

Biological Evaluation and Wildlife Report

2015 Southwestern Oregon Mineral Withdrawal

Rogue River-Siskiyou National Forest,
Bureau of Land Management Medford and Coos Bay Districts

/s/ [R. David Clayton]

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Terrestrial Wildlife

Introduction

The Southwestern Oregon Watershed and Salmon Protection Act of 2015 (S. 346 and H.R. 682) was introduced to Congress on February 3, 2015, proposing to withdraw certain lands in Curry County and Josephine County, Oregon from all forms of mineral entry, appropriation, or disposal under public land laws, subject to valid existing rights. This proposed legislation includes federally owned land within the area depicted on two maps submitted with the draft legislation. The areas include approximately 5,216 acres of BLM-managed public domain and revested Oregon California Railroad lands (O&C), and 95,806 acres of National Forest System (NFS) lands.

As a result of the legislative proposal, the Assistant Secretary of the Interior for Land and Minerals Management published a Notice of Proposed Withdrawal and Notification of Public Meetings in the Federal Register on June 29, 2015. The notice segregates for two years the described lands from settlement, sale, location, and entry under the public land laws, location and entry under the United States mining laws, and operation of the mineral and geothermal leasing laws.

The purpose and need of the proposed 5-year temporary withdrawal is to **maintain the current environmental baseline, relative to mining, mineral exploration and development, and geothermal energy development**, while Congress considers legislation enacting a permanent withdrawal from mineral entry for the federal lands depicted on the official maps.

Proposed Action: 5-year Mineral Withdrawal

The Forest Service and BLM propose a 5-year withdrawal from location and entry under the United States mining laws, and operation of the mineral and geothermal leasing laws for approximately 5,216 acres of BLM-managed public domain and revested Oregon California Railroad Grant lands and 95,806 acres of National Forest System lands in Josephine and Curry Counties. An additional 1,680 acres of non-federal lands included in the external boundaries of the maps would not be affected.

Under withdrawal, no new mining claims may be located, mineral entry would be prohibited, and no mineral leasing is allowed.

Withdrawal from operation under the mining and mineral leasing laws is subject to valid existing rights (VER). Existing mining claims may be developed after a minerals validity examination determines that a discovery of a valuable mineral deposit existed at the time of the segregation.

No other land management activities are affected by withdrawal from mineral entry.

The duration of the requested withdrawal is five years. At the end of this period, the BLM will reevaluate the withdrawal concerning the desirability and justification for extending the withdrawal for an additional period.

Alternative Action: 20-year Withdrawal

In response to public input received during the 90-day comment period, we will analyze withdrawal for a 20-year period. This alternative is the same in detail as the proposed action, except for the extended time period.

No Action: No Mineral Withdrawal

Withdrawal from location and entry under the mining laws and operation of the mineral and geothermal leasing laws would not occur, and the current segregation would end with the Secretary's decision.

New mining claims could be established, and proposed plans of operation and notices of intent could be submitted. The agencies would proceed with evaluating and authorizing previously submitted PoOs, subject to site-specific NEPA analysis, and ESA consultation if needed, including specified mitigations and project design criteria for mining and mineral development.

Suction-dredge operations could occur outside of the streams currently covered by the State of Oregon's moratorium on motorized placer mining (Oregon Senate Bill 838, July 2013) and on all streams within the project area after the moratorium expires in January 2021.

Descriptions of Mining Activities

Placer Mining

Placer mining is the mining of stream bed (alluvial) deposits for minerals. This may be done by open-pit (also called open-cast mining) or by various surface excavating equipment or tunneling equipment.

Placer mining is frequently used for precious metal deposits (particularly gold) and gemstones, both of which are often found in alluvial deposits—deposits of sand and gravel in modern or ancient stream beds, or occasionally glacial deposits.

Sluicing requires a sluice box, which is basically just a rectangular box set on a slope. The top has an opening, and the bottom has a series of wood or metal bars that break up the current as water and dirt are dumped into the open top. The lighter sediment flows out of the bottom of the box, but the heavier gold is trapped by the breaks in the current caused by the bars. Dredging is really just a way of gathering up material to be sluiced. It usually uses suction to vacuum sediment from a stream bed or river.

Where water under pressure is available, it may be used to mine, move, and separate the precious material from the deposit, a method known as hydraulic mining or hydraulic sluicing.

Mineral deposits subject to placer claims include all those deposits not subject to lode claims. Originally, these included only deposits of unconsolidated materials, such as sand and gravel, containing free gold or other minerals.

Lode Mining:

In geology, a lode is a deposit metallic ore that fills or is embedded in a fissure (or crack) in a rock formation or a vein of ore that is deposited or embedded between layers of rock. Lode deposits are distinguished primarily from placer deposits, where the ore has been eroded out from its original depositional environment and redeposited by sedimentary forces.

A **stringer lode** is one in which the rock is so permeated by small veinlets that rather than mining the veins, the entire mass of ore and the en-veined country rock is mined. It is so named because of the irregular branching of the veins into many anastomosing stringers, so that the ore is not separable from the country rock.

Deposits subject to lode claims include classic veins or lodes having well-defined boundaries. They also include other rock in-place bearing valuable minerals and may be broad zones of mineralized rock. Examples include quartz or other veins bearing gold or other metallic minerals and large volume but low-grade disseminated metallic deposits.

Activities associated with both lode and placer mining may include road building, heavy equipment use, generators, clearing vegetation and soil movement and disturbance, camping on-site, water use and diversions.

Affected Environment

Description of the Action Area

The action area is defined as *all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action* (50 CFR 402.02). For the purposes of this evaluation, the Action Area includes all lands managed by the RRSNF and the BLM that are proposed for mineral withdrawal (see the description of the proposed action below).

The proposed actions is located within the Oregon Klamath physiographic province. The proposed actions would occur within two Section 7 Watersheds (major sub-basins) on the RRSNF. These watersheds are the Illinois, and the Rogue-Lower-Wild Section 7 watersheds.

Natural plant community types within the action area are diverse. In the lower elevations Oregon white oak woodlands and grasslands, chaparral, scattered ponderosa pine, and Douglas-fir occur up to about 3,500 feet in the interior valleys. Above this is the mixed evergreen zone, dominated with Douglas-fir and madrone up to about 4,500 feet, and a mixed conifer zone on the Cascade side dominated by ponderosa pine, Douglas-fir, incense cedar, and white fir in more mesic sites. In the Illinois watershed, California chaparral communities can occupy large patches of the

landscape, composed primarily of wedge-leaf ceanothus (*Ceanothus cuneatus*) and manzanita (*Arctostaphylos spp.*). In the coastal region there are true fir plant associations, some Douglas-fir plant associations as well as dry and moist tan oak and coast hemlock plant associations and small amount of dry non-conifer balds and pine and oak woodlands. Also within this proposed withdrawal area are large inclusions of serpentine habitat that are typified by rare and endemic plants, dense brush understories and Jeffrey pine habitat, these areas are relatively rich in mineral potential, in particular nickel and laterite deposits.

The ecological diversity of plant communities and species of the proposed action area are attributed to its physiographic setting at the confluence of the Klamath, Coastal, and the Cascade regions.

The proposed action considered under the 2015 Southwestern Oregon Mineral Withdrawal (SOMW) requires a biological evaluation (BE) to be completed per Forest Service Manual (FSM) 2672.4. It is Forest Service policy to protect the habitat of listed threatened or endangered species from adverse modification or destruction, as well as to protect individual organisms from harm or harassment as appropriate (FSM 2670.3). This BE was prepared for the SOMW, which would be authorized on the Wild Rivers and Gold Beach Ranger Districts of the Rogue River-Siskiyou National Forest (RRSNF).

The purpose of this evaluation is to determine and document the possible effects that the proposed activities and alternatives would have on any endangered, threatened, proposed, or sensitive wildlife species (FSM 2672.4). A second objective of this evaluation is to ensure these species receive full consideration in the decision-making process, to maintain species viability, and meet defined recovery goals. The BE process (FSM 2672.43) provides a description of office analysis/field work done, and mitigation activities necessary to ensure proposed management actions would not likely jeopardize the continued viability of:

- A. Species listed or proposed to be listed as endangered (E) or threatened (T) by the U.S. Fish and Wildlife Service.
- B. Species listed as sensitive (S) by the U.S. Forest Service Region 6 (USDA Forest Service 2011, FSM 2670.44).

The biological evaluation is a five-step process. Each proposed, endangered, threatened, and sensitive species potentially occurring in the proposed withdrawal area was evaluated based on these steps, (evaluation of impacts on a given species may be complete at the end of step #1 or may extend through step #5).

