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# Final Environmental Impact Statement for the Land Management Plan

## *Appendix C: Wildlife Species and Habitat Summary*

# Nez Perce-Clearwater National Forests



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## **Final Environmental Impact Statement for 2023 Land Management Plan for the Nez Perce-Clearwater National Forests**

Idaho, Clearwater, Lewis, Latah, Shoshone and Benewah Counties, Idaho

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**Abstract:** This Final Environmental Impact Statement documents the analysis of the Preferred Alternative and four additional action alternatives developed for programmatic management of the four million acres of National Forest system lands administered by the Nez Perce-Clearwater National Forests. The purpose is to provide land management direction for the Nez Perce-Clearwater National Forests, combining the 1987 Nez Perce National Forests Land Management Plan and the 1987 Clearwater National Forest Land Management Plan into one plan for the Nez Perce-Clearwater National Forests, now managed as one administrative unit.

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## Introduction

This appendix contains a list of species from the Idaho Species Diversity Database observed on the Nez Perce-Clearwater National Forests, with a brief description of their habitat. Habitat descriptions for birds were pulled from species profiles on Birds of North America.<sup>1</sup> For other species, habitat descriptions originated from species profiles on the International Union for Conservation of Nature’s Red List of Threatened Species<sup>2</sup>, the Montana Field Guide<sup>3</sup>, the Idaho Statewide Wildlife Action Plan (Idaho Department of Fish and Game 2017)<sup>4</sup>, or Nature Serve species profiles.<sup>5</sup> Habitat descriptions for some gastropods originated from publications from Frest and Johannes (2000), Frest (1999), and Hendricks (2012).

## Wildlife Species Observed on the Nez Perce-Clearwater

Table 1 lists wildlife species, scientific names, and a summary of their habitats for the wildlife species observed on the Nez Perce-Clearwater.

**Table 1. Wildlife species and habitat on the Nez Perce-Clearwater**

Common Name	Scientific Name	Habitat Summary
American Pipit	<i>Anthus rubescens</i>	Arctic and alpine tundra throughout the range, grasslands, meadows, and alpine.
Broad-tailed Hummingbird	<i>Selasphorus platycercus</i>	Open subalpine meadows.
Gray-crowned Rosy Finch	<i>Leucosticte tephrocotis</i>	Not observed in the plan area but probably occurs. Habitats are generally alpine areas, usually near snowfields or glaciers, where they nest in talus, rock piles, and cliffs. In the summer, they are found only at craggy breeding sites. They are possibly the highest-altitude breeding bird in North America. Found at lower elevations in autumn and winter, generally in open country, including mountain meadows, shrublands, roadsides, towns, cultivated areas, rocky hillsides, and margins of dry ditches.
Wolverine	<i>Gulo gulo luscus</i>	Inhabits a variety of habitats in the alpine, tundra, taiga, and boreal forest zones, including coniferous, mixed, and deciduous woodlands, bogs, and open mountain, as well as tundra habitats. Snow is generally regarded as an important component of its seasonal habitat requirements. Wolverines are generally found in remote areas.

<sup>1</sup>Rodewald, P. (Editor). 2015. The Birds of North America. Cornell Laboratory of Ornithology, Ithaca, NY: Available online:

<https://birdsna.org/Species-Account/bna/home>

<sup>2</sup>IUCN 2019. The IUCN Red List of Threatened Species. Version 2019-2 (International Union for Conservation of Nature’s Red List of Threatened Species). Available online: <https://www.iucnredlist.org> [Accessed 2019]

<sup>3</sup>Montana Field Guide (Montana Natural Heritage Program and Montana Fish, Wildlife, and Parks, 2019). Available online:

<https://fieldguide.mt.gov> [Accessed 2019]

<sup>4</sup>Idaho Department of Fish and Game. 2017. Idaho State Wildlife Action Plan, 2015. Idaho Department of Fish and Game, Boise, ID. Available online: <http://fishandgame.idaho.gov>

<sup>5</sup>NatureServe. 2009. NatureServe Web Service. Arlington, VA. U.S.A. Available online: <https://explorer.natureserve.org> [Accessed 2019]

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Common Name	Scientific Name	Habitat Summary
		Wolverine habitat selection is negatively affected by human activity, including roads, infrastructure, and back-country recreation.
Gray Jay	<i>Perisoreus canadensis</i>	Coniferous and mixed coniferous—deciduous forest; spruces ( <i>Picea</i> spp.) are typically present. Boreal and sub-alpine coniferous forests, mixed coniferous-deciduous forest; spruces ( <i>Picea</i> spp.) typically present. Uses jack pine, lodgepole pine, Engelmann spruce, black spruce, white spruce, white cedar, balsam fir, subalpine fir, silver fir, and quaking aspen.
California Gull	<i>Larus californicus</i>	Visitor within the plan area. Common on adjacent lands. Open habitats near lakes or rivers. Nesting occurs on islands.
Herring Gull	<i>Larus argentatus</i>	Multiple habitats, but nests near water in areas with sparse vegetation.
Sandhill Crane	<i>Grus canadensis</i>	Open grasslands, meadow, wet meadows, marshes, and shallow wetlands. Nests near or in water on floating nests.
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Typically breeds in forested areas adjacent to large bodies of water. Nests in trees, rarely on cliff faces and ground nests in treeless areas. Nests occur in mature and old-growth forest with some habitat edge, relatively close to water (usually <2 km) with suitable foraging opportunities. In suitable areas, nest trees are generally one of largest trees available with accessible limbs capable of holding nests. In most regions, seeks out aquatic habitats for foraging and prefers fish but also takes waterfowl, mammals, and carrion.
Common Merganser	<i>Mergus merganser</i>	Oligotrophic lakes and rivers bordered by mature trees, tree cavities and abundant fish. Uses large rivers extensively in plan area during the breeding season.
Bufflehead	<i>Bucephala albeola</i>	Ponds and small lakes and cavities for nesting during breeding season, lakes or major river systems during migration.
Wood Duck	<i>Aix sponsa</i>	Wide variety of habitats: creeks, rivers, overflow, bottomlands, swamps, marshes, beaver ponds and farm ponds. Abundant plant and invertebrate food bases close to suitable nest sites are essential components of breeding habitat. Herbaceous emergent plants, flooded shrubs, and downed timber are important. Mature forests are needed for development of trees with suitable cavities for nesting. Trees producing suitable nest sites are > 11 inches diameter at breast height but are commonly 23 inches.
Hooded Merganser	<i>Lophodytes cucullatus</i>	Forested wetland habitats, including emergent marshes, small lakes, ponds, beaver wetlands, forested creeks and rivers, and swamps.
Tree Swallow	<i>Tachycineta bicolor</i>	Tends to breed near bodies of water over which individuals can forage for flying insects. Habitat includes fields, marshes, shorelines, and wooded swamps with standing dead trees. Historical association with beavers that flooded big tracts of forest. Requires tree cavities for nesting and sometimes roosting.
Osprey	<i>Pandion haliaetus</i>	Habitat varies greatly but common denominators include an adequate supply of accessible fish near sites suitable for nesting. Nest sites typically located areas near shallow



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Common Name	Scientific Name	Habitat Summary
		waters and with open conditions. Nest sites often on trees or large rocks, bluffs, cliffs, nest platforms, or snags.
Spotted Sandpiper	<i>Actitis macularius</i>	Occupy almost all habitats near water, including everything from the shorelines of wild rivers and lakes to urban and agricultural ponds and pools.
Canada Goose	<i>Branta canadensis</i>	A broad range of habitats near lakes, ponds, larger streams, marshes, muskegs, and wet hummocky areas.
Mallard	<i>Anas platyrhynchos</i>	Wide variety of wetlands, lakes, ponds, and other aquatic environments.
Rough Rams-horn	<i>Planorbella subcrenata</i>	The species occurs in nearly all perennial-water habitats that support significant rooted vegetation. Mud is a frequent substrate.
Common Muskrat	<i>Ondatra zibethicus</i>	Found in brackish and fresh-water lakes, ponds, streams, rivers, and marshes.
American Mink	<i>Vison vison</i>	Species is found along streams and lakes, as well as in swamps and marshes. It prefers densely vegetated areas. It dens under stones or the roots of trees, in expropriated beaver Castor or Muskrat Ondatra houses, or in self-excavated burrows. Forages on a variety of prey.
Western Tiger Salamander	<i>Ambystoma mavortium</i>	Tiger salamanders can be found in virtually any habitat, providing there is a terrestrial substrate suitable for burrowing and a body of water nearby suitable for breeding. This species occurs in a variety of habitats, including grass prairies, open prairies, aspen parkland, boreal, deciduous and coniferous forests and woodlands, alpine and sub-alpine areas, semi-deserts, and deserts. It is considered to be quite adaptable. It breeds in a wide range of environments, including permanent or semi-permanent ponds or lakes from clear mountain ponds to temporary, manure-polluted pools in the lowlands, usually in sites where predatory fishes are absent.
Western Toad	<i>Anaxyrus boreas</i>	Wide variety of habitats, generally within proximity to water. Found across Idaho from mountain meadows to low elevation deserts. Although primarily terrestrial, breeding occurs in quiet waters, including beaver ponds, reservoirs, lakes, streams, marshes, and wet meadows.
Idaho Giant Salamander	<i>Dicamptodon aterrimus</i>	Larvae usually inhabit clear, cold streams but are also found in mountain lakes and ponds. Adults are found in humid forests under rocks and logs near mountain streams or rocky shores of mountain lakes. Eggs usually are laid in headwaters of mountain streams. Breeding typically occurs in water-filled nest chambers under logs and rocks or in rock crevices.
Long-toed Salamander	<i>Ambystoma macrodactylum</i>	Found in a wide variety of habitats from semiarid sagebrush deserts to sub-alpine meadows, including dry woodlands, humid forests, and rocky shores of mountain lakes. Adults are subterranean except during the breeding season. Found in well-drained areas with thick litter on the forest floor and close to relatively permanent water bodies. Also found in seral stages ranging from three-year-old clear-cuts to 180-year-old forests and in active logging areas. Breeds in temporary or permanent ponds or in quiet water at the edge of lakes and streams. During the breeding season, adults may be found under logs,



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Common Name	Scientific Name	Habitat Summary
		rocks, and other debris near water. Eggs are attached to vegetation or loose on bottom.
Columbia Spotted Frog	<i>Rana luteiventris</i>	Usually occurs at the grassy or sedge margins of streams, lakes, ponds, springs, and marshes at water's edge in or near forest openings. Wetlands at or near tree line are also used. Usually found within 50 feet of shore. Usually breeds in shallow water in ponds or other quiet waters. Uses stream-side small mammal burrows as shelter. Winter sites are undercut stream banks, spring heads, and deep lakes.
American Bullfrog	<i>Lithobates catesbeianus</i>	Generalist amphibian. Inhabits wetlands, ponds, oxbow lakes, bogs, and lakes, usually lives along the edge.
Sierran Treefrog	<i>Pseudacris sierra</i>	These frogs occupy a wide variety of habitats, including grassland, chaparral, woodland, forest, and farmland. They live on land except during the breeding season. They spend most of their time on the ground, but after the breeding season they may bask on the leaves of woody plants far from water, and sometimes they climb high into trees. Females deposit eggs in shallow water of marshes, lakes, ponds, ditches, reservoirs and slow-moving streams.
Northern Leopard Frog	<i>Lithobates pipiens</i>	Springs, slow streams, marshes, bogs, ponds, canals, flood plains, reservoirs, and lakes; usually permanent water with rooted aquatic vegetation. In summer, commonly inhabit wet meadows and fields. Takes cover underwater, in damp niches, or in caves when inactive. Over winters usually underwater. Eggs are laid and larvae develop in shallow, still, permanent water.
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	Associated with freshwater marshes, grasslands, and prairies.
American Avocet	<i>Recurvirostra americana</i>	Specialize in using ephemeral wetlands of the arid western United States with shallow open waters.
Great Blue Heron	<i>Ardea herodias</i>	Wetlands, water bodies, and water courses. Nests in trees, bushes, on the ground, and on artificial structures. Most observations near rivers within the plan area.
Greater Yellowlegs	<i>Tringa melanoleuca</i>	Uses a variety of wetland habitats during migration.
Grizzly Bear	<i>Ursus arctos</i>	Occupies a great variety of habitats from dry steppes to arctic shrublands to temperate rain forests. They occupy a greater diversity of habitats than any other species of bear and exploit a large variety of food items. In North America, grizzly bears are more carnivorous where ungulates or spawning salmon are abundant. Lower densities are found in dry, desert-like areas, alpine and sub-alpine areas, as well as areas where habitat availability and numbers of bears have been reduced by high human and domestic livestock densities.
Horned Grebe	<i>Podiceps auritus</i>	Small ponds and lake inlets containing a mixture of emergent vegetation and open water. A migrant in plan area. Wetland habitats important in migration.
Least Sandpiper	<i>Calidris minutilla</i>	Wet sedge, mossy, and grassy bogs.
Lesser Yellowlegs	<i>Tringa flavipes</i>	Migrant only in the plan area. During migration, inhabits a wide range of wetland habitats from large permanent

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Common Name	Scientific Name	Habitat Summary
		water bodies to small ephemeral pools; typical wetland features include shallow, vegetation-filled ponds with adjacent open mud flats.
Solitary Sandpiper	<i>Tringa solitaria</i>	Migration habitat. Generally, around enclosed wet or muddy habitats, inland lakes, and ponds.
Swamp Sparrow	<i>Melospiza georgiana</i>	A variety of wetland habitats.
Wilson's Phalarope	<i>Phalaropus tricolor</i>	Breeds at shallow wetlands of interior western North America. Outside of breeding season uses saline and alkaline lakes.
Yellow-headed Blackbird	<i>Xanthocephalus xanthocephalus</i>	Prairie wetlands but also common in wetlands associated with quaking aspen parklands, mountain meadows, and arid regions. Nests in emergent vegetation of deep-water palustrine wetlands.
American Coot	<i>Fulica americana</i>	Wetland species with heavy emergent vegetation along the shoreline in combination with deeper water.
American Wigeon	<i>Anas americana</i>	Shallow, freshwater wetlands: sloughs, ponds, small lakes, marshes, and rivers.
Cinnamon Teal	<i>Anas cyanoptera</i>	Wetlands, ponds, and lakes with emergent vegetation.
Gadwall	<i>Anas strepera</i>	Breeding habitat includes seasonal and semi-permanent wetlands within mixed prairie, parkland, shortgrass prairie, and tallgrass prairie. Migration habitat includes wetlands, lakes, reservoirs, beaver ponds, and farm ponds.
Green-winged Teal	<i>Anas crecca</i>	Forest wetlands. Breeds in wetlands in boreal forest and deciduous parklands and wetlands adjacent to grasslands or sedge meadows with brush thickets or woodlands.
Northern Pintail	<i>Anas acuta</i>	Open country with shallow, seasonal, or intermittent wetlands and low vegetation.
Redhead	<i>Aythya americana</i>	Habitat generalist. Uses wide variety of wetlands.
Ring-necked Duck	<i>Aythya collaris</i>	Only a migrant in plan area. Migration habitat includes shallow lakes and impoundments with dense stands of flooded emergent or submergent vegetation. Mostly documented on rivers in plan area.
Wilson's Snipe	<i>Gallinago delicata</i>	Edge bogs, fens, willow ( <i>Salix</i> spp.), and alder ( <i>Alnus</i> spp.) swamps, and marshy edges of ponds, rivers, and brooks.
Northern Shoveler	<i>Anas clypeata</i>	Found in a variety of wetland habitats with nearby grasslands or rangelands for nesting.
Virginia Rail	<i>Rallus limicola</i>	Breeds predominantly in freshwater wetlands. Inhabits stands of robust emergent vegetation. Shallow water, emergent cover, and substrate with high invertebrate abundance are thought to be the most important habitat features.
Blue-winged Teal	<i>Anas discors</i>	Shallow ponds with abundant invertebrates.
Eurasian Wigeon	<i>Anas penelope</i>	Wetland or aquatic habitat.
Ring-billed Gull	<i>Larus delawarensis</i>	Island habitat in lakes, farm fields, dumps, and wetlands.
Rough-skinned Newt	<i>Taricha granulosa</i>	Rough-skinned newts inhabit various wooded and open valley habitats that include the required aquatic breeding habitat, such as lakes, reservoirs, ponds, and stream

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Common Name	Scientific Name	Habitat Summary
		pools or backwaters. They generally spend most of their lives on land but in some areas, adults may be aquatic throughout the year or during the dry season.
Common Loon	<i>Gavia immer</i>	Migrant in plan area. Large lakes and rivers with clear water and an abundance of small fish.
Eared Grebe	<i>Pedicularis nigricollis</i>	Migration habitat consists of saline lakes. Forages by diving in open water.
Red-breasted Merganser	<i>Mergus serrator</i>	Migration habitat is large lakes or rivers. Most observations in the plan area have been recorded on large rivers. Dives for food in open water.
Western Grebe	<i>Aechmophorus occidentalis</i>	Fresh water lakes and marshes with extensive areas of open water bordered by emergent vegetation. Breeding areas contain open water of at least several square kilometers, with the largest colonies on most extensive lake systems.
Canvasback	<i>Aythya valisineria</i>	An uncommon visitor in the plan area. Found only during migration. Uses a wide variety of aquatic features during migration such as ponds, lakes, and slow rivers.
Lesser Scaup	<i>Aythya affinis</i>	Large seasonal and small semi-permanent wetlands and lakes with emergent vegetation.
Ruddy Duck	<i>Oxyura jamaicensis</i>	Prairie pothole region where it nests in wetlands and marshes. No nesting habitat in plan area. Only a visitor to large rivers in the plan area.
Tundra Swan	<i>Cygnus columbianus</i>	Migrant only in plan area. Migration habitat includes shallow ponds, lakes, and riverine marshes, as well as harvested agricultural fields and fields growing winter cereal grain. Sego pondweed is important.
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	Occurs on ponds, lakes, artificial impoundments, slow-moving rivers, lagoons, estuaries, and open coastlines.
Snow Goose	<i>Chen caerulescens</i>	Migrant only in the plan area. Classification based upon migratory habitats. Frequents protected freshwater and brackish marshes, slow-moving rivers, large and small lakes, impoundments, farm fields, and sand bars. Avoids forested areas.
Artemesian Rams-horn	<i>Vorticifex effusa</i>	This species inhabits springs, large lakes, rivers, and spring-fed streams. It is restricted to areas with perennial, well-oxygenated, cold water on stony substrate.
Great Basin Rams-horn	<i>Helisoma newberryi</i>	Habitat includes larger lakes and slow rivers, including larger spring sources and spring-fed creeks, burrowing in soft mud just beneath the surface. Only one observation in the plan area. May be a misidentification or may be extirpated.
Rotund Physa	<i>Physella columbiana</i>	It is generally found in shallow water rivers and lakes and is thought to be a cold water stenotherm capable of surviving in only a narrow range of cold temperatures.
Twisted Physa	<i>Physella lordi</i>	This species is found in medium and large oligotrophic lakes.
Veery	<i>Catharus fuscescens</i>	In west, inhabits riparian areas, including canyons, nesting in dense mixed broadleaf understory (for example, <i>Salix</i> spp., <i>Alnus</i> spp., <i>Populus</i> spp.). Often found in disturbed forest.

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Common Name	Scientific Name	Habitat Summary
Northern Waterthrush	<i>Parkesia noveboracensis</i>	Dense cover near ground level, combined with presence of surface water. Typical breeding habitats include cool, dark, wooded swamps, thickets of bogs, and riparian thickets along the shores of lakes, rivers, and streams.
Song Sparrow	<i>Melospiza melodia</i>	Inhabits forest, shrub, and riparian habitats, but limited to those adjacent to fresh water, and often in arid environments, including shrubs on moist ground along streams, sloughs, marshes, or coastlines. Occupies a wide range of habitats.
Lincoln's Sparrow	<i>Melospiza lincolni</i>	Inhabits boggy, willow, sedge, and moss-dominated habitats, particularly where shrub cover is dense, mixed deciduous wood groves such as aspen and cottonwoods in montane or subalpine zone, as well as a variety of other riparian habitat types. Generally, avoids openings without shrub cover and dense riparian areas.
Willow Flycatcher	<i>Empidonax traillii</i>	Breeds in a variety of usually shrubby areas, often with standing or running water and riparian habitats. In the Palouse Prairie of southeast Washington, in addition to mesic riparian sites, also nests in xeric uplands, including dry, brushy prairie remnants containing hawthorn ( <i>Crataegus</i> spp.), chokecherry ( <i>Prunus</i> spp.), or rose ( <i>Rosa</i> spp.) and dry ninebark ( <i>Physocarpus</i> sp.) thickets.
Wilson's Warbler	<i>Cardellina pusilla</i>	Restricted to mesic shrub thickets of riparian habitats, edges of beaver ponds, lakes, bogs, and overgrown clear-cuts of montane and boreal zone. Inhabits willows, bog birch ( <i>Betula glandulosa</i> ), and shrubby cinquefoil ( <i>Potentilla fruticosa</i> ) with an understory of forbs, mosses, and sedges.
Amber Glass Snail	<i>Nesovitreia electrina</i>	In the west, found along floodplains and at higher elevations in spring meadows.
Idaho Vertigo	<i>Vertigo idahoensis</i>	Mid-elevation grass and sedge meadows with springs, seeps, bogs, and fens (Frest 1999).
Kingston Oregonian	<i>Cryptomastix sanburni</i>	Species occurs in lowland and flood plain edge pinus ponderosa forest slopes with a considerable admixture of deciduous shrubs and a rich forb understory (Frest 1999). Riparian wooded landscapes. Ponderosa pine with a diversity of deciduous shrubs near springs and seeps. Found under woody debris and rocks, and in leaf litter (Hendricks 2012).
Marbled Disc	<i>Discus marmorensis</i>	Found at moderate elevations on limestone in intact, moist, well shaded Ponderosa pine forest with diverse deciduous and forb understory. Usually found near stream edges and at the base of steeper slopes. Limited in distribution to a few major tributaries of the Lower Salmon near Lucile, Idaho.
Meadow Slug	<i>Deroceras laeve</i>	Found in a variety of situations near moisture, such as wet meadows, marshes, and streamside riparian areas, and sometimes in sites without a tree canopy. Canopy tree species include a mixture of conifer and broadleaf types, including Engelmann spruce, Douglas-fir, lodgepole pine, black cottonwood, aspen, paper birch, Ponderosa pine, western larch, western redcedar, western hemlock, rocky mountain juniper, with a secondary canopy including alder, willow, dogwood, or hawthorn. Most often found

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Common Name	Scientific Name	Habitat Summary
		under woody debris, leaf litter and sometimes under rocks.
Suboval Ambersnail	<i>Catinella vermeta</i>	Inhabits riparian areas, near rivers, streams, springs, and ephemeral wetland pockets, but also drier sites away from water. Canopy species include aspen, Engelmann spruce, cottonwood, dogwood, and willow. Found under woody debris and leaf litter in moist places, also under rock, in talus, and at the base of shrubs.
American Beaver	<i>Castor canadensis</i>	Found in rivers, springs, and lakes, with adjacent woody foods such as willow, aspen, and hardwoods.
Western Jumping Mouse	<i>Zapus princeps</i>	Commonly occurs in mesic, montane habitats. It occupies plant communities dominated by alder or aspen, stands of willow, and meadows where forbs and grasses are abundant. Typically, they are found in close proximity to water in areas of dense vegetation along streams.
North American Vole or Water Vole	<i>Microtus richardsoni</i>	A habitat specialist with a patchy distribution within its range. It prefers subalpine and alpine meadows close to water, especially swift, clear, spring-fed or glacial streams with gravel bottoms, and marshes or pond edges. It uses underground nests throughout the year. It burrows into stream banks and makes runways in wet meadows. Diet includes leaves and occasionally stems of forbs. Also eats grasses, sedges, and willows. May eat some seeds and insects. Feeds on subterranean parts of plants throughout the year.
Yuma Myotis	<i>Myotis yumanensis</i>	Generally considered to be an inhabitant of lower elevations and riparian situations, often in otherwise arid country, but often associated with relatively large bodies of permanent water. Found in a variety of habitats, ranging from juniper and riparian woodlands to desert regions near open water. More closely associated with water than any other North American species of bat. However, on Vancouver Island, British Columbia, occurs in the Coastal Western Hemlock zone located below 2950 ft. dominated by western hemlock ( <i>Tsuga heterophylla</i> ), western red-cedar ( <i>Thuja plicata</i> ), and amabilis fir ( <i>Abies amabilis</i> ) and the Mountain Hemlock zone located above 2625 ft dominated by mountain hemlock, yellow-cedar, and amabilis fir. Their natural retreats probably include caves, hollow trees, loose pieces of bark, and cracks in dead trees. They have been observed roosting on limestone and sandstone cliff crevices in Verde River, Arizona. Also use abandoned swallow mud nests to roost.
American Water Shrew	<i>Sorex palustris</i>	This species is most abundant along small cold streams with thick overhanging riparian growth. Also, around lakes, ponds, marshes, bogs, and other lentic habitats. Nest sites are near water in underground burrows, rafted logs, beaver lodges, and other areas providing shelter. Diet is mostly aquatic insects.
Northern Raccoon	<i>Procyon lotor</i>	Found almost anywhere water is available, along streams and shorelines. Dens under logs or rock and in tree holes, ground burrows, or in bank dens. Most abundant in hardwood swamps, mangroves, flooded forests, and marshes. It is an opportunistic omnivore, eating fruits, nuts, insects, small mammals, birds' eggs and nestlings,

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Common Name	Scientific Name	Habitat Summary
		reptile eggs, frogs, fish, aquatic invertebrates, worms, and garbage.
Rocky Mountain Tailed Frog	<i>Ascaphus montanus</i>	Clear, cold swift-moving mountain streams with coarse substrate. It may occur primarily in older forest sites, but better information is needed; required microclimatic and microhabitat conditions are more common in older forests. May be found on land during wet weather near water in humid forests or in more open habitat. During dry weather, stays on moist streambanks. Lays eggs in long strings under stones in water. Habitat may be more suitable in older forests.
American Dipper	<i>Cinclus mexicanus</i>	Fast-moving, clear, unpolluted streams with cascades, riffles, and waterfalls.
Belted Kingfisher	<i>Megaceryle alcyon</i>	Most important requirements for breeding appear to be water supporting aquatic animal populations and nearly vertical earth exposures for digging nesting burrows. Species favors streams, rivers, ponds, lakes, and estuaries or calm marine waters in which prey are clearly visible. Stream riffles, a major source of prey, may be important cues for assessing prey abundance and thus habitat quality. Prefers waters that are not obscured or overgrown by vegetation.
Barrow's Goldeneye	<i>Bucephala islandica</i>	Cavity-nesting duck that depends heavily on the availability of large cavities. Winters mostly in marine habitats (salt water), although a few winter inland on open rivers. Uses open rivers in the plan area during winter only. Most observations were during migration or winter. Prefers alkaline to freshwater lakes in parkland areas and, to a lesser extent, subalpine and alpine lakes, beaver ponds, and small sloughs for breeding. In British Columbia, breeding habitat includes aspen parkland, open ponderosa-pine forests, rangeland, alpine meadows, and subalpine lakes in closed coniferous forest at 980 to 6,100 ft. elevation.
Common Goldeneye	<i>Bucephala clangula</i>	Winter habitat only in the plan area. Winter habitat usually consists of marine environments, but they use larger lakes and rivers inland as far north as open water is available. Most observations in the plan area are in larger rivers.
Harlequin Duck	<i>Histrionicus histrionicus</i>	Clear, fast-flowing rivers and streams with boulder substrates, low acidity, and abundant aquatic insects, such as midge larvae (Chironomidae), caddisflies, stone flies, mayflies, and salmonid roe.
Western Pearlshell Mussel	<i>Margaritifera falcata</i>	Inhabits perennial rivers, streams, and creeks at depths of 1.5 to 5 feet. They tend to congregate in areas with boulders and gravel substrate with some sand, silt, and clay. This species prefers clear, cold water with low velocities, low shear stress, and stable substrates. It is frequently found in eddies or pool areas with stones or boulders that likely shelter mussel beds from scour during flood events. This species appears to be intolerant of sedimentation.
Western Ridged Mussel	<i>Gonidea angulata</i>	This species is found in both lotic and lentic habitats, occurring on the bottom of streams, rivers, and lakes with substrates that vary from gravel to firm mud and include at least some sand, silt, or clay. Associated with constant flow, shallow water, and well oxygenated substrates.

