

Appendix H Wildlife



This appendix provides background on the analysis of wildlife including detailed data from recovery plans, critical habitat for the northern spotted owl and marbled murrelet, management opportunities for special status animal species, and information about how the Partners-in-Flight focal landbird species relate to landbird habitat groups.

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Management Opportunities on BLM- Administered Lands in the Recovery Plans for the Columbia White-Tailed Deer and Marbled Murrelet.

Columbia White-Tailed Deer (Columbia River Population)

The focus of the recovery strategy is on the national wildlife refuge lands and surrounding privately owned lands. Nothing has been excerpted from the recovery plan.

Marbled Murrelet

Portions excerpted from *Recovery Plan For The Threatened Marbled Murrelet (Brachyramphus marmoratus) In Washington, Oregon, And California* (pages 125-160 in USFWS 1997).

D. Narrative Outline for Recovery Actions.

1. Implement management plans for each Marbled Murrelet Conservation Zone

1.3 Oregon Coast Range Zone (Zone 3).

The Oregon Coast Range Zone extends from the Columbia River, south to North Bend, Coos County, Oregon. This Zone includes waters within 2 kilometers (1.2 miles) of the Pacific Ocean shoreline and extends inland a distance of up to 56 kilometers (35 miles) from the Pacific Ocean shoreline and coincides with the “Zone 1” boundary line described by the Forest Ecosystem Management Assessment Team, with minor adjustments (U.S. Department of Agriculture *et al.* 1993). The boundary encompasses all of the marbled murrelet critical habitat units designated (the boundary extends slightly beyond 56 kilometers (35 miles) in certain areas.

This Zone includes the majority of known marbled murrelet occupied sites in Oregon. Marbled murrelet occupied sites along the western portion of the Tillamook State Forest are especially important to maintaining well distributed marbled murrelet populations. Efforts should focus on maintaining these occupied sites, minimizing the loss of unoccupied but suitable habitat, and decreasing the time for development of new habitat. Relatively few known occupied sites occur north of the Tillamook State Forest. Recovery efforts should be directed at restoring some of the north-south distribution of marbled murrelet populations and habitat in this Zone. Maintenance of suitable and occupied marbled murrelet nesting habitat in the Elliott State Forest, Tillamook State Forest, Siuslaw National Forest, and Bureau of Land Management- administered forests is an essential component for the stabilization and recovery of the marbled murrelet.

1.4 Siskiyou Coast Range Zone (Zone 4).

The Siskiyou Coast Range Zone extends from North Bend, Coos County, Oregon, south to the southern end of Humboldt County, California. It includes waters within 2 kilometers (1.2 miles) of the Pacific Ocean shoreline (including Humboldt and Arcata bays) and, in general, extends inland a distance of 56 kilometers (35 miles) from the Pacific Ocean shoreline and coincides with the “Zone 1” boundary line described by the Forest Ecosystem Management Assessment Team with minor adjustments (U.S. Department of Agriculture *et al.* 1993). The boundary encompasses all of



the marbled murrelet critical habitat units designated (the boundary extends slightly beyond 56 kilometers (35 miles) in certain areas.

This Zone includes the marbled murrelet population occupying sites in Redwood National Park and several state parks (Jedediah Smith, Del Norte, Prairie Creek, Grizzly Creek, and Humboldt) in California. In addition, this Zone includes nesting habitat on private lands in southern Humboldt County. Additional marbled murrelet nesting habitat occurs at lower elevations in western portions of the Smith River National Recreation Area. State policies regarding protection of marbled murrelet occupied sites on private lands differ in the Oregon and California portions of this Zone.

Recovery actions should be focused on preventing the loss of occupied nesting habitat, minimizing the loss of unoccupied but suitable habitat, and decreasing the time for development of new suitable habitat. Much marbled murrelet nesting habitat is found in state and national parks that receive considerable recreational use. The need to maintain high quality marbled murrelet terrestrial habitat should be considered in planning any modifications to state or national parks for recreational purposes. Both highway and campground construction, including picnic areas, parking lots, and visitors centers, could present threats to the marbled murrelet through loss of habitat, nest disturbance, and/or increasing potential predation from corvids associated with human activities such as Steller's jays and crows. Implementing appropriate garbage/trash disposal may help decrease potential predator populations in high human use areas such as county, state and national parks.