Section 7 of the Endangered Species Act (ESA) also directs each federal agency to ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any threatened or endangered species, or result in the destruction or adverse modification of their critical habitat. The ESA also directs federal agencies to confer or consult with the appropriate Secretary on any action which is likely to jeopardize or affect the continued existence of any species or its critical habitat. Table 1 below shows the proposed, endangered, threatened and USFS Region 6 sensitive species that are known to occur on the RRSNF and the species potentially affected by the proposed action (tables 1 and 2).

Table 1. Federally listed and proposed species on the RRSNF

FWS Listed or Proposed Wildlife Species & Habitats	Pre-Field Review: Existing Sighting or Habitat?	Field Reconnaissance: Species/Habitat Present?	Conflict Determination: Potential Conflict?	Effects Analysis Needed?
Northern spotted owl	Y	Y	No	No
Spotted owl Critical Habitat	Y	Y	No	No
Gray wolf*	N	N	No	No
Pacific Fisher (proposed)	Y	Y	No	No
Oregon spotted frog*	N	N	No	No
Marbled murrelet	Y	Y	No	No
Marbled murrelet Critical Habitat	Y	Y	No	No

*Project is not within range of the species

Table 2. R6 Sensitive Species on the RRSNF

R6 Sensitive Wildlife Species & Habitat	Pre-Field Review: Existing Sighting or Habitat?	Field Reconnaissance: Species/Habitat Present?	Conflict Determination: Potential Conflict?	Effects Analysis Needed?
TRICOLORED BLACKBIRD*	N	N	No	No
WHITE TAILED KITE*	N	N	No	No
AMERICAN PEREGRINE FALCON	N	Y	No	No
BALD EAGLE	Y	N	No	No
HARLEQUIN DUCK	Y	Y	No	No
LEWIS' WOODPECKER	Y	Y	No	No
WHITE-HEADED WOODPECKER*	N	N	No	No
PURPLE MARTIN	Y	Y	No	No
NORTHERN WATERTHRUSH*	N	N	No	No
BLACK SALAMANDER*	N	N	No	No
SISKIYOU MOUNTAINS SALAMANDER*	N	N	No	No
FOOTHILL YELLOW-LEGGED FROG	Y	Y	No	No
WESTERN POND TURTLE	Y	Y	No	No
PALLID BAT	Y	N	No	No

TOWNSEND'S BIG-EARED BAT	Y	N	No	No
NORTH AMERICAN WOLVERINE*	N	N	No	No
COASTAL MARTEN	Y	Y	No	No
FRINGED MYOTIS	Y	Y	No	No
SIERRA NEVADA RED FOX*	N	N	NO	NO
EVENING FIELDSLUG*	N	N	No	No
OREGON SHOULDERBAND*	N	N	No	No
CHASE SIDEBAND*	N	N	No	No
GREEN SIDEBAND	Y	Y	No	No
TRAVELLING SIDEBAND*	N	N	No	No
CRATER LAKE TIGHTCOIL*	N	N	No	No
SISKIYOU HESPERIAN*	N	N	No	No
FRANKLIN'S BUMBLEBEE	Y	N	No	No
WESTERN BUMBLEBEE	Y	N	No	No
JOHNSON'S HAIRSTREAK	Y	Y	No	No
HOARY ELFIN *	N	N	No	No
GRAY-BLUE BUTTERFLY*	N	N	No	No
COASTAL GREENISH-BLUE BUTTERFLY	Y	N	No	No
INSULAR BLUE BUTTERFLY	Y	N	No	No
MARDON SKIPPER	Y	N	No	No
CORONIS FRITILLARY	Y	N	No	No
SISKIYOU SHORT-HORNED GRASSHOPPER*	N	N	No	No

*Project is not within range of the species

Only those species or habitats known or suspected to occur within the proposed project area (indicated in bold) will be discussed further in this analysis.

Environmental Baseline

The tables below show the current baseline of vegetative habitats currently within the two areas proposed for mineral withdrawal.

The Hunter-Pistol withdrawal area consists of a mix of forested and non-forested habitats (table 3). Very little of the area is in a non-forested condition, and most of the area is dominated by conifer and hardwood species, as well as conifer associated vertebrate and invertebrate species in

both upland and riparian/aquatic habitats. The withdrawal area vegetation consists of approximately four percent early seral and non-forest habitat, 44 percent young (3-11 inches DBH) stands, 23 percent mid-seral (11-20 inches DBH) stands, and 29 percent older forest (20+ inches DBH). Much of the young stands likely resulted from timber harvest.

Table 3. Vegetation seral stages in the Hunter/Pistol withdrawal area

Seral Stage/size class	Acres
mature >20" and <=40%cc	20
mature >20" and >40%cc and <=60%cc	21
mature >20" and >60%cc	6,338
young 11-20" <=40%cc	109
young 11-20" >40%cc and <=70%cc	146
young 11-20" >70%cc	4,856
seed/sap/pole 3-11" <40%cc	2,554
seed/sap/pole 3-11" >=40%cc	7,088
grass/shrub/sparse	104
other	680
Total	21,916

In contrast, the Rough and Ready/Baldface withdrawal area is largely non-forested due to the preponderance of serpentine soils and habitats (table 4). The withdrawal area vegetation consists of approximately 21 percent of early seral and non-forest habitat, 50 percent young (11-3 inches DBH) stands, 16 percent of mid seral (1-20 inches DBH) stands, and only 11 percent of older forest (20+ inches DBH). Many of the young stands may be due to managed stands resulting from timber harvest.

The soils in these serpentine areas are high in heavy metals and this habitat is prone to endemism in both flora and fauna, in particular flowering plants and pollinators like butterflies and bumblebees.

Table 4. Vegetation seral stages in the Rough and Ready/Baldface withdrawal area

Seral Stage/size class	Acres
mature >20" and <=40%cc	1,832
mature >20" and >40%cc and <=60%cc	1,399
mature >20" and >60%cc	4,981
young 11-20" <=40%cc	7,438
young 11-20" >40%cc and <=70%cc	1,513
young 11-20" >70%cc	3,815
seed/sap/pole 3-11" <40%cc	26,282
seed/sap/pole 3-11" >=40%cc	9,721
grass/shrub/sparse	13,861
other	1,602
Total	72,444

Endangered Species Act (ESA) Listed Species and Habitats

Individuals and habitat for two species listed under the ESA; northern spotted owl and marbled murrelet, occur within the proposed withdrawal areas, including designated critical habitat. Acres of different types of habitat for those species are shown in the tables below.

Northern spotted Owl

The northern spotted owl was listed under the ESA in 1990 (Citation). This species requires specific habitats for different aspects of its life cycle, nesting, foraging, and roosting habitat, and dispersal habitats. The primary habitat used by spotted owls are described below. On June 30, 2011, the US Fish and Wildlife Service (Service) released the *Revised Recovery Plan for the Northern Spotted Owl (Strix occidentalis caurina)* (USDI FWS 2011). The Notice of Final Revised Recovery Plan Availability was published in the Federal Register on 07/01/2011 (76 FR 38575 38576) for the northern spotted owl.

For a full description of the biology, ecology, and status of the species see the 2011 Northern Spotted Owl Recovery Plan (FWS 2010).

<http://www.fws.gov/oregonfwo/Species/Data/NorthernSpottedOwl/Recovery/Library/Documents/RevisedNSORecPlan2011.pdf>

Spotted Owl Habitats

Nesting, Roosting, and Foraging (NRF) Habitat for the northern spotted owl is generally multistoried, 80 years old or older (depending on stand type and structural condition), and has sufficient snags and down wood to provide opportunities for nesting, roosting, and foraging. The canopy closure generally exceeds 60 percent, but canopy closure or age alone does not qualify a stand as NRF. Other attributes include a high incidence of large trees with various deformities (e.g. large cavities, broken tops, mistletoe infestations, and other evidence of decadence), large snags, large accumulations of fallen trees and other woody debris on the ground, and sufficient open space below the canopy for owls to fly (Thomas et al. 1990).

In southwest Oregon, NRF habitat varies greatly, but is typified by mixed-conifer habitat, recurrent fire history, patchy habitat components, and a higher incidence of woodrats (a high quality spotted owl prey species). It may consist of somewhat smaller tree sizes. One or more important habitat components, such as dead down wood, snags, dense canopy, multistoried stands, or mid-canopy habitat, might be lacking or even absent in portions of NRF habitat in southwest Oregon. NRF habitat also functions as dispersal habitat.

Capable Habitat for northern spotted owl is forestland that is currently not habitat, but can become NRF or dispersal in the future, as trees mature and the canopy closes.

Non-habitat does not provide habitat for northern spotted owls and will not develop into capable, dispersal, or NRF in the future.

