most wildlife.

Northern Spotted Owl

Habitat: Minimal to no impacts to spotted owl habitat would occur with Alternative B from the maintenance on the upper road. While road maintenance is expected to remove only shrubs and small diameter trees, any hazard trees identified over 20 inches DBH would be reviewed by a wildlife biologist for potential nesting structure before removal.

Disturbance: Alternative B could result in effects to nesting spotted owls in the early breeding season due to noise disturbance where activities are expected to involve heavy machinery and chainsaws (road maintenance and access to mine). Activities generating noise above ambient noise could impact approximately 18 acres of suitable spotted owl nesting habitat in the early

breeding season, from March 1 through July 15. As a result, adverse effects from noise generating activities are expected to occur. This alternative may affect, and is likely to adversely affect the spotted owl due to noise disturbance in the early nesting season.

Although Alternative B could adversely affect the spotted owl, due to the limited scale and scope of the areas of suitable habitat that would be impacted, it would not contribute to a negative trend in the viability of this management indicator species on the Forest.

Designated Critical Habitat

There would be no change in nesting, roosting, foraging, or dispersal habitat which are primary constituent elements of critical habitat for spotted owl within designated critical habitat. While road maintenance is expected to remove only shrubs and small diameter trees, any hazard trees identified over 20 inches DBH would be reviewed by a wildlife biologist for potential nesting structure before removal. The road maintenance would continue on 2 acres of critical habitat until Phase III of the proposed action when the road would be decommissioned and allowed to revegetate. Therefore, this alternative would have no effect to spotted owl critical habitat.

Marbled Murrelet

Habitat: Minimal to no impacts to murrelet habitat would occur with Alternative B from the maintenance on the upper road. While road maintenance is expected to remove only shrubs and small diameter trees, any hazard trees identified over 20 inches DBH would be reviewed by a wildlife biologist for potential nesting structure before removal.

Disturbance: Alternative B could result in effects to nesting murrelets during the breeding season due to noise disturbance where activities are expected to involve heavy machinery and chainsaws (road maintenance and access to mine). Activities generating noise above ambient noise could impact approximately 28 acres of suitable murrelet nesting habitat during the breeding season, from April 1 through September 23rd. As a result, adverse effects from noise generating activities are expected to occur. This alternative may affect, and is likely to adversely affect the marbled murrelet due to noise disturbance in the early nesting season.

As a result, adverse effects to nesting murrelets from noise generating activities are expected to occur within a limited portion of the project's suitable habitat. This alternative may affect, and is likely to adversely affect the marbled murrelet due to noise disturbance in the early nesting season.

Designated Critical Habitat

There would be no change in nesting, roosting, foraging, or dispersal habitat which are primary constituent elements of critical habitat for spotted owl within designated critical habitat. While road maintenance is expected to remove only shrubs and small diameter trees, any hazard trees identified over 20 inches DBH would be reviewed by a wildlife biologist for potential nesting structure before removal. The road maintenance would continue on 2 acres of critical habitat until Phase III of the proposed action when the road would be decommissioned and allowed to revegetate. Therefore, this alternative would have no effect on marbled murrelet critical habitat.

Grizzly Bear

While there are no recent Class 1 sightings (confirmed sightings) of grizzly on the Mt. Baker District (the most recent Class 1 sighting occurred in 1996 over 40 miles south east of the project area), the proposed activities occur in the North Cascades Grizzly Bear recovery area, in the Nooksack Bear Management Unit (BMU #18).

A status of 70 percent core habitat (1/3 mile from open roads or high-use trails) for interior BMUs and a status of 55 percent core habitat for exterior BMUs are considered desirable by the Interagency Grizzly Bear Committee (IGBC 2001). BMU # 18 is considered an exterior unit (USDA 1998), and based on the 1997 baseline analysis, the Nooksack BMU provides mostly moderate quality habitat (table x).