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Common Name	Scientific Name	Habitat Summary
Ashy Pebblesnail	<i>Fluminicola fuscus</i>	This species is restricted to small-to-large rivers, in swift currents on stable gravel to boulder substrate in cold, unpolluted, highly oxygenated water.
Nez Perce Pebblesnail	<i>Fluminicola gustafsoni</i>	The species has been found in shallow water on rocks and cobbles, but additional habitat requirements are unknown. Restricted to the Clearwater River and the lower Salmon River, as well as the reach of the Snake River in between these two rivers.
Rustic Pondsail	<i>Stagnicola hinkleyi</i>	Pondsails are cold water stenotherms found in cold streams often with coarse substrates.
Shortface Lanx	<i>Fisherola nuttalli</i>	Generally restricted to relatively large perennial streams ranging from (98 to 300 feet) wide. Within such streams, it is found primarily at the edges of rapids or immediately downstream from rapids in areas that have suitable substrate. This species requires clean, cold, well-oxygenated water with gravel, cobble, and boulder substrate. Species prefers to attach themselves to hard surfaces in high velocities to avoid competition with other species.
Shortspire Pondsail	<i>Stagnicola idahoensis</i>	It occurs in cold water rivers in reaches with a moderately swift current and coarse, rocky substrate. Aquatic vegetation and algae are generally absent from occupied sites and the species is not found on mud, sand, or bedrock.
Northern River Otter	<i>Lontra canadensis</i>	Found anywhere there is a permanent food supply, such as fish, crustaceans, and amphibians, and easy access to water. In Idaho, river otters prefer valley over mountain habitats, and they select valley streams over valley lakes, reservoirs, and ponds. Woody vegetation and log jams are important habitat features. In the plan area, most observations are in larger rivers.
California Floater	<i>Anodonta californiensis</i>	Low elevation mussel that is found in both lakes and lake-like stream environments. Difficult to distinguish this species from the Western pearlshell mussel. Only one observation recorded on the Nez Perce-Clearwater National Forest.
Coeur d'Alene Salamander	<i>Plethodon idahoensis</i>	Primary habitats are seepages and streamside talus; also inhabits talus far from free water where deep talus is mixed with moist soil on well-shaded north-facing slopes. In wet weather, it can be found in leaf-litter and under bark and logs in coniferous forests. Terrestrial breeders with direct development; eggs presumably are laid in underground rock crevices, although no nest sites have been found in the wild. The species loses water to the environment through evaporation and are therefore restricted to cool, damp environments. Seventy-six percent of known locations are classified as seeps, though this may be due to survey effort. Generally located in coniferous forests but are not restricted to a particular overstory species or aspect. Populations have been found in areas with Ponderosa pine, Douglas-fir, western larch, western red cedar, and western hemlock overstory. There appears to be preference for canopy cover greater than 25% but some observations have been recorded where canopy cover is less than 10%. Known populations occur in association with sharply fractured rock formations used



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Common Name	Scientific Name	Habitat Summary
		for underground refugia from 1,600 to 5,000 feet in elevation. This fractured rock is often found in the Belt Rock formation but can also occur in talus and in other geologic types.
Green River Pebblesnail	<i>Fluminicola coloradoensis</i>	Found in spring fed creeks with gravel, cobble, or boulder substrate. Cold clean water with no macrophytes. Frest (1999) doubted the taxonomy of the observations in Idaho and suggested a species complex.
Pristine Pyrg	<i>Pristinicola hemphilli</i>	This snail is found in cold, undisturbed springs, seeps, and small creeks. It is completely aquatic.
Mourning Dove	<i>Zenaida macroura</i>	Nests in a wide array of ecological types, usually open woodlands and edges between forest and prairie. Feeds on seeds of herbaceous plants found in early successional habitats.
Black-billed Magpie	<i>Pica hudsonia</i>	Located in thickets in riparian areas. Often associated with open meadows, grasslands, or sagebrush for foraging.
Common Grackle	<i>Quiscalus quiscula</i>	Found in open areas with scattered trees.
Eastern Kingbird	<i>Tyrannus tyrannus</i>	Located in open environments with perches and trees for nests. Found in fields with scattered shrubs and trees, meadows, woodland edges, aspen parklands, and burned forest. Uses shrub fruits for broods.
American Crow	<i>Corvus brachyrhynchos</i>	Prefers open areas for ground foraging with presence of scattered trees, woodlots, windbreaks, and forest edges.
Red-tailed Hawk	<i>Buteo jamaicensis</i>	Prefers open areas interspersed with patches of trees or structurally similar features. Feeds on a wide variety of prey. Nests typically located in mature forests of mixed conifer and deciduous trees adjacent to expansive openings.
Wild Turkey	<i>Meleagris gallopavo</i>	Found in Ponderosa pine ( <i>Pinus ponderosa</i> ), aspen ( <i>Populus</i> spp.) and fir ( <i>Abies</i> spp.), spruce and fir, and oak. Brood rearing habitat consists of grassy openings in mixed conifer forests, stands of aspen, and open meadows.
Chipping Sparrow	<i>Spizella passerina</i>	Prefers open woodlands, borders of natural forest openings, and brushy, weedy fields. Nests in open coniferous forests and forages in brushy open areas.
Steller's Jay	<i>Cyanocitta stelleri</i>	Located in western conifer or mixed conifer forests—western hemlock, Douglas-fir, grand fir, western red cedar, spruce-fir forests, lodgepole pine, and mixed ponderosa—Douglas-fir forests. Prefers fragmented, patchy forested landscapes, often along edges.
White-throated Sparrow	<i>Zonotrichia albicollis</i>	Habitat generalist or edge species found in successional coniferous, deciduous, and mixed forests, especially stands having numerous openings with low, dense, shrubby ground cover.
Dusky Grouse	<i>Dendragapus obscurus</i>	Summer – shrub step, grassland, aspen, or non-forested alpine adjacent to conifer forest open conifer forest, or forest mosaic. Broods feed on abundant arthropods and adults eat lush vegetation. Winter-high elevation conifer forest, Douglas-fir, and lodgepole important winter diet.
Merlin	<i>Falco columbarius</i>	Falcon of open forest and grasslands and semi-open habitats. Nests near forest openings in fragmented

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Common Name	Scientific Name	Habitat Summary
		woodlots. Ponderosa pine used significantly. Also uses high elevation scattered forests that mimic boreal conditions.
Common Nighthawk	<i>Chordeiles minor</i>	Ground nester. Nests on beaches, logged or slash burned areas of forest, woodland clearings, prairies and plains, sagebrush and grassland habitat, open forests, and rock outcrops. Forages above water or above tree canopy.
Western Kingbird	<i>Tyrannus verticalis</i>	Found in variety of habitats, including riparian forests and woodlands, savannas, shrublands, agricultural lands, deserts, and urban areas. Key features of breeding habitat include open areas for feeding and trees and shrubs for nesting and perching.
Northern Shrike	<i>Lanius excubitor</i>	Winter habitat—coastal wetlands and estuaries; savannas; forest edges; Great Basin shrub deserts and edge with forests; Great Plains and edge with forests; deciduous woodlands, especially where trees and shrubs form shelterbelts; and mixed agricultural-suburban-woodlands.
American Robin	<i>Turdus migratorius</i>	Found in a wide variety of habitats with a combination of forested and open habitats.
Great Horned Owl	<i>Bubo virginianus</i>	Prefers a wide variety of habitats—deciduous, mixed, or conifer forests—but prefers open and secondary-growth temperate woodlands, usually with some open habitats.
Olive-sided Flycatcher	<i>Contopus cooperi</i>	Found primarily in montane and northern coniferous forests near forest openings; forest edges beside natural openings, such as meadows, canyons, and rivers; human-made openings, such as harvest units; or open to semi-open forest stands. Presence in early successional forest appears dependent upon availability of snags or residual live trees for foraging and singing perches. In dry Douglas-fir and grand fir forest of west central Idaho, occurrence is influenced by the presence of tall trees and relatively open canopies.
Mountain Bluebird	<i>Sialia currucoides</i>	Located in prairie-forest ecotones with groves of trees, short grasses, and a few shrubs; savannas; recently burned areas; clear cuts; edges of alpine tundra; and sagebrush flats and valleys at elevations up to 12,467 feet above sea level.
Northern Saw-whet Owl	<i>Aegolius acadicus</i>	Found in a variety of forest types, with densities highest in coniferous forests. In Idaho, found in riparian, non-deciduous forests with a dense mid-canopy layer and low shrubs. Generally, hunts along forest edges and clearings.
Northern Flicker	<i>Colaptes auratus</i>	Lives in open woodlands, savannas, farmland with tree rows, and forest edges. Found in west woodland types, including subalpine fir, Engelmann spruce, limber pine, lodgepole pine, oak—juniper—pine woodlands; and montane forests, such as yellow pine, Ponderosa pine, Engelmann spruce, Douglas-fir, white fir, and quaking aspen; cottonwoods in riparian woodlands; and burned woodlands. Feeds on berry producing plants in winter.
Great Gray Owl	<i>Strix nebulosa</i>	Reside in mixed coniferous forests and meadow habitat mosaics.
Western Bluebird	<i>Sialia mexicana</i>	Lives in open coniferous and deciduous woodlands; wooded riparian areas; grasslands; farmlands; and burned, moderately logged and edge areas with scattered

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Common Name	Scientific Name	Habitat Summary
		trees, snags, or other suitable nest and perch sites. Also in open, parklike forests, edge habitats, burned areas, and moderately logged areas, provided a sufficient number of larger trees and snags remain to provide nest sites and perches. Associated with Ponderosa pine, Douglas-fir, pinyon juniper, pine-oak, and aspen woodlands.
Cooper's Hawk	<i>Accipiter cooperii</i>	A woodland raptor of deciduous, mixed, and evergreen forests and forest mosaic. Forest edge habitat is generally included within the home range of breeders and may serve as primary hunting sites. Diet is mostly medium-sized birds and some small mammals. Nests are in mixed forests and in more mature trees with a greater canopy cover averaging 89.9 percent.
White-tailed deer	<i>Odocoileus virginianus</i>	White-tailed deer inhabit a wide range of habitats from north temperate to subtropical and semi-arid environments in North and South America, including rainforests, deciduous forests, and savannas. Requirements are met in practically every ecological type including grasslands, prairies and plains, mountains, hardwoods, coniferous and tropical forests, deserts, and woodlots associated with farmland.
Moose	<i>Alces americanus</i>	Found in a range of woodland habitats, including both coniferous and broad leaved. Prefer a mosaic of second-growth boreal forests, openings, swamps, lakes, and wetlands. Forages on broadleaf trees, preferring birch, ashes, and willow in the spring and summer and the twigs of these species, as well as fir, alpine, and juniper in the autumn and winter. Also eats shrubs, such as blueberry and heather; dwarf shrubs; herbs; and aquatic plants.
Rocky Mountain Elk	<i>Cervus elaphus</i>	Found mainly in coniferous forests interspersed with natural or man-made openings, such as mountain meadows, grasslands, burns, and harvested areas.
Hoary Bat	<i>Lasiurus cinereus</i>	Thought to prefer trees at the edge of clearings but have also been found in trees in heavy forests, open wooded glades, and shade trees along urban streets and in city parks. Roosts 10 to 15 feet above ground during the day, usually in the foliage of trees. They also prefer trees that border clearings. They have been seen roosting in a woodpecker hole in British Columbia, in the nest of a gray squirrel, and under a driftwood plank. They forage about the treetops, along streams and lake shores, and in urban areas where there are lots of trees.
Red-tailed Chipmunk	<i>Tamias ruficaudus</i>	Most abundant in forest openings or edges where shrubby undergrowth is abundant. Primarily terrestrial but also climbs trees. Often around logs, brush piles, or boulders in Idaho. Diet includes seeds and fruits of various trees and shrubs, leaves and flowers of various forbs, and probably also fungi.
Ermine or Short-tailed Weasel	<i>Mustela erminea</i>	Often found in successional or forest-edge habitats, scrub areas, alpine meadows, marshes, riparian woodlands, hedgerows, and riverbanks that have high densities of small mammals, especially <i>Microtus</i> and <i>Arvicola</i> voles. Coniferous and mixed woodlands are preferred.
American Pygmy Shrew	<i>Sorex hoyi</i>	Found in a variety of habitats and appears to prefer grassy openings of boreal forests. Moist habitats are preferred over dry areas.

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Common Name	Scientific Name	Habitat Summary
Dusky or Montane Shrew	<i>Sorex monticolus</i>	Found in moist habitats in montane boreal and coastal coniferous forests and alpine areas. Uses damp meadows surrounded by coniferous forests; in grass among spruce-fir, mid-elevation in fir-larch, along streams and rivers in high prairie, mossy banks of small streams, alpine tundra, and sphagnum bogs. High amounts of coarse woody debris are an important habitat component.
Bullock's Oriole	<i>Icterus bullockii</i>	Lives in open woodlands, riparian areas, aspen, and gallery forming trees, such as cottonwoods, and oak woodlands, especially where trees are large and well-spaced or in isolated clumps. Sycamores ( <i>Platanus</i> ), cottonwoods ( <i>Populus</i> ), willows ( <i>Salix</i> ), and deciduous oaks seem to be especially favored for nesting but live oaks, orchard trees, and occasionally conifers are used.
Warbling Vireo	<i>Vireo gilvus</i>	Occupies a variety of deciduous forest habitats, predominantly riparian. Mature mixed deciduous woodlands, especially along streams, ponds, marshes, and lakes, but sometimes in upland areas away from water. Associated with cottonwood or poplar. Habitat structure consists of large trees with a semi-open canopy. Presence of tall, primarily deciduous, trees appears to be a requirement of breeding habitat.
Red-eyed Vireo	<i>Vireo olivaceus</i>	Resides in deciduous and mixed deciduous-coniferous forests with understories, riparian habitats, alder, and aspen. More abundant in forest interiors than edges.
Least Flycatcher	<i>Empidonax minimus</i>	Lives in semi-open, second-growth, mid-successional, and mature deciduous and mixed deciduous woods.
Sharp-shinned Hawk	<i>Accipiter striatus</i>	Breed mainly in large stands of deciduous, coniferous, and mixed pine-hardwood forests. Nests in relatively dense stands.
American Redstart	<i>Setophaga ruticilla</i>	Found in open wooded habitats and deciduous woodlands.
Ruffed Grouse	<i>Bonasa umbellus</i>	Closely associated with aspen. Most abundant in early-successional forests dominated by aspens and poplars. Present in riparian habitat and early-seral-stage deciduous forests in mountainous regions of the Pacific Northwest. Although associated with aspen, in Idaho, heavy seasonal use of conifers occurs.
Red-naped Sapsucker	<i>Sphyrapicus nuchalis</i>	Breeds in deciduous and mixed woodlands, including aspen groves in open Ponderosa pine ( <i>Pinus ponderosa</i> ) forests; aspen-fir parklands; logged forests where deciduous groves remain; aspen, birch, and montane coniferous forests, such as Douglas-fir, larch, spruce, and fir; and subalpine forests.
Western Screech-Owl	<i>Megascops kennicottii</i>	Most associated with riparian habitats and deciduous trees over much of its range. Nests in tree cavities. Associated with riparian areas in Idaho. Prefers deciduous vegetation in riparian areas, including birch, cottonwood, aspen, and willow. Also found in mixed deciduous conifer forests with western red cedar and western hemlock. Also detected in subalpine fir, Engelmann spruce, and lodgepole.
Black-capped Chickadee	<i>Poecile atricapillus</i>	Lives in deciduous and mixed deciduous and coniferous woodlands, open woods and parks, willow thickets, and cottonwood groves.

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Common Name	Scientific Name	Habitat Summary
Downy Woodpecker	<i>Picoides pubescens</i>	Prefers open, deciduous, especially riparian woodlands throughout its range; less abundant in coniferous forests except when associated with deciduous understory.
Black-backed Woodpecker	<i>Picoides arcticus</i>	Irruptive species that forages opportunistically on outbreaks of bark and especially wood-boring beetles colonizing recently burned habitats. Uses boreal and montane coniferous forests throughout range but tree-species composition varies geographically. Important species include spruce, tamarack, red fir ( <i>Abies magnifica</i> ), mountain hemlock, Douglas-fir, Ponderosa pine, and lodgepole pine. Nests in live and dead trees of various species, usually in habitats with low to moderately decayed nest trees and stands with high snag density.
American Three-Toed Woodpecker	<i>Picoides dorsalis</i>	Found in subalpine fir, Engelmann spruce, and lodgepole pine, often after burns, exploit disease, or insect outbreaks. Nests in trees with heart rot.
Townsend's Warbler	<i>Setophaga townsendi</i>	Found in all coniferous and mixed coniferous-deciduous forests at various elevations, such as Douglas-fir, grand fir, western hemlock, and spruce. Most abundant in unlogged, old-growth forests but also common in late successional stages characterized by greater than 70 percent canopy coverage, tall conifers, high basal area, numerous conifer saplings, and dense deciduous undergrowth.
Hammond's Flycatcher	<i>Empidonax hammondii</i>	Resides in mature and old-growth coniferous forests, such as Ponderosa pine, spruce-fir, lodgepole pine, and Douglas-fir, or mixed conifer-deciduous forests.
Ruby-crowned Kinglet	<i>Regulus calendula</i>	In general, occurs in highest abundance in mature and old growth conifer or mixed forest habitats. Nests in a variety of conifer and mixed forests, including spruce and spruce-birch, spruce-fir, lodgepole pine, Douglas-fir, and ponderosa forests. Highest densities in spruce-fir.
Varied Thrush	<i>Ixoreus naevius</i>	Lives in wet coastal forests and wet montane forests. Associated with western hemlock, western red cedar, Douglas-fir, and western larch-Douglas-fir forests where it reaches its highest abundance in large stands of unlogged, mature and old-growth forests. Nests in understory vegetation of mature forest, often on small conifer.
Golden-crowned Kinglet	<i>Regulus satrapa</i>	Found in boreal and subalpine spruce or fir forests, hemlock forests, mixed coniferous-deciduous forests, deciduous forests, and old-growth or mature conifer forests.
Swainson's Thrush	<i>Catharus ustulatus</i>	Most strongly associated with spruce-fir forests; grand fir, mountain deciduous riparian or aspen forests; and Douglas-fir, hemlock, cedar-hemlock, and mixed-conifer forests. Shrub understory is important.
Blue-headed Vireo	<i>Vireo solitarius</i>	Lives in evergreen forests with spruce, fir ( <i>Abies</i> ), hemlock, and pine, or conifers, but also associated with deciduous growth or understory. Prefers relatively mature and extensive forests with an understory of shrubs and small trees where its nests are suspended well below the canopy. Found almost anywhere with trees that are middle-aged to mature with a high percent canopy closure of usually greater than 75 percent where there is some

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Common Name	Scientific Name	Habitat Summary
		understory of shrubs and saplings, but not too dense, often near small openings or edges of wetlands and lakes.
Brown Creeper	<i>Certhia americana</i>	Prefers late successional stages of coniferous, mixed, and deciduous forests.
Chestnut-backed Chickadee	<i>Poecile rufescens</i>	Lives in the densest coniferous forests associated with Douglas-fir. A weak primary excavator requiring rotted snags with heartwood or cavities excavated by other species.
Vaux's Swift	<i>Chaetura vauxi</i>	Found in late-stage coniferous forests and deciduous forests mixed with coniferous. Abundance positively correlated with a high density of live trees larger than 39 inches diameter at breast height with snags, in primarily Douglas-fir, western hemlock, grand fir, and western redcedar forests. Hollow trees are its favored nesting and roosting sites. Forages in air over forest canopy, grasslands, and water.
White-breasted Nuthatch	<i>Sitta carolinensis</i>	Prefers mature deciduous woodland but also found in mixed deciduous and coniferous forests, Ponderosa pine and Douglas-fir. Breeds in natural holes in large, old trees.
Barred Owl	<i>Strix varia</i>	Resides in large, unfragmented blocks of forests, mature and old-growth forests of mixed deciduous-coniferous composition.
Red-breasted Nuthatch	<i>Sitta canadensis</i>	Uses mature and diverse stands of conifer, especially spruce, fir, pine, hemlock, larch, and cedar. Preference for forests that have a strong fir, Douglas-fir and spruce component.
Cordilleran Flycatcher	<i>Empidonax occidentalis</i>	Found in cool, shady locations along waterways and cooler, more arid and denser, boreal forests of pine, fir, and spruce, including Engelmann spruce, lodgepole, ponderosa, Jeffrey pine, white fir, quaking aspen, black cottonwood, and Douglas-fir in certain localities.
Pileated Woodpecker	<i>Dryocopus pileatus</i>	Lives in late successional stages of coniferous or deciduous forest, but also younger forests that have scattered, large, dead trees, such as grand fir, red cedar, larch, Douglas-fir, western hemlock, and Ponderosa pine of large diameter.
Pacific Wren (Formerly winter wren)	<i>Troglodytes pacificus</i>	Associated with old-growth forests. Uses old-growth structures, such as snags, root masses, downed trees, and the bases of large standing trees, for nesting, foraging, and roosting. Breeding territories are primarily found in forests along rivers and streams. Frequently associated with—and nests and forages near—water, particularly streams and rivers but also bogs, swamps, and lakes. Higher survival noted at lower elevations. Associated with greater shrub development. Larger edges and gaps generated naturally or from logging are generally avoided. Downed wood is an important foraging habitat. Nests in cavities, downed wood, root balls, stumps, and moss.
Boreal Owl	<i>Aegolius funereus</i>	Resides in mature subalpine fir, Engelmann spruce, Douglas-fir, and aspen. Known as a cavity nester. Forages on voles.
Northern Goshawk	<i>Accipiter gentilis</i>	Nests in most forest types, including Ponderosa pine, lodgepole, Douglas-fir, and aspen. Nests in a relatively narrow range of structural conditions of mature to old-

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Common Name	Scientific Name	Habitat Summary
		growth forests with large trees with a 40 percent or greater canopy closure. Forages in a variety of structural or size classes.
Hermit Thrush	<i>Catharus guttatus</i>	Lives in various coniferous, deciduous, and mixed forest types, with an affinity for conifers in some areas. Landscape pattern is important and is positively associated with patch size and percent forest cover. Primarily a ground- or shrub-gleaning omnivore. Feeds on insects and a broad variety of fruit. Coniferous forest types include pine, Douglas-fir, fir, spruce, pinyon-juniper, western hemlock, Sitka spruce, and mountain hemlock-yellow cedar forests.
Mountain Chickadee	<i>Poecile gambeli</i>	Resides in coniferous forests of western North America in habitats with large conifers, fewer shrubs, and more dead trees. Uses forests dominated by pine, spruce-fir, and piñon-juniper. Nests exclusively in cavities, typically in trees but occasionally in the ground or under roots. Uses preexisting cavities in trees averaging 10.41 inches diameter at breast height for nests, often in deciduous trees.
Douglas's Squirrel	<i>Tamiasciurus douglasii</i>	Found in coniferous forests in the upper pine belt and in fir, spruce, and hemlock forests. More abundant in mature and old forests than in young forests. Nests in vegetation in trees in summer and roosts in tree cavities in winter.
Canada Lynx	<i>Lynx canadensis</i>	Found primarily in boreal forests. Their main prey species, the Snowshoe Hare ( <i>Lepus americanus</i> ), depends largely on patches of successional growth in older multi-layered stands or younger regenerating stands following disturbance. Hares make up 60-97 percent of the lynx diet. Dens in forests with large woody debris, such as downed logs and windfalls, to provide denning sites with security and thermal cover for kittens.
Southern Red-backed Vole	<i>Myodes gapperi</i>	Lives in mesic areas in coniferous, deciduous, and mixed forests with ground cover that includes stumps and downed logs. Mossy logs and tree roots in coniferous forests are optimal. Regarded as an ecological indicator of old-growth conditions in the Rocky Mountains. Also uses second-growth areas. Nests under logs, stumps, and roots and will use the burrows of moles and other small mammals.
Fisher	<i>Pekania pennanti</i>	Fishers inhabit upland and lowland forests, including coniferous, mixed, and deciduous forests. They occur primarily in dense coniferous or mixed forests, including early successional forest with dense overhead cover. In the plan area, uses grand fir in warm dry and warm moist potential vegetation types. Some habitats may extend into cool moist potential vegetation types.
American Marten	<i>Martes americana</i>	Associated with late-seral coniferous forests characterized by closed canopies, large trees, and abundant standing and fallen woody material. Dens in hollow trees or logs, rocky crevices, or burrows. Diet consists of rodents, rabbits or hares, birds, and fruit seasonally. Voles, squirrels, and hares are the most important prey seasonally.
American Black Bear	<i>Ursus americanus</i>	Reported in a broad variety of forested habitats from deciduous forests in eastern North America to coniferous



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Common Name	Scientific Name	Habitat Summary
		forests in the west. Found in dense forests; riparian areas; and open slopes or avalanche chutes during spring green-up. Uses snow slides, stream bottoms, and wet meadows in early and mid-summer. May concentrate in berry and whitebark pine areas in fall. Hibernates in natural cavities, such as in trees or rocks, under logs, and in brush piles. Studies in north central Idaho show bears select for mature grand fir, and Douglas-fir with greater than 60 percent canopy cover, as well as select for riparian areas. They also select fruiting shrubs and shrub fields for foraging.
Northern Flying Squirrel	<i>Glaucomys sabrinus</i>	Generally, occupies boreal or northern temperate conifer, mixed conifer-hardwood, and northern hardwood forests in the northern United States and Canada at various elevations of mountain regions and in some narrow valleys subject to cold air drainage. These habitats support old-growth forest, communities with old-growth elements, or younger woodlands usually contiguous with such forest. Optimal conditions have been reported as cool, moist, mature forest with abundant standing and down snags. Flying squirrels are habitat generalists and are not more abundant in old growth than in younger, second-growth stands. Occupies tree cavities, leaf nests, and underground burrows. Prefer to den in cavities of mature trees aged 42-174 years with diameters between 6 to 31 inches at breast height. Diet consists largely of fungi and lichens plus plant and animal material, such as insects, nuts, buds, seeds, and fruits.
Snowshoe Hare	<i>Lepus americanus</i>	Associated with conifer and mixed deciduous forests of North America. Requires fairly dense understory vegetation for cover. Diet consists mostly of grasses, forbs, sedges, and ferns. Most abundant in mature multistoried forests and early seral stand conditions.
Northern Pygmy-Owl	<i>Glaucidium gnoma</i>	Prefers open coniferous or mixed woods and wooded canyons. Found in a wide variety of forest types, including open oak groves, sycamores in canyons, pine-oak woodlands, coniferous forest in the far north and high mountains. Generally, in partly open habitats rather than solid unbroken forests. Forest habitats of various types from deciduous bottomlands to high-elevation continuous forests. Nests in natural cavities or sites excavated by woodpeckers. Seems tolerant of mixed-age forest types. Inhabits various forest types, including mixed spruce and fir, Douglas-fir, cottonwood, aspen, and Ponderosa pine. These forest types are all favorable for cavity formation and excavation. In western Montana, breeding surveys indicate a preference for mixed spruce and fir forests but also includes cottonwood bottomlands, aspen stands, and mixed pine forests to timberline. Otherwise, a forest generalist.
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>	Found in a wide variety of habitats, including cottonwood-willow groves and other riparian and floodplain habitats; openings in mature pine forests; aspen groves; deciduous growth, especially in mountain valleys and canyons; pinyon-juniper woodlands; oak savannas; gardens; urban and suburban developments with heavy understory; and orchards. Regardless of overall habitat, a well-developed

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Common Name	Scientific Name	Habitat Summary
		understory combined with large trees appears to be a key habitat component.
Yellow-rumped Warbler	<i>Setophaga coronata</i>	One of the most ecologically generalized. Resides in predominantly mature coniferous and mixed coniferous-deciduous habitats throughout range but has little habitat specificity within this broad habitat category. Forages in a broad range of microhabitats and employs a variety of foraging techniques from fly-catching to foliage-gleaning for insects. Much less common in early successional stages of coniferous forests. Breeds in coniferous and mixed forests, preferring more open stands and edges in pine, fir, spruce, aspen, and spruce-tamarack bogs. Maintains normal or near-normal breeding densities as long as some mature trees remain standing, presumably for nesting.
House Wren	<i>Troglodytes aedon</i>	The house wren has an affinity for open, shrubby woodlands. In the western foothills and mountains, it resides in deciduous or mixed deciduous-coniferous woodlands in riparian areas within canyons; in open Ponderosa pine and Douglas-fir parklands; in piñon-juniper, oak, and walnut ( <i>Juglans</i> ) woodlands; in aspen groves; and at edges or in clear-cut or thinned areas of denser montane coniferous forests. Generally, absent from mature, unthinned coniferous forests across the continent. Not found in larger, contiguous forests, except in areas opened up by logging, fire, insects or human development. Multiple studies have shown higher abundances in areas with more snags.
Evening Grosbeak	<i>Coccothraustes vespertinus</i>	Prefers second growth and mature coniferous mixed-conifer and spruce-fir forests, Douglas-fir, Ponderosa pine, lodgepole pine, and quaking aspen. Feeds on berries of ash, snowberry, cherry, and hawthorn. Spruce budworm key in diet. More common in forests classified as mature with more large trees, more complex structure, and more snags. In Idaho and Montana, they are more abundant in rotation-aged, 80 to 120-year-old forests than in 200 plus year old forest.
Dark-eyed Junco	<i>Junco hyemalis</i>	Prefers a broad variety of coniferous and deciduous forests, including mature aspen, dry forests dominated by spruce, Douglas-fir, pine, and fir, poplar, cottonwood, and mountain mahogany stands and their edges. In west central Canada, juncos were absent only from marshes and bogs, but were most common in drier, nutrient-poor, and often burned over, locations. Considered common and abundant in forests in Idaho.
Hairy Woodpecker	<i>Picoides villosus</i>	Occupies both deciduous and coniferous forest habitats of various sizes and ages and frequents edges of open habitats. Aspen stands are important. Forages on arthropods and a diversity of fruits and seeds. Normally found in forests with a coniferous component in the Pacific Northwest. Demonstrates marked increases in its abundance in areas that have been burned and subsequently become infested with bark- or wood-boring beetles. They are found in open areas more so than dense areas. In Ponderosa pine forests of central Oregon, densities increased with increasing densities of hard snags, trees greater than 19.6 inches diameter at breast

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Common Name	Scientific Name	Habitat Summary
		height, and increasing canopy height. Forages in both mature and young seral stages during summer months and either in deciduous or coniferous forests. Nests in relatively open stands with low basal areas, low stem densities, and open canopies.
Nashville Warbler	<i>Oreothlypis ruficapilla</i>	Prefers second growth, open deciduous, or mixed-species forests with a high level of light penetration, preferably with shrubby undergrowth. In eastern Washington, they are common in riparian habitats at lower elevations in Ponderosa pine Douglas-fir zones and sometimes higher into subalpine fir.
Cassin's Finch	<i>Haemorhous cassinii</i>	Generally found in a variety of open coniferous forests of interior western mountains, in a variety of coniferous forest types over a broad elevational range. Often found in mature forests of lodgepole, Ponderosa pine, Douglas-fir, limber pine, Engelmann spruce, subalpine fir, grand fir, red fir, pinyon pine, bristlecone pine, and quaking aspen. Dry, relatively open Ponderosa pine forests around 3,280 feet elevation support the densest populations in Washington, both in unlogged areas with mostly mature trees and in selectively logged areas with mixtures of mature and very young trees. Feeds on buds, insects, seeds, and fruit.
Western Wood-Pewee	<i>Contopus sordidulus</i>	A habitat generalist, found widespread in woodlands and forests, especially forest edges and riparian zones. Absent from dense forests. Important habitat components may include large tree diameters, open understory, edge characteristics, and dead trees or trees with dead limbs. Located in Ponderosa pine, aspen, cottonwood, riparian habitats, spruce-fir, and Douglas-fir.
Western Tanager	<i>Piranga ludoviciana</i>	Found in open coniferous, or forests with openings, and mixed coniferous-deciduous woodlands of western North America. Common in Douglas-fir, Ponderosa pine, lodgepole pine, mixed-conifer, spruce-fir, true fir, temperate rain, pine-fir, and mixed coniferous-deciduous forests. Also found in oaks and pinyon juniper. Favors open woodlands but occasionally extends into fairly dense forests, open coniferous forests, or a combination of coniferous forests and forest openings, such as clearings, including clear-cuts, and open wetlands that offer natural breaks in canopy with numerous forest edge or ecotone situations with a mix of conifer and deciduous species.
Monarch	<i>Danaus plexippus</i>	Found in open places, native prairie, foothills, open valley bottoms, open weedy fields, roadsides, pastures, marshes, suburban areas, rarely above tree line in alpine terrain during migration. Monarchs are milkweed obligates for reproduction. Adult monarch butterflies require a diversity of blooming nectar during breeding and migration.
Cassin's Vireo	<i>Vireo cassinii</i>	Prefers open forests of coniferous, mixed-coniferous-deciduous, and deciduous forests in mountains and foothills at elevations from 394 to 7,900 feet.
Pine Grosbeak	<i>Pinicola enucleator</i>	Use open coniferous forests of Engelmann spruce, subalpine fir, and sometimes lodgepole.
Pine Siskin	<i>Spinus pinus</i>	Inhabitant of coniferous or mixed coniferous-deciduous forests. Primarily found in open coniferous forests. Eats

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		seeds of a variety of grasses and forbs, particularly those of composites like dandelions, chickweed, sunflowers, and ragweed. Also feeds on small seeds of various trees. Alder, birch, and an assortment of conifers, including white cedar, tamarack, Canada hemlock, spruces, and various pines are especially favored.
Lewis's Woodpecker	<i>Melanerpes lewis</i>	During breeding season, found in open forests, ranging in altitude from low-elevation riparian areas to higher-elevation burns, and pine forests. Habitats must have brushy understory that supports high insect abundance. During the winter, feeds on mast or grains and uses storage sites usually found within snags or trees with cracks and decay. Tree species include Ponderosa pine, cottonwood, Douglas-fir, aspen, juniper-pinyon, and others.
White-headed Woodpecker	<i>Picoides albolarvatus</i>	Throughout their range, the species depends on mature pines with large cones and abundant seed production, relatively open canopies of 50 to 70 percent, and the availability of snags and stumps for nest cavities. Requires montane coniferous forests dominated by Ponderosa pines with tree species' composition varying geographically. Other important species include sugar pine, lodgepole, white fir, incense cedar, western white pine, and Douglas-fir.
Williamson's Sapsucker	<i>Sphyrapicus thyroideus</i>	Inhabits open coniferous and mixed coniferous-deciduous forests of western North America. Breeds in middle to high elevation conifer and mixed conifer-deciduous forests. The availability of suitable nest sites is a critical component of breeding habitat, whether these are suitable live trees or dead trees. Common in montane western larch, Douglas-fir, Ponderosa pine, conifer-aspen, and pine-fir (Pinus-Abies) forests. Uncommon in spruce-fir, lodgepole pine, and mixed pine-fir-mountain hemlock. Sap trees range from 9 to 18 inches. Nests in newly excavated cavities in large snags and trees with fungus decay. Often select trees for nesting that are significantly older or larger than the average tree in the stand.
Violet-green Swallow	<i>Tachycineta thalassina</i>	Prefers open deciduous, coniferous, and mixed woodlands, including Ponderosa pine, Monterey pine, and aspen. Nests in cavities of various types but prefers tree cavities and cliffs. Occasionally uses sand banks, cut banks, or porous holes in volcanic rocks. Thought to benefit from post-fire habitat under frequent low intensity fire systems.
Flammulated Owl	<i>Psiloscoops flammeolus</i>	Found in open or low stem density forests of ponderosa, Douglas-fir, limber pine, and aspen with large old trees and snags. Understory is important to support insect prey.
Pygmy Nuthatch	<i>Sitta pygmaea</i>	Lives in long-needled pine forests and is dependent on snags and dead portions of live trees with cavities.
Townsend's Solitaire	<i>Myadestes townsendi</i>	In the Rocky Mountains, occurs in all major coniferous forest communities, including mixed-conifer, spruce-fir, and cedar-hemlock. Prefers relatively open stands to dense forests. Nests on the ground beneath rocks, logs, or other objects. Winter habitats include juniper and cedar. Fruits are an important component of winter habitats.