Within the mineral withdrawal areas, there are approximately 12,000 acres of NRF habitat (40 percent of the withdrawal area). This NRF habitat is largely located in the Hunter/Pistol Area (tables 5). Little NRF habitat is available in the Rough and Ready/Baldface withdrawal area due to its large inclusions of serpentine soil that do not support NRF habitat. Within the entire withdrawal area, there is approximately 28,400 acre of dispersal only habitat (39 percent). Again, dispersal habitats are largely located within the Hunter/Pistol area due to the presence of serpentine soils in the Rough and Read Creek area (tables 5 and 6). Fully 21 percent of the Rough and Ready/Baldface withdrawal area are in very early seral or non-forest. Early seral habitat is not capable of becoming spotted owl habitat.

Within the entire SOMW there are five historic spotted owl pairs, two pairs in the Hunter/Pistol area have 100-acre cores, as per the NWFP ROD (USDA and USDI 1994). The current occupancy and reproductive status of these sites is unknown.

Table 5. Acres of habitat for northern spotted owl and marbled murrelet in the withdrawal areas

Ownership	Total	NRF*	Capable	Dispersal	Non-Forest
Rough and Ready/Baldface Withdrawal Area					
All	72,445	5,413	20,062	19,852	27,118
Non Federal	1,184	180	370	559	75
Federal	71,261	5,233	19,692	19,293	27,043
Hunter/Pistol Withdrawal Area					
All	21,916	6,631	5,374	9,117	791
Non Federal	7	2	2	3	0
Federal	21,909	6,629	5372	9,114	791

*NRF habitat is equivalent to suitable habitat for marbled murrelets.

Spotted Owl Critical Habitat

Critical habitat for the northern spotted owl was designated in 1992 in *Federal Register 57*, and includes the primary constituent elements that support nesting, roosting, foraging, and dispersal. Designated critical habitat also includes forest land that is currently unsuitable, but has the capability of becoming NRF habitat in the future (57 FR 10:1796-1837). Critical habitat was revised for the northern spotted owl and the final designation was published by the USFWS in the *Federal Register* and signed on August 12, 2008 (73 Federal Register 157:47326) and became effective on September 12, 2008. The 2008 USFWS's Critical Habitat delineation was challenged in court and the 2008 designation of northern spotted owl CHU was remanded and the USFWS was ordered to revise the CHU designation. On February 28, 2012, the Service released the proposed critical habitat in the form of maps and the draft form of the federal register publication. The proposed rule was published in the Federal Register on March 8, 2012 (77 Federal Register 46:14062-14165). The final CHU rule was published in the Federal Register on December 4, 2012 and became effective January 3, 2013 (77 Federal Register 233:71876-72068).

Section 4(a)(3) of the Act specifies that the Service shall designate critical habitat for endangered or threatened species and may, from time-to-time thereafter as appropriate, revise such designation. Critical habitat is defined as (1) specific areas within the geographical area occupied by the species at the time it is listed, on which are found those physical or biological features that are essential to the conservation of the listed species and which may require special management considerations or protection, and (2) specific areas outside the geographical area occupied by the species at the time it is listed that are essential for the conservation of a listed species. Regulations focus on the "primary constituent elements," or PCEs, in identifying these physical or biological features. The physical or biological features essential to the conservation of the northern spotted owl are forested lands that are used or likely to be used for nesting, roosting, foraging, or dispersing.

Table 6. Acres of designated critical habitat for northern spotted owl in the withdrawal areas.

NSO CHU Unit	Sub-unit	Acres	NRF	Capable	Dispersal	Non-Forest
3	RDC 1	196	80	15	101	0
9	KLW3	294	168	47	77	2
Total		490	248	72	178	2

Little spotted owl critical habitat occurs within the withdrawal area; of a total of 490 acres of designated critical habitat there are 248 acres of NRF and 178 acres of dispersal habitat. See the USFWS website for a complete description of the critical habitat designation:

<https://www.gpo.gov/fdsys/pkg/FR-2012-12-04/pdf/2012-28714.pdf>

Marbled Murrelet

The marbled murrelet was listed under the ESA in 1992. The marbled murrelet is a small, robin-sized, diving seabird that feeds primarily on fish and invertebrates in near-shore marine waters. It spends the majority of its time on the ocean, roosting and feeding, but comes inland up to 80 kilometers (50 miles) to nest in forest stands with old growth forest characteristics. These dense shady forests are generally characterized by large trees with large branches or deformities for use as nest platforms. Murrelets nest in stands varying in size from several acres to thousands of acres. However, larger, un-fragmented stands of old growth appear to be the highest quality habitat for marbled murrelet nesting. Nesting stands are dominated by Douglas-fir in Oregon and Washington and by old-growth redwoods in California. For a complete description of the biology and ecology of the marbled murrelet. See the murrelet listing document on the Federal register of the USFWS web page. <http://www.fws.gov/oregonfwo/articles.cfm?id=149489445>

Marbled Murrelet Suitable Habitat includes conifer-dominated stands generally at least 80 years old or more with trees averaging 20 inches DBH or more. At least one potential nest tree must be present in a stand of trees at least 1 acre in size (6 per 5-acre area) and the stand trees must be at least one-half the height of the site-potential tree. In the Hunter/Pistol portion of the SOMW there are 6,630 acres of suitable murrelet nesting habitat (table 5).

Marbled Murrelet Occupied Habitat is identified where murrelets have been located within stands by interagency established survey protocol (Evans Mack et al. 2003). Survey data collected by the Rogue River-Siskiyou National Forest and BLM in southwestern Oregon (9,795 survey visits for murrelets between 1988 and 2001) indicate murrelets inhabit forested areas relatively close to the ocean. Murrelets have not been found more than 32 miles (51.5 kilometers) inland on the Powers Ranger District or more than 16 miles (25.7 kilometers) inland on the Gold Beach Ranger District of the Rogue River-Siskiyou National Forest and the Coos Bay BLM. There are approximately 329,000 acres of suitable murrelet habitat located within those watersheds known to be occupied by murrelets on the RRSNF (Chetco, Smith, Elk, Rogue Lower Wild, Rogue Lobster, and the Coquille-Sixes). There are approximately 1,161 acres of occupied murrelet habitat identified in the Hunter/Pistol portion of the SOMW.

Marbled Murrelet Current Critical Habitat

In 1996, critical habitat for the marbled murrelet was designated by the USFWS (the Service). On July 31, 2008, the Service proposed a revision of the designated critical habitat that was finalized in 2014. <https://www.gpo.gov/fdsys/pkg/FR-2011-10-05/pdf/2011-25583.pdf>

The revision removed approximately 254,070 acres in northern California and Oregon from the 1996 designation. Of the CHUs within the action area, only CHU #-OR-07-d would change (total

acreage would decrease by approximately 26,524 acres. Within the SOMW there is approximately 6,212 acres of designated murrelet critical habitat. Of that, 1,259 acres are suitable murrelet nesting habitat. Mining activities that alter or remove primary constituent elements of murrelet critical habitat could impact murrelet critical habitat.

Sensitive Species Accounts

In order to more easily describe those the potential effects to sensitive species from potential mining activities, this document will group those species by taxa group and habitat types for the analysis. Species accounts for all R6 sensitive species can be found at:

<http://www.fs.fed.us/r6/sfpnw/issssp/agency-policy/>

Aquatic Amphibian and Reptile Species

Aquatic species that may be affected by mining activities in the SOMW area include the western pond turtle, and the yellow-legged frog.

Foothill Yellow-legged frog

Foothill yellow-legged frogs live in sections of low-gradient streams with exposed bedrock or rock and gravel substrates. They lay their eggs in late spring or early summer, and they attach them to the bottom of quiet scour-pools or riffles in gentle-gradient streams, often where there is only slight flow from the main river. Hatchlings cling to the egg mass initially, and then to rocks.

Tadpoles live in pools that often have a connection to the main river flow, but little or no silt. Froglets live in pools with gravel and cobbles. Adults live in pool edges (often in a deep pool with sedge clumps around the edge), in bedrock at the edge of the main channel or under cobbles at the bottom of the pool. This is mainly a frog of rocky or gravelly streams in southwestern Oregon and is seldom seen far from water. Habitat is confined to the immediate vicinity of permanent streams below 2,500 feet, including those that may be reduced to waterholes connected by trickles during the dry season. Foothill yellow-legged frogs are known to occur in the withdrawal area and are relatively common in SW Oregon riverine habitats where there is suitable habitat. Mining activities that disturb aquatic and riparian habitats and oviposition sites could impact this species. <http://www.fs.fed.us/r6/sfpnw/issssp/species-index/fauna-amphibians.shtml>

Northwestern Pond Turtle

The northwestern pond turtle inhabits ponds, marshes and slow moving portions of creeks and rivers, which have rocky or muddy bottoms; these occur from sea level to about 5,000 feet (Nussbaum et al. 1983). Partially submerged logs, vegetation mats, mud banks, rocks, and tree branches provide areas for sunning. Females leave the water in late May to July to find nesting sites, which are sandy banks, clay soils, sunny fields, or banks up to hundreds of meters from water. They may also overwinter hundreds of meters from water: one was detected on the road to Babyfoot Lake near the SOMW analysis area in 2002 several hundred feet in elevation from a perennial stream (Clayton personal observation). There are no known turtle locations in the SOMW analysis area; however, they are likely present and activities that disturb aquatic and upland oviposition and hibernation habitat may impact turtles.