This Zone has large blocks of suitable habitat critical to the three-state marbled murrelet population recovery over the next 100 years. However, the amount of suitable habitat protected in parks is probably not sufficient by itself to guarantee long-term survival of marbled murrelets in this Zone. On the other hand, a considerable amount of habitat is preserved in parks such that survival may be more likely in this Zone than in several other Zones. Private lands at the southern end of this Zone are important for maintaining the current distribution of the species. There is already a considerable gap in distribution between this area and the central California population in Zone 6. Efforts should be implemented to, at a minimum, not expand the current distribution gap.

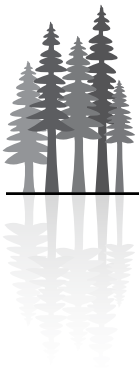
2. Delineate and protect areas of habitat within each Zone.

Areas within each Zone that are essential for marbled murrelet recovery should be delineated and protected, using a variety of means (e.g., designation as critical habitat, protection through Habitat Conservation Plans, management [as reserves] under the Forest Plan, other existing regulatory mechanisms, etc.).

2.1 Protect terrestrial habitat essential for marbled murrelet recovery.

There appears to be little opportunity for increases in marbled murrelet productivity as a result of forest maturation in the near future. Even under optimum conditions and with the successful use of various silvicultural techniques, it will take 50 to 100 years or more to develop new suitable nesting habitat within most reserve areas. Any further substantial reduction in occupied nesting habitat for the marbled murrelet would hamper efforts to stabilize the population and the recovery of the species.

Marbled murrelet population trends described above (also see Appendix B) have led the U.S. Fish and Wildlife Service to conclude that a number of areas, including nesting areas and feeding sites well-distributed throughout its terrestrial and marine range, are essential to the conservation of the species. Late-Successional Reserves, as described in the Forest Plan and the final rule designating critical habitat for marbled murrelets, will eventually contribute to recovery. However, these areas alone are insufficient to reverse the decline and maintain a well-distributed population. Thus, additional areas, including non-Federal lands and marine areas, should be protected using a variety of means including critical habitat, Habitat Conservation Plans, and other existing regulatory mechanisms as described below. If these areas are protected, there is a high likelihood that populations will stabilize.



2.2 Essential nesting habitats that occur on forest lands managed by the Federal government include:

- (1) Any suitable habitat in Late-Successional Reserves located in the Forest Ecosystem Management Assessment Team Zone 1 (see pages IV-23 and IV-24 in U.S. Department of Agriculture *et al.* 1993 for a description of Zone 1);
- (2) Other large areas of suitable nesting habitat outside of Late- Successional Reserves on Federal lands. For example, large areas of suitable nesting habitat occur on the Siskiyou National Forest, Oregon, the Six Rivers National Forest, California, and in Redwood National and State Park, California.

2.3 Develop and implement a landscape management strategy for each of the six Conservation Zones.

Although many of the factors that have contributed to the decline of marbled murrelet populations in the three-state area are common to all zones, each zone presents unique challenges to the recovery of the species. For example, mortality resulting from incidental capture in net fisheries is a major concern in Zone 1, mortality from oil spills is a major concern in Zones 2 and 6, and potential loss of key suitable nesting habitat on non-Federal lands is of major concern for all Zones. A landscape management plan that addresses the unique circumstances of each Zone should be developed, taking into consideration all affected parties (Federal, state, tribal, private, etc.).

2.3.1 Develop and implement management plans that incorporate the needs of the marbled murrelet for each protected habitat area on Federal lands.

Each protected habitat area within a particular Zone may have unique ecological features and exists in a unique spatial context with lands that may be managed for a variety of values. It is important that these unique characteristics be addressed in the context of a management plan for each of these areas, including the development of appropriate definitions of suitable marbled murrelet habitat for each Zone. In the development of these plans for each Zone, all managers should have an opportunity to be involved, regional issues must be considered, and recovery objectives must be addressed in a consistent manner throughout the range. In some cases, these management plans could be developed using information from the Late-Successional Reserve assessments called for in the Forest Plan Record of Decision.

Management plans should be based on the best available information on the biology and recovery needs of the marbled murrelet and should be able to adapt to new information as it becomes available. For example, a variety of management activities could decrease predation mortality at marbled murrelet nests (e.g., silvicultural practices designed to provide shelter to nest sites or to speed development of murrelet habitat; garbage removal from state and national parks). Efforts to reduce or eliminate these manmade food sources in state and national parks are currently being discussed. As successful strategies are developed to reduce predation at the nest, they should be incorporated into management plans for specific secured areas. An outline of specific management recommendations is provided in task 3.