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Common Name	Scientific Name	Habitat Summary
Western Heather Vole	<i>Phenacomys intermedius</i>	Resides in open coniferous forests with heath and shrub understory; shrub areas on forest edge; mossy meadows in forests; and alpine tundra with cover. Most common in subalpine spruce-fir forests with evergreen shrub ground cover. Also found in alpine tundra and timberline near stunted windblown trees growing near the tree line. Sometimes found in montane pine and Douglas-fir forests with bearberry and twinflower understory. Heather-like vegetation is a common element of its habitats. It nests on the ground under snow in the winter or in burrows during the summer. In the winter, feeds on bark and buds of shrubs and heaths. In the summer, they feed primarily on green vegetation, berries, and seeds.
Fringed Myotis	<i>Myotis thysanodes</i>	Most commonly found in oak, pinion, and juniper woodlands or Ponderosa pine forests at middle elevations. Also uses deserts, grasslands, and other woodlands. The plan area has little oak, pinion, and juniper and occurrences have been in ponderosa forests. The few Montana records indicate that habitats in Montana are like other regions in the interior West. It has been captured in Ponderosa pine and Douglas-fir forests while foraging over willow and cottonwood areas along creeks and over pools and found in caves. Roosts in caves, mines, rock crevices, buildings, tree snags, and other protected sites. Nursery colonies occur in caves, mines, and sometimes buildings. Roosting in decadent trees and snags, particularly large ones, is common throughout its range in the western United States and Canada. Roosts have been documented in a large variety of tree species and it is likely that structural characteristics, such as height and decay stage, rather than tree species play a greater role in the selection of a snag or tree as a roost. Known to migrate but little is known about the magnitude of movements. Roost trees tend to be large-diameter snags in early-to-medium stages of decay.
North American Porcupine	<i>Erethizon dorsatum</i>	Found in a variety of habitats, including dense forests, tundra, grasslands, and desert shrub communities. Like their distribution, their diet is also generalized but shows a marked difference between winter and summer seasons. Winter foods are primarily the bark, cambium, and phloem of trees. In the spring, their diet shifts and they begin feeding on roots, stems, leaves, berries, seeds, and grasses.
Common Raven	<i>Corvus corax</i>	Found in a broad range of habitats: boreal, conifer, and deciduous forests; tundra; prairies; and grasslands.
Long-tailed Vole	<i>Microtus longicaudus</i>	Generalists found in various habitats ranging from dense coniferous forests to rocky alpine tundra, sagebrush semi-deserts, moist meadows, marshes, riparian areas, and forest-edge habitats. Frequently occurs in disturbed areas, such as clear-cuts, surface mines, and areas that have been fire-impacted. Diet includes green vegetation, seeds, berries, and fungi. In the winter, they may feed on the inner bark of shrubs and trees.
North American Deermouse	<i>Peromyscus maniculatus</i>	Found in virtually every habitat within its range, including tundra, taiga, temperate and boreal forests, swamps and bogs, prairies, deserts, and scrublands.

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Common Name	Scientific Name	Habitat Summary
House Sparrow	<i>Passer domesticus</i>	Found in human modified environments. Absent from extensive woodlands, forests, grasslands, and deserts.
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	Located in a wide variety of open habitats.
Brown-headed Cowbird	<i>Molothrus ater</i>	Prefers grassland vegetation, including woodland edges, brushy thickets, prairies, fields, pastures, orchards, and residential areas.
Chukar	<i>Alectoris chukar</i>	Found in steep rocky mountainous terrain harboring a mixture of brush, grasses, and forbs.
American Goldfinch	<i>Spinus tristis</i>	Resides in weedy and grassy fields with early-successional growth.
Northern Harrier	<i>Circus cyaneus</i>	Prefers grasslands, wetlands, shrub-steppes, prairies, cold desert, and riparian woodlands.
Rough-legged Hawk	<i>Buteo lagopus</i>	Located mostly in open, treeless areas, including prairies, shrub-steppes, semi deserts, open fields, marshlands, bogs, and dunes.
Ring-necked Pheasant	<i>Phasianus colchicus</i>	Found in open habitats often associated with agriculture lands.
Vesper Sparrow	<i>Poocetes gramineus</i>	Prefers dry grass fields with some shrubs or similar structure. Found in open habitats, including old fields, shrub-steppes, grasslands, and cultivated crop fields.
Ferruginous Hawk	<i>Buteo regalis</i>	Found in grasslands, shrub-steppes, and deserts.
Savannah Sparrow	<i>Passerculus sandwichensis</i>	Prefers meadows; cultivated fields, especially alfalfa; lightly grazed pastures; roadsides; coastal grasslands; sedge bogs; edges of salt marshes; and tundra.
Say's Phoebe	<i>Sayornis saya</i>	Resides in open country, prairie ranches, sagebrush plains, badlands, dry barren foothills, canyons, open forests, alpine cliffs, shrublands, rocky bluffs, grasses, shrubs, and occasionally scattered trees.
Western Meadowlark	<i>Sturnella neglecta</i>	Lives in a wide range of grassland habitats associated with an intermediate height and a higher density of grasses and forbs.
Barn Owl	<i>Tyto alba</i>	Primarily found in open habitats: grasslands, deserts, marshes, and agricultural fields.
Eurasian Collared-Dove	<i>Streptopelia decaocto</i>	Found mostly in suburban, urban, and agricultural areas where grain, roost, and nest sites are available. Trees in urban and suburban habitats provide nesting and roosting sites. Although less common in rural habitats, they will populate these areas when stored or waste grain is available.
Gray Partridge	<i>Perdix perdix</i>	Located in agricultural fields and grasslands. In the summer, mainly found in fields with cereal grains and row crops, especially when broods are present, but also found on roadsides and shelterbelts.
Rock Pigeon	<i>Columba livia</i>	Nests in crevices, caves in rocky seaside cliffs, or interior uplands, especially near open scrub vegetation or human agriculture. Also located around human infrastructure.
American Kestrel	<i>Falco sparverius</i>	Uses open areas covered by short ground vegetation where it hunts mostly from perches.

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Common Name	Scientific Name	Habitat Summary
European Starling	<i>Sturnus vulgaris</i>	Inhabits a wide variety of areas if a few crucial needs are met. They forage in open country on short, mown, or grazed fields, which are abundantly produced in urban areas and by many types of agriculture. These areas also provide accessory food resources, nesting cavities, and water.
American Badger	<i>Taxidea taxus</i>	Prefers grasslands, meadows, open forests, brush, and deserts. Can be found in parklands, farms, and treeless areas with friable soil and a supply of rodent prey. They may also be found in forest glades and meadows, marshes, brushy areas, hot deserts, and mountain meadows.
Meadow Vole	<i>Microtus pennsylvanicus</i>	Occupies grassy habitats in a wide variety of settings across their range. Uses early seral habitats. Mostly eats grasses but other vegetation is used sometimes. Needs loose organic soils for tunneling.
Montane Vole	<i>Microtus montanus</i>	Found in alpine meadows in the southern portion of their range and mountain valleys in the north. They are found in wet meadows and cropland, especially fields and pastures of grass and legumes along fence rows, and grassy areas by streams and lakes. Diet includes grasses and sedges, leaves, stems, and roots of a wide variety of forbs.
Northern Pocket Gopher	<i>Thomomys talpoides</i>	Prefer deep soils along streams and in meadows and cultivated fields, but they are also found in rocky soils and clay. They occupy a wide variety of habitats ranging from sagebrush steppes, mountain meadows, and tundra to agricultural fields, grasslands, and suburban gardens and lawns. Occupies a greater variety of habitats than any other pocket gopher species. The unifying feature of these habitats is the absence of significant canopy cover and abundant ground cover that supplies their nutritional needs. They primarily consume the roots, corms, rhizomes, and stems of forbs and herbs. They prefer deep well drained soils but are also found in compacted clays and shallow rocky soils.
Loggerhead Shrike	<i>Lanius ludovicianus</i>	Found in grasslands and other open habitats. Feeds on a variety of invertebrate and vertebrate prey.
Mountain Cottontail	<i>Sylvilagus nuttallii</i>	Occurs in a variety of habitats throughout its range. In the north it primarily occupies sagebrush habitat, while in the south it occurs more frequently in forested areas. Feeds on sagebrush and juniper all year where this vegetation occurs but grasses are preferred when available in spring and summer. Little or no habitat occurs in the plan area and the species may be accidental in the plan area or not occur.
Common Yellowthroat	<i>Geothlypis trichas</i>	Found in a wide range of habitats, including riparian, aspen, open conifer, and oak). Thick vegetation and well-developed understories are important in these habitats. Inhabitant of thick, tangled vegetation, particularly in wet areas. Located in regenerating quaking aspen, clear-cuts, abandoned quarries, airport runways, thickets of willow and young black cottonwood, and undergrowth of a mixed forest of conifer and quaking aspen in British Columbia.
Spruce Grouse	<i>Falcipennis canadensis</i>	Strongly associated with conifer forest. Typical habitat includes fire scares. Prefers relatively young stands over more mature conifer forests.



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Common Name	Scientific Name	Habitat Summary
Mountain Quail	<i>Oreortyx pictus</i>	Found in shrub-dominated communities. In Idaho, located in riparian shrub habitats or forests with a significant shrub component. Forages on fruits, nuts of trees, seeds of shrubs, subterranean bulbs, seeds and leaves of forbs and legumes.
Lazuli Bunting	<i>Passerina amoena</i>	Resides in brushy habitats; arid bushy hillsides; riparian, aspen, willow, alder, or cottonwood thickets; and sagebrush, chaparral, scrub, or recently burned thickets.
Yellow Warbler	<i>Setophaga petechia</i>	Found in deciduous thickets, especially those dominated by willows, and disturbed and early successional habitats. Shrub and thicket habitat important. Vegetation includes willows, aspen, alder, and dogwood.
Brewer's Sparrow	<i>Spizella breweri</i>	Lives in shrublands, usually sagebrush.
Calliope Hummingbird	<i>Selasphorus calliope</i>	Located in shrub-sapling seral stage forested habitats.
Dusky Flycatcher	<i>Empidonax oberholseri</i>	Occupies scrub, brushy areas, thickets, and open areas with scattered trees. Found in open coniferous forests, mountain chaparral, aspen groves, streamside willow thickets, and brushy open areas.
Fox Sparrow	<i>Passerella iliaca</i>	Prefers brushy woodland edges, grown-up fields, cut-over woodland, scrubby woods, streamside thickets, and chaparral.
House Finch	<i>Haemorhous mexicanus</i>	Lives in a variety of habitats: deserts, grasslands, desert shrublands, chaparral, oak savannahs, juniper-oak woodlands, riparian areas, open coniferous forests, and subalpine shrublands.
Orange-crowned Warbler	<i>Oreothlypis celata</i>	Breeds in a wider range of forest types than most birds. Prefers early seral habitats with shrubs and low vegetation, brushy and open deciduous woodlands, shrub thickets, and mixed woods and coniferous forest edges.
Spotted Towhee	<i>Pipilo maculatus</i>	Found in dense, broadleaf shrubby growth, such as brush, thickets, or tangles only a few meters tall, with or without emergent trees, that provides deep, sheltered, semi-shaded litter and humus on the ground and a screen of twigs and foliage close overhead.
Lesser Goldfinch	<i>Spinus psaltria</i>	Prefers open country with scattered trees, inland riparian areas, woodland savannahs, and chaparral habitats.
Yellow-breasted Chat	<i>Icteria virens</i>	Found in low, dense vegetation without a closed tree canopy, including shrubby habitat along stream, swamp, and pond margins; forest edges; regenerating burned-over forests; logged areas; and fencerows and upland thickets of recently abandoned farmland. Population density positively correlated with the presence of blackberries in some studies. In the arid west, largely confined to riparian and shrubby habitats.
MacGillivray's Warbler	<i>Geothlypis tolmiei</i>	Located in second growth and riparian vegetation composed of dense thickets, shrubs, willows, and saplings of various tree species, primarily in coniferous forests of spruce and Douglas-fir or mixed deciduous forests with birch, aspen, and poplar.
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	Inhabits shrubby understory and grass with bare ground; trees sometimes present.

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Common Name	Scientific Name	Habitat Summary
California Quail	<i>Callipepla californica</i>	A broad generalist, found in chaparral, sagebrush scrub, and grassland oak, and riparian and foothill woodland.
Common Redpoll	<i>Acanthis flammea</i>	Only uses winter habitat in plan area. Prefers open woodland and scrub, particularly of birch, alder, and willow; also, among weeds at field edges.
Gray Catbird	<i>Dumetella carolinensis</i>	Found in shrubby vegetation, dense shrubs, or vine tangles. Abundant in shrub-sapling-stage successional and edge habitats, riparian corridors, and riparian buffers.
Bewick's Wren	<i>Thryomanes bewickii</i>	Lives in scrubby vegetation, open woodlands, and dense riparian areas of ash or oak. Opportunistic cavity nester but also nests in other sites.
Mule deer	<i>Odocoileus hemionus</i>	Adapted to a variety of habitats, including temperate forest, desert and semi-desert, open range, grassland, and field and scrub habitats, as well as mountainous areas. Feeds on browse.
Yellow-pine Chipmunk	<i>Tamias amoenus</i>	Usually located in brush-covered areas where snowberry, chinquapin, mountain mahogany, service berry, antelope brush, currant, and buckbrush are found, providing abundant fruits seasonally. Such shrub areas are interspersed with a variety of grasses and herbs, as well as open conifer stands, all producing favored food seeds. It is omnivorous, consuming a wide variety of food items, including seeds, fruits, bulbs or tubers, insects, bird eggs, berries, flowers, green foliage, roots, small animals, buds of woody plants, and conifer seeds. Require logs, snags, rock crevices, or stumps for nesting, in addition to shrubs and ground litter for cover.
Horned Lark	<i>Eremophila alpestris</i>	Resides in open, generally barren, country; avoids forests, short vegetation, and bare ground.
Killdeer	<i>Charadrius vociferus</i>	Lives in mudflats, gravel bars, and short-grass meadows. Often found near water, but also known to breed far from.
Kit Fox	<i>Vulpes macrotis</i>	Known from only one observation and is not likely a resident or even accidental. Inhabits the deserts and arid lands of western North America. Found in arid and semi-arid regions encompassing desert scrub, chaparral, halophytic, and grassland communities. Areas with sparse ground cover are preferred. Not likely that any kit foxes occur in the plan area, and the single known observation is probably a red fox.
Turkey Vulture	<i>Cathartes aura</i>	Found in pastured rangeland, non-intensive agriculture, wild areas, and parkland and grassland areas with intermixed forest, shrub, or open areas all with rock outcrops suitable for nesting. For nesting, prefers forested or partly forested areas with nest sites, including rock outcrops, fallen trees, tree cavities, and cliffs. Prefers hilly areas that provide thermals and updrafts. Avoids high forest canopy cover, flat areas, and high elevations.
Red Fox	<i>Vulpes vulpes</i>	Uses a wide range of habitats, including forest, tundra, prairie, desert, mountains, farmlands, and urban areas.
Mountain Lion, Cougar, or Puma	<i>Puma concolor</i>	Found in a broad range of habitats in all forest types, as well as lowland and montane desert. Several studies have shown that habitat with dense understory vegetation is preferred. However, pumas can live in very open habitats with only a minimum of vegetative cover. In North

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Common Name	Scientific Name	Habitat Summary
		America, deer make up 60 to 80 percent of the puma's diet. In the plan area, cougars are an important predator of elk.
Gray wolf	<i>Canis lupus</i>	Ranges in all northern habitats where there is suitable food, with densities being highest where prey biomass is highest. Food is extremely variable but primarily comprised of large ungulates, such as moose, caribou, deer, elk, and wild boar. Wolves will also eat smaller prey items, livestock, carrion, and garbage.
Long-tailed Weasel	<i>Mustela frenata</i>	Found in a wide variety of habitats, usually near water. Associated with non-forested habitats within forested landscapes. Favored habitats include brushland and open woodlands, field edges, riparian grasslands, swamps, and marshes. Dens are in abandoned burrows made by other mammals, rock crevices, brush piles, stump hollows, or space among tree roots. Usually most abundant in late seral stages or ecotones where prey diversity is greatest. Waterways provide access to suitable habitat and are a natural avenue for dispersal, particularly in areas that otherwise are unsuitable. Feeds primarily on small mammals, occasionally birds, other small vertebrates, and insects. They are not found in deserts or thick, dense forests.
Coyote	<i>Canis latrans</i>	Uses almost all available habitats, including prairie, forest, desert, mountain, and tropical ecosystems.
Bobcat	<i>Lynx rufus</i>	A wide variety of habitats, including boreal coniferous and mixed forests in the north, bottomland hardwood forest and coastal swamp in the southeast, and desert and scrubland in the southwest. High rabbit and small mammal populations are requisite. Prefer shrub, open, or early seral habitats over forested habitats. Only large, intensively cultivated areas appear to be unsuitable habitat. Areas with dense understory vegetation and high prey density are most intensively selected by bobcats. They sleep in hidden dens, often in hollow trees, thickets, or rocky crevices.
Rufous Hummingbird	<i>Selasphorus rufus</i>	Nests in dense mature and second growth coniferous forests, deciduous woods, riparian thickets, swamps, and meadows. Seeks red-tubular flowers, such as red columbine, scarlet gilia, bearded tongues and paintbrushes, lilies, purple larkspurs, heaths, currants, salmonberries, honeysuckles, fireweed, horsemint, toad-flax, snapdragon, and bee-flower.
Black-chinned Hummingbird	<i>Archilochus alexandri</i>	In arid portions of the range, located in riparian and canyon bottoms. Prefers canyon or flood-plain riparian communities and tracts of deciduous trees along stream bottoms. Nesting habitats also include piñon-juniper woodlands and Gambel's oak ( <i>Quercus gambelii</i> ) shrublands. Nectar resources are likely important.
Bohemian Waxwing	<i>Bombycilla garrulus</i>	Winters in plan area where it feeds on fruit-bearing trees and shrubs.
Cedar Waxwing	<i>Bombycilla cedrorum</i>	Relies on the fruits of shrubs and small trees in their mutualistic role as seed dispersers., Found in open woodlands and shrubby fields that harbor these fruit-bearing plants. Insects are an important food in spring and early summer. Sugary fruits dominate the diet of this bird,

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Common Name	Scientific Name	Habitat Summary
		especially in winter. This is a true frugivore, assimilating nutrients from fruit pulp and passing seeds intact back to the environment. Nests in open woodland and old field habitats with numerous shrubs and small trees, avoiding the forest interior. Habitats include various woodlands—deciduous, coniferous, and mixed—especially open forests and riparian areas of deserts and grasslands, as well as farms, orchards, conifer plantations, and suburban gardens.
Red Crossbill	<i>Loxia curvirostra</i>	Lives in mature conifer forests of spruce ( <i>Picea</i> spp.), Douglas-fir, eastern ( <i>Tsuga canadensis</i> ) and western hemlock, Ponderosa pine, and lodgepole pine. Breeds in mature conifer forests but generally avoids dense forests; occurs wherever large cone crops have been produced by spruce, Douglas-fir, western hemlock, eastern hemlock, western larch ( <i>Larix occidentalis</i> ) and many species of pine. A critical factor influencing breeding is conifer seed availability and its changes over time in relationship to the changing seasonal requirements for successful reproduction.
White-winged Crossbill	<i>Loxia leucoptera</i>	Dependent upon conifer forests wherever there are large crops of spruce or tamarack cones. A critical factor influencing crossbill breeding is conifer seed availability.
Clark's Nutcracker	<i>Nucifraga columbiana</i>	Prefers coniferous forests consisting of species that produce mast or seeds, such as whitebark, limber, and Ponderosa pines and Douglas-fir.
Red Squirrel	<i>Tamiasciurus hudsonicus</i>	Inhabits coniferous, mixed conifer-hardwood, and occasionally hardwood forests and rural woodlots. Prefers coniferous and mixed forests but also occurs in deciduous woodlands, hedgerows, and second-growth areas. Most common in montane yellow pine and Douglas-fir forests and subalpine fir and Engelmann spruce forests in western Montana. Prefers to nest in tree cavities; also constructs leaf nests and uses ground burrows. Most abundant in mature stands. Diet consists of seeds, conifer cones, nuts, and fruits. Occasionally feeds on invertebrates and small vertebrates. Commonly caches, and later consumes, large amounts of food. More abundant in old forests compared to young and second growth forests. Population density varies with cone crops.
Brown-banded Arion	<i>Arion circumscriptus</i>	Occupies moist to wet sites, such as stream-sides and marshy areas, within forested or shrubby locations, usually near areas of human activity in campgrounds, gardens, and other disturbed sites.
Glossy Pillar	<i>Cochlicopa lubrica</i>	Prefers moister sites, often in disturbed areas, such as gardens, residential areas, roadsides, and pastures; not common in natural areas or dense forests. Canopy tree species include black cottonwood, aspen, scattered Engelmann spruce, and Ponderosa pine, while secondary canopy species include willow and alder. Found under woody debris and in leaf litter or duff.
Gray Fieldslug	<i>Deroceras reticulatum</i>	Found in a variety of modified habitats near moisture in lawns, gardens, irrigated fields, and roadsides and sometimes in sites without a tree canopy. Canopy tree species include black cottonwood, Ponderosa pine, and aspen, with a secondary canopy including alder and

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Common Name	Scientific Name	Habitat Summary
		willow. Most often found under woody debris, leaf litter, and rocks, as well as in lawns under planters and ornaments.
Minute Gem	<i>Hawaiia minuscula</i>	Frequents a variety of sites from wooded to relatively exposed and arid. Found under limestone and sandstone rocks in sites sparsely vegetated with juniper and grass, in willow litter, and under Douglas-fir and Ponderosa pine canopy.
Brown Hive	<i>Euconulus fulvus</i>	Prefers a wide range of habitats from wet forests and riparian areas to dry grassy sites and isolated aspen pockets. Tree canopy species include western redcedar, western hemlock, grand fir, Douglas-fir, Engelmann spruce, subalpine fir, black cottonwood, western larch, lodgepole pine, whitebark pine and aspen; secondary canopy includes alder, willow, dogwood, and paper birch. Found under woody debris and rocks in leaf litter and duff.
Cross Vertigo	<i>Vertigo modesta</i>	Lives in moist forested or wooded sites near water and sometimes in campgrounds. Canopy species include western redcedar, western hemlock, grand fir, Engelmann spruce, subalpine fir, Douglas-fir, lodgepole pine, whitebark pine, western larch, Ponderosa pine, black cottonwood, and aspen; secondary canopy includes alder, willow, and paper birch. Found on or under rocks and woody debris, sometimes immediately next to streams, in leaf litter or duff on vegetation.
Banded Tigersnail	<i>Anguispira kochi</i>	Mostly found in mesic mixed conifer forests, typically near water, such as stream-side riparian areas and seeps. Canopy species include western redcedar, western hemlock, Engelmann spruce, Douglas-fir, grand fir, western larch, lodgepole pine, black cottonwood, and paper birch, with secondary canopy including alder, dogwood, and mountain maple. Found most often under woody debris or rocks in leaf litter and duff.
Coeur d'Alene Oregonian	<i>Cryptomastix mullani</i>	Located in forested to semi-open sites, often near moisture. Canopy species include western redcedar, western hemlock, grand fir, Engelmann spruce, subalpine fir, Douglas-fir, western larch, western white pine, lodgepole pine, Ponderosa pine, black cottonwood, aspen, and paper birch; secondary canopy includes alder, dogwood, water birch, willow, and mountain maple. Often found under woody debris, rocks, bryophyte mats in talus, leaf litter, and duff.
Conical Spot	<i>Punctum randolphi</i>	Found in mesic to moist mixed conifer forests. Canopy species include Engelmann spruce, grand fir, Douglas-fir, black cottonwood with a secondary canopy of alder, ferns, devil's club, and thimbleberry. Lives on the ground under moist dead leaves, downed wood, and other litter.
Fir Pinwheel	<i>Radiodiscus abietum</i>	Found in a variety of mixed conifer forests but usually in moist mesic sites. Canopy species include western redcedar, western hemlock, grand fir, western white pine, Douglas-fir, Engelmann spruce, subalpine fir, western larch, Ponderosa pine, lodgepole pine, black cottonwood, and water and paper birch, with a secondary canopy including aspen, Pacific yew, and alder. Found under woody debris, rocks, leaf litter, and bryophyte mats.