<http://www.fs.fed.us/r6/sfpnw/issssp/species-index/fauna-amphibians.shtml>

Birds

Peregrine Falcon

The peregrine falcon (*Falco peregrinus*) is one of six species of falcons found in North America. Peregrines are medium-sized raptors, roughly the size of a crow, with a long tail and long, pointed wings. Adults are a slate blue above and white finely barred and flecked with black below. In wild settings, they generally prefer high cliff ledges as nesting sites, from which they have a commanding view of the landscape. In more urban settings, they adapt well to high ledges on tall buildings and bridges. While this species is not known for the SOMW analysis area, there are several known sites in the Illinois and lower Rogue River watersheds, and they may be present in the SOMW area. Mining activities that can disturb falcons during the breeding season may impact this species. <http://www.forestecologynetwork.org/falcon.htm>

Harlequin Duck

The harlequin duck is a bird of turbulent waters, breeding on fast-flowing streams and wintering along rocky coastlines in the surf. These small ducks are expert swimmers and they ride rapids, diving and probing among the bottom stones of swift rivers and streams. The harlequin duck breeds and nests along swift-moving inland streams. The harlequin is a short-distance migrant that moves to breeding streams from Pacific coastal areas. Harlequin ducks migrate northward and inland in spring, arriving at their breeding areas in late-April through mid-May. Nonbreeding females also remain on rivers through the incubation period and females and juveniles may arrive on the coast in mid to late September. In Oregon, records of arrival on inland streams can be found from the first week of March, including a few reports of pairs. Pairs are seen on breeding streams in greatest numbers between the second week of April and the end of May, though a few records of pairs can be found through June. Breeding has been documented in the Coquille watershed. No locations for this species are known in either withdrawal area; however, there is suitable habitat in particular in the Hunter/Pistol watershed. Mining activities that modify riparian habitats and that could disturb individuals during the breeding season may impact this species. <http://www.fs.fed.us/r6/sfpnw/issssp/species-index/fauna-birds.shtml>

Lewis' Woodpecker

Lewis' woodpeckers are associated with oak habitats. Nests are often in mature oaks while the birds forage on insects and acorn meat. In winter, they store acorn meat in crevices in trees and power poles. Because this woodpecker does not usually excavate its own cavity, they have a close tie to older snags within the forest that are likely to contain cavities and have crevices for food storage. Habitat loss is due to a wide variety of concerns that include urbanization of valley floors, fire suppression and encroachment of conifer forests, and disruption to the oak forests. No documented locations occur within the SOMW analysis area; however, they may occur in lowland oak habitats. Mining activities that alter breeding and nesting habitats could impact this species. <http://www.fs.fed.us/r6/sfpnw/issssp/species-index/fauna-birds.shtml>

Bald Eagle

Bald eagles live near rivers, lakes, and marshes where they can find fish, their staple food. Bald eagles will also feed on waterfowl, turtles, rabbits, snakes, and other small animals and carrion. Bald eagles require a good food base, perching areas, and nesting sites. Their habitat includes estuaries, large lakes, reservoirs, rivers, and some seacoasts. In winter, the birds congregate near open water in tall trees for spotting prey and night roosts for sheltering. No locations are known within the SOMW analysis area; however, suitable habitats occur within one mile of riverine

habitats, and eagles may be present. Mining activities that remove nesting and roosting habitat, as well as potentially disturb breeding individuals, may impact eagles. See this USFWS web site for the biology and ecology of bald eagles.

http://www.fws.gov/midwest/eagle/conservation/baea_nhstry_snstvy.html

Purple Martin

Purple martin is an aerial feeder that utilizes a wide variety of terrestrial habitats including cropland, hedgerow, desert, grasslands, savanna, shrubland, chaparral, suburban, orchard, conifer woodland and hardwood woodlands. Generally, they inhabit open areas and prefer an open water source nearby. They often drink and bathe while skimming over open water. Having water nearby also helps support plentiful insects for food.

They nest in tree cavities, abandoned woodpecker holes (including those in saguaro cacti), and crevices in rocks. In areas that lack natural nesting habitat, bird-houses and hollow gourds put up by humans are often used for nesting. In Oregon, purple martins typically nested in dead Jeffrey pine (*Pinus jeffreyi*) or spruce, but also in building crevices and more recently in nest boxes and under bridges. A recent study in Oregon found that purple martins nested primarily over water, in nest boxes, gourds, pilings, and snags. There are historical records in Curry County very near the coast, but we have no current information on this species in the SOMW analysis area. Mining activities that alter habitats or breeding can impact this species.

<http://www.fs.fed.us/r6/sfpnw/issssp/species-index/fauna-birds.shtml>

Invertebrates

Western and Franklin's Bumblebees

Franklin's bumblebee (*Bombus franklini*) requires habitat with a sufficient supply of floral resources to provide continuous blooming throughout the colony season. Bumblebees are generalist foragers, gathering pollen and nectar from a wide variety of flowering plants. *B. franklini* have been observed collecting pollen on lupine (*Lupinus*) and California poppy (*Eschscholzia*), and nectaring on horsemint (*Agastache*) and mountain penny-royal (*Monardella*). They may collect both pollen and nectar from vetch (*Vicia*) and rob nectar from this plant.

Western bumblebees inhabit a wide variety of natural, agricultural, urban, and rural habitats, although species richness tends to peak in flower-rich meadows of forests and subalpine zones. While *B. occidentalis* was historically known throughout Oregon and Washington. Like other bumblebees, *Bombus occidentalis* has three basic habitat requirements: suitable nesting sites for the colonies, nectar and pollen from floral resources available throughout the duration of the colony period (spring, summer and fall), and suitable overwintering sites for the queens.

<http://www.fs.fed.us/r6/sfpnw/issssp/species-index/fauna-invertebrates.shtml>

Butterflies

Coastal Greenish Blue and Insular Blue Butterfly

The greenish blue butterfly's range extends throughout the western and northern United States and transborder Canada. *P.s. littoralis* is found in Curry and Coos counties and a mid-coastal colony in Lane County in Oregon as well as in Del Norte County in California. The Oregon Natural Heritage Program lists locations as Curry and Lane Counties. Specifically it has been found at Rock Creek/Big Creek site on Siuslaw National Forest. It is also found on the immediate coast of Del Norte County. This species may occur in the SOMW analysis area.

The insular blue butterfly is known to occur in Curry, Coos, and Lane counties in Oregon. The species is also found in Del Norte County in California. There are three known sites: the Rock Creek/Big Creek site in Lane County appears to occur on Siuslaw National Forest land.

Both species typically occur along stream edges, bogs, or wet meadows but also along drier sites that have blooming clovers such as roadsides and open meadows. The name *littoralis* means “of the shore.” The subspecies description also notes that it is found on the immediate coast and ins and dunes. Colonies at the Coquille River Lighthouse favor the moist depressions in the lee of sand dunes along the access road.

Threats are undocumented at this time, but may include the conversion of coastal habitat to homes, succession of moist meadow or dune habitat to shrub/woodland habitat, competition from weeds, trampling by humans, livestock or off road vehicles, or other natural ecological factors. Mining activities that alter or remove suitable habitat for these species impact individuals.

<http://www.fs.fed.us/r6/sfpnw/issssp/species-index/fauna-invertebrates.shtml>

Mardon Skipper

The mardon skipper, *Polites mardon*, is a rare butterfly known to occur in four disjunct areas in the Pacific Northwest: (1) southern Puget Sound, (2) the east side of the Cascade Mountains (Mt. Adams area and the Wenatchee National Forest in Washington), (3) the Cascade Mountains in southern Oregon, and (4) north-coastal California and the southern coast of Oregon.

Mardon skippers are strongly associated with grasslands and open meadows endemic to the geographic areas they occupy. Coastal Oregon mardon skipper populations are closely associated with serpentine soils that include plentiful bunchgrasses and varied nectar sources. In 2007, a single male Mardon skipper was found at the base of a bunchgrass hillside at Lone Ranch State Beach near Cape Ferrelo. The following year, in 2008, a larger population was discovered at the Hunter Creek ACEC. In 2009, a single male was observed in a small moist meadow at a new location on the Rogue River-Siskiyou National Forest (Road #100 Meadow). In 2010, two additional populations were discovered on the Rogue River-Siskiyou National Forest: one in the Signal Buttes meadows adjacent to the Hunter Creek ACEC and the other site in the Windy Valley Meadow.