3. Incorporate management recommendations for protected habitat areas.

Management recommendations for the marbled murrelet need to address two different biological time frames, which reflect (1) aspects of the murrelet's life history and demographic trends, and (2) the length of time required to develop the majority of new nesting habitat or improve current forest habitat conditions. Short-term actions must address the apparent rapid decline of current populations and the need for immediate stabilization. The ability of marbled murrelet populations to recover rapidly is low due to the low reproductive potential of the species. Long-term actions address the long time- frames required to cultivate



or enhance mature forest habitat conditions or to improve marine habitat quality because of the nature and complexity of these ecosystems. Little additional older forest habitat will become available until after 2040.

3.1 Implement short-term actions to stabilize and increase the population.

3.1.1 Maintain/protect occupied nesting habitat and minimize loss of unoccupied but suitable nesting habitat.

3.1.1.1 Maintain occupied nesting habitat.

The loss of occupied nesting habitat appears to be the primary cause of marbled murrelet population declines in Washington, Oregon, and California. The low reproductive potential of this species, and lack of knowledge concerning its ability to locate and reestablish new nesting areas after elimination of nesting habitat, makes it imperative to maintain all occupied nesting habitat, as is being done, for the most part, through implementation of the Forest Plan on Forest Service and Bureau of Land Management lands.

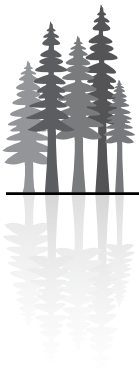
On non-Federal lands the maintenance of all occupied sites also should be the goal. However, it is realized that through the Habitat Conservation Plan process, there may be some limited loss of occupied sites or unsurveyed suitable habitat. In the short-term (the next 5 - 10 years), until additional information is obtained, loss of any occupied sites or unsurveyed suitable habitat should be avoided or the potential impacts significantly reduced through a habitat evaluation and ranking process outlined in the Habitat Conservation Plan.

Short term trade-offs for long-term benefits should be evaluated very carefully at this early stage of marbled murrelet recovery and should be done on a case-by-case basis.

3.1.1.2 Maintain potential and suitable habitat in larger contiguous blocks while maintaining current north/south and east/west distribution of nesting habitat.

By maintaining occupied sites and suitable habitat in larger blocks with low levels of fragmentation, several objectives will be met. Larger stands will (1) have more nesting and hiding opportunities, (2) provide for multiple alternative nesting sites for individual pairs of birds over time, (3) facilitate nesting for multiple pairs of birds (and thus promote increased social contact), and (4) provide greater interior forest habitat conditions (to reduce potential nest and adult predation, increase protection of nests from windstorms and environmental changes, and reduce loss of habitat from windthrow and fire). Larger stands also may provide a core of birds to attract or develop sufficient activity and eventual nesting by subadults or nonbreeding adult birds to replace breeding adults lost from this habitat over time due to natural causes or human activities. The more contiguous the habitat distribution, the lower the likelihood of future large gaps in distribution of the species due to catastrophic events such as oil spills or large wildfires. Preventing further erosion of the already patchily-distributed nesting habitat is a key element in buffering the species against such catastrophic events. This is especially important in areas where gaps already occur. Furthermore, it is currently unknown how nesting success differs with distance from the coast, and far inland habitats may be as important to species survival as those nearer to shore. Therefore, it is important to maintain both north/south and east/west distribution of suitable habitat.

3.1.1.3 Maintain and enhance buffer habitat surrounding occupied habitat.



Maintaining buffers around occupied habitat will mediate the effects of edge by helping to reduce environmental changes within the stand, reduce loss of habitat from windthrow and fire, reduce fragmentation levels, increase the amount of interior forest habitat available, and potentially help reduce predation at the nest. To have the greatest benefits, buffer widths should be a minimum of 300-600 feet and should consist of whatever age stand is present, including existing plantations (which should be managed to provide replacement).