Table x - 1997 Baseline of Percent Grizzly Core Habitat within the Nooksack BMU

BMU	Acres	% Federal Land	% Core Early Season	% Core Late Season
Nooksack	144,410	94.6	57.4	53.0

Habitat: In the initial 1997 buffering of open roads, the main line roads of Road 33 and 37 were displayed as open as well as road 37-033 to the rock pit. The Excelsior Mine Proposed operations plan would use the upper road (Road 37-033 and the temporary non-system road) with unlimited access so Alternative B use of the Upper Road system (including the non-specified road) would impact an additional 8 core acres from the 1997 core acre display.

The Nooksack Access Travel Management Environmental Assessment (date) displays road 37-033 as closed so at some time between 1997 to the current situation, road 37-033 was designated as a closed road (gate at junction of the 37 and 37-033). The Excelsior Mine proposed operations plan would use the upper road (Road 37-033 and the temporary non-system road), shifting the road from closed to open so the proposal would impact 40 acres of core habitat using the road information in the Nooksack ATM.

The Nooksack Access Travel management EA DN/FONSI identified additional roads for closure or decommissioning which would contribute core acres. In the upper Wells Creek drainage, road 33-030 is designated for closure, adding 78 acres of core habitat to BMU #18, so there would still be a net gain of at 38 core acres in this portion of the BMU even with the implementation of the Excelsior Mine Proposed Operations using the Upper Road route.

Disturbance: With Alternative B, there would be a short-term (10 seasons for road access to the mine portals) increase in human access during use of the Upper Road within the Project Area. Impacts to wildlife could include a temporary displacement of use in the area during the work, typically less than portion of each season. Phase III of the proposed action would decommission the non-specified portion of the Upper Road and allowed it to revegetate, re-establishing the road as a closed road contributing to core habitat. This potential disturbance is expected to be minimal in comparison to the amount of core habitat available and the re-establishment of core habitat with Phase III of the proposed action.

The proposed action in Alternative B may affect, but would not adversely affect the grizzly bear. There would be no net loss of core habitat and Alternative B would not contribute to a negative trend in the viability of this management indicator species on the Forest.

Gray Wolf

Habitat: For this analysis wolf security habitat is considered identical to core habitat for the grizzly bear (table xx). The use of the 0.7 mile of non-specified road would not provide a change in the forage base for ungulates with no change in the prey base for gray wolves from Alternative B.

Disturbance: There would be a short-term (10 seasons) increase in human access during road work within the Project Area. Impacts to transient wolves could include a temporary displacement of use of the area during the road use and mine work, typically less than a portion of the season. Phase III of the proposed action would decommission the non-specified portion of the Upper Road and allowed it to revegetate, re-establishing the road as a closed road contributing to core habitat. Potential disturbance is expected to be negligible in comparison to the amount of security habitat available in the drainage.

Although, the proposed road use would increase temporary disturbance, Alternative B would have a minimal impact on security habitat and no impacts to the forage base for wolf prey. The proposed action in Alternative B may affect, but would not adversely affect the gray wolf and would not contribute to a negative trend in the viability of this species on the Forest.

California Wolverine

Habitat: Under Alternative B, there would be little change physically to the habitat conditions within the project area. Changes to habitat would be limited to minor impacts to vegetation where road maintenance activities and mine portal improvements occur with brush and sapling removal. Under this alternative, there would be no impacts to upland habitat for wolverine

Disturbance: There would be a short-term (10 seasons) increase in human access during road use and mine work within the Project Area. Impacts to wolverine could include a temporary displacement of use of the area during the work, typically less than a portion of a season. This potential disturbance is expected to be minimal in comparison to the amount of security habitat available within a wolverine home range and the re-establishment of security habitat with Phase III road decommissioning would contribute to future security habitat.

Therefore the proposed action would not contribute to a negative trend in the viability of these sensitive species on the Forest and would not contribute towards federal listing.

Northern Goshawk

Habitat: There would be minimal to no change in the forest habitat with Alternative B and therefore, there would be no change in habitat components for the northern goshawk.