There are two known populations within the Hunter Creek watershed and in the SOMW analysis area; the Windy Valley site and the Hunter Creek ACEC site. Both sites have current management plans that limit ground disturbance and encourage management of encroaching vegetation and fire in these meadows. Mining activities that remove or alter habitat may impact the mardon skipper. <http://www.fs.fed.us/r6/sfpnw/issssp/species-index/fauna-invertebrates.shtml>

Coronis Fritillary

These butterflies occur within coniferous forests containing mistletoes of the genus *Arceuthobium*, commonly referred to as dwarf mistletoe. These plants are highly specialized and are known to occur on a number of different conifers (Schmitt and Spiegel 2008). Larsen et al. (1995) states that old-growth and late successional second growth forests provide the best habitat for this butterfly, although younger forests where dwarf mistletoe is present also support *C. johnsoni* populations. All sightings in both Washington and Oregon have been in coniferous forests. This species is known from both Curry and Josephine counties and is suspected to occur where there is coniferous forest and Douglas-fir mistletoe, including the SOMW analysis area. Threats include loss of habitat and the use of BTK, a bacterial pesticide used to control non-native lepidopteran species. Mining activities that remove or alter suitable habitats and host trees

and mistletoe for this species may impact individuals.

<http://www.fs.fed.us/r6/sfpnw/issssp/species-index/fauna-invertebrates.shtml>

Snails

Green Sideband

The green sideband is a rare terrestrial snail that is endemic to Oregon. While the biology of this subspecies is not well understood, the parent species is known to be mainly crepuscular (active at dawn and dusk) during the moist spring and fall seasons. During the summer, snails aestivate deep in talus accumulations adjacent to streams or springs, which serve as refuge sites from desiccation. In moister seasons, daily refugia can include down wood, rock, or accumulations of litter. *Monadenia* species are also known to aestivate under moss and lichen on maple trees (*Acer spp.*). Snails will climb trees in riparian corridors and shelter in deep forest floor litter.

This species is a southwestern Oregon endemic, limited to the western slope of the Coast Range and the immediate adjacent coast itself. The taxon was originally known from 12 sites in Curry County, Oregon. This subspecies appears to be well distributed throughout Curry County in Oregon, despite the fact that *Monadenia* subspecies have not been consistently recognized or recorded during federal surveys for other listed species.

All known sites are within Curry County except for one collection from the Roseburg District BLM, in the Middle Fork Coquille River watershed in Douglas County. The type locality is from Port Orford, Curry County, OR. Other areas with reported locations for this subspecies include Port Orford and between the Sixes and Winchuck Rivers, mostly in sites near the coast or west side of southern Oregon Coast Range. This is the dominant *Monadenia* on the west side of the Coast Range from the Pistol River to the Winchuck River. It is a likely inhabitant of the Hunter/Pistol portion of the SOMW.

The green sideband is generally found in stands with deciduous trees (including alder) and brush in wet, relatively undisturbed forest, at low elevations; also in low coastal scrub. Habits include seasonal climbing of trees in riparian areas and shelter in deep forest floor litter. A single site from Roseburg BLM was in a proposed thinning unit in a mixed conifer/hardwood stand. There were heavy accumulations of residual down wood and the oldest live Douglas-fir trees were approximately 80 years of age; this site was not in a riparian community. Logging, grazing, road construction, and mining are all threats to this species. The green sideband is a likely inhabitant of the Hunter/Pistol portion of the SOMW analysis area and could be impacted by mining activities that alter or remove suitable habitats. <http://www.fs.fed.us/r6/sfpnw/issssp/species-index/fauna-invertebrates.shtml>

Mammals

Pacific Fisher

Pacific fisher are found primarily in conifer-dominated forests in southwest Oregon and have specialized habitat needs. Specialization appears to be tied primarily to denning and resting habitats. The varied diet of fishers suggests they may forage in a variety of habitats. However, recent research has shown that specialization appears to be tied primarily to patches or stands of mature and older forests with complex structure(s) for denning and resting habitats. The varied diet of fishers suggests they may forage in a broader range of forested habitats. Fishers are generally associated with low- to mid-elevation forest environments. Mid- to high-canopy closures also appears to be important to fisher.

The geographic distribution of fishers in the Pacific Coast states has been greatly reduced in extent from pre-settlement conditions. Fishers have recently been reintroduced on the Olympic Peninsula. Three telemetry studies and several surveys conducted by various agencies and individuals have documented fishers in the southern Oregon Cascades and Siskiyou Mountains.

Resting habitats: In southwestern Oregon, the average diameter of live trees used by females for resting was 35-inches DBH, versus 25-inches DBH for males. The canopy closure at these rest sites was greater than 80 percent. In the Siskiyou Mountains and south Cascades of southwest Oregon, the primary rest microsite was Douglas-fir mistletoe (Clayton personal observation).

Denning habitats and structures: In southwestern Oregon Cascades 13 natal and 18 maternal dens were described. For natal dens, fishers used both live trees and snags with openings that accessed hollows created by heartwood decay. The most commonly used tree species were incense cedar, true fir, and western white pine. Douglas-fir, incense cedar, and true firs were used as maternal dens.

In the Ashland watershed, fisher dens were more likely to be located in hardwoods, in particular in black oak and madrone. In northwestern California, fisher dens were located more often in hardwoods, primarily in tan oak.

Fisher are not documented within the SOMW area; however, they are known from the Chetco, Middle Rogue, and Illinois watersheds and are likely to occur in the Analysis area. Mining activities that alter or remove suitable habitats and disturb individuals during denning seasons may impact fisher in the analysis area. <http://www.fs.fed.us/r6/sfpnw/issssp/documents/planning-docs/ca-ma-martes-pennanti-volume2-2011-09.pdf>

Marten

Little is known of the distribution, genetics, and habitat associations of the coastal marten on the Oregon coast. High levels of coarse woody debris (snags, downed logs, root masses, large branches) may be an important component of marten habitat. On the coast, marten are associated with high amounts of brush cover in both forested habitats and serpentine habitats. In addition, large logs with cavities provide rest and den sites for marten. Coastal marten are currently known to occupy the SOMW analysis area. Activities that remove habitats for marten as well as those activities that may disturb marten during breeding season could impact marten. For a full description of marten ecology and biology see the PNW Research Station Redwood Sciences Lab web site. <http://svinet2.fs.fed.us/psw/publications/slauson/slauson2.pdf>

Pallid and Fringed-tailed Bats

Pallid bats roost alone, in small groups (2 to 20 bats), or gregariously (100s of individuals). Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of coast redwoods and giant sequoias, bole cavities of oaks, large snags, exfoliating ponderosa pine and valley oak bark, deciduous trees in riparian areas, and fruit trees in orchards), and various human structures such as bridges (especially wooden and concrete girder designs), barns, porches, bat boxes, and human-occupied, as well as vacant buildings. Pallid bats' tendency to roost gregariously and their relative sensitivity to disturbance makes them vulnerable to mass displacement. Roosts and hibernacula can be damaged or destroyed by vandalism, mine closures and reclamation, recreational activities such as rock climbing, forestry practices such as timber harvest, and, where man-made structures are occupied, demolition, modification, chemical treatments, or intentional eradication and exclusion. Maternity colonies and hibernating bats are especially susceptible to disturbance. Loss or modification of foraging and roosting habitat due to prescribed fire, urban development, agricultural expansion, and/or pesticide use pose potential

threats. Although this species is not documented within the SOMW analysis area, it is suspected to occur, and mining activities that modify roosting habitats could impact pallid bats.

<http://wbwg.org/western-bat-species/>

Fringed Myotis

Fringed myotis roosts in crevices in buildings, underground mines, rocks, cliff faces, and bridges. Roosting in decadent trees and snags, particularly large ones, is common throughout its range in western U.S. and Canada. *M. thysanodes* roosts have been documented in a large variety of tree species, and it is likely that structural characteristics (e.g. height, decay stage), rather than tree species, play a greater role in selection of a snag or tree as a roost. Maternity roosts are colonial with colonies ranging from 10-2,000 individuals, though large colonies are rare. Much less information is available on roosts of males, but it is thought that they roost singly or in small groups. The information available on hibernation is largely limited to an accounting of the types of structures used as hibernacula including caves, mines, and buildings. *M. thysanodes* feeds on a variety of invertebrate taxa, and the relative importance of prey items may vary according to prey availability, geography, or time period.

Threats identified to date for fringed myotis largely focus on loss or modification of roosting habitat. Specifically, *M. thysanodes* may be threatened by: closure or renewed activity at abandoned mines, recreational caving and mine exploration, loss of current and future large, decadent trees and replacement of buildings and bridges with non-bat friendly structures. Removal of large blocks of forest or woodland habitat may also threaten the species, due to its apparent propensity for foraging in and around trees. Fringed myotis are suspected to occur in the SOMW analysis area and could be impacted by vegetation modification activities.