3.1.3 Minimize nest disturbances to increase reproductive success.

Low juvenile:adult ratios have been documented throughout the three- state range of the marbled murrelet (Appendix B). Current evidence suggests that the cause of this low reproductive rate may be due to high rates of predation on eggs, young, and possibly adults at the nest site. Population modeling indicates that adjusted juvenile:adult ratios should be 15 - 22 percent at a minimum to result in stable or increasing populations. Current best estimates of unadjusted ratios average 5 percent (range 0.1 - 13.8 percent) and it is unlikely that adjustment will result in 4 - 10 times larger ratios. Breeding adult alcids in general are sensitive to nest site disturbance during the incubation period and the first few days of chick rearing. Disturbances near marbled murrelet nest sites that flush incubating or brooding adults from the nest site may expose adults and young to increased predation or accidental loss of eggs or nestlings by falling or being knocked out of nests. Human activities near nesting areas that result in an increase in the number of predators also could lead to a greater likelihood of nest predation. The timing of disturbances should be adjusted to avoid disruption of marbled murrelet activities, such as courtship, mating, and nesting. Human activities should be modified to reduce attraction of predators to specific forest areas although this action may not reduce actual predator numbers over wider areas. Higher-than normal predation levels are likely to occur in nesting habitat due to forest fragmentation and other causes in many cases.

3.2 Implement long-term actions to stop population decline and increase population growth.

3.2.1 Increase the amount and quality of suitable nesting habitat.

An increase in amount and quality of suitable nesting habitat is important in all zones. However, it is especially important in the western Washington Coast Range and the northern portions of the Oregon Coast Range Zones. In these areas, remaining patches of suitable nesting habitat are relatively small and fragmented, involve private and state lands, and are vitally important for maintaining the current small populations in these areas; thus, blocking up habitat is needed to increase patch size. It also would be desirable to increase and block up suitable nesting habitat in the Mendocino and Santa Cruz Mountains Zones. Little habitat remains outside parks in these two zones, such that an increase in the short term does not appear feasible.

3.2.1.1 Decrease fragmentation by increasing the size of suitable stands to provide a larger area of interior forest conditions.

The majority of suitable nest stands currently exist as small islands within a matrix of younger forests. Although these fragments will provide critically important habitat during the several decades required for younger stands to develop structural characteristics suitable for marbled murrelet nesting, they cannot be considered high quality habitat because of vulnerability to wildfire and windthrow, and perhaps a higher abundance of avian predators. Research is needed to develop judicious ways to use silvicultural techniques such as thinning in young (nonhabitat) stands to hasten development of large trees and decrease vulnerability of habitat fragments to fire,



wind, and perhaps predators. Consistent with the Forest Plan Record of Decision, thinning within Late-Successional Reserves should be restricted to stands younger than 80 years. However, the Record of Decision also permits thinning within Late-Successional Reserves up to age 110 in Coast Range lands administered by the Bureau of Land Management (Nestucca block) and in the Oregon and California Klamath Provinces (U.S. Department of Agriculture and U.S. Fish and Wildlife Service 1994b). Unthinned buffers should be left around any occupied stands. Precautions should be taken to reduce fire hazard from thinning slash and avoid soil compaction.

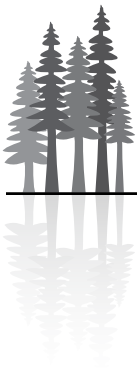
3.2.1.2 Protect “recruitment” nesting habitat to buffer and enlarge existing stands, reduce fragmentation, and provide replacement habitat for current suitable nesting habitat lost to disturbance events.

Stands (currently 80 years old or older) that will produce suitable habitat within the next few decades are the most immediate source of new habitat and may be the only replacement for existing habitat lost to disturbance (e.g., timber harvest, fires, etc.) over the next century. Such stands are particularly important because of the vulnerability of many existing habitat fragments to fire and wind and the possibility that climate change will increase the effects of the frequency and severity of natural disturbances. Such stands should not be subjected to any silvicultural treatment that diminishes their capacity to provide quality nesting habitat in the future. Within secured areas, these “recruitment” stands should not be harvested or thinned. In the matrix (on Federal lands), harvest in younger-aged stands should adhere to the techniques discussed in the following task (3.2.1.3) to more quickly develop into marbled murrelet habitat.

3.2.1.3 Use silvicultural techniques to increase speed of development of new habitat.

Nesting marbled murrelets select stands with large trees that provide suitable nesting platforms (large, protected branches, preferably with moss). When available, large stands appear to be preferred over small ones. Nests have been located in stands with a wide range of stocking densities, however the low rate of nesting success raises considerable uncertainty regarding what constitutes quality habitat. It is expected that since marbled murrelets require very specific structures in order to successfully nest, silvicultural techniques may be available to speed the development of these structures in stands of younger forest.