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Common Name	Scientific Name	Habitat Summary
Forest Disc	<i>Discus whitneyi</i>	Found in shrubland desert canyons, usually in deep loosely packed humus or nested habitats from mesic forest, for example western redcedar, western hemlock, Engelmann spruce, Douglas-fir, black cottonwood, secondary canopy including alder, Pacific yew, paper birch, mountain maple, dogwood, willow. Also uses relatively dry Ponderosa pine and Rocky Mountain juniper, but usually in moister sites, such as imbedded pockets of aspen. Found under woody debris and rocks and in downed rotten wood, leaf litter, and duff.
Giant Gardenslug	<i>Limax maximus</i>	Inhabits gardens and city parks near water and human habitation, sometimes out of town in campgrounds and valley-bottoms. Forest canopy includes western redcedar, western hemlock, grand fir, Douglas-fir, paper birch, black cottonwood, with secondary canopy of alder, willow, dogwood, and snowberry. Most often found under woody debris and leaf litter and sometimes in downed rotten wood or wood piles.
Humped Coin	<i>Polygyrella polygyrella</i>	Occupies mesic mixed conifer forests, often relatively close to water, such as streams and seeps. Canopy species include western redcedar, western hemlock, grand fir, Engelmann spruce, Douglas-fir, subalpine fir, black cottonwood, and western white pine; secondary canopy includes alder and mountain maple. Found under woody debris and rocks in damp soil and humus.
Idaho Forestsnail	<i>Allogona ptychophora</i>	Prefers mesic mixed conifer forests, often near water, such as stream-side riparian areas and seeps but sometimes lives well away from surface water. Canopy species include western redcedar, western hemlock, Engelmann spruce, Douglas-fir, grand fir, western larch, Ponderosa pine, lodgepole pine, black cottonwood, aspen, and paper birch; secondary canopy includes alder, willow, dogwood, and mountain maple. Found most often under woody debris or rocks in leaf litter and duff and sometimes on the surface and in the open.
Lovely Vallonia	<i>Vallonia pulchella</i>	Inhabits disturbed areas, such as gardens, parks, and roadsides, often near moisture. Canopy species include Douglas-fir, Ponderosa pine, black cottonwood, lodgepole pine, and Engelmann spruce; secondary canopy includes alder and willow. Found under woody debris and rocks and in leaf litter and duff.
Lyre Mantleslug	<i>Udosarx lyrata</i>	Lives in mostly mesic mixed conifer forests and riparian woodlands, sometimes with talus, and at higher elevation in drier habitat where snowbanks and seeps keep soil moister. Canopy species include Engelmann spruce, subalpine fir, whitebark pine, Douglas-fir, Ponderosa pine, lodgepole pine, western larch, western hemlock, western redcedar, black cottonwood, and paper birch, secondary canopy includes alder, willow, mountain maple, and dogwood. Usually found under rocks and woody debris and sometimes within rotten logs.
Magnum Mantleslug	<i>Magnipelta mycophaga</i>	Lives in mostly mesic mixed conifer forests and riparian woodlands, sometimes with talus, and at higher elevation in drier sites with sufficient ground cover to maintain elevated soil moisture. Canopy species include Engelmann spruce, subalpine fir, lodgepole pine, Douglas-fir, western hemlock, western redcedar, grand fir,

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Common Name	Scientific Name	Habitat Summary
		western larch, Ponderosa pine, and black cottonwood; secondary canopy species include alder, willow, dogwood, and mountain maple. Usually found under rocks and woody debris and sometimes in rotten logs.
Marbled Jumping–slug	<i>Hemphillia danielsi</i>	Lives mostly in mesic mixed conifer forests, typically near water, such as stream-side riparian areas and seeps. Canopy species include Engelmann spruce, subalpine fir, western redcedar, western hemlock, grand fir, Douglas-fir, alder, aspen, and black cottonwood. Usually found under woody debris and leaf litter or in downed rotten logs and sometimes under rocks.
Mellow Column	<i>Columella columella</i>	Prefers moist forested sites, aspen pockets, and moist open meadows. Canopy species include Douglas-fir, Engelmann spruce, subalpine fir, limber pine, and aspen. Found under woody debris; on logs, vegetation, and bryophyte mats; and in leaf litter.
Mitered Vertigo	<i>Vertigo concinnula</i>	Lives in moist sites in aspen and riparian willow thickets. Found under woody debris and leaf litter.
Nimapuna Disc	<i>Anguispira nimapuna</i>	Specific habitat requirements are not known but the species has been found in dry to mesic mixed conifer forests, often under debris, especially rocks and talus.
Northwest Striate	<i>Striatura pugetensis</i>	Prefers mixed mesic conifer forests in moist sites at lower elevations. Canopy species include western hemlock, grand fir, Engelmann spruce, black cottonwood, and western larch; secondary canopy includes alder, dogwood, paper birch, and mountain ash. Found under woody debris, mossy mats, and ferns in leaf litter or duff.
Pale Jumping–slug	<i>Hemphillia camelus</i>	Slugs in this genus inhabit moist, coniferous forests with abundant large, woody debris and extensive litter and duff layers. Occurs in forested areas and most often found under logs or rocks. Comes out during wet periods. During particularly dry conditions, retreats to decomposing logs and moist sections. It is a cold-associated gastropod.
Quick Gloss	<i>Zonitoides arboreus</i>	Found in a variety of forested habitats where moisture is retained or available. Canopy species include most conifers, cottonwoods, aspen, birches, green ash, and American elm; secondary canopy includes alder, willow, dogwood, mountain maple, current, and hawthorn. Often found under woody debris and rocks and in downed rotten wood, leaf litter, and duff. Inhabits isolated aspen stands.
Reticulate Taildropper	<i>Prophysaon andersoni</i>	Lives in mostly in mesic mixed conifer forests, often relatively close to water. Canopy species include western redcedar, western hemlock, grand fir, Douglas-fir, black cottonwood, paper birch, aspen, Engelmann spruce, western larch, western white pine, and lodgepole pine with secondary canopy sometimes including alder, Pacific yew, and mountain ash. Usually found under woody debris and leaf litter or in downed rotten wood and sometimes under rocks.
Robust Lancetooth	<i>Haplotrema vancouverense</i>	Located mostly in mesic mixed conifer forests, typically near water, such as stream-side riparian areas, seeps, and wetlands, and sometimes near areas of human activity, such as campgrounds. Canopy species include western redcedar, western hemlock, grand fir, Douglas-fir, black cottonwood, and paper birch; secondary canopy

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		includes aspen and alder. Found in leaf litter and under woody debris, rocks, and bryophyte mats.
Selway Forestsnail	<i>Allogona lombardii</i>	Found in intact mixed coniferous forests, usually in low elevation, well—shaded, moist areas along medium to large streams. Sites usually have a diverse understory and a substantial duff layer.
Sheathed Slug	<i>Zacoleus idahoensis</i>	Primarily found in mesic mixed conifer forests, often near water, such as stream-side riparian areas and seeps, but also in more xeric sites. Canopy species include western redcedar, western hemlock, grand fir, Engelmann spruce, Douglas-fir, western larch, Ponderosa pine, lodgepole pine, black cottonwood, and paper birch, with a secondary canopy of alder, willow, and dogwood. Usually found under woody debris and leaf litter or in downed rotten wood and sometimes under rocks.
Silky Vallonia	<i>Vallonia cyclophorella</i>	Prefers drier mixed conifer forests and open grassy and rocky slopes. Canopy species include Douglas-fir, Engelmann spruce, western larch, lodgepole pine, black cottonwood, aspen, and Rocky Mountain juniper. Found under woody debris and rocks and in leaf litter
Small Spot	<i>Punctum minutissimum</i>	Lives in forested sites near moisture. Canopy species include aspen and Douglas-fir. Found in moist sites under woody debris and in leaf litter or duff.
Smoky Taildropper	<i>Prophyaon humile</i>	Mostly in mesic mixed conifer forests, often relatively close to water. Canopy species include western redcedar, western hemlock, grand fir, Douglas-fir, Engelmann spruce, subalpine fir, Ponderosa pine, black cottonwood, paper birch, aspen, western larch, and lodgepole pine, with secondary canopy sometimes including alder, dogwood, willow, Pacific yew, and hawthorn. Usually found under woody debris and leaf litter or in downed rotten wood and sometimes under rocks.
Spruce Snail	<i>Microphysula ingersolli</i>	Occupies both wooded and open sites to above the tree line. Canopy species include Douglas-fir, Engelmann spruce, subalpine fir, western larch, Ponderosa pine, whitebark pine, lodgepole pine, black cottonwood, aspen, western redcedar, and western hemlock; secondary canopy includes alder, willow, hawthorn, and dogwood. Found under woody debris and rocks, sometimes in rotten wood or talus slopes, and in leaf litter or duff; most common in areas with moisture and limestone.
Thinlip Tightcoil	<i>Pristiloma idahoense</i>	Often found in Idaho at lower elevations in moist forest zones under mature closed-canopy Ponderosa pine, Douglas-fir, grand fir, and Pacific yew. Sometimes in mossy talus under coarse organic debris and sometimes associated with limestone and basalt.
Toothless Column	<i>Columella edentula</i>	Lives in a diversity of moist sites, including isolated aspen stands. Canopy species include western redcedar, western hemlock, grand fir, Engelmann spruce, Douglas-fir, lodgepole pine, black cottonwood, aspen, and paper birch; secondary canopy includes alder, dogwood, and mountain maple. Often found under woody debris, on logs and vegetation, and in leaf litter.
Western Flat-whorl	<i>Planogyra clappi</i>	Generally associated with mesic forests at a wide range of elevations. Populations are also occasionally encountered in partly forested rock taluses or outcrops, marshes,



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		meadows, or riparian areas. Individuals are usually found under leaf litter.
Crestless Column	<i>Pupilla hebes</i>	Found in somewhat open, dry, and rocky habitats, generally at lower elevations, but absent from very dry sites. Sometimes occurs in mountain meadows. Little substrate preference evident.
Western Spotted Skunk	<i>Spilogale gracilis</i>	Tends to be widespread in many habitats. In Idaho, occurs most commonly along streams, especially in the vicinity of basaltic outcroppings and rock piles. In Southeastern Washington, uses rocky places and riparian thickets of willow and cottonwood. Commonly uses canyons, cliffs, rimrocks, lava fields, and arid valleys, whereas in coastal regions it is common in alder, salmonberry, riparian alder, riparian hardwood, and tanoak habitats. Known to use dens of other animals, such as beavers and woodrats, or burrows under buildings. Dens in rock outcrops, road cuts, crevices, and tree cavities and under shrubs.
Vagrant Shrew	<i>Sorex vagrans</i>	Found in a wide variety of habitats: forests, meadows, riparian areas, and salt marshes but usually mesic habitats. At elevations below 5000 feet, usually Douglas-fir, lodgepole pine, western larch, grand fir, and western redcedar. Known to nest in decayed logs. The nests are approximately four inches in diameter and are made of dry grass. Primarily feeds on forest insects, including eggs, larvae, pupae, and adults; slugs; earthworms; and other invertebrates. Occasionally may feed on salamanders and other small vertebrates.
Cinereus or Masked Shrew	<i>Sorex cinereus</i>	Occupies most terrestrial habitats, excluding areas with very little or no vegetation. Thick leaf litter in damp forests may represent favored habitat, although it appears to be adaptable to major successional disturbances. Nest sites are typically in shallow burrows or above ground in logs and stumps. It is a generalist, opportunistic invertivore and eats primarily insects and other invertebrates, carrion, small vertebrates, and occasionally seeds.
Common Gartersnake	<i>Thamnophis sirtalis</i>	Inhabits a very wide range of aquatic, wetland, and upland habitats. When inactive, it occurs underground, in or under surface cover, or in other secluded sites.
Northern Alligator Lizard	<i>Elgaria coerulea</i>	Habitat includes open areas in coniferous forests, grassy grown-over areas at the margins of woodlands, clear cuts, and areas along streams. Along the coast, this lizard sometimes occurs far from trees or major cover. Associated with rock outcrops and talus in some areas. There is little specific information on habitat associations in Montana. Several observations have been made on south-facing slopes in fine to coarse talus, sometimes in the open, but often with some canopy cover of Douglas-fir; Ponderosa pine; and a variety of shrubby species, such as serviceberry, ninebark, and mock orange; and a litter layer of dried leaves and conifer needles.
Ring-necked Snake	<i>Diadophis punctatus</i>	Widespread throughout North America but the distribution in the western part of the range is sparse and discontinuous. The species has been detected in two parts of Idaho. A cluster of populations occurring in west-central Idaho comprises records from the Clearwater and

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Common Name	Scientific Name	Habitat Summary
		Potlatch river drainages and the lower Salmon River drainage near White Bird. In Idaho, localities are typically adjacent to perennial rivers or streams in grassland or forested habitats or sagebrush—dominated habitat and rocky canyons adjacent to ephemeral and perennial water sources. Found in forested, brushy areas or open hillsides that have rocks or other debris for them to hide in. May use microhabitats that are moist. Prefers moist habitats, including wet meadows, rocky hillsides, gardens, farmland, grassland, chaparral, coniferous forests, and mixed woodlands. Feeds on small salamanders, lizards, and frogs, as well as earthworms and juvenile snakes of other species.
Terrestrial Gartersnake	<i>Thamnophis elegans</i>	Occurs in a wide variety of habitats from lowlands to high mountains: grassland, shrubland, woodland, and open areas in forests. It is chiefly terrestrial in most areas but also aquatic in some locations. Often inhabits wetlands and areas near streams, ponds, and lakes.
Western Fence Lizard	<i>Sceloporus occidentalis</i>	Occupies various habitats, including grasslands, sagebrush, woodlands, open coniferous forests, rocky canyons, talus slopes, and fence rows. Eggs are buried in loose soil. Usually found in association with rock outcroppings, talus slopes, and cliff faces. Also found in open forested areas on rocks, logs, and trees.
Western Skink	<i>Plestiodon skiltonianus</i>	Habitats include grasslands, chaparral, pinyon-juniper woodlands, open pine or pine-oak woods, and rocky areas near streams. Partial to open wooded foothills and usually associated with rocks, under which it takes shelter. Digs burrows in soil. Eggs are laid in burrows or areas excavated by the female under rocks and stones.
Northern Rubber Boa	<i>Charina bottae</i>	Habitat includes woodlands, forest clearings, patchy chaparral, meadows, and grassy savannas, generally not far from water; also found in riparian zones in arid canyons and sagebrush in some areas. Generally, found in or under rotting logs or stumps, under rocks or in crevices, or under the bark of dead fallen trees. Usually found under logs and rocks in either moist or dry forest habitats. In Montana, found in leaf-litter in deep shaded Douglas-fir and cedar forests.
Western Rattlesnake	<i>Crotalus oreganus</i>	Occupies a wide diversity of habitats from shrubby coastal dunes to timberline and from shrubby basins and canyons to open mountain forests. It is primarily terrestrial but sometimes climbs into trees or shrubs. When inactive, it occupies mammal burrows, crevices, caves, or similar secluded sites. Diet includes mainly small mammals; also feeds on birds, lizards, and rarely amphibians.
North American Racer	<i>Coluber constrictor</i>	Habitats encompass a wide range of lowland and montane areas, including deserts, prairies, sandhills, shrublands, woodlands, forests, canyons, stream sides, and semi-agricultural areas. Absent from the driest deserts and highest mountains, including subalpine zones and higher. Eggs are laid in underground tunnels or burrows, rotting stumps, sawdust piles, or under rocks. Diet includes small mammals, lizards, grasshoppers, frogs and toads.

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Common Name	Scientific Name	Habitat Summary
Gophersnake	<i>Pituophis catenifer</i>	Occurs in a wide range of habitats, extending from lowlands to mountains, including deserts, prairies, shrublands, woodlands, open coniferous forests, farmlands, and marshes. This snake is terrestrial, fossorial, and arboreal. Remains underground in cold weather and during the hot midday period in summer; may occupy mammal burrows. Eggs are deposited in burrows excavated by the female in loose soil, in spaces beneath large rocks or logs, or possibly in small mammal burrows. Feeds primarily on small mammals; also eats birds and their eggs, lizards, small snakes and snake eggs, and insects; lizards and insects are more common in the diet of juveniles than in that of adults.
Bank Swallow	<i>Riparia riparia</i>	Presently breeds primarily in lowland areas along ocean coasts, rivers, streams, lakes, reservoirs, and wetlands. Vertical banks, cliffs, and bluffs in alluvial, friable soils characterize nesting-colony sites throughout North America. Most rivers and streams with nesting habitats are low-gradient, meandering waterways with eroding streamside banks where it nests in cavities in the soil. Foraging habitats surrounding nesting colony include wetlands, open water, grasslands, riparian woodlands, agricultural areas, shrublands, and occasionally upland woodlands.
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	Found on vertical cliff faces or artificial structures, such as bridges and buildings, with a horizontal overhang for nest attachment near open fields.
Canyon Wren	<i>Catherpes mexicanus</i>	Resides on rocky cliffs or outcrops.
Peregrine Falcon	<i>Falco peregrinus</i>	Most commonly occupied habitats contain cliffs for nesting with open gulfs of air and generally open landscapes for foraging.
Rock Wren	<i>Salpinctes obsoletus</i>	Prefers arid or semiarid areas with exposed rock in desert to alpine habitats. Nests in rocks, cliffs, crevices, interstices, passageways, recesses, and nooks and crannies of diverse shapes and sizes.
White-throated Swift	<i>Aeronautes saxatalis</i>	Nests in crevices in cliffs, canyon walls, pinnacles, and large rocks, and in variety of human-made structures in mountainous and hilly terrain adjacent to both open country and heavily forested areas.
Boulder Pile Mountainsnail	<i>Oreohelix jugalis</i>	Found in dry, rather open, often grassy or brushy sites on varied lithologies. Occurs in varied habitats, but populations are usually associated with talus or boulder fields in mesic to somewhat xeric conditions. Vegetation at sites includes netleaf hackberry, willow, and various forbs and grasses.
Costate Mountainsnail	<i>Oreohelix idahoensis</i>	Occurs in dry, open limestone or calcareous schist. The dominant vegetation includes sagebrush, netleaf hackberry, and prickly pear.
A Land Snail (Hells Canyon)	<i>Oreohelix idahoensis baileyi</i>	Prefers dry, open limestone areas at the base of cliffs and in rockpiles.
Deep Slide Mountainsnail	<i>Oreohelix intersum</i>	Habitat is basalt and schist talus and rock fields. Vegetation may include grass and forbs and shrubs.
Rocky Mountainsnail	<i>Oreohelix strigosa</i>	Composition of the plant community appears to be of little importance. Dominant plant species where it occurs range

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Common Name	Scientific Name	Habitat Summary
		from sagebrush to a wide variety of deciduous shrubs and trees and a similarly wide variety of coniferous shrubs and trees. Substrate is of great importance, with the presence of exposed limestone being almost critical for occurrence. The presence of moisture, limestone, and leaf mold is of critical importance, with colonies being found chiefly in or near limestone debris at the base of shady cliffs.
Salmon Coil	<i>Helicodiscus salmonaceus</i>	Found in xeric to mesic sites within moderately closed- to open-canopied mixed conifer forests, though sometimes it can be found in shrub-dominated habitats as well. Often found under bryophyte mats over calcareous talus or under rocks with predominant canopy species including Ponderosa pine, Douglas-fir, grand fir, and western hackberry. It is thought to be limited by the occurrence of its rocky habitat.
Salmon Oregonian	<i>Cryptomastix harfordiana</i>	Found in moderately xeric to somewhat mesic habitats associated with talus or boulder fields, often at the base of slopes or in riparian areas. Dominant plants include netleaf hackberry, grasses, willow, and dogwood.
Seven Devils Mountainsnail	<i>Oreohelix hammeri</i>	Habitat at the only known site is limestone outcrops and talus with grasses, forbs, and shrubs. Occurs on a steeply descending ridge crested with an outcrop of limestone blocks and plates of rock standing on edge. The habitat is vegetated with grasses; assorted forbs, including balsamroot and paintbrush; and mountain mahogany. The east-facing slope immediately below the ridge is heavily timbered with Douglas-fir, while the west-facing slope is predominantly vegetated with grasses and perennial forbs.
Striate Mountainsnail	<i>Oreohelix strigosa goniogyra</i>	Found mostly on forested outcrops of Ponderosa pine and lithologies ranging from shist to limestone. Sites commonly have a partly complete closed canopy and diverse forb and deciduous understory.
Mission Creek Oregonian	<i>Cryptomastix magnidentata</i>	Populations are found on limestone and basalt talus in pine forests that are moist, rocky, and well-shaded.
Lyrate Mountainsnail	<i>Oreohelix haydeni</i>	Found in xeric habitats with exposed limestone outcrops. The subspecies hesperia occurs in open Ponderosa pine forests, while perplexa occurs in areas dominated by sagebrush, serviceberry, and grasses.
Western Glass-snail	<i>Vitrina pellucida</i>	Found in a variety of warm and cold xeric habitats, often at rather open sites, ranging from near coastal to subalpine elevations. Prefers talus and rocky ground but seldom in forests.
Whorled Mountainsnail	<i>Oreohelix vortex</i>	Occurs in association with basalt boulder fields and talus in xeric habitat. Grasses and occasionally shrubs or forbs are the most common plant associates.
American Pika	<i>Ochotona princeps</i>	Prefers talus or piles of broken rock, often at high elevations with nearby grassland or forb lands.
Bushy-tailed Woodrat	<i>Neotoma cinerea</i>	Found from alpine to Sonoran life zones. Inhabits mountains, cliffs, talus slopes, caves, and rock outcrops, both in forests and open deserts.
Hoary Marmot	<i>Marmota caligata</i>	Found in treeless alpine meadows where there are rocky outcrops and talus. Diet consists of grasses and forbs.

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Common Name	Scientific Name	Habitat Summary
Townsend's Big-eared Bat	<i>Corynorhinus townsendii</i>	Lives in a variety of habitats, including coniferous forests, mixed forests, deserts, sagebrush steppes, native prairies, riparian communities, active agricultural areas, and coastal habitat types. Distribution of roost, maternity, and hibernaculum are more important for presence than habitat type. Roosts most commonly in caves, cliffs, and rock ledges but have been found in abandoned mines and other man-made structures.
Little Brown Myotis	<i>Myotis lucifugus</i>	Found in a variety of habitats across a large elevation gradient. This species inhabits forested lands near water. Lives over a wide latitudinal and elevational range. Foraging habitat requirements are generalized; foraging occurs over water, along the margins of lakes and streams, or in woodlands near water. Winter hibernation sites generally have relatively stable temperatures. Hibernation occurs in caves, tunnels, abandoned mines, and similar sites. Use a wide range of habitats and often use human-made structures for resting and maternity sites; also use caves and hollow trees. Availability of suitable maternity sites may limit the species' abundance and distribution.
Silver-haired Bat	<i>Lasiorycteris noctivagans</i>	Prefers north temperate zone conifer and mixed conifer and hardwood forests. Typically roosts during the day behind loose tree bark. Appear to be particularly fond of willow, maple, and ash trees, most likely due to the deeply fissured bark. Hollow snags and bird nests also provide daytime roosting areas. Less common daytime roosts include buildings, such as open sheds and garages. During the winter months, hibernates inside trees, buildings, rock crevices, and similar protected structures. Silver-haired bats are insectivorous. Diet mainly consists of flies, beetles, and moths. Feeds opportunistically on any concentration of insects they come across.
Big Brown Bat	<i>Eptesicus fuscus</i>	Inhabits cities, towns, and rural areas but is least commonly found in heavily forested regions. In pre-settlement times, presumed to roost in tree hollows, natural caves, or openings in rock ledges.
Long-eared Myotis	<i>Myotis evotis</i>	Occupy a diverse array of habitats, including lowland, montane, and subalpine woodlands, forests, shrublands, and meadows; wooded stream courses; and areas over water bodies. Daytime roosts include buildings, railroad trestles, snags, hollow trees, spaces behind the loose bark of trees or stumps, mines, caves, rock crevices, erosional cavities, channels in the ground, and similar sites. In southern British Columbia, roosts in tree cavities in dense forests. In the large uninterrupted forests of the Pacific Northwest, uses large snags for day roosts. Usually prefer snags that reach high into or above the forest canopy.
Long-legged Myotis	<i>Myotis volans</i>	Occur primarily in mountainous areas wooded with coniferous trees but also may be found in riparian and desert habitats. Hibernacula are in caves and mines, but winter habits are poorly known. Warm-season daytime roosts are in tree hollows or under loose bark, in crevices among rocks or in cliffs, or in buildings but apparently not in caves or mines, although these may be used at night. In Washington-Oregon, large snags were important roosts,

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Common Name	Scientific Name	Habitat Summary
		but bats sometimes roosted in rock crevices. Winter habits are poorly known, but individuals hibernate at least in portions of the northern part of the range.
California Myotis	<i>Myotis californicus</i>	Wide tolerance of habitats, including semi-arid desert regions of the southwest, arid grasslands, forested regions of the Pacific Northwest, humid coastal forests, and montane forests. Found in caves, mines, rocky hillsides, under tree bark, on shrubs, on the ground, and in buildings. During the winter months, roosts either solitary or in small groups in caves, mines, and buildings.
Western Small-footed Myotis	<i>Myotis ciliolabrum</i>	Occurs in deserts, chaparral, riparian zones, and western coniferous forests. Common in arid desert, badland, and semiarid habitats, although higher elevation, more mesic habitats are used. Uses rock outcrops on open grasslands to canyons in the foothills to lower mountains with yellow pine woodlands. Day roosts are variable but include cracks and crevices in cliffs, beneath tree bark, in mines and caves, and occasionally in tunnels and dwellings of humans. Night roosts are under a variety of natural and human-induced structures. In Montana, found in mesic and arid conifer forests associated with rock outcrops, talus, and clay banks; also found in riparian woodlands. Summer day roosts include rock outcrops, clay banks, loose bark, buildings, bridges, caves, and mines. Hibernacula include caves, mines, and crevices.
Great Basin Pocket Mouse	<i>Perognathus parvus</i>	Found in arid, sandy short-grass steppes; brushland covered with sagebrush, bitterbrush, and rabbit brush; and pinyon-juniper woodland. Usually found in habitats with light-textured, deep soils; also found among rocks.
Columbian Ground Squirrel	<i>Urocitellus columbianus</i>	Found in open habitat: high grass plateaus; sagebrush plains; valley grasslands; openings, such as meadows, clear cuts in coniferous forests; alpine meadows; and stream banks. Typically burrows in friable or sandy soils in open ground or banks under boulders or logs.
Golden-mantled Ground Squirrel	<i>Callospermophilus lateralis</i>	Found in mountain slopes and foothills; alpine tundra; chaparral; open areas in pine, spruce, and fir forests; rocky outcroppings and slides; margins of mountain meadows; and rocky sagebrush country. Often in areas with abundant stumps, rocks, or fallen logs. When inactive or tending young, it occupies burrows under rocks, stumps, logs, trees, bushes, or cabins in rock crevices or banks or along washes.
Bighorn Sheep	<i>Ovis canadensis</i>	Occurs in mesic to xeric, alpine to desert grasslands or shrub-steppe in mountains, foothills, or river canyons. Suitable escape terrain, such as cliffs, talus, or slopes, are an important feature of the habitat.
Mountain Goat	<i>Oreamnos americanus</i>	Occur in high altitude habitats up to the limit of vegetation. Although they sometimes descend to sea level in coastal areas, they are primarily an alpine and sub-alpine species. Diet includes grasses, herbs, sedges, ferns, moss, lichen, twigs, and leaves from the low-growing shrubs and conifers of their high-altitude habitat. Across their range, perhaps the most common feature is steep, rocky terrain.
Barn Swallow	<i>Hirundo rustica</i>	Found in open areas, such as fields and meadows, for foraging. Nest sites include a vertical or horizontal substrate.

Common Name	Scientific Name	Habitat Summary
Golden Eagle	<i>Aquila chrysaetos</i>	Prefers open habitats that provide hunting habitat. Often near cliffs that supply nesting sites, including tundra, shrublands, grasslands, woodland-brushlands, and coniferous forests. Avoids heavily forested areas.
Prairie Falcon	<i>Falco mexicanus</i>	Found in the arid plains and steppes of interior North America wherever cliffs or bluffs are present for nesting sites. Absent as a breeder from the forested Northern Rocky Mountains of the north Idaho panhandle. A rare visitor to the plan area; more common outside plan area.
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	Lives in open areas, including open woodlands. Nest sites include rocky gorges, shale banks, stony road cuts, railroad embankments, gravel pits, eroded margins of streams, and other exposed banks of clay, sand, or gravel.
Lava Rock Mountainsnail	<i>Oreohelix waltoni</i>	Xerophile, found in dry open areas in sage scrub vegetation on basalt or mixed schist and alluvium. This species has been observed near the plan area but not in the plan area.
Yellow-bellied Marmot	<i>Marmota flaviventris</i>	Found in meadows, valleys, and foothills, often where forests and meadows form a mosaic; occupies open areas relatively free of trees and shrubs. Uses talus or rock outcrops that are vegetated in conjunction with burrowing habitats. Presence of sufficiently large rocks to provide shelter are found to be used throughout their range. Avoids forested areas.

Table 2 below crosswalks the habitat groups and subgroups with plan components found in the Land Management Plan. These plan components would provide for the most species in the plan area through coarse filter ecosystem plan components to provide for ecosystem integrity. Key attributes were identified based on the habitat descriptions of the species that use these habitats or if they were identified in the information source for the species habitat descriptions.