<http://wbwg.org/western-bat-species/>

Townsend's Big-eared Bat

Corynorhinus townsendii occurs throughout the west and is distributed from the southern portion of British Columbia south along the Pacific coast to central Mexico and east into the Great Plains, with isolated populations occurring in the central and eastern United States. It has been reported in a wide variety of habitat types ranging from sea level to 3,300 meters. Habitat associations include: coniferous forests, mixed meso-phytic forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitat types.

Distribution is strongly correlated with the availability of caves and cave-like roosting habitat, including abandoned mines. Population centers occur in areas dominated by exposed, cavity or cavern forming rock and historic mining districts. Its habit of roosting pendant-like on open surfaces makes it readily detectable, and it can be the species most readily observed, when present (commonly in low numbers) in caves and abandoned mines throughout its range. It has also been reported to utilize buildings, bridges, rock crevices and hollow trees as roost sites.

The primary threat to *C. townsendii* is almost certainly related to disturbance and/or destruction of roost sites (e.g., recreational caving or mine exploration, mine reclamation, and renewed mining in historic districts). This species is not known from the SOMW analysis area, but there are known locations elsewhere on the Forest; it is a likely inhabitant of the area and could be impacted by mining activities.

Management Indicator Species

Management indicator species (MIS) are designated to support recovery of federally listed species, provide continued viability of sensitive species, and enhance management of wildlife and

fish for commercial, recreational, scientific, subsistence, or aesthetic values or uses. Management indicators representing overall objectives for wildlife, fish, and plants may include species, groups of species with similar habitat relationships, or habitats that are of high concern.

An indicator species represents all other wildlife species that utilize a similar habitat type. Indicator species act as a barometer for the health of various habitats and are to be monitored to quantify habitat changes predicted by implementation of the forest plans.

The 1989 Siskiyou NF LRMP identified eight management indicator species. These include the bald eagle (habitat along major rivers), osprey (habitat along large rivers), spotted owl (old-growth forest), pileated woodpecker (mature forest), pine marten (mature forest), black-tailed deer (early forest successional stages), Roosevelt elk, (early forest successional stages), and woodpeckers (wildlife trees or snags). The forest baselines for each of these species are located in the RRSNF internal files (USDA RRSNF 2011) and are available on the website. Mining activities that could remove or alter suitable habitats may impact these MIS species.

Survey and Manage Species

In 2001 the Northwest Forest Plan Survey and Manage standards and guidelines were amended by the Forest Service and BLM ("the agencies") in January 2001 through the signing of a Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (FS & BLM 2001 ROD). The 2001 amendment added clarity, removed duplication, and increased or decreased levels of management for specific species based on new information affecting the level of concern for their persistence. The 2001 ROD identified some categories of species that require site-specific, pre-disturbance surveys to be conducted prior to signing NEPA decisions for habitat disturbing activities. Habitat disturbing activities are defined as "those disturbances likely to have a significant negative impact on the species' habitat, its life cycle, microclimate, or life support requirements (p.22 USFS & BLM 2001)". For more information on all survey and manage species please visit the website (<http://www.blm.gov/or/plans/surveyandmanage/>).

Known sites of survey and manage species would be managed on a species by species basis based upon the habitat requirements of the species. There are three species of survey and manage species in the analysis area.

Oregon Red Tree Vole

The Oregon red tree vole is found in the majority of mature to old growth mixed conifer stands below 5,000 ft. elevation on the RRSNF. It is an arboreal rodent, which nests on limbs of larger, older Douglas-fir within mixed conifer forests (USDA, USDI 2000). Red tree voles have been found on all Districts on the RRSNF, and it is known from the Hunter/Pistol portion of the SOMW analysis area. Mining activities that remove or alter coniferous habitats for red tree vole could impact this species.

Flammulated Owl

This species is closely associated with the mixed forest habitat type, but it requires ponderosa pine in its habitat. This species is closely associated with multi-story, moderate-closed canopy structural conditions. This species is present within the Forest. It is unknown in the SOMW analysis area; however, there are suitable habitats for this species. Mining activities that remove potential roosting and nesting habitats could impact this species.

Pygmy Nuthatch

This species requires ponderosa pine as a habitat component and is present within the Forest. It is unknown in the SOMW analysis area, however there are suitable habitats for this species. Mining activities that remove potential roosting and nesting habitats could impact this species

Neotropical Migratory Bird Species

There are several federal laws and regulations that govern the management of neotropical migratory birds on federal lands.

The Migratory Bird Treaty Act of 1918 (MBTA).

The MBTA Implements various treaties and conventions between the U.S., Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Under the act, it is unlawful to pursue, hunt, take, capture (or kill) a migratory bird except as permitted by regulation (16 U.S.C. 703-704). The regulations at 50 CFR 21.11 prohibit the take, possession, import, export, transport, sale, purchase, barter, or offering of these activities, or possessing migratory birds, including nests and eggs, except under a valid permit or as permitted in the implementing regulations (Director's Order No. 131). A migratory bird is any species or family of birds that live, reproduce or migrate within or across international borders at some point during their annual life cycle.

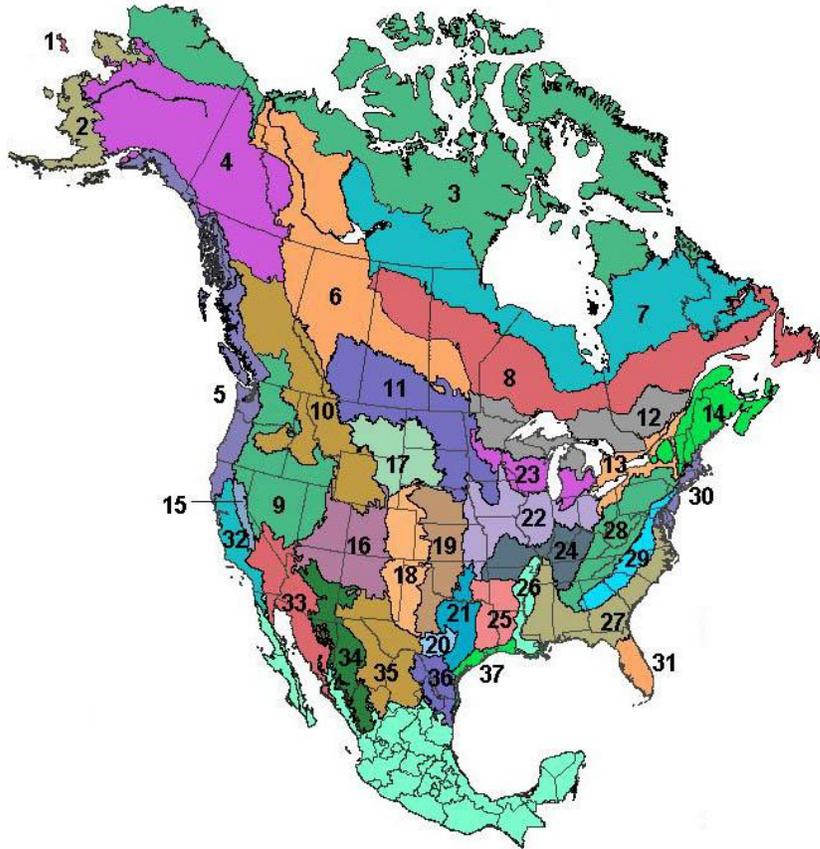
Executive Order 13186 (66 Fed. Reg. 3853, January 17, 2001)
“Responsibilities of Federal Agencies to Protect Migratory Birds”

This Executive Order directs federal agencies to avoid or minimize the negative impact of their actions on migratory birds, and to take active steps to protect birds and their habitat. This Executive Order also requires federal agencies to develop Memorandum of Understandings (MOU) with the FWS to conserve birds including taking steps to restore and enhance habitat, prevent or abate pollution affecting birds, and incorporating migratory bird conservation into agency planning processes whenever possible. The BLM and FS have both completed, and are currently implementing, their respective MOU's with the FWS.

PIF Bird Conservation Regions (BCR'S)

Bird Conservation Regions (BCRs) are ecologically distinct regions in North America with similar bird communities, habitats, and resource management issues. BCR's are a hierarchical framework of nested ecological units delineated by the Commission for Environmental Cooperation (CEC). The CEC framework comprises a hierarchy of four levels of eco-regions. At each spatial level, spatial resolution increases and eco-regions encompass areas that are progressively more similar in their biotic (e.g., plant and wildlife) and abiotic (e.g., soils, drainage patterns, temperature, and annual precipitation) characteristics.

The overall goal of these BCR lists are to accurately identify the migratory and resident bird species (beyond those already designated as federally threatened or endangered) that represent our highest conservation priorities. The figure below shows the Bird Conservation Regions for North America; the SOMW lies within BCR 5.