Disturbances: Alternative B would have motorized operations adjacent to unsurveyed suitable goshawk roosting, nesting and foraging habitat. While disturbances to northern goshawks are

most often associated with habitat removal, equipment operations are of concern within a nesting area for potential nest abandonment. Goshawks are known to fiercely defend their nest, and if raptor nest sites are found within the project area during implementation, activities will stop and a Forest Service Wildlife Biologist will be consulted. At the biologist's discretion protective buffers and/or seasonal operation restrictions (March 15th to August 3rd) may be assigned to newly located active nest sites.

The potential for disturbance from the proposed action is minimal due to the mitigation measure above for raptor nest sites. Any disturbance of short duration would be expected to have little impact on nesting birds based on experiences from viewing and trapping birds during the nesting period noted as not causing nest abandonment (Austin 1993).

Therefore the proposed action would not contribute to a negative trend in the viability of these sensitive species on the Forest and would not contribute towards federal listing.

Townsend's Big-eared Bat and Little Brown Bat

These species typically use caves, abandoned mines, bridges or buildings for roosting habitat, particularly for maternity colonies and winter hibernacula (Fellers et al 2002). Forest edges, early seral habitats, roads, and other similar open habitat conditions provide forage habitat (Johnson and Cassidy 1997) (Fellers et al 2002). While limited bat surveys on the Forest have not identified any bat roost sites in the vicinity of the mine portal, there exists the potential that bats could use the area.

Habitat: Alternative B activities within the mines would have the potential to modify the habitat where bats could roost, making the site less attractive for bat use during the 10 years of operations. Alternative B would not change bat roosting habitat provided by forest stand structure (large trees cover) in the project area or foraging habitat in Wells Creek. The fractured rock structure within the Wells Creek drainage would continue to provide crevices for bat roost and potential hibernacula.

Disturbance: Activities associated with the collection of rock sample from the mine and shoring up of the mine could disturb bats roosting within the mine. Alternative B has the potential to displace roosting bats from the mine during 10 years of operations. Given bat mobility and alternative roost sites in the drainage, the activity may adversely impact individuals, but would not be expected to limit bat species use of the project area and drainage. Activities associated with this project would not change the surrounding forest vegetation, so there would be no impacts to Townsend's big-eared bats or little brown bats foraging patterns. Activities with the project would be confined to the two mines within the project area so Alternative B would not contribute to the spread of bat white-nose syndrome.

Therefore, the proposed action may impact individual, but would not contribute to a negative trend in the viability of these sensitive species on the Forest and would not contribute to a trend towards federal listing.

American Marten

Habitat: Under Alternative B, there would be little change physically to the habitat conditions within the project area. Changes to habitat would be limited to minor impacts to vegetation where road maintenance activities and mine portal improvements occur with brush and sapling removal. Under this alternative, there would be no impacts to habitat components for marten.

Disturbance: There could be a short-term (10 seasons) increase in human access during road work within the Project Area. Impacts to marten could include a temporary displacement of use of the area during the work, typically less than a portion of a season. This potential disturbance in the project area is expected to be minimal to marten with the amount of undisturbed marten habitat available within the wells Creek drainage. Phase III decommissioning of the Upper Road would contribute to future security habitat.

Therefore, Alternative B would not contribute to a negative trend in the viability of this management indicator species on the Forest.

Pileated Woodpecker, other Cavity Excavators and Migratory Landbirds

Habitat: Under Alternative B, there would be minimal to no impacts to upland habitat for these bird communities. Minor impacts would occur only where road and mine portal treatments disturb brush and sapling vegetation. Hazard trees would be removed along the .7 mile of road prisms, but are expected to be less than 20 inches dbh. There would be vegetation impacts along the road for the 10 year duration of the plan or operation until after Phase III, when the road decommissioning would allow brush and sapling vegetation to return in the area of road prism and provide habitat in a future years.

Therefore, Alternative B would not contribute to a negative trend in the viability of these management indicator species on the Forest.

Deer and Elk

Habitat: Under this alternative, there would be minimal to no impacts to upland habitat which could provide forage for deer or elk. Minor impacts would occur only where road and mine portal treatments disturb brush and sapling vegetation. There would be no change in forest cover. Under this alternative, there would be no substantial impacts to upland habitat for deer or elk.