**Table 2. A cross walk of the key ecological attributes of wildlife species that use the different habitat groups and subgroups and plan components that provide those attributes**

Habitat Group	Subgroup	Key Attributes	Plan Components
<b>Alpine, Boreal, Or High Elevation Habitats</b>	Alpine Or High Elevation, Remote Areas Or Persistent Snow	Herbaceous alpine vegetation, nectar resources, persistent snow, cliffs, talus, remote undisturbed areas, alpine or subalpine forest.	FW-DC-TE-02, FW-DC-TE-05, FW-GDL-TE-01
	Boreal, Subalpine Or High Elevation Forest, Cold Or Cool Moist Pmts.	Spruce, whitebark pine, alpine or subalpine forest.	FW-DC-TE-05, FW-DC-FOR-10, FW-DC-FOR-11, MA1-DC-FOR-03, MA1-DC-FOR-08, MA1-DC-FOR-09, MA2-DC-FOR-04, FW-DC-FOR-05
<b>Aquatic, Wetland, Water And Riparian Habitats</b>	Aquatic and forested habitats, or forested wetlands	Aquatic habitats such as rivers, lakes, wetlands, or ponds adjacent to forested areas or forested wetlands. Key components include	FW-DC-TE-05, FW-DC-RMZ-01, FW-DC-RMZ-02, FW-STD-RMZ-01, FW-DC-WTR-01, FW-DC-WTR-02, FW-DC-WTR-03, FW-DC-WTR-04, FW-DC-WTR-05,

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Habitat Group	Subgroup	Key Attributes	Plan Components
		snags or large live trees, cliffs or bluffs for nest cavities; trees cavities within ½ mile from water; fish populations; clear water; beaver ponds; and riparian vegetation.	FW-DC-WTR-06, FW-DC-WTR-07, FW-DC-WTR-08, FW-DC-WTR-09
	Aquatic Generalist	Aquatic habitat or water, coarse woody debris, wetlands, lakes, ponds, riparian vegetation.	FW-DC-TE-05, FW-DC-TE-06, FW-DC-WTR-01, FW-DC-WTR-02, FW-DC-WTR-03, FW-DC-WTR-04, FW-DC-WTR-05, FW-DC-WTR-06, FW-DC-WTR-07, FW-DC-WTR-08, FW-DC-WTR-09
	Depressional Wetlands, Ponds, Wetlands, Marsh, Emergent Vegetation	Water, shallow ponds or still water, wetlands adjacent to grasslands, emergent vegetation, submergent vegetation, shrublands adjacent to aquatic habitats, peatlands, variety in underwater substrate, fens, bogs, river edges, fishless waterbodies, high invertebrate abundance, riparian vegetation.	FW-DC-TE-03, FW-DC-TE-05, FW-DC-TE-06, FW-DC-WTR-01, FW-DC-WTR-02, FW-DC-WTR-03, FW-DC-WTR-04, FW-DC-WTR-05, FW-DC-WTR-06, FW-DC-WTR-07, FW-DC-WTR-08, FW-DC-WTR-09
	Island Habitats	Islands for breeding. Key requirement is isolation from predators.	FW-DC-TE-05
	Open Water-Lakes, Large Rivers, Open Water Within Wetlands	Open water within wetlands, lakes or large rivers; clear water for diving; cold, well oxygenated water; rocky substrate, slow moving or lentic water, abundant fish, emergent and submergent vegetation.	FW-DC-TE-05, FW-DC-WTR-01, FW-DC-WTR-02, FW-DC-WTR-03, FW-DC-WTR-04, FW-DC-WTR-05, FW-DC-WTR-06, FW-DC-WTR-07, FW-DC-WTR-08, FW-DC-WTR-09
	Riparian Habitats	Riparian vegetation; gallery forming trees; shrub understory; overhanging vegetation; mesic shrubs; willows; hardwood or deciduous shrubs and trees; poplars like cottonwoods or aspen; soil suitable for burrowing; burrows; downed wood and debris; abundant invertebrates; leaf litter and duff.	FW-DC-TE-05, FW-DC-TE-06, FW-DC-GS-04,
	Riverine	Cold clear flowing water highly oxygenated water; high water quality; abundant invertebrates; fish populations or host	FW-DC-TE-05, FW-DC-TE-06, FW-DC-TE-05, FW-DC-TE-06, FW-DC-TE-02, FW-DC-TE-03



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Habitat Group	Subgroup	Key Attributes	Plan Components
		fish; cool unsilted streams; earthen banks void of vegetation; tree cavities; open unfrozen water in winter; gravel, cobble or boulder substrate; log jams; rapids or swiftwater	
	Springs, Seeps, And Groundwater	Cold clean water; stable water temperatures; springs, seeps, fractured bedrock or talus, waterfall spray zones; and riparian vegetation.	FW-DC-TE-02, FW-DC-TE-05, FW-GDL-TE-01
<b>Ecotone, Forest Edge Or Habitat Combinations</b>	Forested and non-forested interface, forest edges, open habitats with scattered trees, or open woodland	Forested and open habitat mosaic, early seral habitats, grain or seed producing plants, fruiting vegetation, snags with cavities, browse, forbs and grass for forage, downed logs and woody debris, soil suitable for burrowing, abundant insect populations, abundant small mammal populations.	FW-DC-TE-05, MA1 and MA2-DC-FOR-06, MA3-DC-FOR-02, FW-DC-FOR-08, MA1 and MA2-DC-FOR-07, MA3-DC-FOR-04, FW-DC-FOR-10, FW-DC-FOR-11, MA1 and MA2-DC-FOR-08, MA3-DC-FOR-06, MA3-DC-FOR-09, FW-DC-FIRE-01, FW-DC-ELK-01, MA1-DC-ELK-01, MA2-DC-ELK-01, MA2-DC-ELK-02, MA3-DC-ELK-01, MA2-OBJ-ELK-01, MA3-OBJ-ELK-01, MA3-OBJ-ELK-02, FW-GDL-ELK-01,
<b>Forested Habitats</b>	Broad Leaved Deciduous, Mixed Conifer and Broad Leaved Deciduous Forest, and Deciduous Riparian Habitats	Deciduous trees, aspen groves, sap producing trees, snags, deciduous shrubs, riparian vegetation, tree cavities, trees with heart rot, fruit producing vegetation, abundant insects, flowering shrubs and plants.	FW-DC-TE-05, FW-DC-FOR-01, FW-OBJ-TE-01
	Burned Forest	Burned or insect infested forest habitats, stands with trees in the low to moderate decay class, higher snag densities, trees with heart rot	FW-DC-TE-05, MA3-GDL-FOR-07
	Closed Forest- Higher Density Late Seral Or Old Forest Or Large Tree Habitat, With Closed Canopy	Mature to old forests or stands with large or very large trees, high canopy cover, diverse stands of trees, shrub understory, large snags in various stages of decay, trees with loose bark, live or dead trees with heart rot, downed logs and woody debris, root balls,	FW-DC-TE-05, MA3-DC-FOR-04, FW-DC-FOR-10, FW-STD-WL-01, FW-OBJ-TE-01, MA3-DC-FOR-08, FW-DC-FOR-12, MA3-STD-FOR-01, MA2 and MA3-GDL-FOR-02, MA2 and MA3-GDL-FOR-05, MA3-GDL-FOR-06, MA3-GDL-FOR-07

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Habitat Group	Subgroup	Key Attributes	Plan Components
		deciduous understory, horizontal cover, fruiting plants, abundant small mammals, abundant insects, fungi, some species require large contiguous forest interiors, cone or mast producing trees.	
	Open Forest—Low Density, Late Seral Or Old Forest, Or Large Tree Habitat, With Open Canopy	Mature open forest with large trees, cavities, live trees and snags in various stages of decay, heart rot, abundant and diverse understory, fruiting plants, seed producing plants, mast, composite flowers, abundant insects.	FW-DC-TE-05, MA3-GDL-FOR-04, FW-DC-FOR-02, FW-DC-FOR-05, MA2-DC-FOR-09, MA2 and MA3-DC-FOR-10, MA3-DC-FOR-11, FW-DC-FOR-03, MA1-DC-FOR-01, MA2-DC-FOR-01, FW-DC-FOR-05, MA3-DC-FOR-03, MA2-DC-FOR-03, MA3-DC-FOR-08, FW-DC-TE-04, FW-OBJ-TT-01, FW-OBJ-TT-02, GA-DC-SR-01, GA-DC-SR-02, GA-DC-SR-03, GA-DC-SR-04, GA-DC-SR-05, DC-FOR-02, FW-DC-FOR-03, MA1-DC-FOR-06, MA2-DC-FOR-01, MA3-STD-FOR-01, MA2 and MA3-GDL-FOR-02
<b>Non-Forested Or Early Seral Habitats</b>	Meadow, Grassland, And Forbland And Shrubland	Grains, seeds, grasses, flowering plants especially composite flowers, early seral habitats, friable soils for burrowing, abundant small mammals, abundant insects, shrubs, thorny brush. Adjacent forest or individual live and dead trees.	FW-DC-TE-02, FW-DC-TE-05, FW-GDL-TE-01, FW-DC-GS-01, FW-DC-GS-02, FW-DC-GS-03, FW-DC-GS-06, FW-DC-GS-07, FW-DC-GS-08, FW-OBJ-GS-01
	Shrubland, Thickets, Woodlands And Early Seral Forest	Shrub cover, thickets, seeds, buds, flowers, fruit, browse, grasses, bare ground, shrub dominated landscape, early seral habitat, mast, abundant insects, snags and live trees.	FW-DC-TE-05, FW-DC-GS-01, FW-DC-GS-02, FW-DC-GS-03, FW-DC-GS-06, FW-DC-GS-07, FW-DC-GS-08, MA2 and MA3-GDL-FOR-05, FW-OBJ-GS-01
	Sparse, Barren Or Bare Ground Habitats	Grassland and grain producing vegetation, sparse habitats with bare ground present.	FW-DC-TE-05
<b>Resource Habitats - Nectar, Fruit, Seeds, Plant Forage, Or Prey</b>	Carrion Or Prey Populations	Prey populations or carrion.	FW-DC-TE-05
	Flowering Plants	Flowering vegetation, nectar resources, or specific host plant.	FW-DC-TE-03, FW-DC-TE-04, FW-DC-TE-05, FW-OBJ-TE-01, FW-DC-GS-

Habitat Group	Subgroup	Key Attributes	Plan Components
			01, FW-DC-GS-02, FW-DC-GS-03, FW-DC-GS-04, FW-DC-GS-05, FW-DC-GS-07, FW-DC-GS-08, plan components for size classes especially seral and grass and 0–4.9” size classes in all broad potential vegetation types.
	Fruit Resources	Fruit producing vegetation.	FW-DC-TE-03, FW-DC-TE-04 FW-DC-TE-05, FW-OBJ-TE-01, plan components for size classes especially seral and grass and 0–4.9” size classes in all broad potential vegetation types.
	Seeds, Mast And Grain Resources	Conifer seed crop or mast, often with closed canopies.	FW-DC-TE-05, plan components for size class within Terrestrial, especially the 15-20” and +20” size classes in all broad potential vegetation types.
<b>Substrate Habitats- Rock Outcrop, Soil, Downed Wood, Cliff, Talus, Or Cave Habitats</b>	Habitats Under Rocks, Logs, Downed Wood Or Leaf Litter	Woody debris, rocks, leaf litter, soil suitable for burrowing, downed trees or wood, rocky outcrops.	FW-DC-TE-05, FW-DC-SOIL-02, FW-DC-TE-02, FW-DC-TE-05, FW-GDL-TE-01, MA2 and MA3-GDL-FOR-01
	Rock Outcrop, Talus, Cliff, Or Cutbanks	Eroded soil, cliffs, talus, limestone or calcareous rock, crevices, cutbanks,	FW-DC-TE-02, FW-DC-TE-05, FW-GDL-TE-01
	Roosting Habitats—Rock Outcrops, Caves, Crevices, Sloughing Bark, Talus, Cavities In Trees, Etc.	These species occur in a wide variety of habitats so long as roosting habitats are present. Generally subterranean habitats such as caves, mines, crevice’s, rock outcrops; or snags, trees with loose or sloughing bark, hollow logs or trees, or cavities.	FW-DC-TE-05, , FW-GDL-WL-03
	Soil and Burrowing Habitats	Key feature is borrowable or friable soils in both open and forested habitats. Also downed logs and woody debris.	FW-DC-TE-05, FW-DC-SOIL-02, FW-DC-SOIL-01, FW-DC-SOIL-03, FW-OBJ-SOIL-01, FW-STD-SOIL-01, FW-STD-SOIL-02, FW-GDL-SOIL-01
	Steep Terrain	Steep rocky terrain used as escape cover, often adjacent to forage and water.	FW-DC-TE-02, FW-DC-TE-05, FW-GDL-TE-01, FW-GDL-SOIL-01
	Substrate and Soil And Non-forested Habitat	Grassland, xeric shrublands, cliffs, bluffs, soil suitable for burrowing	FW-DC-TE-02, FW-DC-TE-05, FW-GDL-TE-01

## Threats Evaluation for At-Risk Wildlife

The purpose of evaluating threats to at-risk species was to identify the most important threats in the plan area to these species and inform which factors may affect the probability of long-term persistence of these species in the plan area. The threats assessment results were used to develop plan components to address threats. Threats were assessed for each at-risk species, except grizzly bears, with a rule-based system for recognizing the magnitude of threats on the Nez Perce-Clearwater National Forests. The methodology for evaluating threats coincide with those used by Nature Serve (Master et al. 2012). The scale of the evaluation was considered the administrative boundary of the Nez Perce-Clearwater. The method uses a combination of scope and severity to assign a relative magnitude of threats. The scope represents the spatial overlap of the threat with the distribution of the species or its habitats in the plan area. The severity of the threat was determined by expert opinion and was assessed as the degree to which a given threat would either reduce populations or reduce distribution of the species using the definitions shown in Table 1.

The categories of threats were identified and described in Salafsky et al. (2008) titled “A Standard Lexicon for Biodiversity Conservation: Unified Classifications of Threats and Actions.” Each classification is a hierarchical listing of terms and associated definitions. The classifications are comprehensive and exclusive at the upper levels of the hierarchy; expandable at the lower levels; and simple, consistent, and scalable at all levels. In this assessment, the planning team adopted the Level 1 and 2 threat categories and expanded the Level 3 threats, as appropriate, to evaluate common activities and actions that could be performed under the plan. Threats were evaluated for those within Forest Service control, as well as for threats outside of Forest Service control. In some cases, threats were identified for each species by a team of wildlife biologists and other specialists from the Nez Perce Tribe, the Idaho Fish and Game, and the Forest Service. In the interest of time, some species were evaluated by the wildlife biologist on the Land Management Plan team. In all cases, the evaluation relied on spatial data, when available, to assign the scope of threats.

In the tables below, Level 1 threats are highlighted, Level 2 threats are in bold, and Level 3 threats are in normal text and denoted by a decimal under Level 2 threats. Level 1 threats were generally not ranked individually. Instead, the rankings for threats under Level 1 categories were ranked at lower levels. In some cases, Level 2 threats were expanded to more detailed categories indicated by decimal points. For example, 1.3 indicates a Level 2 threat and 1.3.1 indicates a Level 3 threat that falls under 1.3. If a Level 2 threat did not have any Level 3 categories, the evaluation was conducted on Level 2 threats. If the Level 2 threats had Level 3 threats under them, then the Level 3 threats were ranked, and the Level 2 threats were not. If an activity did not occur in the plan area or did not affect a given species, the threat was assigned no impact. Threats identified using this method that were medium or higher were evaluated further in most cases in the wildlife technical report. Plan components and alternatives can change either the scope of threat or reduce the severity of threats.

Threats to the grizzly bear was not assessed with the Nature Serve method for evaluating threats because there currently is not a population of grizzly bears within the plan area, only transient males. Instead threats to grizzly bears were identified from the Grizzly Bear Recovery Plan (U.S. Department of the Interior 1993), including the Bitterroot Ecosystem Chapter (Servheen 1996), and the recent five-year review of grizzly bear recovery (U.S. Department of the Interior 2021).

**Table 3. The rule-based criteria for assessing scope and severity for threats to at risk wildlife species**

Scope of threat – numeric or spatial	Combined with severity in rule-based NatureServe "Threat Impact"	Percent of <u>Forestwide</u> 1) population, or 2) distribution = <i>occupied habitat at species-specific definition</i> , affected by this threat, either now or within the life of the plan	Pervasive = affects 71–100% Large = affects 31–70% Restricted = affects 11–30% Small = affects 1–10% Unknown	Cases of uncertainty defaulted to the higher value
Severity of threat	Combined with scope in rule-based NatureServe "Threat Impact"	<u>Within the scope</u> , degree to which a threat is likely to 1) destroy or eliminate populations, or 2) reduce distribution, either now or within the life of the plan	Extreme = 71–100% Serious = 31–70% Moderate = 11–30% Slight = 1–10% Unknown	Cases of uncertainty defaulted to the higher value

## Bighorn Sheep

**Table 4. Bighorn sheep threats assessment assumptions, participants, and data sources**

<b>Species:</b>	Bighorn sheep
<b>Sci Name:</b>	<i>Ovis canadensis</i>
<b>Author:</b>	Kevin Labrum
<b>Date:</b>	11/19/2019
<b>Scale</b>	Forest Administrative Boundary
<b>Assumptions</b>	Existing current conditions. Time span is life of the plan. One domestic sheep allotment currently on Nez Perce-Clearwater is vacated but not closed. Loss of populations or distribution based on expert opinion. Disease persistent in population despite separation from domestic livestock. Disease and predation may interact to reduce survival and recruitment of bighorn populations. Distribution of bighorn sheep in plan area includes populations in the Salmon River Canyon, Hells Canyon, and the Selway Bitterroot Wilderness. Livestock grazing was evaluated separate from disease transmission and included cattle allotments. Domestic sheep grazing was not currently present.
<b>Data Source(s):</b>	Forest Service spatial data, including management areas, roads and motorized trails, FACTS, VMap, Infra, weeds inventory, allotments, recreation, special uses, NVUM, forest infrastructure, fire perimeters, burn severity data, and mine and geology layers; bighorn sheep published literature, particularly the Salmon River Bighorn Sheep Project Final Report 2007-2015; the Idaho Species Diversity database; local knowledge of plan area; Idaho Department of Fish and Game bighorn sheep count data, and expert opinion.

**Table 5. Threats assessment for bighorn sheep**

Threat ID	Threat Description	Scope	Severity	Impact
1	Residential and Commercial Development			
1.1	Housing and Urban Areas	Small	Slight	Low
1.2	Rec Residences, Fire towers, Ranger Stations, etc.	Small	Slight	Low
1.3	tourism and Recreational Areas	Restricted	Slight	Low
1.3.1	Campgrounds, Ski Resorts, Developed Rec, Boat Ramps, Trailheads	Small	Slight	Low

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Threat ID	Threat Description	Scope	Severity	Impact
2	Agriculture and Aquaculture			
2.1	Annual and Perennial Non-Timber Crops	-	-	No Impact
2.2	Wood and Pulp Plantations	-	-	No Impact
2.3	Livestock Farming and Ranching	-	-	-
2.3.1	Livestock Grazing as Permitted	Restricted	Slight	Low
2.3.2	Past Livestock Grazing	Pervasive	Unknown	Medium
2.3.3	Disease Transmission from Livestock	Pervasive	Serious	High
2.3.4	Water Developments for Livestock	Small	Slight	Low
2.3.5	Range Developments (fencing, corrals, enclosures, infrastructure)	Small	Slight	Low
2.3.6	Animal Damage Control as a Result of Livestock Depredation	Small	Slight	Low
2.4	Marine and Freshwater Aquaculture	-	-	No Impact
3	Energy Production and Mining			
3.1	Oil and Gas Drilling	-	-	No Impact
3.2	Mining and Quarrying	Small	Slight	Low
3.2.1	Hardrock Minerals	Small	Slight	Low
3.2.2	Sand and Gravel	Small	Slight	Low
3.2.3	Strip Mining	-	-	No Impact
3.2.4	Suction Dredging	-	-	No Impact
3.3	Renewable Energy	-	-	No Impact
3.3.1	Geothermal Development	-	-	No Impact
3.3.2	Solar Power Facilities	-	-	No Impact
3.3.3	Wind Power Facilities	-	-	No Impact
3.3.4	Hydro Power Facilities	-	-	No Impact
4	Transportation and Service Corridors			
4.1	Roads and Railroads	-	-	-
4.1.1	Roads—Transportation Network (permanent roads)	Restricted	Slight	Low
4.1.2	Temp Roads (road construction, decommissioning)	Small	Slight	Low
4.1.3	Motorized Trails (footprint of trail)	Restricted	Slight	Low
4.1.4	Railroads	-	-	No Impact
4.1.5	Cross Country Travel (unauthorized routes)	Restricted	Slight	Low
4.2	Utility and Service Lines	-	-	-
4.2.1	Utility Lines and towers—Power and Communication	-	-	No Impact
4.2.2	Pipelines—Energy Development	-	-	No Impact
4.3	Shipping Lanes	-	-	No Impact
4.4	Flight Paths	-	-	No Impact
5	Biological Resource Use			
5.1	Hunting and Collecting Terrestrial Animals (harvest: illegal and legal; collection; falconry)	-	-	-
5.1.1	Harvest—Unregulated or Illegal	-	-	-
5.1.2	Harvest—Regulated or Legal	Pervasive	slight	Low
5.1.3	Collection	Small	Slight	Low

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Threat ID	Threat Description	Scope	Severity	Impact
5.1.4	Predator Control	Large	Slight	Low
5.1.5	Trapping	-	-	No Impact
5.1.6	Falconry—Collection of Raptors or Chicks	-	-	No Impact
5.2	Gathering Terrestrial Plants or Fungi	Restricted	Slight	Low
5.3	Logging and Wood Harvest	Restricted	Slight	Low
5.3.1	Past Timber Management (pre-1980)	Restricted	Slight	Low
5.3.2	Regeneration Harvest (clear cut, patch clearcut, clearcut with leave trees, stand clearcut, seed tree, shelterwood, two aged management)	Restricted	Slight	Low
5.3.3	Intermediate (thinning, improvement, liberation, sanitation)	Restricted	Slight	Low
5.3.4	Fire Salvage	Small	Slight	Low
5.3.5	Uneven Aged Management—Single Tree Selection, Group Selection	Small	Slight	Low
5.3.6	Seed Collection	-	-	No Impact
5.3.7	Woodcutting for Firewood or Posts	Small	Extreme	Low
5.4	Fishing and Harvesting Aquatic Resource	-	-	No Impact
6	Human Intrusions and Disturbance			
6.1	Recreational Activities	-	-	-
6.1.1	OHV Motorized Recreation	Restricted	Slight	Low
6.1.2	Camping (dispersed)	Restricted	Slight	Low
6.1.3	Cave and Mine Exploration	-	-	No Impact
6.1.4	Hiking and Foot Travel	Large	Slight	Low
6.1.5	Mountain Biking	Small	Slight	Low
6.1.6	Pack and Saddle Stock	Large	Slight	Low
6.1.7	River Rafting	Restricted	Slight	Low
6.1.8	Rock Climbing	Small	Slight	Low
6.1.9	Skiing and Snow Boarding	-	-	No Impact
6.1.10	Winter Motorized Recreation	Restricted	Slight	Low
6.2	War, Civil Unrest, and Military Exercises	-	-	No Impact
6.3	Work and Other Activities (law enforcement, species research, vandalism, forest service activities, log transportation)	Pervasive	Slight	Low
7	Natural System Modifications			
7.1	Fire and Fire Suppression	-	-	-
7.1.1	Fire Suppression (historical changes due to long-term suppression)	Restricted	moderate	Low
7.1.2	Firefighting Activities (fire lines, retardant drops, etc.)	Small	Slight	Low
7.1.3	Uncharacteristic Wildfire	Restricted	Slight	Low
7.1.4	Fuel Treatments—Vegetation Manipulation to Reduce the Chance or Severity of Wildfire	Restricted	Slight	Low
7.2	Dams and Water Management and Use	-	-	No Impact
7.2.1	Presence of Dams and Diversions	-	-	No Impact
7.2.2	Channelization and Bank Alteration (direct, intentional)	-	-	No Impact

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Threat ID	Threat Description	Scope	Severity	Impact
7.2.3	Spring Development and Capping	Restricted	Slight	Low
7.2.4	Agricultural and Municipal and Industrial Water Usage	-	-	No Impact
7.2.5	Water Allocation Policies	-	-	No Impact
7.2.6	Dredging	-	-	No Impact
7.3	Other Ecosystem Modifications	-	-	-
7.3.1	Seeding Non-Native Plants	Restricted	Unknown	Low
7.3.2	Rip Rap and Other Streambank Alteration	-	-	No Impact
7.3.3	Mine Shaft and Adit Closures	-	-	No Impact
8	Invasive and Other Problematic Species and Genes			
8.1	Invasive Non-Native and Alien Species	-	-	-
8.1.1	Invasive Animal Species—Non-Native	-	-	No Impact
8.1.2	Invasive Plant Species—Non-Native	Large	Unknown	Medium
8.1.3	Invasive Insects	-	-	No Impact
8.1.4	Pathogens—Alien organisms	Pervasive	Serious	High
8.2	Problematic Native Species	-	-	-
8.2.1	Problematic or Invasive Animal Species—Native	Small	Slight	Low
8.2.2	Problematic or Invasive Plant Species—Native	Small	Slight	Low
8.2.3	Herbivory—Wildlife	Large	Slight	Low
8.2.4	Insects—Endemic organisms	-	-	No Impact
8.2.5	Pathogens—Endemic organisms	Pervasive	Unknown	Medium
8.2.6	Predation—Native Species	Pervasive	moderate	Medium
8.2.7	Nest Parasitism	-	-	No Impact
8.2.9	Natural Rarity	Small	Slight	Low
8.3	Introduced Genetic Material	Unknown	Unknown	Unknown
9	Pollution			
9.1	Household Sewage and Urban Wastewater	-	-	No Impact
9.2	Industrial and Military Effluents	-	-	No Impact
9.2.1	Heavy Metal Deposition	-	-	No Impact
9.2.2	Acid Mine Drainage	-	-	No Impact
9.3	Agricultural and forestry Effluents	-	-	-
9.3.1	Agricultural Pollution	-	-	No Impact
9.3.2	Soil Erosion and Loss	-	-	No Impact
9.4	Garbage and Solid Waste	-	-	No Impact
9.5	Airborne Pollutants	Pervasive	slight	Low
9.5.1	Atmospheric Deposition	Pervasive	Slight	Low
9.5.2	Soil Movement and Deposition	Small	Slight	Low
9.6	Excess Energy	Small	Slight	Low
9.6.1	Noise Pollution	Small	Slight	Low
9.6.2	Thermal Alteration of Water (for example, by power plant)	-	-	No Impact
10	Geological Events			
10.1	Volcanoes	-	-	No Impact



Threat ID	Threat Description	Scope	Severity	Impact
10.2	Earthquakes and Tsunamis	-	-	No Impact
10.3	Avalanches and Landslides	Restricted	Slight	Low
11	Climate Change and Severe Weather			
11.1	Habitat Shifting and Alteration (due to climate change)	Pervasive	Unknown	Medium
11.2	Droughts	Pervasive	Unknown	Medium
11.3	Temperature Extremes	Pervasive	Unknown	Medium
11.4	Storms and Flooding	Pervasive	Slight	Low

## Fisher

**Table 6. Fisher threats assessment assumptions, participants, and data sources**

<b>Species:</b>	Fisher
<b>Sci Name:</b>	<i>Pekania pennanti</i>
<b>Author:</b>	Kerey Barnow-Meyer, Mary Williams, Joel Sauder, Glen Gill, Cara Staab, Kevin Labrum
<b>Date:</b>	Originally evaluated in 2017, Revised 11/18/2019
<b>Scale</b>	Forest Administrative Boundary
<b>Assumptions</b>	Existing current or future conditions under the plan, based on expert opinion, available data used when available, multi-agency and multiple disciplines, time span is life of the plan.
<b>Data Source(s):</b>	Facts Activities, Fire Intensity GIS, Forest Roads GIS, Management Areas, Wilderness spatial layers, Sauder probable fisher habitat spatial model, VMap spatial vegetation layer, special uses spatial layer, and other spatial data.

**Table 7. Threat assessment for fisher**

Threat ID	Threat Description	Scope	Severity	Impact
1	Residential and Commercial Development			
1.1	Housing and Urban Areas	Small	Slight	Low
1.2	Rec Residences, Fire Towers, Ranger Stations, etc.	Small	Slight	Low
1.3	Tourism and Recreational Areas	-	-	-
1.3.1	Campgrounds, Ski Resorts, Developed Rec, Boat Ramps, Trailheads	Small	Moderate	Low
2	Agriculture and Aquaculture			
2.1	Annual and Perennial Non-Timber Crops	Small	Moderate	No Impact
2.2	Wood and Pulp Plantations	-	-	No Impact
2.3	Livestock Farming and Ranching	Small	Moderate	Low
2.3.1	Livestock Grazing as Permitted	Restricted	Slight	Low
2.3.2	Past Livestock Grazing	Large	Unknown	Medium
2.3.3	Disease Transmission from Livestock	-	-	No Impact
2.3.4	Water Developments for Livestock	Small	Slight	Low
2.3.5	Range Developments (fencing, corrals, enclosures, infrastructure)	Restricted	Slight	Low
2.3.6	Animal Damage Control as a Result of Livestock Depredation	Small	Slight	Low
2.4	Marine and Freshwater Aquaculture	-	-	No Impact

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Threat ID	Threat Description	Scope	Severity	Impact
3	Energy Production and Mining			
3.1	Oil and Gas Drilling	-	-	No Impact
3.2	Mining and Quarrying	-	-	-
3.2.1	Hardrock Minerals	Small	Slight	Low
3.2.2	Sand and Gravel	Small	Slight	Low
3.2.3	Strip Mining	Small	Slight	Low
3.2.4	Suction Dredging	Small	Slight	Low
3.3	Renewable Energy	-	-	-
3.3.1	Geothermal Development	-	-	No Impact
3.3.2	Solar Power Facilities	-	-	No Impact
3.3.3	Wind Power Facilities	-	-	No Impact
3.3.4	Hydro Power Facilities	Small	Slight	Low
4	Transportation and Service Corridors			
4.1	Roads and Railroads	-	-	-
4.1.1	Roads—Transportation Network (permanent roads)	Large	Slight	Low
4.1.2	Temp Roads (road construction, decommissioning)	Small	Slight	Low
4.1.3	Motorized Trails (footprint of trail)	Small	Slight	Low
4.1.4	Railroads	-	-	No Impact
4.1.5	Cross Country Travel (unauthorized routes)	Small	Slight	Low
4.2	Utility and Service Lines	-	-	-
4.2.1	Utility Lines and Towers—Power and Communication	Small	Slight	Low
4.2.2	Pipelines—Energy Development	-	-	No Impact
4.3	Shipping Lanes	-	-	No Impact
4.4	Flight Paths	Large	Slight	Low
5	Biological Resource Use			
5.1	Hunting and Collecting Terrestrial Animals (harvest: illegal and legal; collection; falconry)	-	-	-
5.1.1	Harvest—Unregulated or Illegal	Large	Moderate	Medium
5.1.2	Harvest—Regulated or Legal	Large	Slight	Low
5.1.3	Collection	Small	Slight	Low
5.1.4	Incidental or Intentional Poisoning	Unknown	Unknown	Unknown
5.1.6	Falconry—Collection of Raptors or Chicks	-	-	No Impact
5.2	Gathering Terrestrial Plants (or fungi)	Large	Slight	Low
5.3	Logging and Wood Harvest	-	-	-
5.3.1	Past Timber Management (pre-1980)	Unknown	Unknown	Unknown
5.3.2	Regeneration Harvest (clear cut, patch clearcut, clearcut with leave trees, stand clearcut, seed tree, shelterwood, two aged management)	Restricted	Serious	Medium
5.3.3	Intermediate (thinning, improvement, liberation, sanitation)	Restricted	Moderate	Low
5.3.4	Fire Salvage	Small	Slight	Low
5.3.5	Uneven Aged Management—Single Tree Selection, Group Selection	Small	Slight	Low
5.3.6	Seed Collection	Small	Slight	Low

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Threat ID	Threat Description	Scope	Severity	Impact
5.3.7	Woodcutting for Firewood or Posts	Small	Slight	Low
5.4	Fishing and Harvesting Aquatic Resource	-	-	No Impact
6	Human Intrusions and Disturbance			
6.1	Recreational Activities	-	-	-
6.1.1	OHV Motorized Recreation	Small	Slight	Low
6.1.2	Camping (dispersed)	Small	Slight	Low
6.1.3	Cave and Mine Exploration	-	-	No Impact
6.1.4	Hiking and Foot Travel	Small	Slight	Low
6.1.5	Mountain Biking	Small	Slight	Low
6.1.6	Pack and Saddle Stock	Small	Slight	Low
6.1.7	River Rafting	-	-	No Impact
6.1.8	Rock Climbing	-	-	No Impact
6.1.9	Skiing and Snow Boarding	Small	Slight	Low
6.1.10	Winter Motorized Recreation	Large	Slight	Low
6.2	War, Civil Unrest, and Military Exercises	-	-	No Impact
6.3	Work and Other Activities (law enforcement, drug smugglers, illegal immigrants, species research, vandalism)	Small	Slight	Low
7	Natural System Modifications			
7.1	Fire and Fire Suppression	-	-	-
7.1.1	Fire Suppression (historical changes due to long-term suppression)	Large	Moderate	Medium
7.1.2	Firefighting Activities (fire lines, retardant drops, etc.)	-	-	No Impact
7.1.3	Uncharacteristic Wildfire	Large	Moderate	Medium
7.1.4	Fuel Treatments—Vegetation Manipulation to Reduce the Chance or Severity of Wildfire	Restricted	Slight	Low
7.2	Dams and Water Management and Use	-	-	No Impact
7.2.1	Presence of Dams and Diversions	Small	Slight	Low
7.2.2	Channelization and Bank Alteration (direct, intentional)	Small	Slight	Low
7.2.3	Spring Development and Capping	Small	Slight	Low
7.2.4	Agricultural and Municipal and Industrial Water Usage	-	-	No Impact
7.2.6	Dredging for Water Management or Infrastructure	-	-	No Impact
7.3	Other Ecosystem Modifications	-	-	-
7.3.1	Seeding Non-Native Plants	-	-	No Impact
7.3.2	Rip Rap and Other Streambank Alteration	Small	Slight	Low
7.3.3	Mine Shaft and Adit Closures	-	-	No Impact
8	Invasive and Other Problematic Species and Genes			
8.1	Invasive Non-Native and Alien Species	-	-	-
8.1.1	Invasive Animal Species—Non-Native	Small	Slight	Low
8.1.2	Invasive Plant Species—Non-Native	Small	Slight	Low
8.1.3	Invasive Insects	-	-	No Impact
8.1.4	Pathogens—Alien Organisms	Pervasive	Unknown	Medium
8.2	Problematic Native Species	Small	Slight	Low

Threat ID	Threat Description	Scope	Severity	Impact
8.2.1	Problematic and Invasive Animal Species—Native	Small	Slight	Low
8.2.2	Problematic and Invasive Plant Species—Native	Small	Slight	Low
8.2.3	Herbivory—Wildlife	Small	Slight	Low
8.2.4	Insects—Endemic Organisms.	Large	Slight	Low
8.2.5	Pathogens—Endemic Organisms	Small	Slight	Low
8.2.6	Predation—Native Species	Large	Slight	Low
8.2.7	Nest Parasitism	-	-	No Impact
8.2.9	Natural Rarity	-	-	Yes
8.3	Introduced Genetic Material	Pervasive	Unknown	Medium
9	Pollution			
9.1	Household Sewage and Urban Wastewater	-	-	No Impact
9.2	Industrial and Military Effluents	-	-	No Impact
9.2.1	Heavy Metal Deposition	Small	Slight	Low
9.2.2	Acid Mine Drainage	-	-	No Impact
9.3	Agricultural and Forestry Effluents	-	-	No Impact
9.3.1	Agricultural Pollution	-	-	No Impact
9.3.2	Soil Erosion and Loss	-	-	No Impact
9.4	Garbage and Solid Waste	Small	Slight	Low
9.5	Airborne Pollutants	-	-	No Impact
9.5.1	Atmospheric Deposition	-	-	No Impact
9.5.2	Soil Movement and Deposition	-	-	No Impact
9.6	Excess Energy	-	-	No Impact
9.6.1	Noise Pollution	-	-	No Impact
9.6.2	Thermal Alteration of Water (By Power Plant)	-	-	No Impact
10	Geological Events			
10.1	Volcanoes	-	-	No Impact
10.2	Earthquakes and Tsunamis	-	-	No Impact
10.3	Avalanches and Landslides	Restricted	Slight	Low
11	Climate Change and Severe Weather			
11.1	Habitat Shifting and Alteration (due to climate change)	Pervasive	Unknown	Medium
11.2	Droughts	Pervasive	Unknown	Medium
11.3	Temperature Extremes	Pervasive	Unknown	Medium
11.4	Storms and Flooding	Small	Slight	Low

## Harlequin Duck

**Table 8. Harlequin duck threats assessment assumptions, participants, and data sources**

<b>Species:</b>	Harlequin Duck
<b>Sci Name:</b>	<i>Histrionicus histrionicus</i>
<b>Author:</b>	Kevin Labrum
<b>Date:</b>	Originally evaluated in 2016; Revised 11/18/2019
<b>Scale</b>	Forest Administrative Boundary

<b>Species:</b>	Harlequin Duck
<b>Assumptions</b>	Existing current or future conditions under the plan, based on expert opinion, available data used when available, multi-agency and multiple disciplines, time span is life of the plan. Habitat and distribution were assumed to be the distribution of observations from the Idaho Species Diversity Database.
<b>Data Source(s):</b>	Idaho Species Diversity Database for harlequin duck was the primary source for species data. Forest Service spatial data, including management areas, roads and motorized trails, FACTS, VMap vegetation layer, Infra, weeds inventory, allotments, recreation, special uses, NVUM, forest infrastructure, fire perimeters, burn severity data, wilderness, and mine and geology layers.