The Birds of Conservation Concern 2008- (updated every 5 years)

In December, 2008, the U.S. Fish and Wildlife Service released The Birds of Conservation Concern Report, which identifies species, subspecies, and populations of migratory and resident birds not already designated as federally threatened or endangered that represent highest conservation priorities and are in need of additional conservation actions.

The SOMW analysis area lies within the Birds of Conservation Concern Region 5. Only those species that could potentially be affected by the mining activities in the analysis area are shown below.

PIF Bird Conservation Plans:

Five conservation plans have been developed by PIF covering the various geographic regions found in Oregon and Washington. These documents have been prepared to stimulate and support a proactive approach to the conservation of landbirds throughout Oregon and Washington. They represent the collective efforts of multiple agencies and organizations within Oregon and Washington. Participants included biologists from federal and state agencies, industry, private consulting firms, environmental organizations, and academia in order to ensure a full range of ideas and practicalities were addressed by the plans.

Recommendations included in the documents are intended to inform planning efforts and actions of land managers, and stimulate monitoring and research to support landbird conservation. The recommendations are also expected to serve as a foundation for developing detailed conservation

strategies at multiple geographic scales to ensure functional ecosystems with healthy populations of landbirds. The plans can be found on the OR-WA PIF web site at www.orwapif.org

- ◆ Conservation Strategy for Landbirds in Coniferous Forest of Western Oregon and Washington
- ◆ Conservation Strategy for Landbirds in Lowlands and Valleys of Western Oregon and Washington, Version 2

The overall goal of PIF Bird Conservation Planning is to ensure long-term maintenance of healthy populations of native landbirds.

The strategy for achieving functioning ecosystems for landbirds is described through the habitat requirements of "focal species." By managing for a group of species representative of important components in a functioning coniferous forest ecosystem, many other species and elements of biodiversity also will be conserved. E.O. 13186 and the MOUs signed by the FS and BLM with the FWS requires agencies to incorporate migratory bird conservation into agency planning processes whenever practicable. The PIF plans assist federal agencies in achieving this direction.

Bird Conservation Regions (BCRs) were developed based on similar geographic parameters. One BCR encompasses the project area, BCR 5, table 7 displays the BCC species for this area, preferred habitat and whether suitable habitat is present in the project area.

Table 7. Bird Conservation Region 5 – Northern Pacific Rainforest USFWS Birds of Conservation Concern found in the planning area.

Bird Species	Preferred Habitat
Northern goshawk	mature forests with larger trees; relatively closed canopies; and open understories
Peregrine falcon and bald eagle	cliffs and large trees
Olive-sided flycatcher	natural or man-made openings with tall trees or snags
Rufous hummingbird	forest edges and openings with a diversity of flowering plants
Band-tailed pigeon	Nest primarily in closed Douglas-fir stands with canopy cover above 70 percent. Key food sources include red elder, cascara and other berry, fruit and mast producing shrubs and trees. Mineral springs/seeps are important and provide essential calcium for nesting.
Purple finch	moderately moist open or semi open coniferous forests

Mining activities that alter habitats for these species or that occur during the breeding seasons may impact these neo-tropical migratory bird species.

Environmental Consequences

Two ways that mining and associated activities can affect species and habitat are direct manipulation or removal of habitat and disturbance to individuals of a species or their habitats.

Habitat Effects

Habitat effects include removal of habitats for all species, including removal of vegetation and disturbance to soils or substrates in aquatic, riparian, and upland habitats. Such disturbance can cause direct mortality to individuals and impacts to populations by affecting the breeding, feeding, and sheltering habitats for species.

Habitat modification includes habitat loss, fragmentation, edge effects, snag and down log reduction, routes for competitors, and movement barriers. Andren (1994) suggested that as landscapes become fragmented, the combination of increasing isolation and decreasing patch size of suitable habitat is synergistically adverse, compounding the effects of simple habitat loss. In particular, species associated with old forest habitats may be impacted by such effects. A decrease in interior forest patch size results in habitat loss and greater distance between suitable interior forest patches for sensitive species such as the northern spotted owl and American marten.

Disturbance Effects

Disturbances effects include those activities that may impact species and individuals during critical times of their life cycles, including breeding seasons, typically during the spring. Activities conducted at these times can impact all species of concern. Activities that create elevated sound levels or result in close visual proximity of human activities at sensitive locations (e.g., nest trees) have the potential to disrupt normal behavior patterns. Studies of the effects of human disturbance upon wildlife have revealed that the immediate postnatal period in mammals and the breeding period in birds are periods when individuals are most vulnerable to disturbance.

Intrusion-induced behaviors, such as nest abandonment and decreased nest attentiveness, have led to reduced reproduction and survival in species that are intolerant of intrusion (Knight and Gutzwiller 1995). Foppen and Reijnen (1994), for example, found that the reproductive success of forest bird species declined in areas fragmented by roads. Wasser et al. (1997) found that stress hormone levels were significantly higher in male northern spotted owls (but not females) when they were located less than 0.25 miles from a major logging road, compared to spotted owls in areas greater than 0.25 miles from a major logging road. Chronic high levels of stress hormones may have adverse consequences on reproduction or physical condition of birds, though these effects are not well understood.

Wildlife response to noise disturbance is complex, being neither uniform, nor consistent. Delaney et al. (1999) reviewed literature on the response of owls and other birds to noise and concluded that birds generally flush in response to disturbance when distances to the source are less than about 200 feet and when sound levels are in excess of 95 decibels. The tendency of a bird to flush from a nest declines with experience or habituation to the noise, but cannot be completely eliminated by habituation.

Proposed Action – 5-year Withdrawal

The proposed action is administrative in nature and does not involve any specific ground disturbance, environmental changes, or non-speculative benefits or impacts to wildlife resources. While precluding exploration, mining, and the filing of future claims within these areas could potentially provide an overall benefit to the species and habitats that occur in the withdrawal area, the effects to specific terrestrial wildlife cannot be determined without speculating on the nature and intensity of future actions that may or may not occur. At present, the potential effects of the existing PoOs are negligible or unlikely to occur (see the analysis of the no action alternative).

Direct, Indirect, and Cumulative Effects

Withdrawing the area from mining and mineral exploration has no direct effect on any wildlife species of concern. Indirect beneficial effects could result from precluding mineral activity, but, given current and known future levels of activity, such benefits would be negligible. As such, the proposed action will have no effect on any threatened, endangered species, or their designated

critical habitats, or sensitive species, MIS species, survey and manage, neotropical migrants, or any other species or habitat of concern.

To date, no existing claims have been proven valid following the BLM's validity examination process, and no further claims could be filed during the 5-year withdrawal period. For any mineral activity to go forward under withdrawal, a validity exam for an existing claim proposed for mining would be required. If the claim were to be found valid, a site-specific NEPA analysis and ESA Section 7 consultation would occur for any proposed plan of operation prior to authorizing any ground disturbing activity. Site-specific analysis would occur for all ESA listed, sensitive, MIS, survey and manage species, neotropical migrants, and any other species or habitat of concern.

There will be no effect to any wildlife species of concern under this administrative action, and there are no cumulative effects to any species.

Alternative Action – 20-year Withdrawal

Like the proposed action, the 20-year alternative is an administrative action, and does not involve any specific ground disturbance, environmental changes, or non-speculative benefits or impacts to wildlife resources. While precluding exploration, mining, and the filing of future claims within these areas could potentially provide an overall benefit to the species and habitats that occur in the withdrawal area, the effects to specific terrestrial wildlife cannot be determined without speculating on the nature and intensity of future actions that may or may not occur. At present, the potential effects of the existing PoOs are negligible or unlikely to occur (see the analysis of the no action alternative).

The effects under this alternative are essentially the same as under the proposed action (see above), except that new claims would be prohibited for a longer time. Given the extended time period, the likelihood that some claims may undergo minerals validity examination is higher than under the 5-year withdrawal. Whether or not such exams would find any valuable discoveries is unpredictable.

The No Action Alternative

Potential Effects from Current Mining Proposals

Three proposed plans of operations for nickel laterite mining or exploration were submitted, but not approved, prior to segregation. Those PoOs include:

RF-38

The Gold Beach Ranger District of the Rogue River-Siskiyou National Forest, received a proposed plan of operation from the Red Flat Nickel Corporation (RFNC) in 2012. RFNC proposed to drill 35 holes, each three inches in diameter, to a maximum depth of 50 feet in order to obtain core samples to test for minerals within portions of their existing claims located on NFS lands.

The project area for this proposal is defined as the total area associated with the existing mineral claims. The perimeter of the existing minerals claims included an area of approximately 1,700 acres. Approximately 1,300 acres are Forest Service managed lands (and where the proposed action would be completed), with the remaining 400 acres of mineral claims located on BLM managed lands (no proposed actions).