Disturbances: There could be a short-term (10 seasons) increase in human access during road work within the Project Area. Impacts to deer could include a temporary displacement of use of the area during the work, typically less than a portion of a season and increase ease of human access for hunting. Potential disturbance in the project area is expected to be minimal to deer and elk due to the lack of forage to attract these species to the area. Phase III decommissioning of the Upper Road would contribute to future security habitat.

Therefore, Alternative B would not contribute to a negative trend in the viability of these species on the Forest.

Cumulative Effects

The wildlife cumulative effects analysis area encompasses the 6th field watershed of the project, Wells Creek. However, large ranging species had larger areas assessed with grizzly bear and gray wolf assessed with using the bear management unit and designated critical habitat units were reviewed for impacts to marbled murrelets and spotted owls. The cumulative effect focus was on the current aggregate (or remaining, residual) effects of past actions, current and future actions that overlap spatially and temporally. The proposed action would overlap in time and space with road maintenance and potential rock pit use in the immediate project area, and with ERFO road repair and secondary road and trail maintenance within the larger area assessment areas. The cumulative effects for those projects with the mine operations would result in potential for limited noise disturbance to nesting owls and murrelets, and temporary displacement of other wildlife species. The majority of the suitable owl and murrelet nesting habitat in the project area and drainage would not be disturbed during project implementation.

Forest Plan Consistency

All Alternatives would meet the Forest Plan standards and guidelines for wildlife resources, and would therefore be consistent with the Forest Plan (USDA, 1990), as amended (USDA FS & USDI BLM, 1994). The Wildlife Specialist Report, located in the Project Record, lists applicable Forest Plan Standards and Guidelines relevant to the Excelsior Mine Plan of Operation Project. Implementation of the required mitigation measures would be consistent with wildlife resources-related Forest Plan Standards and Guidelines.

Mitigation Measures

- Hazard trees greater than 20 inches in dbh will not be removed until reviewed by the Forest Service wildlife biologist.
- If raptor nest sites are found within the Project area during operations, a Forest Service biologist will be consulted for review of the site and at their discretion assign protective buffers or seasonal operation restrictions to the newly located site.
- All food and trash will be removed from the site so as to not to attract predators to murrelets, or result in nuisance animals.

ESA Consultation

The proposed project was assessed under ESA consultation as having *no effect* to designated critical habitat for northern spotted owl or marbled murrelet, a *may affect, not likely to adversely affect* for grizzly bear and gray wolf, and a *may affect, likely to adversely affect* spotted owl and marbled murrelet due to noise disturbance within suitable nesting habitat during the birds' breeding season..

On February 10, 1994, the U.S. Fish and Wildlife Service issued the Forest Service a non-jeopardy Biological Opinion (BO) (1-7-94-F-14) addressing the adoption of the Northwest Forest Plan (NWFP) and its effect on all listed species within the range of the spotted owl. The NWFP boundaries were delineated based on the range of the spotted owl. The BO further specified that assessments would be initiated at project level scale with site specific information.

Consultation with the U.S. and Wildlife Service (FWS) on the effects of harassment from noise from the proposed action to nesting spotted owls and murrelets occurred under the Five-Year Programmatic Biological Assessment for Forest Management: MBS National Forest for 2004-2009. The 5-year Programmatic Biological Assessment and Opinion were revised and updated

in 2007, 2009 and most recently in 2010, when the FWS issued a third extension letter (Ref. No. 13410-2006-F-0015) for the existing programmatic biological opinion for coverage until the programmatic could be revised. In their Programmatic Biological Opinion, the FWS granted incidental take of spotted owl and marbled murrelet due to harassment from noise generating projects (Ref. # 1-3-02-F-1583). The Project Consistency Evaluation Form documenting consistency with the Biological Opinion is in the project files.

The Proposed Action, as assessed in a Project Consistency Form for the biological assessment (BA), is considered to be consistent with the Mt. Baker-Snoqualmie National Forest Plan (USDA, 1990), and the Record of Decision and the Standards and Guidelines of the NWFP (USDA & USDI 1994a), including a Late-Successional Reserve (LSR) Assessment.