**Table 9. Threat assessment for harlequin duck**

Threat ID	Threat Description	Scope	Severity	Impact
1	Residential and Commercial Development			
1.1	Housing and Urban Areas	-	-	No Impact
1.2	Rec Residences, Fire Towers, Ranger Stations, etc.	Small	Slight	Low
1.3	Tourism and Recreational Areas	-	-	-
1.3.1	Campgrounds, Ski Resorts, Developed Rec, Boat Ramps, Trailheads	Restricted	Unknown	Low
2	Agriculture and Aquaculture			
2.1	Annual and Perennial Non-Timber Crops	-	-	No Impact
2.2	Wood and Pulp Plantations	-	-	No Impact
2.3	Livestock Farming and Ranching	-	-	-
2.3.1	Livestock Grazing as Permitted	Small	Slight	Low
2.3.2	Past Livestock Grazing	Unknown	Unknown	Unknown
2.3.3	Disease Transmission from Livestock	-	-	No Impact
2.3.4	Water Developments for Livestock	-	-	No Impact
2.3.5	Range Developments (fencing, corrals, enclosures, infrastructure)	-	-	No Impact
2.3.6	Animal Damage Control as a Result of Livestock Depredation	-	-	No Impact
2.4	Marine and Freshwater Aquaculture	Restricted	Unknown	Low
3	Energy Production and Mining			
3.1	Oil and Gas Drilling	-	-	No Impact
3.2	Mining and Quarrying	-	-	Low
3.2.1	Hardrock Minerals	Small	Slight	Low
3.2.2	Sand and Gravel	Small	Slight	Low
3.2.3	Strip Mining	-	-	No Impact
3.2.4	Suction Dredging	Restricted	Unknown	Low
3.3	Renewable Energy	-	-	-
3.3.1	Geothermal Development	-	-	No Impact
3.3.2	Solar Power Facilities	-	-	No Impact
3.3.3	Wind Power Facilities	-	-	No Impact
3.3.4	Hydro Power Facilities	-	-	No Impact
4	Transportation and Service Corridors			
4.1	Roads and Railroads	-	-	-
4.1.1	Roads—Transportation Network (permanent roads)	Pervasive	Unknown	Medium

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Threat ID	Threat Description	Scope	Severity	Impact
4.1.2	Temp Roads (road construction, decommissioning)	Restricted	Unknown	Low
4.1.3	Motorized Trails (footprint of trail)	Large	Unknown	Medium
4.1.4	Railroads	-	-	No Impact
4.1.5	Cross Country Travel (unauthorized routes)	Small	Unknown	Low
4.2	Utility and Service Lines	-	-	-
4.2.1	Utility Lines and Towers—Power and Communication	Restricted	Slight	Low
4.2.2	Pipelines—Energy Development	-	-	No Impact
4.3	Shipping Lanes	-	-	No Impact
4.4	Flight Paths	-	-	No Impact
5	Biological Resource Use			
5.1	Hunting and Collecting Terrestrial Animals (harvest: illegal and legal; collection; falconry)	-	-	-
5.1.1	Harvest—Unregulated or Illegal	Small	Slight	Low
5.1.2	Harvest—Regulated or Legal	Small	Slight	Low
5.1.3	Collection	Small	Slight	Low
5.1.4	Incidental or Intentional Poisoning	-	-	No Impact
5.1.5	Trapping	-	-	No Impact
5.1.6	Falconry—Collection of Raptors or Chicks	-	-	No Impact
5.2	Gathering Terrestrial Plants (or fungi)	Small	Slight	Low
5.3	Logging and Wood Harvest	-	-	-
5.3.1	Past Timber Management (pre-1980)	Large	Unknown	Medium
5.3.2	Regeneration Harvest (clear cut, patch clearcut, clearcut with leave trees, stand clearcut, seed tree, shelterwood, two aged management)	Small	Unknown	Low
5.3.3	Intermediate (thinning, improvement, liberation, sanitation)	Small	Unknown	Low
5.3.4	Fire Salvage	Small	Unknown	Low
5.3.5	Uneven Aged Management—Single Tree Selection, Group Selection	Restricted	Slight	Low
5.3.6	Seed Collection	-	-	No Impact
5.3.7	Woodcutting for Firewood or Posts	Small	Slight	Low
5.4	Fishing and Harvesting Aquatic Resource	Pervasive	Unknown	Medium
6	Human Intrusions and Disturbance			
6.1	Recreational Activities	-	-	-
6.1.1	OHV Motorized Recreation	Small	Slight	Low
6.1.2	Camping (dispersed)	Small	Moderate	Low
6.1.3	Cave and Mine Exploration	-	-	No Impact
6.1.4	Hiking and Foot Travel	Restricted	Unknown	Low
6.1.5	Mountain Biking	Small	Slight	Low
6.1.6	Pack and Saddle Stock	Small	Slight	Low
6.1.7	River Rafting	Pervasive	Unknown	Medium
6.1.8	Rock Climbing	Small	Slight	Low
6.1.9	Skiing and Snow Boarding	-	-	No Impact
6.1.10	Winter Motorized Recreation	-	-	No Impact

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Threat ID	Threat Description	Scope	Severity	Impact
6.2	War, Civil Unrest, and Military Exercises	-	-	No Impact
6.3	Work and Other Activities (law enforcement, drug smugglers, illegal immigrants, species research, vandalism)	Small	Slight	Low
7	Natural System Modifications			
7.1	Fire and Fire Suppression	-	-	-
7.1.1	Fire Suppression (historical changes due to long-term suppression)	Pervasive	Unknown	Medium
7.1.2	Firefighting Activities (fire lines, retardant drops, etc.)	Small	Unknown	Low
7.1.3	Uncharacteristic Wildfire	Pervasive	Unknown	Medium
7.1.4	Fuel Treatments—Vegetation Manipulation to Reduce the Chance or Severity of Wildfire	Small	Slight	Low
7.2	Dams and Water Management and Use	-	-	-
7.2.1	Presence of Dams and Diversions	-	-	No Impact
7.2.2	Channelization and Bank Alteration (direct, intentional)	Large	Unknown	Medium
7.2.3	Spring Development and Capping	-	-	No Impact
7.2.4	Agricultural and Municipal and Industrial Water Usage	Small	Slight	No Impact
7.2.5	Water Allocation Policies	-	-	No Impact
7.2.6	Dredging for Water Management or Infrastructure	Small	Unknown	Low
7.3	Other Ecosystem Modifications	-	-	-
7.3.1	Seeding Non-Native Plants	Small	Slight	Low
7.3.2	Rip Rap and Other Streambank Alteration	Large	Unknown	Medium
7.3.3	Mine Shaft and Adit Closures	-	-	No Impact
8	Invasive and Other Problematic Species and Genes			
8.1	Invasive Non-Native and Alien Species	-	-	-
8.1.1	Invasive Animal Species—Non-Native	Pervasive	Unknown	Medium
8.1.2	Invasive Plant Species—Non-Native	Restricted	Unknown	Low
8.1.3	Invasive Insects	Unknown	Unknown	Unknown
8.1.4	Pathogens—Alien Organisms	Unknown	Unknown	Unknown
8.2	Problematic Native Species	-	-	-
8.2.1	Problematic and Invasive Animal Species—Native	Small	Slight	Low
8.2.2	Problematic and Invasive Plant Species—Native	Small	Unknown	Low
8.2.3	Herbivory—Wildlife	Large	Slight	Low
8.2.4	Insects—Endemic Organisms.	Small	Slight	Low
8.2.5	Pathogens—Endemic Organisms	Pervasive	Slight	Low
8.2.6	Predation—Native Species	Pervasive	Slight	Low
8.2.7	Nest Parasitism	-	-	No Impact
8.2.9	Natural Rarity	Pervasive	Unknown	Medium
8.3	Introduced Genetic Material	-	-	No Impact
9	Pollution			
9.1	Household Sewage and Urban Wastewater	-	-	No Impact
9.2	Industrial and Military Effluents	-	-	No Impact
9.2.1	Heavy Metal Deposition	Restricted	Unknown	Low
9.2.2	Acid Mine Drainage	Restricted	Unknown	Low

Threat ID	Threat Description	Scope	Severity	Impact
9.3	Agricultural and Forestry Effluents	-	-	-
9.3.1	Agricultural Pollution	Small	Slight	Low
9.3.2	Soil Erosion and Loss	Small	Slight	Low
9.4	Garbage and Solid Waste	Restricted	Slight	Low
9.5	Airborne Pollutants	Pervasive	Slight	Low
9.5.1	Atmospheric Deposition	Pervasive	Slight	Low
9.5.2	Soil Movement and Deposition	Large	Unknown	Medium
9.6	Excess Energy	-	-	-
9.6.1	Noise Pollution	Large	Slight	Low
9.6.2	Thermal Alteration of Water (By Power Plant)	-	-	No Impact
10	Geological Events			
10.1	Volcanoes	-	-	No Impact
10.2	Earthquakes and Tsunamis	-	-	No Impact
10.3	Avalanches and Landslides	Large	Unknown	Medium
11	Climate Change and Severe Weather			
11.1	Habitat Shifting and Alteration (due to climate change)	Pervasive	Unknown	Medium
11.2	Droughts	Pervasive	Unknown	Medium
11.3	Temperature Extremes	Pervasive	Unknown	Medium
11.4	Storms and Flooding	Large	Unknown	Medium

## Mountain Quail

**Table 10. Assumptions, participants, data, and assumptions for the Mountain Quail threats assessment**

<b>Species:</b>	Mountain Quail
<b>Sci Name:</b>	<i>Oreortyx pictus</i>
<b>Author:</b>	K. Barnowe-Meyer, M. Williams, M. Chin, R. Hennekey, J. Chenoweth, J. Sauder, J. Bonn, M. Pruss, G. Gill, H. Lyman, K. Labrum
<b>Date:</b>	Originally evaluated in 1/17/2017; Revised 11/18/2019
<b>Scale</b>	Forest Administrative Boundary
<b>Assumptions</b>	Existing current or future conditions under the plan, based on expert opinion, available data used when available, multi-agency and multiple disciplines, time span is life of the plan. Habitat and distribution were assumed to be the distribution of observations from the Idaho Species Diversity Database.
<b>Data Source(s):</b>	Idaho Species Diversity Database data, Forest Service spatial data, including Forest Service Survey data for mountain quail, management areas, roads and motorized trails, FACTS, VMap vegetation layer, Infra, weeds inventory, allotments, recreation, special uses, NVUM, forest infrastructure, fire perimeters, burn severity data, wilderness, and mine and geology layers.

**Table 11. Threats assessment for mountain quail**

Threat ID	Threat Description	Scope	Severity	Impact
1	Residential and Commercial Development			
1.1	Housing and Urban Areas	Small	Serious	Low



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Threat ID	Threat Description	Scope	Severity	Impact
1.2	Rec Residences, Fire Towers, Ranger Stations, etc.	Small	Extreme	Low
1.3	Tourism and Recreational Areas	Small	Moderate	Low
1.3.1	Campgrounds, Ski Resorts, Developed Rec, Boat Ramps, Trailheads	Small	Moderate	Low
2	Agriculture and Aquaculture			
2.1	Annual and Perennial Non-Timber Crops	-	-	No impact
2.2	Wood and Pulp Plantations	-	-	No impact
2.3	Livestock Farming and Ranching	-	-	-
2.3.1	Livestock Grazing as Permitted	Pervasive	Unknown	Medium
2.3.2	Past Livestock Grazing	Pervasive	Unknown	Medium
2.3.3	Disease Transmission from Livestock	Small	Slight	Low
2.3.4	Water Developments for Livestock	Restricted	Slight	Low
2.3.5	Range Developments (fencing, corrals, enclosures, infrastructure)	Small	Slight	Low
2.3.6	Animal Damage Control as a Result of Livestock Depredation	Small	Slight	No impact
2.4	Marine and Freshwater Aquaculture	Small	Slight	Low
3	Energy Production and Mining			
3.1	Oil and Gas Drilling	Small	Slight	Low
3.2	Mining and Quarrying	-	-	No impact
3.2.1	Hardrock Minerals	-	-	-
3.2.2	Sand and Gravel	Small	Slight	Low
3.2.3	Strip Mining	Small	Extreme	No impact
3.2.4	Suction Dredging	-	-	No impact
3.3	Renewable Energy	-	-	No impact
3.3.1	Geothermal Development	Small	Slight	Low
3.3.2	Solar Power Facilities	Small	Extreme	No impact
3.3.3	Wind Power Facilities	-	-	No impact
3.3.4	Hydro Power Facilities	-	-	No impact
4	Transportation and Service Corridors			
4.1	Roads and Railroads	-	-	-
4.1.1	Roads—Transportation Network (permanent roads)	Small	Extreme	Low
4.1.2	Temp Roads (road construction, decommissioning)	Small	Serious	Low
4.1.3	Motorized Trails (footprint of trail)	Small	Extreme	Low
4.1.4	Railroads	Small	Slight	Low
4.1.5	Cross Country Travel (unauthorized routes)	-	-	No impact
4.2	Utility and Service Lines	Unknown	Unknown	Unknown
4.2.1	Utility Lines and Towers—Power and Communication	Small	Slight	Low
4.2.2	Pipelines—Energy Development	Small	Slight	Low
4.3	Shipping Lanes	-	-	No impact
4.4	Flight Paths	-	-	No impact
5	Biological Resource Use			

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Threat ID	Threat Description	Scope	Severity	Impact
5.1	Hunting and Collecting Terrestrial Animals (harvest: illegal and legal; collection; falconry)	-	-	-
5.1.1	Harvest—Unregulated or Illegal	-	-	-
5.1.2	Harvest—Regulated or Legal	Small	Slight	No impact
5.1.3	Collection	-	-	No impact
5.1.4	Incidental or Intentional Poisoning	-	-	No impact
5.1.5	Trapping	-	-	No impact
5.1.6	Falconry—Collection of Raptors or Chicks	-	-	No impact
5.2	Gathering Terrestrial Plants (or fungi)	-	-	No impact
5.3	Logging and Wood Harvest	Small	Slight	Low
5.3.1	Past Timber Management (pre-1980)	-	-	-
5.3.2	Regeneration Harvest (clear cut, patch clearcut, clearcut with leave trees, stand clearcut, seed tree, shelterwood, two aged management)	Restricted	Unknown	Low
5.3.3	Intermediate (thinning, improvement, liberation, sanitation)	Small	Unknown	Low
5.3.4	Fire Salvage	Large	Unknown	Medium
5.3.5	Uneven Aged Management—Single Tree Selection, Group Selection	Small	Unknown	Low
5.3.6	Seed Collection	Small	Unknown	Low
5.3.7	Woodcutting for Firewood or Posts	Small	Slight	Low
5.4	Fishing and Harvesting Aquatic Resource	Small	Slight	Low
6	Human Intrusions and Disturbance			
6.1	Recreational Activities	-	-	-
6.1.1	OHV Motorized Recreation	Small	Slight	Low
6.1.2	Camping (dispersed)	Small	Unknown	Low
6.1.3	Cave and Mine Exploration	Small	Slight	Low
6.1.4	Hiking and Foot Travel	-	-	No impact
6.1.5	Mountain Biking	Small	Slight	Low
6.1.6	Pack and Saddle Stock	Small	Slight	Low
6.1.7	River Rafting	Small	Slight	Low
6.1.8	Rock Climbing	-	-	No impact
6.1.9	Skiing and Snow Boarding	Small	Slight	Low
6.1.10	Winter Motorized Recreation	-	-	No impact
6.2	War, Civil Unrest, and Military Exercises	Small	Slight	Low
6.3	Work and Other Activities (law enforcement, drug smugglers, illegal immigrants, species research, vandalism)	-	-	No impact
7	Natural System Modifications			
7.1	Fire and Fire Suppression	-	-	-
7.1.1	Fire Suppression (historical changes due to long-term suppression)	Pervasive	Extreme	Very High
7.1.2	Firefighting Activities (fire lines, retardant drops, etc.)	Restricted	Slight	Low
7.1.3	Uncharacteristic Wildfire	Restricted	Slight	Low

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Threat ID	Threat Description	Scope	Severity	Impact
7.1.4	Fuel Treatments—Vegetation Manipulation to Reduce the Chance or Severity of Wildfire	Large	Moderate	Medium
7.2	Dams and Water Management and Use	Restricted	Moderate	Low
7.2.1	Presence of Dams and Diversions	-	-	-
7.2.2	Channelization and Bank Alteration (direct, intentional)	Small	Slight	Low
7.2.3	Spring Development and Capping	Small	Slight	Low
7.2.4	Agricultural and Municipal and Industrial Water Usage	Restricted	Slight	Low
7.2.5	Water Allocation Policies	Small	Slight	Low
7.2.6	Dredging for Water Management or Infrastructure	Small	Slight	Low
7.3	Other Ecosystem Modifications	-	-	No impact
7.3.1	Seeding Non-Native Plants	Restricted	Unknown	Low
7.3.2	Rip Rap and Other Streambank Alteration	Small	Unknown	Low
7.3.3	Mine Shaft and Adit Closures	Small	Slight	Low
8	Invasive and Other Problematic Species and Genes			
8.1	Invasive Non-Native and Alien Species	-	-	-
8.1.1	Invasive Animal Species—Non-Native	Pervasive	Unknown	Medium
8.1.2	Invasive Plant Species—Non-Native	Pervasive	Unknown	Medium
8.1.3	Invasive Insects	Pervasive	Slight	Low
8.1.4	Pathogens—Alien Organisms	Small	Slight	Low
8.2	Problematic Native Species	Unknown	Unknown	Unknown
8.2.1	Problematic and Invasive Animal Species—Native	Small	Slight	Low
8.2.2	Problematic and Invasive Plant Species—Native	Small	Unknown	Low
8.2.3	Herbivory—Wildlife	Small	Slight	Low
8.2.4	Insects—Endemic Organisms.	Pervasive	Slight	Low
8.2.5	Pathogens—Endemic Organisms	-	-	No impact
8.2.6	Predation—Native Species	Unknown	Unknown	Unknown
8.2.7	Nest Parasitism	Pervasive	Slight	Low
8.2.9	Natural Rarity	-	-	No impact
8.3	Introduced Genetic Material	Pervasive	Moderate	Medium
9	Pollution			
9.1	Household Sewage and Urban Wastewater	-	-	No impact
9.2	Industrial and Military Effluents	-	-	No impact
9.2.1	Heavy Metal Deposition	-	-	No impact
9.2.2	Acid Mine Drainage	Unknown	Unknown	Unknown
9.3	Agricultural and Forestry Effluents	Small	Slight	Low
9.3.1	Agricultural Pollution	-	-	No Impact
9.3.2	Soil Erosion and Loss	Small	Slight	Low
9.4	Garbage and Solid Waste	-	-	-
9.5	Airborne Pollutants	Small	Slight	Low
9.5.1	Atmospheric Deposition	Pervasive	Slight	Low
9.5.2	Soil Movement and Deposition	Pervasive	Slight	Low
9.6	Excess Energy	Small	Slight	Low

Threat ID	Threat Description	Scope	Severity	Impact
9.6.1	Noise Pollution	-	-	-
9.6.2	Thermal Alteration of Water (By Power Plant)	Large	Slight	Low
10	Geological Events			
10.1	Volcanoes	-	-	No impact
10.2	Earthquakes and Tsunamis	-	-	No impact
10.3	Avalanches and Landslides	-	-	No impact
11	Climate Change and Severe Weather			
11.1	Habitat Shifting and Alteration (due to climate change)	-	-	-
11.2	Droughts	Pervasive	Serious	High
11.3	Temperature Extremes	Pervasive	Moderate	Medium
11.4	Storms and Flooding	Pervasive	Unknown	Medium

## White-headed Woodpecker

**Table 12. Assumptions, participants, and data layers used in the White-headed Woodpecker threats Assessment**

<b>Species:</b>	White-headed woodpecker
<b>Sci Name:</b>	<i>Picoides albolarvatus</i>
<b>Author:</b>	Kevin Labrum
<b>Date:</b>	Originally evaluated 7/6/2017; Revised 11/18/2019
<b>Scale</b>	Forest Administrative Boundary
<b>Assumptions</b>	Existing current or future conditions under the plan, based on expert opinion, available data used when available, multi-agency and multiple disciplines, time span is life of the plan. Distribution was a combination of observation data and a habitat modeled with VMap data that included dominance types with Ponderosa pine and large and very large trees.
<b>Data Source(s):</b>	Forest Service spatial data, including management areas, roads and motorized trails, FACTS, VMap vegetation layer, Infra, weeds inventory, allotments, recreation, special uses, NVUM, forest infrastructure, fire perimeters, burn severity data, wilderness, and mine and geology layers. The Idaho Species Diversity Database was used in conjunction with habitat models and Forest Service White-headed woodpecker survey data to identify species distribution in the plan area.

**Table 13. Threats assessment for white-headed woodpecker**

Threat ID	Threat Description	Scope	Severity	Impact
1	Residential and Commercial Development			
1.1	Housing and Urban Areas	Small	Extreme	Low
1.2	Rec Residences, Fire Towers, Ranger Stations, etc.	Small	Extreme	Low
1.3	Tourism and Recreational Areas	Small	Moderate	Low
1.3.1	Campgrounds, Ski Resorts, Developed Rec, Boat Ramps, Trailheads	Small	Moderate	No Impact
2	Agriculture and Aquaculture			
2.1	Annual and Perennial Non-Timber Crops	-	-	No Impact
2.2	Wood and Pulp Plantations	-	-	No Impact
2.3	Livestock Farming and Ranching	Large	Slight	Low

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Threat ID	Threat Description	Scope	Severity	Impact
2.3.1	Livestock Grazing as Permitted	Large	Slight	Low
2.3.2	Past Livestock Grazing	Large	Moderate	Medium
2.3.3	Disease Transmission from Livestock	-	-	No Impact
2.3.4	Water Developments for Livestock	Small	Slight	Low
2.3.5	Range Developments (fencing, corrals, enclosures, infrastructure)	Small	Slight	Low
2.3.6	Animal Damage Control as a Result of Livestock Depredation	Small	Slight	Low
2.4	Marine and Freshwater Aquaculture	Small	Slight	Low
3	Energy Production and Mining			
3.1	Oil and Gas Drilling	-	-	No Impact
3.2	Mining and Quarrying	Small	Slight	Low
3.2.1	Hardrock Minerals	Small	Slight	Low
3.2.2	Sand and Gravel	Small	Slight	Low
3.2.3	Strip Mining	-	-	No Impact
3.2.4	Suction Dredging	-	-	No Impact
3.3	Renewable Energy	-	-	No Impact
3.3.1	Geothermal Development	-	-	No Impact
3.3.2	Solar Power Facilities	-	-	No Impact
3.3.3	Wind Power Facilities	-	-	No Impact
3.3.4	Hydro Power Facilities	-	-	No Impact
4	Transportation and Service Corridors			
4.1	Roads and Railroads	Small	Slight	Low
4.1.1	Roads—Transportation Network (permanent roads)	Small	Slight	Low
4.1.2	Temp Roads (road construction, decommissioning)	Small	Slight	Low
4.1.3	Motorized Trails (footprint of trail)	Small	Slight	Low
4.1.4	Railroads	-	-	No Impact
4.1.5	Cross Country Travel (unauthorized routes)	Small	Slight	Low
4.2	Utility and Service Lines	Small	Slight	Low
4.2.1	Utility Lines and Towers—Power and Communication	Small	Slight	Low
4.2.2	Pipelines—Energy Development	-	-	No Impact
4.3	Shipping Lanes	-	-	No Impact
4.4	Flight Paths	-	-	No Impact
5	Biological Resource Use			
5.1	Hunting and Collecting Terrestrial Animals (harvest: illegal and legal; collection; falconry)	-	-	No Impact
5.1.1	Harvest—Unregulated or Illegal	-	-	No Impact
5.1.2	Harvest—Regulated or Legal	-	-	No Impact
5.1.3	Collection	-	-	No Impact
5.1.4	Incidental or Intentional Poisoning	-	-	No Impact
5.1.5	Trapping	-	-	No Impact
5.1.6	Falconry—Collection of Raptors or Chicks	-	-	No Impact
5.2	Gathering Terrestrial Plants (or fungi)	-	-	No Impact

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Threat ID	Threat Description	Scope	Severity	Impact
5.3	Logging and Wood Harvest	-	-	Medium
5.3.1	Past Timber Management (pre-1980)	Large	Extreme	High
5.3.2	Regeneration Harvest (clear cut, patch clearcut, clearcut with leave trees, stand clearcut, seed tree, shelterwood, two aged management)	Restricted	Serious	Medium
5.3.3	Intermediate (thinning, improvement, liberation, sanitation)	Small	Moderate	Low
5.3.4	Fire Salvage	Small	Serious	Low
5.3.5	Uneven Aged Management—Single Tree Selection, Group Selection	Small	Slight	Low
5.3.6	Seed Collection	Small	Moderate	Low
5.3.7	Woodcutting for Firewood or Posts	Restricted	Moderate	Low
5.4	Fishing and Harvesting Aquatic Resource	-	-	No Impact
6	Human Intrusions and Disturbance			
6.1	Recreational Activities	-	-	Low
6.1.1	OHV Motorized Recreation	Restricted	Slight	Low
6.1.2	Camping (dispersed)	Small	Slight	Low
6.1.3	Cave and Mine Exploration	-	-	No Impact
6.1.4	Hiking and Foot Travel	Small	Slight	Low
6.1.5	Mountain Biking	Small	Slight	Low
6.1.6	Pack and Saddle Stock	Small	Slight	Low
6.1.7	River Rafting	Small	Slight	Low
6.1.8	Rock Climbing	-	-	No Impact
6.1.9	Skiing and Snow Boarding	Small	Slight	Low
6.1.10	Winter Motorized Recreation	Restricted	Slight	Low
6.2	War, Civil Unrest, and Military Exercises	-	-	No Impact
6.3	Work and Other Activities (law enforcement, drug smugglers, illegal immigrants, species research, vandalism)	Small	Slight	Low
7	Natural System Modifications			
7.1	Fire and Fire Suppression	Pervasive	Serious	High
7.1.1	Fire Suppression (historical changes due to long-term suppression)	Pervasive	Serious	High
7.1.2	Firefighting Activities (fire lines, retardant drops, etc.)	Small	Slight	Low
7.1.3	Uncharacteristic Wildfire	Large	Serious	High
7.1.4	Fuel Treatments—Vegetation Manipulation to Reduce the Chance or Severity of Wildfire	Large	Slight	Low
7.2	Dams and Water Management and Use	-	-	No Impact
7.2.1	Presence of Dams and Diversions	Small	Slight	Low
7.2.2	Channelization and Bank Alteration (direct, intentional)	-	-	No Impact
7.2.3	Spring Development and Capping	Small	Slight	Low
7.2.4	Agricultural and Municipal and Industrial Water Usage	-	-	No Impact
7.2.5	Water Allocation Policies	-	-	No Impact
7.2.6	Dredging for Water Management or Infrastructure	-	-	No Impact
7.3	Other Ecosystem Modifications	-	-	Low

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Threat ID	Threat Description	Scope	Severity	Impact
7.3.1	Seeding Non-Native Plants	Small	Unknown	Low
7.3.2	Rip Rap and Other Streambank Alteration	-	-	No Impact
7.3.3	Mine Shaft and Adit Closures	-	-	No Impact
8	Invasive and Other Problematic Species and Genes			
8.1	Invasive Non-Native and Alien Species	-	-	-
8.1.1	Invasive Animal Species—Non-Native	Small	Slight	Low
8.1.2	Invasive Plant Species—Non-Native	Pervasive	Slight	Low
8.1.3	Invasive Insects	Unknown	Unknown	Unknown
8.1.4	Pathogens—Alien Organisms	Small	Slight	Low
8.2	Problematic Native Species	Small	Slight	Low
8.2.1	Problematic and Invasive Animal Species—Native	Small	Slight	Low
8.2.2	Problematic and Invasive Plant Species—Native	Large	Slight	Low
8.2.3	Herbivory—Wildlife	Small	Slight	Low
8.2.4	Insects—Endemic Organisms.	Large	Slight	Low
8.2.5	Pathogens—Endemic Organisms	Small	Slight	Low
8.2.6	Predation—Native Species	Small	Slight	Low
8.2.7	Nest Parasitism	Small	Slight	Low
8.2.9	Natural Rarity	Pervasive	Moderate	Medium
8.3	Introduced Genetic Material	-	-	No Impact
9	Pollution			
9.1	Household Sewage and Urban Wastewater	-	-	No Impact
9.2	Industrial and Military Effluents	Small	Slight	Low
9.2.1	Heavy Metal Deposition	Small	Slight	Low
9.2.2	Acid Mine Drainage	Small	Slight	Low
9.3	Agricultural and Forestry Effluents	-	-	No Impact
9.3.1	Agricultural Pollution	-	-	No Impact
9.3.2	Soil Erosion and Loss	Small	Slight	Low
9.4	Garbage and Solid Waste	Small	Slight	Low
9.5	Airborne Pollutants	Pervasive	Slight	Low
9.5.1	Atmospheric Deposition	Pervasive	Slight	Low
9.5.2	Soil Movement and Deposition	Small	Slight	Low
9.6	Excess Energy	Small	Slight	Low
9.6.1	Noise Pollution	Small	Slight	Low
9.6.2	Thermal Alteration of Water (By Power Plant)	-	-	No Impact
10	Geological Events			
10.1	Volcanoes	-	-	No Impact
10.2	Earthquakes and Tsunamis	-	-	No Impact
10.3	Avalanches and Landslides	Small	Slight	Low
11	Climate Change and Severe Weather			
11.1	Habitat Shifting and Alteration (due to climate change)	Pervasive	Unknown	Medium
11.2	Droughts	Pervasive	Unknown	Medium

Threat ID	Threat Description	Scope	Severity	Impact
11.3	Temperature Extremes	Pervasive	Unknown	Medium
11.4	Storms and Flooding	Pervasive	Slight	Low

## Canada Lynx

**Table 14. Assumptions, participants, and data used in the Canada lynx threats assessment**

<b>Species:</b>	Canada lynx
<b>Sci Name:</b>	<i>Lynx canadensis</i>
<b>Author:</b>	Kevin Labrum, Jim Lutes, Hillary Whitcomb
<b>Date:</b>	Originally evaluated in 2017; Revised 11/18/2019; reviewed 7/26/2021
<b>Scale</b>	Forest Administrative Boundary
<b>Assumptions</b>	Existing current or future conditions under the plan, based on expert opinion, available data used when available, time span is life of the plan. Nez Perce-Clearwater lynx habitat layer was used as the basis for the distribution of lynx habitat in plan area.
<b>Data Source(s):</b>	Forest Service spatial data, including management areas, roads and motorized trails, FACTS, VMap vegetation layer, Infra, weeds inventory, allotments, recreation, special uses, NVUM, forest infrastructure, fire perimeters and intensity, burn severity data, wilderness, and mine and geology layers.