Proposed drill sites would be contained within the perimeter of the existing minerals claims. Drilling of the test holes would occur within a small area of each claim, and the total area of actual effect from test drilling would be less than one-half acre. The area of actual effect would occur on Forest Service roads and secondary tracks, which are already disturbed areas. An as yet unsigned decision memo for the project identified no effect to any TES or any other species or habitat of concern associated with this proposed project. The environmental analysis only authorized the above actions; if other actions were to be proposed within these claims, additional NEPA and ESA consultation would be conducted prior to authorizing such activities.

Cleopatra Mine

The Forest Service received a proposed plan of operation from Red Flat Nickel Corporation to conduct mining activities on National Forest System lands. RFNC would collect core samples to test for minerals on their existing claims on Forest Service lands within the Baldface, Taylor, and Fall Creek drainages of the North Fork Smith River watershed. Claimants would drill 59 holes, 3-inches in diameter, into rock or bare lateritic soils to a maximum depth of 50 feet. Drill sites would be approximately 600 feet apart and a minimum of 200 feet from any seasonal or perennial watercourse. No road or trail construction, reconstruction, or maintenance would occur.

The environmental analysis has not been completed, but analysis to date has identified no effect to any TES or any other species or habitat of concern associated with this proposed project. Any decision stemming from this analysis would only authorize the above actions. If other actions were to be proposed within these claims, additional NEPA and ESA consultation would be conducted prior to any authorization of the proposed activities.

RnR Mine.

The RnR PoO submitted in 2011 is on hold due to legal encumbrance and the need for more information about the proposal to complete the environmental and economic analyses. Site-specific analysis is not possible until the PoO is amended to include information asked for by the agency. In the unlikely event that legal issues were resolved in favor of the plaintiff, and if adequate information were provided, the NEPA would recommend project design criteria and mitigations that seek to protect all TES wildlife and their habitats from direct and indirect effects caused by proposed mining.

Possible Effects to Species and Habitats from Future Mining

The table below shows the amount of high and medium mineral potential in each portion of the SOMW, as well as the associated habitats within those areas of high and medium mineral potential. Without withdrawal mineral activities could possibly affect several species associated with aquatic, riparian, late seral, early seral, and non-forest habitats – especially the invertebrate pollinators. Whether or not mining or exploration will occur in these areas is purely speculative.

Table 8. Wildlife habitat occurring in areas of high and medium mineral potential within the proposed withdrawal areas.

	Acres	NRF	Capable/ early seral	Dispersal	Non-forest/ serpentine
Rough and Ready/Baldface withdrawal area					
High Potential	29,559	1,105	8,450	6,981	13,024
Medium Potential	31,818	1,319	9,148	8,258	13,092
Hunter/Pistol withdrawal area					

High Potential	2,621	563	1,019	917	121
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Only a small portion of the high and medium mineral potential area within the SOMW is under current claim. Current claims, if they were ever to be developed, have the potential to impact habitats associated with the listed species, northern spotted owl and marbled murrelet (680 acres of NRF and 1,560 acres of dispersal), as well as several other species associated with late seral, early seral, and non-forest habitats. The table below shows the amount current claims by acres claimed and potentially affected habitats within the SOMW.

As previously mentioned, the Rough and Ready/Baldface withdrawal area is largely located within serpentine habitats that generally provide little late seral habitat (LSH). Current claims also overlap very little LSH, but a significant portion of early seral and non-forest habitats (table 9). Existing claims in the Rough and Ready/Baldface portion of the SOMW could potentially impact up to 106 acres of NRF, 1,366 acres of dispersal habitats, and up to 5,726 acres of early seral and non-forest habitats (table 9).

Table 9. Wildlife habitat occurring in areas with active mining claims within the proposed withdrawal areas.

Withdrawal Area	Acres with claims	NRF	Capable/early seral	Dispersal	Non-Forest/serpentine
RnR/Baldface	7,197	106	1,894	1,366	3,832
Hunter/Pistol	3,019	581	1,106	1,205	127

In contrast, the Hunter/Pistol withdrawal area is largely located within well forested habitats that generally provide much more LSH. Current claims overlaps some LSH and a significant portion of early to mid-seral habitats (table 9). Existing claims in the Hunter/Pistol portion of the SOMW could potentially impact up to 581 acres of NRF, 1,205 acres of dispersal habitats, and up to 1,233 acres of early seral and non-forest habitats (table 9).

ESA Listed Species

Northern Spotted Owl and Critical Habitat

Areas of high and medium mineral potential within the SOMW occur on approximately 62,000 acres of spotted owl habitats (3,000 acres of NRF and 16,000 areas of dispersal). However within existing claims, only up to 687 acres of NRF and 2,571 acres of dispersal habitat could potentially be affected, if any of these claims were to be developed.

Five spotted owl historical sites occur within the SOMW; but no owl sites are located within an existing claim. Any proposed activity that may affect spotted owls would require ESA consultation prior to authorization, with subsequent minimization measures imposed. Consequently, there would be little to no effect to spotted owls from any current mining claims.

Little spotted owl critical habitat occurs within the withdrawal area; of a total of 490 acres of designated critical habitat, there are 148 acres of NRF and 178 acres of dispersal habitat. Any proposed activity that may affect spotted owl critical habitat would require ESA consultation prior to authorization, with subsequent minimization measures imposed. Consequently, there would be little to no effect to spotted owl critical habitat from any current existing claims.

Marbled Murrelet and Critical Habitat

In the Hunter/Pistol portion of the SOMW there are 6,630 acres of suitable murrelet nesting habitat (table 5). However, within existing claims, not more than 687 acres of suitable murrelet habitat could potentially be affected. Any proposed activity that may affect marbled murrelets would require ESA consultation prior to authorization with subsequent minimization measures imposed. Consequently, there would be little to no effect to marbled murrelets.

There are approximately 1,161 acres of occupied murrelet habitat identified in the Hunter/Pistol portion of the SOMW. However, only approximately 180 acres of occupied murrelet habitat is located within any existing claim. No PoOs are currently authorized to conduct activities within occupied habitat. Any proposed activity that may affect occupied murrelet habitat would require ESA consultation prior to authorization with subsequent minimization measures imposed. Consequently, there would be little to no effect to occupied murrelet habitat.

Within the SOMW area there is approximately 6,212 acres of murrelet designated murrelet critical habitat. Of that, 1,259 acres are suitable murrelet nesting habitat. No PoOs are currently authorized that would affect critical habitat. Any proposed activity that may affect murrelet critical habitat would require ESA consultation prior to authorization, with subsequent minimization measures imposed. Consequently, there would be little to no effect to murrelet critical habitat.

Effects to Sensitive Species

All sensitive species that occur, or are suspected to occur, within the SOMW analysis area could be affected by mining activities. However, no PoOs are currently authorized to conduct activities within any known sites or suitable habitats for those species. In addition, any proposed activity within any portion of the SOMW would require site-specific NEPA analysis prior to any authorization, where mitigations for any affected sensitive species or their habitats would be specified. Consequently, there would presumably be minimal effects to any sensitive species or their habitats.

Effects to Management Indicator Species (MIS)

All MIS species that occur, or are suspected to occur, within the SOMW analysis area could be affected by mining activities. However, no PoOs are currently authorized to conduct activities within any known sites or suitable habitats for those species. In addition, any proposed activity within any portion of the SOMW would require site-specific NEPA analysis prior to any authorization, where mitigations for any affected sensitive species or their habitats would be specified. Consequently, there would presumably be minimal effects to management indicator species or their habitats. No activities are expected to occur that would affect the viability of these species on the RRSNF.

Effects to Survey and Manage Species

Any survey and manage species that occur, or are suspected to occur, within the SOMW analysis area could be affected by mining activities. However, there are currently no PoOs or NOIs that are authorized to conduct activities within any known sites or suitable habitats for those species. In addition, any proposed activity within any portion of the SOMW would require site-specific NEPA analysis prior to any authorization, where mitigations for any affected sensitive species or their habitats would be specified. Consequently, there would presumably be minimal effects to any survey and manage species or their habitats.

Effects to Neotropical Migrants

All migratory bird species that occur, or are suspected to occur, within the SOMW analysis area could be affected by mining activities. However, currently no PoOs are authorized to conduct activities within any known sites or suitable habitats for those species. In addition, any proposed activity within any portion of the SOMW would require site-specific NEPA analysis prior to any authorization, where mitigations for any affected migratory birds or their habitats would be specified. Consequently, there would presumably be minimal effects to migratory birds.

Literature Cited

United States Department of Agriculture, Forest Service, and United States Department of the Interior, Bureau of Land Management. 1994*b*. Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl. USDA Forest Service, Pacific Northwest Region, Portland, Oregon. Available online at: <http://www.reo.gov/library/reports/newroda.pdf>