Table 1 - Summary of Environmental Effects to Terrestrial Wildlife Resources

Federal Listed Species & Designated Critical Habitat		
Species	Effect Determination	Rationale
Spotted Owl	<i>May affect, likely to adversely affect</i>	The project area is within the historical home range of a pair of spotted owls. Noise generated from equipment and other machinery may harass nesting spotted owls in adjacent nesting, roosting, and foraging habitat.
Marbled Murrelet	<i>May affect, likely to adversely affect</i>	There are historic detections of murrelets within both Wells Creek and the IRA. Noise generated from equipment and other machinery may harass nesting marbled murrelets in adjacent nesting habitat.
Grizzly Bear	<i>May affect, not likely to adversely affect</i>	Grizzly bear core habitat does not occur in the project action area. Specified System Road densities would not increase with this project, but there would be a temporary road allowed for 10 years.
Gray Wolf	<i>May affect, not likely to adversely affect</i>	Dispersing animals may be temporarily impacted by noise or mine activities
Critical Habitat	Effect Determination	Rationale
Spotted Owl ¹	<i>No effect</i>	Suitable habitat would be maintained during temporary road and mine operation for the duration of the permit.
Marbled Murrelet ²	<i>No effect</i>	Suitable habitat would be maintained during temporary road and mine operation for the duration of the permit.
<p><i>1 Initial designation occurred in January 1992 (a final rule per 57 FR 1796-1838). CHU designation was updated in 2012 to further offset the continued declining population of the species throughout most its range since its original listing. The revised 2012 designation includes the entire proposed project site with the Washington Cascades North Subunit 4 (WCN1).</i></p> <p><i>2 Final Designation of Critical Habitat for the Marbled Murrelet occurred in May 1996 (Federal Register 61(102): 26256). Nesting and roosting are the primary constituent elements of the habitat that are essential to the conservation of the species. Nesting platforms on trees are typically flattened platforms of sufficient width (> 4 inches diameter) and may be draped or covered in vegetation such as moss (Nelson and Wilson 2002). Foliage from the tree crown provides horizontal and vertical overhead cover over the nest platform. Relatively large lateral nest platforms are correspondingly found on large-diameter mature and old-growth trees. Elements also include the availability of at least 2 nest trees per acre. Or if a stand is currently unsuitable, it could become capable in the future (FR 61:26256-26320).</i></p>		
Regional Forester's Sensitive Species and Survey and Manage Species		
Species	Impact Determination	Rationale
Johnson's hairstreak butterfly	No impact	No known sites in the project area. Reproductive and foraging habitat would not be altered.
Bald Eagle	No impact	No known activity in project area. Nesting, foraging and roost habitat would not be altered

Peregrine Falcon	No impact	Nesting and foraging habitat is absent from the project action area.
Harlequin duck	No impact	Habitat is absent.
Wolverine	Not likely to impact	Preferred habitat would not be altered, Potential disturbance to dispersing animals would be temporary during life of the permit.
Mountain goat	No impact	Preferred habitat conditions are absent.
Townsend's Big-eared Bat	Not likely to impact	Bat use of the mine for roost sites Is unknown. Activities may impact individuals. Foraging habitat will not be altered.
Cryptomastix devia	No impact	To date, no Survey and Manage mollusk species have been located on the Mt. Baker-Snoqualmie Forest and there are no known sites in the project area. Known habitat conditions for this species is absent from the project.
Other Species of Concern		
Migratory Birds	<i>No impact</i>	Minimal habitat would be impacted with temporary road maintenance and mine activities.
Deer and Elk Winter Range	<i>No impact</i>	The project action area is not designated winter range. Minimal habitat would be impacted with temporary road maintenance and mine activities.
Management Indicator Species	<i>No loss or gain of species viability or population trends</i>	The project action area is sufficiently limited in scope and scale that it would not be a meaningful or practical way to measure changes in habitat conditions to model change to species trend and viability within the Mt Baker-Snoqualmie National Forest.