**Table 15. Threats assessment for Canada lynx**

Threat ID	Threat Description	Scope	Severity	Impact
1	Residential and Commercial Development			
1.1	Housing and Urban Areas	Small	Slight	Low
1.2	Rec Residences, Fire Towers, Ranger Stations, etc.	Small	Slight	Low
1.3	Tourism and Recreational Areas	-	-	No impact
1.3.1	Campgrounds, Ski Resorts, Developed Rec, Boat Ramps, Trailheads	Small	Moderate	Low
2	Agriculture and Aquaculture			
2.1	Annual and Perennial Non-Timber Crops	-	-	No impact
2.2	Wood and Pulp Plantations	-	-	No impact
2.3	Livestock Farming and Ranching	Small	Slight	Low
2.3.1	Livestock Grazing as Permitted	Small	Slight	Low
2.3.2	Past Livestock Grazing	Unknown	Unknown	Unknown
2.3.3	Disease Transmission from Livestock	-	-	No impact
2.3.4	Water Developments for Livestock	-	-	No impact
2.3.5	Range Developments (fencing, corrals, enclosures, infrastructure)	Small	Moderate	Low
2.3.6	Animal Damage Control as a Result of Livestock Depredation	Restricted	Moderate	Low
2.4	Marine and Freshwater Aquaculture	-	-	No impact
3	Energy Production and Mining			
3.1	Oil and Gas Drilling	Small	Slight	Low
3.2	Mining and Quarrying	-	-	-



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Threat ID	Threat Description	Scope	Severity	Impact
3.2.1	Hardrock Minerals	Small	Slight	Low
3.2.2	Sand and Gravel	Small	Slight	Low
3.2.3	Strip Mining	-	-	No impact
3.2.4	Suction Dredging	-	-	No impact
3.3	Renewable Energy	-	-	-
3.3.1	Geothermal Development	-	-	No impact
3.3.2	Solar Power Facilities	-	-	No impact
3.3.3	Wind Power Facilities	-	-	No impact
3.3.4	Hydro Power Facilities	-	-	No impact
4	Transportation and Service Corridors			
4.1	Roads and Railroads	-	-	-
4.1.1	Roads—Transportation Network (permanent roads)	Small	Slight	Low
4.1.2	Temp Roads (road construction, decommissioning)	Small	Slight	Low
4.1.3	Motorized Trails (footprint of trail)	Restricted	Slight	Low
4.1.4	Railroads	-	-	No impact
4.1.5	Cross Country Travel (unauthorized routes)	Small	Slight	Low
4.2	Utility and Service Lines	-	-	-
4.2.1	Utility Lines and Towers—Power and Communication	Small	Slight	Low
4.2.2	Pipelines—Energy Development	-	-	No impact
4.3	Shipping Lanes	Small	Slight	Low
4.4	Flight Paths	-	-	No impact
5	Biological Resource Use			
5.1	Hunting and Collecting Terrestrial Animals (harvest: illegal and legal; collection; falconry)	-	-	-
5.1.1	Harvest—Unregulated or Illegal	Small	Slight	Low
5.1.2	Harvest—Regulated or Legal	Large	Slight	Low
5.1.3	Collection	-	-	No impact
5.1.4	Incidental or Intentional Poisoning	-	-	No impact
5.1.6	Falconry—Collection of Raptors or Chicks	-	-	No impact
5.2	Gathering Terrestrial Plants (or fungi)	Small	Slight	Low
5.3	Logging and Wood Harvest	-	-	-
5.3.1	Past Timber Management (pre-1980)	Unknown	Unknown	Unknown
5.3.2	Regeneration Harvest (clear cut, patch clearcut, clearcut with leave trees, stand clearcut, seed tree, shelterwood, two aged management)	Small	Serious	Low
5.3.3	Intermediate (thinning, improvement, liberation, sanitation)	Restricted	Moderate	Low
5.3.4	Fire Salvage	-	-	No impact
5.3.5	Uneven Aged Management—Single Tree Selection, Group Selection	Small	Moderate	Low
5.3.6	Seed Collection	Restricted	Slight	Low
5.3.7	Woodcutting for Firewood or Posts	Small	Slight	Low

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Threat ID	Threat Description	Scope	Severity	Impact
5.4	Fishing and Harvesting Aquatic Resource	-	-	No impact
6	Human Intrusions and Disturbance			
6.1	Recreational Activities	Large	Slight	Low
6.1.1	OHV Motorized Recreation	Restricted	Slight	Low
6.1.2	Camping (dispersed)	Small	Slight	Low
6.1.3	Cave and Mine Exploration	-	-	No impact
6.1.4	Hiking and Foot Travel	Large	Slight	Low
6.1.5	Mountain Biking	Small	Slight	Low
6.1.6	Pack and Saddle Stock	Small	Slight	Low
6.1.7	River Rafting	-	-	No impact
6.1.8	Rock Climbing	-	-	No impact
6.1.9	Skiing and Snow Boarding	Restricted	Slight	Low
6.1.10	Winter Motorized Recreation	Large	Slight	Low
6.2	War, Civil Unrest, and Military Exercises	-	-	No impact
6.3	Work and Other Activities (law enforcement, drug smugglers, illegal immigrants, species research, vandalism)	Small	Slight	Low
7	Natural System Modifications			
7.1	Fire and Fire Suppression	Restricted	Serious	Medium
7.1.1	Fire Suppression (historical changes due to long-term suppression)	Pervasive	Serious	High
7.1.2	Firefighting Activities (fire lines, retardant drops, etc.)	Small	Slight	Low
7.1.3	Uncharacteristic Wildfire	Restricted	Serious	Medium
7.1.4	Fuel Treatments—Vegetation Manipulation to Reduce the Chance or Severity of Wildfire	Small	Moderate	Low
7.2	Dams and Water Management and Use	Small	Slight	Low
7.2.1	Presence of Dams and Diversions	Small	Slight	Low
7.2.2	Channelization and Bank Alteration (direct, intentional)	-	-	No impact
7.2.3	Spring Development and Capping	Small	Slight	Low
7.2.4	Agricultural and Municipal and Industrial Water Usage	Small	Slight	Low
7.2.6	Dredging for Water Management or Infrastructure	-	-	No impact
7.3	Other Ecosystem Modifications	-	-	-
7.3.1	Seeding Non-Native Plants	Small	Slight	Low
7.3.2	Rip Rap and Other Streambank Alteration	-	-	No impact
7.3.3	Mine Shaft and Adit Closures	-	-	No impact
8	Invasive and Other Problematic Species and Genes			
8.1	Invasive Non-Native and Alien Species	-	-	-
8.1.1	Invasive Animal Species—Non-Native	Small	Slight	Low
8.1.2	Invasive Plant Species—Non-Native	Small	Slight	Low
8.1.3	Invasive Insects	-	-	No impact
8.1.4	Pathogens—Alien Organisms	Unknown	Unknown	Unknown
8.2	Problematic Native Species	-	-	-

Threat ID	Threat Description	Scope	Severity	Impact
8.2.1	Problematic and Invasive Animal Species—Native	Pervasive	Slight	Low
8.2.2	Problematic and Invasive Plant Species—Native	Small	Slight	Low
8.2.3	Herbivory—Wildlife	-	-	No impact
8.2.4	Insects—Endemic Organisms.	Large	Unknown	Medium
8.2.5	Pathogens—Endemic Organisms	Small	Slight	Low
8.2.6	Predation—Native Species	Pervasive	Slight	Low
8.2.7	Nest Parasitism	-	-	No impact
8.2.9	Natural Rarity	-	-	Yes
8.3	Introduced Genetic Material	-	-	No impact
9	Pollution			
9.1	Household Sewage and Urban Wastewater	Small	Slight	Low
9.2	Industrial and Military Effluents	-	-	No impact
9.2.1	Heavy Metal Deposition	Small	Slight	Low
9.2.2	Acid Mine Drainage	Small	Slight	Low
9.3	Agricultural and Forestry Effluents	-	-	-
9.3.1	Agricultural Pollution	-	-	No impact
9.3.2	Soil Erosion and Loss	-	-	No impact
9.4	Garbage and Solid Waste	-	-	No impact
9.5	Airborne Pollutants	Pervasive	Slight	Low
9.5.1	Atmospheric Deposition	Pervasive	Slight	Low
9.5.2	Soil Movement and Deposition	Small	Slight	Low
9.6	Excess Energy	-	-	-
9.6.1	Noise Pollution	Small	Slight	Low
9.6.2	Thermal Alteration of Water (By Power Plant)	-	-	No impact
10	Geological Events			
10.1	Volcanoes	-	-	No impact
10.2	Earthquakes and Tsunamis	-	-	No impact
10.3	Avalanches and Landslides	Restricted	Slight	Low
11	Climate Change and Severe Weather			
11.1	Habitat Shifting and Alteration (due to climate change)	Pervasive	Unknown	Medium
11.2	Droughts	Large	Unknown	Medium
11.3	Temperature Extremes	Pervasive	Unknown	Medium
11.4	Storms and Flooding	Pervasive	Slight	Low

## Wolverine

**Table 16. Wolverine Assessment**

<b>Species:</b>	Wolverine
<b>Sci Name:</b>	<i>Gulo gulo</i>
<b>Author:</b>	Kevin Labrum
<b>Date:</b>	Originally evaluated in 2017; Revised 11/19/2019

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<b>Scale</b>	Forest Administrative Boundary
<b>Assumptions</b>	Existing current or future conditions under the plan, based on expert opinion, available data used when available, time span is life of the plan. A composite of the Inman and Copeland models was used as the basis for the distribution of wolverine habitat in plan area.
<b>Data Source(s):</b>	Forest Service spatial data, including management areas, roads and motorized trails, FACTS, VMap vegetation layer, Infra, weeds inventory, allotments, recreation, special uses, NVUM, forest infrastructure, fire perimeters, burn severity data and intensity, wilderness, and mine and geology layers.

**Table 17. Threats assessment for wolverine**

Threat ID	Threat Description	Scope	Severity	Impact
1	Residential and Commercial Development			
1.1	Housing and Urban Areas	Small	Slight	Low
1.2	Rec Residences, Fire Towers, Ranger Stations, etc.	Small	Slight	Low
1.3	Tourism and Recreational Areas	-	-	-
1.3.1	Campgrounds, Ski Resorts, Developed Rec, Boat Ramps, Trailheads	Small	Moderate	Low
2	Agriculture and Aquaculture			
2.1	Annual and Perennial Non-Timber Crops	-	-	No impact
2.2	Wood and Pulp Plantations	-	-	No impact
2.3	Livestock Farming and Ranching	-	-	-
2.3.1	Livestock Grazing as Permitted	Small	Slight	Low
2.3.2	Past Livestock Grazing	Unknown	Unknown	Unknown
2.3.3	Disease Transmission from Livestock	-	-	No Impact
2.3.4	Water Developments for Livestock	-	-	No Impact
2.3.5	Range Developments (fencing, corrals, enclosures, infrastructure)	Small	Slight	Low
2.3.6	Animal Damage Control as a Result of Livestock Depredation	Restricted	Unknown	Low
2.4	Marine and Freshwater Aquaculture	-	-	No impact
3	Energy Production and Mining			
3.1	Oil and Gas Drilling	-	-	No impact
3.2	Mining and Quarrying	-	-	-
3.2.1	Hardrock Minerals	Small	Slight	Low
3.2.2	Sand and Gravel	Small	Slight	Low
3.2.3	Strip Mining	-	-	No Impact
3.2.4	Suction Dredging	-	-	No impact
3.3	Renewable Energy	-	-	-
3.3.1	Geothermal Development	-	-	No impact
3.3.2	Solar Power Facilities	-	-	No impact
3.3.3	Wind Power Facilities	-	-	No impact
3.3.4	Hydro Power Facilities	-	-	No impact
4	Transportation and Service Corridors			

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Threat ID	Threat Description	Scope	Severity	Impact
4.1	Roads and Railroads	-	-	-
4.1.1	Roads—Transportation Network (permanent roads)	Restricted	Slight	Low
4.1.2	Temp Roads (road construction, decommissioning)	Small	Slight	Low
4.1.3	Motorized Trails (footprint of trail)	Restricted	Slight	Low
4.1.4	Railroads	-	-	No impact
4.1.5	Cross Country Travel (unauthorized routes)	Small	Slight	Low
4.2	Utility and Service Lines	-	-	-
4.2.1	Utility Lines and Towers—Power and Communication	Small	Slight	Low
4.2.2	Pipelines—Energy Development	-	-	No impact
4.3	Shipping Lanes	-	-	No impact
4.4	Flight Paths	-	-	No impact
5	Biological Resource Use			
5.1	Hunting and Collecting Terrestrial Animals (harvest: illegal and legal; collection; falconry)	-	-	-
5.1.1	Harvest—Unregulated or Illegal	Small	Slight	Low
5.1.2	Harvest—Regulated or Legal	Large	Slight	Low
5.1.3	Collection	-	-	No Impact
5.1.4	Incidental or Intentional Poisoning	Unknown	Unknown	Unknown
5.1.6	Falconry—Collection of Raptors or Chicks	-	-	No impact
5.2	Gathering Terrestrial Plants (or fungi)	Small	Slight	Low
5.3	Logging and Wood Harvest	-	-	-
5.3.1	Past Timber Management (pre-1980)	Unknown	Unknown	Unknown
5.3.2	Regeneration Harvest (clear cut, patch clearcut, clearcut with leave trees, stand clearcut, seed tree, shelterwood, two aged management)	Restricted	Slight	Low
5.3.3	Intermediate (thinning, improvement, liberation, sanitation)	Restricted	Slight	Low
5.3.4	Fire Salvage	-	-	No impact
5.3.5	Uneven Aged Management—Single Tree Selection, Group Selection	Small	Slight	Low
5.3.6	Seed Collection	Small	Slight	Low
5.3.7	Woodcutting for Firewood or Posts	Restricted	Slight	Low
5.4	Fishing and Harvesting Aquatic Resource	-	-	No impact
6	Human Intrusions and Disturbance			
6.1	Recreational Activities	Large	Slight	Low
6.1.1	OHV Motorized Recreation	Large	Slight	Low
6.1.2	Camping (dispersed)	Small	Slight	Low
6.1.3	Cave and Mine Exploration	-	-	No Impact
6.1.4	Hiking and Foot Travel	Large	Slight	Low
6.1.5	Mountain Biking	Small	Slight	Low
6.1.6	Pack and Saddle Stock	Small	Slight	Low
6.1.7	River Rafting	-	-	No impact
6.1.8	Rock Climbing	-	-	No Impact

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Threat ID	Threat Description	Scope	Severity	Impact
6.1.9	Skiing and Snow Boarding	Restricted	Moderate	Low
6.1.10	Winter Motorized Recreation	Large	Moderate	Medium
6.2	War, Civil Unrest, and Military Exercises	-	-	No Impact
6.3	Work and Other Activities (law enforcement, drug smugglers, illegal immigrants, species research, vandalism)	Small	Slight	Low
7	Natural System Modifications			
7.1	Fire and Fire Suppression	-	-	-
7.1.1	Fire Suppression (historical changes due to long-term suppression)	Pervasive	Slight	Low
7.1.2	Firefighting Activities (fire lines, retardant drops, etc.)	Small	Slight	Low
7.1.3	Uncharacteristic Wildfire	Restricted	Slight	Low
7.1.4	Fuel Treatments—Vegetation Manipulation to Reduce the Chance or Severity of Wildfire	Small	Slight	Low
7.2	Dams and Water Management and Use	-	-	-
7.2.1	Presence of Dams and Diversions	-	-	No impact
7.2.2	Channelization and Bank Alteration (direct, intentional)	-	-	No impact
7.2.3	Spring Development and Capping	Small	Slight	Low
7.2.4	Agricultural and Municipal and Industrial Water Usage	-	-	No impact
7.2.6	Dredging for Water Management or Infrastructure	-	-	No impact
7.3	Other Ecosystem Modifications	-	-	-
7.3.1	Seeding Non-Native Plants	Small	Slight	Low
7.3.2	Rip Rap and Other Streambank Alteration	-	-	No Impact
7.3.3	Mine Shaft and Adit Closures	-	-	No Impact
8	Invasive and Other Problematic Species and Genes			
8.1	Invasive Non-Native and Alien Species	-	-	-
8.1.1	Invasive Animal Species—Non-Native	Small	Slight	Low
8.1.2	Invasive Plant Species—Non-Native	Small	Slight	Low
8.1.3	Invasive Insects	-	-	No impact
8.1.4	Pathogens—Alien Organisms	Unknown	Unknown	Unknown
8.2	Problematic Native Species	-	-	-
8.2.1	Problematic and Invasive Animal Species—Native	Small	Slight	Low
8.2.2	Problematic and Invasive Plant Species—Native	Small	Slight	Low
8.2.3	Herbivory—Wildlife	-	-	No impact
8.2.4	Insects—Endemic Organisms.	Restricted	Slight	Low
8.2.5	Pathogens—Endemic Organisms	Small	Slight	Low
8.2.6	Predation—Native Species	Pervasive	Slight	Low
8.2.7	Nest Parasitism	-	-	No impact
8.2.9	Natural Rarity	-	-	yes
8.3	Introduced Genetic Material	-	-	No impact
9	Pollution			
9.1	Household Sewage and Urban Wastewater	Small	Slight	Low

Threat ID	Threat Description	Scope	Severity	Impact
9.2	Industrial and Military Effluents	-	-	No impact
9.2.1	Heavy Metal Deposition	Small	Slight	Low
9.2.2	Acid Mine Drainage	Small	Slight	Low
9.3	Agricultural and Forestry Effluents	-	-	-
9.3.1	Agricultural Pollution	-	-	No Impact
9.3.2	Soil Erosion and Loss	-	-	No Impact
9.4	Garbage and Solid Waste	-	-	No impact
9.5	Airborne Pollutants	-	-	-
9.5.1	Atmospheric Deposition	Pervasive	Slight	Low
9.5.2	Soil Movement and Deposition	Small	Slight	Low
9.6	Excess Energy	-	-	-
9.6.1	Noise Pollution	Small	Slight	Low
9.6.2	Thermal Alteration of Water (By Power Plant)	-	-	No impact
10	Geological Events			
10.1	Volcanoes	-	-	No impact
10.2	Earthquakes and Tsunamis	-	-	No impact
10.3	Avalanches and Landslides	Large	Slight	Low
11	Climate Change and Severe Weather			
11.1	Habitat Shifting and Alteration (due to climate change)	Pervasive	Unknown	Medium
11.2	Droughts	Pervasive	Unknown	Medium
11.3	Temperature Extremes	Pervasive	Unknown	Medium
11.4	Storms and Flooding	Pervasive	Slight	Low

## Crosswalk of How Plan Components Address Threats to At-Risk Wildlife

Table 18 identifies the plan components that address the threats to at-risk species identified above. Threats to grizzly bears were analyzed within the Final Environmental Impact Statement and Biological Assessment.

**Table 18. Crosswalk of how plan components address threats to at-risk wildlife**

Species	Threat	Nature of Threat	Within Forest Service Authority?	Plan Component that addresses threat
Bighorn Sheep	Disease transmission from livestock or Past livestock grazing or Pathogens—Alien Organisms	Mortality and chronic lower reproduction and lamb survival.	Yes—The Forest Service authorizes livestock grazing permits for domestic sheep or goats that carry pathogens.	FW-STD-WL-02, FW-GDL-WL-04
Bighorn Sheep	Invasive plant species—non-native	Habitat alteration, often permanent or long term	Yes—The Forest Service can treat invasive plants to reduce infestations and prevent new establishment.	FW-DC-WL-05, FW-GL-INV-01, FW-GL-INV-02, FW-DC-INV-01, FW-OBJ-INV-01, FW-GDL-INV-01, FW-GDL-INV-02, FW-GDL-INV-03, FW-GDL-FIRE-02, FW-DC-GS-01, FW-DC-GS-02, FW-DC-GS-03, FW-DC-GS-04, FW-DC-GS-05, FW-GL-WTR-01, FW-STD-WTR-05, FW-DC-WLMU-06, MA1-OBJ-WLMU-01, and FW-DC-ED-01.
Bighorn Sheep	Pathogens—endemic organisms	Interacts with non-native pathogens to lower survival	No—Native pathogens and parasite exist and interact with bighorn sheep independent of forest Service Activities.	No Plan components. Plan components that address disease transmission from livestock help address this threat.
Bighorn Sheep	Predation—native species	Not typically a threat under normal circumstances. However, predation can combine with pathogens from livestock to alter population trends.	No	Not Applicable.
Bighorn Sheep	Climate Change Impacts including Habitat Shifting and Alteration, drought, temperatures extremes	Stressors and a factor in natural habitat change.	While the Forest Service can't control climate, the Forest Service can help habitat be more resilient to the effects of climate change and take measures to store carbon.	FW-DC-FOR-02, FW-DC-FOR-03, FW-DC-FOR-04, MA1-DC-FOR-01, MA2-DC-FOR-01, MA3-DC-FOR-01, FW-DC-FOR-05, MA1 and MA2-DC-FOR-06, MA3-DC-FOR-02, FW-DC-CARB-01, FW-DC-GS-01, FW-DC-GS-02, FW-DC-GS-03, FW-DC-GS-04, FW-DC-GS-05, FW-DC-GS-06, FW-OBJ-GS-01, FW-DC-FIRE-01, FW-DC-FIRE-02, FW-DC-FIRE-04, FW-OBJ-FIRE-01, FW-OBJ-FIRE-02, FW-OBJ-FIRE-03, FW-GDL-FIRE-01, FW-DC-WL-02, FW-DC-WL-05, GA-DC-SR-02.



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Species	Threat	Nature of Threat	Within Forest Service Authority?	Plan Component that addresses threat
Fisher	Unregulated or illegal harvest	Population reduction. A potential factor in population decline due to naturally low population numbers.	No—Idaho regulations do not allow harvest or trapping of fishers. Forest Service law enforcement cooperates with the State of Idaho to enforce State Laws.	Not Applicable
Fisher	Regeneration harvest (clear cut, patch clearcut, clearcut with leave trees, stand clearcut, seed tree, shelterwood, two aged management)	Habitat alteration. Depends on the intensity and types of timber harvest treatments.	Yes—The Forest Service can control the extent, amount, distribution, types of timber harvest and silvicultural practices.	FW-DC-FOR-02, FW-DC-FOR-03, FW-DC-FOR-04, MA1-DC-FOR-01, MA2-DC-FOR-01, MA3-DC-FOR-01, FW-DC-FOR-05, MA1 and MA2-DC-FOR-06, MA3-DC-FOR-02, FW-DC-FOR-06, FW-DC-FOR-07, MA1-DC-FOR-02, MA2-DC-FOR-02, MA3-DC-FOR-03, FW-DC-FOR-08, MA1 and MA2-DC-FOR-07, MA3-DC-FOR-04, FW-DC-FOR-09, FW-DC-FOR-10, MA1-DC-FOR-03, MA2-DC-FOR-03, MA2-DC-FOR-03, MA3-DC-FOR-05, FW-DC-FOR-11, MA1 and MA2-DC-FOR-08, MA3-DC-FOR-06, FW-DC-FOR-13, MA1 and MA2-DC-FOR-09, FW-DC-WL-02, and FW-DC-WL-04, FW-DC-TBR-04, FW-STD-TBR-02, FW-STD-TBR-05, FW-STD-TBR-06, FW-STD-TBR-09, FW-STD-TBR-10, FW-STD-TBR-11, FW-GDL-TBR-01.
Fisher	Fire suppression (historical changes due to long term suppression) and Uncharacteristic wildfire	Habitat alteration threat. Fuel build up can result in larger or more intense fires that can alter habitat. Lack of fire can result in dominance types that can	Yes—The Forest Service makes decisions on fire suppression activities and can alter the abundance and distribution of fuels which can influence fire behavior.	Forestlands plan components, plus FW-DC-FIRE-01, FW-DC-FIRE-02, FW-DC-FIRE-04, FW-OBJ-FIRE-01, FW-OBJ-FIRE-02, FW-OBJ-FIRE-03, FW-STD-FIRE-01, FW-GDL-FIRE-01.
Fisher		Habitat alteration threat. Fuel build up can result in larger or more intense fires that can alter habitat.	Yes—The Forest Service	Forestlands plan components, plus FW-DC-FIRE-01, FW-DC-FIRE-02, FW-DC-FIRE-04, FW-OBJ-FIRE-01, FW-OBJ-FIRE-02, FW-OBJ-FIRE-03, FW-STD-FIRE-01, FW-GDL-FIRE-01.

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Species	Threat	Nature of Threat	Within Forest Service Authority?	Plan Component that addresses threat
Fisher	Pathogens—alien organisms	Population change threat. Fishers are susceptible to several pathogens introduced by domestic animals. Examples include canine parvovirus, and distemper.	No—These pathogens currently occur in the system and can't be influenced by Forest Service Actions	Not applicable
Fisher	Climate Change Impacts including Habitat Shifting and Alteration, drought, temperatures extremes	Habitat alteration threat. Climate change could impact habitat conditions and shift habitats.	While the Forest Service can't control climate, the Forest Service can help habitat be more resilient to the effects of climate change and take measures to store carbon. The Forest Service can alter the abundance and distribution of fuels which can influence fire behavior.	FW-DC-FOR-02, FW-DC-FOR-03, FW-DC-FOR-04, MA1-DC-FOR-01, MA2-DC-FOR-01, MA3-DC-FOR-01, FW-DC-FOR-05, MA1 and MA2-DC-FOR-06, MA3-DC-FOR-02, FW-DC-FOR-06, FW-DC-FOR-07, MA1-DC-FOR-02, MA2-DC-FOR-02, MA3-DC-FOR-03, FW-DC-FOR-08, MA1 and MA2-DC-FOR-07, MA3-DC-FOR-04, FW-DC-FOR-09, FW-DC-FOR-10, MA1-DC-FOR-03, MA2-DC-FOR-03, MA2-DC-FOR-03, MA3-DC-FOR-05, FW-DC-FOR-11, MA1 and MA2-DC-FOR-08, MA3-DC-FOR-06, FW-DC-FOR-13, MA1 and MA2-DC-FOR-09, FW-DC-CARB-01, FW-DC-GS-01, FW-DC-GS-02, FW-DC-GS-03, FW-DC-GS-04, FW-DC-GS-05, FW-DC-GS-06, FW-OBJ-GS-01, FW-DC-FIRE-01, FW-DC-FIRE-02, FW-DC-FIRE-04, FW-OBJ-FIRE-01, FW-OBJ-FIRE-02, FW-OBJ-FIRE-03, FW-GDL-FIRE-01, FW-DC-WL-02, FW-DC-WL-05.
Harlequin duck	Roads and Motorized Trails—transportation network (permanent roads)	Habitat alteration. Roads course along most rivers with known harlequin duck habitat in the plan area which has resulted in changes to riparian habitats, and require alteration of stream banks to prevent road erosion. Roads and motorized trails can result in sedimentation or degradation of water quality.	Yes—The Forest Service makes decisions on the transport network through travel planning and implementation.	FW-DC-DWSR-01, MA1-STD-DWSR-01, MA1-STD-DWSR-02, MA1-SUIT-DWSR-03, MA1-SUIT-DWSR-10, MA2-DC-E&SWSR-01, MA2-STD-E&SWSR-01, MA2-GDL-E&SWSR-02, MA2-SUIT-E&SWSR-03, MA2-SUIT-E&SWR-14, MA2-DC-IRA-01, MA2-STD-IRA-01, MA2-SUIT-IRA-03, MA2-SUIT-IRA-11, MA1-STD-WILD-01, MA1-SUIT-WILD-03, MA1-SUIT-WILD-10, FW-OBJ-WTR-02, FW-OBJ-WTR-04, FW-OBJ-RMZ-01, FW-GDL-RMZ-02, FW-OBJ-CWN-01, FW-DC-ARINF-01, FW-STD-ARINF-01, FW-STD-ARINF-02, FW-STD-ARINF-04, FW-STD-ARINF-06, FW-GDL-ARINF-01,

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Species	Threat	Nature of Threat	Within Forest Service Authority?	Plan Component that addresses threat
				FW-GDL-ARINF-02, FW-GDL-ARINF-04, FW-GDL-ARINF-06, FW-GDL-ARINF-08, FW-GDL-ARINF-09.
Harlequin duck	Past timber management (pre-1980)	Timber treatments of the past have resulted in forest conditions today in many areas. Treatments in the past were conducted within riparian areas.	While the Forest Service can't change the past, the Forest Service can treat vegetation to regrow, or address the outcomes of past timber practices.	FW-DC-RMZ-01, FW-OBJ-RMZ-02, FW-STD-RMZ-01, FW-STD-RMZ-05.
Harlequin duck	Fishing and Harvesting Aquatic Resource	Disturbance threat	No—The State of Idaho regulates fishing activities by the public.	Not applicable .
Harlequin duck	River rafting or Recreation	Disturbance	Yes	FW-DC-ARREC-01 .
Harlequin duck	Fire suppression (historical changes due to long-term suppression) or Uncharacteristic Wildfire	Habitat alteration. Fire suppression can affect the composition and condition of riparian areas. For riparian areas, lack of disturbance can result in a shift in plant and tree species composition, and structure. A buildup of fuels in the uplands can result in higher intensity fires that can alter riparian habitat.	Yes	Plan Components within the Forestlands Section of the Plan. FW-DC-TE-05, FW-OBJ-TE-01, FW-DC-RMZ-02, FW-STD-RMZ-06.
Harlequin duck	Channelization and bank alteration (direct, intentional)	Habitat Alteration. Changes in river geomorphology can affect flow, temperature, water quality, which can affect harlequin ducks directly or have effects on harlequin duck foods.	Yes	FW-DC-DWSR-01, MA1-STD-DWSR-01, MA1-STD-DWSR-02, MA2-DC-E&SWSR-01, MA2-GDL-E&SWSR-02, MA2-GDL-E&SWSR-03, MA2-SUIT-E&SWR-09, FW-GDL-WTR-01, FW-GDL-RMZ-03, FW-GDL-RMZ-09, FW-OBJ-CWN-01, FW-DC-ARINF-01.
Harlequin duck	Natural rarity	Population status threat. Harlequin ducks exist at naturally low densities leaving them vulnerable to threats.	No	Not Applicable.

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Species	Threat	Nature of Threat	Within Forest Service Authority?	Plan Component that addresses threat
Harlequin duck	Soil movement and deposition	Habitat Alteration Threat. Soil movement or erosion can	Yes—The Forest Service doesn't control natural soil movement and deposition, but many activities the Forest Service conducts affect soil movement and deposition.	Aquatic Ecosystem Plan Components, particularly those that address sedimentation. FW-GDL-SOIL-01, MA2 and MA3-GDL-SOIL-01.
Harlequin duck	Climate Change Impacts including Habitat Shifting and Alteration, drought, temperatures extremes, Storms and flooding	Habitat alteration threat. Habitats can change under climate change including changes in hydrologic regime, vegetation, timing and amount of runoff and stream temperature. Climate change can impact upland disturbance patterns	While the Forest Service can't control climate, the Forest Service can help habitat be more resilient to the effects of climate change and take measures to store carbon. The Forest Service can alter the abundance and distribution of fuels which can influence fire behavior.	FW-DC-WTR-01, FW-DC-WTR-04, FW-DC-RMZ-02, FW-DC-ARINF-02, Plan components in the Forestlands section of the plan.
Mountain Quail	Livestock grazing as permitted	Habitat alteration threat.	Yes—The Forest Service authorizes grazing including the intensity and manner in which it's conducted.	FW-GDL-GRZ-03, FW-DC-GS-01, FW-DC-GS-02, FW-DC-GS-03, FW-DC-GS-04, FW-DC-GS-05, FW-STD-ARGRZ-01, FW-STD-ARGRZ-02, FW-GDL-ARGRZ-01.
Mountain Quail	Fire suppression (historical changes due to long-term suppression) and Uncharacteristic Fire.	Habitat alteration with potential to result in uncharacteristic fires that could impact habitat.	Yes—Forest Service makes decisions on fire suppression activities and can treat fuels to influence the intensity and distribution of wildfire.	Forestlands plan components, particularly those within the Warm Dry Broad Potential Vegetation Types, FW-DC-FIRE-01, FW-DC-FIRE-02, FW-DC-FIRE-04, FW-OBJ-FIRE-01, FW-OBJ-FIRE-02, FW-OBJ-FIRE-03, FW-STD-FIRE-01, FW-GDL-FIRE-01, GA-DC-SR-02, GA-OBJ-SR-01.
Mountain Quail	Invasive animal species—native	Competition effect. Non-native species like California Quail and Chukars may compete with Mountain	No	Not applicable .

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Species	Threat	Nature of Threat	Within Forest Service Authority?	Plan Component that addresses threat
		quail for resources such that it may affect populations.		
Mountain Quail	Invasive plant species—non-native	Habitat alteration, often permanent or long term	Yes—The Forest Service can treat invasive plants to reduce infestations and prevent new establishment.	FW-DC-WL-05, FW-GL-INV-01, FW-GL-INV-02, FW-DC-INV-01, FW-OBJ-INV-01, FW-GDL-INV-01, FW-GDL-INV-02, FW-GDL-INV-03, FW-GDL-FIRE-02, FW-DC-GS-01, FW-DC-GS-02, FW-DC-GS-03, FW-DC-GS-04, FW-DC-GS-05, FW-GL-WTR-01, FW-STD-WTR-05, FW-DC-WLMU-06, MA1-OBJ-WLMU-01, and FW-DC-ED-01.
Mountain Quail	Introduced Genetic Material	Unknown effect. Generally speaking, introduced genetics prevents inbreeding effects. So likely positive but unstudied.	No	Not applicable
Mountain Quail	Climate Change Impacts including Habitat Shifting and Alteration, drought, temperatures extremes, Storms and flooding	Habitat alteration threat. Climate change could impact habitat conditions and shift habitats. Changes to the area might render the climatic envelope of the species unsuitable, especially since mountain quail exist at the eastern extent and periphery of their range.	While the Forest Service can't control climate, the Forest Service can help habitat be more resilient to the effects of climate change and take measures to store carbon.	FW-DC-FOR-02, FW-DC-FOR-03, FW-DC-FOR-04, MA1-DC-FOR-01, MA2-DC-FOR-01, MA3-DC-FOR-01, FW-DC-FOR-05, MA1 and MA2-DC-FOR-06, MA3-DC-FOR-02, FW-DC-CARB-01, FW-DC-GS-01, FW-DC-GS-02, FW-DC-GS-03, FW-DC-GS-04, FW-DC-GS-05, FW-DC-GS-06, FW-OBJ-GS-01, FW-DC-FIRE-01, FW-DC-FIRE-02, FW-DC-FIRE-04, FW-OBJ-FIRE-01, FW-OBJ-FIRE--OBJ-FIRE-03, FW-GDL-FIRE-01, FW-DC-WL-02, FW-DC-WL-05, GA-DC-SR-02.
White Headed Woodpecker	Livestock grazing	Habitat alteration. Past livestock grazing potentially disrupted fire cycles within the warm dry habitats that typically burned with low severity fire, and ecologically released understories that have grown up to change fuel conditions.	Yes—Effects related to changes to fire regime.	See Fire and Fire suppression.
White Headed Woodpecker	Past timber management (pre-1980), Current Timber Practices, Regeneration harvest (clear cut, patch	Habitat alteration. Removed Ponderosa pines which have not yet recovered.	Yes—While the Forest Service can't change the past, the Forest Service can restore or	Forestlands plan components, particularly those within the Warm Dry Broad Potential Vegetation Types, MA3-STD-FOR-01, MA2 and MA3-GDL-FOR-02, MA2 and MA3-GDL-

EIS Appendix C: Wildlife Species and Habitat Summary

Species	Threat	Nature of Threat	Within Forest Service Authority?	Plan Component that addresses threat
	clearcut, clearcut with leave trees, stand clearcut, seed tree, shelterwood, two aged management)		maintain habitat impacted by past timber practices.	FOR-03, MA2 and MA3-GDL-FOR-04, MA3-OBJ-FOR-01, FW-DC-FIRE-01, FW-DC-FIRE-02, FW-DC-FIRE-04, FW-OBJ-FIRE-01, FW-OBJ-FIRE-02, FW-OBJ-FIRE-03, FW-STD-FIRE-01, FW-GDL-FIRE-01, GA-DC-SR-02, GA-OBJ-SR-01.
White Headed Woodpecker	Fire suppression and Uncharacteristic Fire	Habitat Alteration. Fire suppression has led to a buildup of fuels that could lead to uncharacteristic fire that could alter mountain quail habitat.	Yes- Forest Service makes decisions on fire suppression activities and can treat fuels to influence the intensity and distribution of wildfire.	Forestlands plan components, particularly those within the Warm Dry Broad Potential Vegetation Types, FW-DC-FIRE-01, FW-DC-FIRE-02, FW-DC-FIRE-04, FW-OBJ-FIRE-01, FW-OBJ-FIRE-02, FW-OBJ-FIRE-03, FW-STD-FIRE-01, FW-GDL-FIRE-01, GA-DC-SR-02, GA-OBJ-SR-01.
White Headed Woodpecker	Natural rarity	Population effect. Naturally limited in numbers and distribution leave them vulnerable to threats.	No	Not Applicable.
White Headed Woodpecker	Climate Change Impacts including Habitat Shifting and Alteration, drought, temperatures extremes, Storms and flooding			FW-DC-FOR-02, FW-DC-FOR-03, FW-DC-FOR-04, MA1-DC-FOR-01, MA2-DC-FOR-01, MA3-DC-FOR-01, FW-DC-FOR-05, MA1 and MA2-DC-FOR-06, MA3-DC-FOR-02, FW-DC-CARB-01, FW-DC-GS-01, FW-DC-GS-02, FW-DC-GS-03, FW-DC-GS-04, FW-DC-GS-05, FW-DC-GS-06, FW-OBJ-GS-01, FW-DC-FIRE-01, FW-DC-FIRE-02, FW-DC-FIRE--OBJ-FIRE--OBJ-FIRE--OBJ-FIRE-03, FW-GDL-FIRE-01, FW-DC-WL-02, FW-DC-WL-05, GA-DC-SR-02.
Canada lynx	Fire, Fire suppression, and uncharacteristic wildfire.	Habitat Alteration. Fire suppression has led to a buildup of fuels that could lead to uncharacteristic fire that could alter lynx habitat.	Yes—Forest Service makes decisions on fire suppression activities and can treat fuels to influence the intensity and distribution of wildfire.	Forestlands plan components, particularly those within the Cool Moist and Cold Potential Vegetation Types, FW-DC-FIRE-01, FW-DC-FIRE-02, FW-DC-FIRE-04, FW-OBJ-FIRE-01, FW-OBJ-FIRE-02, FW-OBJ-FIRE--STD-FIRE-01, FW-GDL-FIRE-01, From Northern Rockies Lynx Direction: Objective VEG O3.
Canada lynx	Insects or Endemic Pathogen	Habitat alteration. Can impact the condition of forests used by lynx. Can interact with climate change	Yes—While the Forest Service doesn't control insects, the Forest Service can manage	Plan components within the Forestlands section, especially for Cool Moist and Cold Broad Potential Vegetation Types.

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Species	Threat	Nature of Threat	Within Forest Service Authority?	Plan Component that addresses threat
		to increase native amounts of insect pathogens.	stand conditions so as to not be susceptible to insects or pathogens.	
Canada lynx	Climate Change Impacts including Habitat Shifting and Alteration, drought, temperatures extremes, Storms and flooding	Habitat Alteration and Shifting.	While the Forest Service can't control climate, the Forest Service can help habitat be more resilient to the effects of climate change and take measures to store carbon.	Plan Components in the Forestlands Section of the plan, particularly those in the Cold and Cool Moist Broad Potential Vegetation Types. FW-DC-FOR-09, FW-DC-FOR-10, MA1-DC-FOR-03, MA2-DC-FOR-03, MA2-DC-FOR-03, MA3-DC-FOR-05, FW-DC-FOR-11, MA1 and MA2-DC-FOR-08, MA3-DC-FOR-06, FW-DC-FOR-13, MA1 and MA2-DC-FOR-09, MA3-DC-FOR-07, MA1-DC-FOR-04, MA3-DC-FOR-08, FW-DC-FOR-12, MA1 and MA2-DC-FOR-05, MA3-DC-FOR-09, MA3-OBJ-FOR-03, MA3-OBJ-FOR-04, MA2-OBJ-FOR-02, FW-DC-CARB-01, FW-DC-GS-01, FW-DC-GS-02, FW-DC-GS-03, FW-DC-GS-04, FW-DC-GS-05, FW-DC-GS-06, FW-OBJ-GS-01, FW-DC-FIRE-01, FW-DC-FIRE-02, FW-DC-FIRE--OBJ-FIRE--OBJ-FIRE--OBJ-FIRE-03, FW-GDL-FIRE-01, FW-DC-WL-02.
Wolverine	Winter Motorized Recreation	Disturbance and Displacement	Yes—The Forest Service makes decisions on the suitability of uses including motorized uses and authorizes travel management decisions that authorized winter motorized recreation. The Winter Recreation Opportunity Spectrum identifies where winter motorized uses are and are not suitable. Several Areas that contain wolverine habitat are not suitable	FW-DC-REC-01, FW-SUIT-ROS-01, MA1-DC-WILD-02, MA1-STD-WILD-01, MA1-SUIT-WILD-10, MA2-SUIT-RWILD-11, MA2-SUIT-IRA-10.

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Species	Threat	Nature of Threat	Within Forest Service Authority?	Plan Component that addresses threat
			for winter motorized uses.	
Wolverine	Climate Change Impacts including Habitat Shifting and Alteration, drought, temperatures extremes, Storms and flooding	Habitat Shifting—Wolverines den under snow in high alpine habitats.	No—Wolverines are dependent upon the snow itself to provide denning habitat. The Forest Service doesn't control any aspect of snow depth, persistence nor distribution of persistent snow.	Not Applicable.



## Biological Evaluation for Wildlife Sensitive Species, for the Nez Perce-Clearwater National Forests Plan

The sensitive species in Table 19 were identified on the 2011 Regional Forester’s sensitive species list as known or suspected to occur on the Nez Perce-Clearwater National Forests. Determinations are supported by analysis in the Diversity and Abundance of Wildlife section of the Final Environmental Impact Statement, or in the Wildlife for Multiple Uses section of the Final Environmental Impact Statement in the case of Bighorn sheep.

Forest Service Manual 2672.42 stipulates that biological evaluations shall include recommendations to avoid adverse effects to sensitive species. Since the Land Management Plan represents a programmatic decision and does not result in direct effects, such as authorizing any action, the plan itself is not anticipated to result in adverse effects to sensitive species, except for those specific instances where a sensitive species is also identified by the U.S. Fish and Wildlife Service as threatened, endangered, or proposed, as outlined in the Land Management Plan biological assessment prepared under Section 7 consultation requirements. Hence, recommendations to avoid adverse effects to sensitive species is best conducted at the project level using site-specific planning, analysis, and information.

**Table 19. Biological evaluation determinations for Regional Forester's Sensitive Species**

Species known or suspected to occur on the Nez Perce-Clearwater	Biological Determination and Rationale
Peregrine Falcon ( <i>Falco peregrinus anatum</i> )	The revised plan <i>would have no impact on the population or species</i> because plan components for terrestrial ecosystems will maintain or restore foraging habitats and prey populations. Nesting sites are typically cliffs which typically do not experience alteration.
Bald eagle ( <i>Haliaeetus leucocephalus</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend toward federal listing or reduced viability for the population or species because plan components for aquatic ecosystems, and terrestrial ecosystems will maintain or restore habitats. Specifically, they will maintain riparian areas, fish resources, and provide very large trees or snags used for nesting or roosting. Aquatic plan components will protect habitats used for feeding. Populations have increased and increases are expected to continue into the future.
Bighorn sheep ( <i>Ovis canadensis</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend toward federal listing or reduced viability for the population or species because plan components for terrestrial ecosystems and vegetation will maintain or restore habitat. Plan components find permitted domestic sheep and goat grazing unsuitable within a specified distance of bighorn sheep core heard home ranges which would reduce, though not eliminate, potential for disease transmission from domestic livestock.
Black-backed woodpecker ( <i>Picoides arcticus</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend toward federal listing or reduced viability for the population or species because plan components in the fire management section of the plan seeks to increase the amount of area treated by fire to provide burned habitats that this species uses. Large portions of Nez Perce-Clearwater are not suitable for timber production which should ensure that habitats exist for this species. Plan components for terrestrial ecosystems will help maintain or restore burned forests and those used for nesting and feeding. Objectives for wildland fires will promote continued presence of habitat for the species. Modeling suggests this habitat will persist on the national forest for the next 50 years. Wilderness and recommended wilderness management

Species known or suspected to occur on the Nez Perce-Clearwater	Biological Determination and Rationale
	encourages natural processes such as fire. These areas will continue to provide large areas of habitat for black-backed woodpeckers.
Black swift ( <i>Cypseloides niger</i> )	Species not observed within the plan area. The revised plan may impact individuals or habitat but will not likely result in a trend toward federal listing or reduced viability for the population or species because plan components for aquatic and riparian habitats would help protect waterfalls where this species breeds. Additionally, some suitable wild and scenic rivers would protect waterfalls that may serve as potential breeding sites because waterfalls and scenery were considered in identification of outstandingly remarkable values.
Common loon ( <i>Gavia immer</i> )	Migrant in the plan area, breeding not known within the plan area. The revised plan may impact individuals or habitat but will not likely result in a trend toward federal listing or reduced viability for the population or species because plan components for aquatic and riparian habitats would help protect lake and open water habitats.
Flammulated owl ( <i>Otus flammeolus</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend toward federal listing or reduced viability for the population or species because plan components for terrestrial ecosystems, especially those within the warm dry potential vegetation types, and would help maintain or restore open Ponderosa pine and Douglas-fir forest structure. Plan components would provide or maintain snags needed for nesting, feeding and roosting. SIMPPLLE modeling suggests that Ponderosa pine dominated habitats increase in the plan area long term.
Harlequin duck ( <i>Histrionicus histrionicus</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because aquatic ecosystem components would maintain or restore the ecological conditions on rivers for breeding and brood rearing.
Fringed myotis ( <i>Myotis thysanodes</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend toward federal listing or reduced viability for the population or species because plan components for terrestrial ecosystems vegetation and riparian zones will maintain foraging habitat, while plan components for bats and caves areas will preserve conditions for roosting and hibernacula, minimize potential human-caused spread of white-nose syndrome. Plan components that retain snags and promote large and very large trees would maintain roosting habitat.
Gray wolf ( <i>Canis lupus</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend toward federal listing or reduced viability for the population or species because ecosystem plan components would provide the ecological conditions for wolves and their prey. Plan components for big game habitat will provide for prey species.
Mountain quail ( <i>Oreortyx pictus</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend toward federal listing or reduced viability for the population or species because plan components for meadows, grasslands, and shrublands would help maintain habitats. Objectives for fuels and vegetation would restore early seral conditions used by this species. Plan components in the aquatic ecology section would maintain and restore riparian habitats.
Pygmy nuthatch ( <i>Sitta pygmaea</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend toward federal listing or reduced viability for the population or species because plan components for terrestrial ecosystems, especially those within the warm dry potential vegetation types, would help maintain or restore open Ponderosa pine and Douglas-fir forest structure. Plan components would provide or maintain snags needed for nesting, feeding and roosting. SIMPPLLE modeling suggests that Ponderosa pine dominated habitats increase in the plan area long term.

Species known or suspected to occur on the Nez Perce-Clearwater	Biological Determination and Rationale
White-headed woodpecker ( <i>Dryobates albolarvatus</i> )	The revised plan may impact individuals or habitat, but will not likely result in a trend toward federal listing or reduced viability for the population or species because plan components for terrestrial ecosystems, especially those within the warm dry potential vegetation types, would help maintain or restore open Ponderosa pine and Douglas-fir forest structure. Plan components for old growth would maintain or restore old growth Ponderosa pine habitats. Plan components to retain and promote large and very large trees would provide key ecological attributes for this species. Plan components would provide or maintain snags needed for nesting, feeding and roosting. SIMPPLLE modeling suggests that Ponderosa pine dominated habitats increase in the plan area long term.
Fisher ( <i>Pekania pennanti</i> )	The revised Land Management Plan may impact individuals or habitat but will not likely result in a trend toward federal listing or reduced viability for the population or species because plan components in the in the terrestrial ecosystem provide old growth, mature forest, and large and very large trees which would provide or maintain habitat features important for fishers. They also include plan components to provide a landscape pattern that could contribute to fisher habitat. The wildlife section of the plan includes a species-specific desired condition that would also help provide for the species.
Long-eared myotis ( <i>Myotis evotis</i> )	The revised plan may impact individuals or habitat, but will not likely result in a trend toward federal listing or reduced viability for the population or species because plan components for terrestrial ecosystems vegetation and riparian zones will maintain foraging habitat, while plan components for caves and karst will preserve conditions for roosting and hibernacula, and minimize potential human-caused spread of white-nose syndrome. Plan components that retain snags and promote large and very large trees would maintain roosting habitat.
Long-legged myotis ( <i>Myotis Volans</i> )	The revised plan may impact individuals or habitat, but will not likely result in a trend toward federal listing or reduced viability for the population or species because plan components for terrestrial ecosystems vegetation and riparian zones will maintain foraging habitat, while plan components for caves and karst will preserve conditions for roosting and hibernacula, and minimize potential human-caused spread of white-nose syndrome. Plan components that retain snags and promote large and very large trees would maintain roosting habitat.
North American Wolverine ( <i>Gulo gulo luscus</i> )	The revised plan may impact individuals or habitat, but will not likely result in a trend toward federal listing or reduced viability for the population or species because the combination of designated wilderness, recommended wilderness, Idaho Roadless Rule areas, and winter recreation opportunity spectrum provides vast areas protected from activities that may alter habitat or cause disturbance.
Townsend's big-eared bat ( <i>Corynorhinus townsendii</i> )	The revised plan may impact individuals or habitat, but will not likely result in a trend toward federal listing or reduced viability for the population or species because plan components for terrestrial ecosystems vegetation and riparian zones will maintain foraging habitat, while plan components for caves and karst will preserve conditions for roosting and hibernacula, and minimize potential human-caused spread of white-nose syndrome.
Coeur D'Alene Salamander ( <i>Plethodon idahoensis</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because aquatic ecosystem components would maintain or restore riparian habitats, springs, and seeps used by this species.
Western toad ( <i>Bufo boreas</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because aquatic ecosystem components would maintain or restore aquatic and riparian habitats used by this species.

Species known or suspected to occur on the Nez Perce-Clearwater	Biological Determination and Rationale
Ring-necked snake ( <i>Diadophis punctatus</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem and aquatic ecosystem plan components would maintain or restore habitats used by this species. Plan components to retain coarse woody debris would retain hiding habitat for this species.
Western Pearshell Mussel ( <i>Margaritifera falcata</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend toward listing or reduced viability for the population or species because although several west coast states have reported enigmatic mass mortality events, the most recent Western pearlshell mussel surveys by the USFWS on Nez Perce-Clearwater reported some of the highest densities and numbers of Western pearlshell mussels ever reported in the literature. According to the most recent information, these mussels have secure populations on the Nez Perce-Clearwater. This could be due to protective land allocation afforded by wilderness and roadless designations, as well as the protective measures (PACFISH and INFISH) that exist under the current forest plans. Because the aquatic plan components carry forward the protections afforded by PACFISH and INFISH, it is expected that ecosystem plan components that are designed to protect water quality and habitat for other aquatic species will be sufficient to maintain or restore habitat and water quality for pearlshell. Because the types of actions that would be allowed under the new plan are not different between action alternatives, and because the difference between alternatives are primarily pace and scale, management under the preferred alternative is expected to have similar effects to mussels. As a result, it is expected that the revised Land Management Plan will continue to provide for the continued persistence of Western pearlshell mussel on Nez Perce-Clearwater National Forest.
Spring or Summer Chinook-Clearwater Basin ( <i>Oncorhynchus tshawytscha</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem and aquatic ecosystem plan components would maintain or restore habitats used by this species. Plan components to retain coarse woody debris are especially beneficial for this species. In addition, there is a fine filter plan component for this species.
Interior redband trout ( <i>Oncorhynchus mykiss gairdneri</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem and aquatic ecosystem plan components would maintain or restore habitats used by this species. In addition, this species is abundant on Nez Perce-Clearwater.
Westslope Cutthroat Trout ( <i>Oncorhynchus clarki lewisi</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem and aquatic ecosystem plan components would maintain or restore habitats used by this species. In addition, this species is common and abundant in the plan area.
Pacific Lamprey ( <i>Lampetra tridentata</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem and aquatic ecosystem plan components would maintain or restore habitats used by this species. There is a plan component specifically for this species. Habitat availability on Nez Perce-Clearwater is not limited to lamprey.
Maidenhair spleenwort ( <i>Asplenium trichomanes</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Payson's milkvetch ( <i>Astragalus paysonii</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species

Species known or suspected to occur on the Nez Perce-Clearwater	Biological Determination and Rationale
	because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Deerfern ( <i>Blechnum spicant</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Crenulate moonwort ( <i>Botrychium crenulatum</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Lance-leaf moonwort ( <i>Botrychium lanceolatum</i> var. <i>lanceolatum</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Slender moonwort ( <i>Botrychium lineare</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species. Species is not known to occur on Nez Perce-Clearwater.
Mingan moonwort ( <i>Botrychium minganense</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Mountain moonwort ( <i>Botrychium montanum</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Northern moonwort ( <i>Botrychium pinnatum</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Least moonwort ( <i>Botrychium simplex</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Bug-on-a-stick ( <i>Buxbaumia aphylla</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Green bug-on-a-stick ( <i>Buxbaumia viridis</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Broadfruit mariposa ( <i>Calochortus nitidus</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Contance's bittercress ( <i>Cardamine constancei</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.

EIS Appendix C: Wildlife Species and Habitat Summary

Species known or suspected to occur on the Nez Perce-Clearwater	Biological Determination and Rationale
Buxbaum's sedge ( <i>Carex buxbaumii</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Bristle-stalked sedge ( <i>Carex leptalea</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Many headed sedge ( <i>Carex sychnocephala</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Anderegg's cladonia ( <i>Cladonia andereggii</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species. Recent taxonomic work suggests the taxon is invalid.
Pacific dogwood ( <i>Cornus nuttallii</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species. There is a specific plan component for this species.
Clustered lady's slipper ( <i>Cypripedium fasciculatum</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Dasynotus ( <i>Dasynotus daubenmirei</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species. There is a specific plan component for this species.
Idaho douglasia ( <i>Douglasia idahoensis</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Giant helleborine ( <i>Epipactis gigantea</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Puzzling halimolobos ( <i>Halimolobos perplexa</i> var. <i>perplexa</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species. Recent taxonomic treatments do not recognize this variety.
Sticky goldenweed ( <i>Haplopappus hirtus</i> var. <i>sonchifolius</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species. There is a specific plan component for this species.
Light hookeria ( <i>Hookeria lucens</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem and aquatic plan components would maintain or restore habitats used by this species.

Species known or suspected to occur on the Nez Perce-Clearwater	Biological Determination and Rationale
Salmon-flowered desert-parsley ( <i>Lomatium salmoniflorum</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Chickweed monkeyflower ( <i>Mimulus alsinoides</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Spacious monkeyflower ( <i>Mimulus ampliatus</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Thin sepal monkeyflower ( <i>Mimulus hymenophyllus</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Gold-back fern ( <i>Pentagramma triangularis</i> var. <i>triangularis</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Sweet coltsfoot ( <i>Petasites frigidus</i> var. <i>palmatius</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Licorice fern ( <i>Polypodium glycyrrhiza</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Naked-stem rhizomnium ( <i>Rhizomnium nudum</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Mendocino sphagnum ( <i>Sphagnum mendocinum</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem and aquatic plan components would maintain or restore habitats used by this species.
Evergreen kittentail ( <i>Synthyris platycarpa</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Sierra wood-fern ( <i>Thelypteris nevadensis</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Short-style sticky tofieldia ( <i>Triantha occidentalis</i> ssp. <i>brevistyla</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Douglas clover ( <i>Trifolium douglasii</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species. There is a specific plan component for this species.

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Species known or suspected to occur on the Nez Perce-Clearwater	Biological Determination and Rationale
Plumed clover ( <i>Trifolium plumosum</i> var. <i>amplifolium</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.
Idaho barren strawberry ( <i>Waldsteinia idahoensis</i> )	The revised plan may impact individuals or habitat but will not likely result in a trend towards listing or reduced viability for the population or species because terrestrial ecosystem plan components would maintain or restore habitats used by this species.



## Literature Cited

Citations for species habitat descriptions in Table 1 are found in the project record in a spreadsheet titled Wildlife Appendix Spreadsheet.

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