Several silvicultural techniques may be appropriate to increase the area of suitable nesting stands and the rate at which they develop (e.g., thinning, long rotations, etc.). Thinning accelerates tree growth and can be used as a tool to produce large trees more quickly than in normal stand development. However, simply growing large trees is not sufficient to obtain suitable marbled murrelet habitat. Trees must have large moss-covered, or mistletoed branches that provide nest platforms, something that is likely to be achieved only by growing at least some trees on long rotations. There are two alternatives for doing that (1) “Green-tree retention” designates approximately 20 - 40 trees per hectare to be retained at harvest, with a new crop of younger trees established beneath the older tree canopy. Leaving trees on site and allowing them to grow to an older age will likely produce marbled murrelet nest trees and eventually produce coarse woody debris (important habitat for numerous other species). As younger trees mature, a multilayered canopy develops, which is also an important structural attribute of older forest habitat; and (2) evidence available at this time indicates that growing whole stands on long rotations will produce higher quality habitat in the long-term than green tree retention, which may create sink habitat for a number of bird species. Long rotations have other ecological and economic benefits as well. Landscapes with a higher proportion of older stands should



be less susceptible to catastrophic wildfire (providing reduced hazard from thinning slash). Because thinned Douglas-fir maintains good growth well into its second century, silviculturists now conclude that long rotations are economically viable in the Douglas-fir region.

3.2.2 Improve Distribution of Nesting Habitat.

3.2.2.1 Improve and develop north/south distribution of nesting habitat. Improving the distribution of nesting habitat helps to buffer existing populations against poor breeding success and catastrophic loss and probably facilitates gene flow among separated populations. Three major gaps in existing habitat are particularly apparent: (1) from the southern Olympic Peninsula in Washington to Tillamook in northwestern Oregon; (2) between Patrick's Point and southern Humboldt Bay in northern California (see Figure 1); and (3) throughout most of the Mendocino Zone and the northern part of the Santa Cruz Mountains Zone (between southern Humboldt County and central San Mateo County). These three geographic gaps represent probable partial barriers to gene flow across them. They include large areas of second-growth forests that originated after logging, from fire (parts of northwestern Oregon), or from natural discontinuities of nesting habitat (especially parts of northern and central California). Gap areas often have a high proportion of private lands and little or no Federal land. State lands cover significant portions of northwest Oregon (the Tillamook and Clatsop State Forests) and southwest Washington. Silvicultural techniques to create suitable habitat at both the stand and landscape level (discussed in task 3.2.1.3) may be particularly beneficial to marbled murrelet recovery in the long term if applied in these areas. Portions of the Mendocino Zone and Santa Cruz Mountains Zone also contain blocks of unsuitable habitat that probably naturally created small gaps in the murrelet's terrestrial range. Again, loss of suitable habitat around these small natural gaps has greatly widened them. These gaps have probably grown together and eliminated suitable nesting habitat over a large section of their range. The existence of small natural gaps in suitable habitat must be recognized when designing ways to improve and develop north/south distribution of nesting habitat.

3.2.2.2 Improve and develop east/west distribution of nesting habitat. Improving east-west distribution means filling in habitat gaps within the Conservation Zone boundaries described earlier. Many portions of the species range no longer have large amounts of suitable nesting habitat close to the coast and marbled murrelets must fly considerable distances inland to nest. In addition to the north-south gaps discussed above, opportunities exist on the Olympic Peninsula, Puget trough, and along virtually the entire California coast within the murrelet's range to improve the current east/west distribution of habitat. An important step in developing methods to improve this distribution will be the complete identification of the inland boundary of suitable nesting habitat for the three-state area and identification of factors determining these boundaries in different regions.

Management Opportunities on BLM-Administered Lands for Special Status Species

The BLM is a partner in the following agreements that would further the conservation of special status species:

Memorandum of Understanding among the Tillamook Resource Area, Bureau of Land Management, Other Partners in the Tillamook Native Plant Cooperative, Other Watershed Councils in the Tillamook Resource Area and Horning Seed Orchard. (BLM-MOU-OR080-2002-02)

**Partners:**

Tillamook Resource Area, Salem BLM
Horning Seed Orchard, Salem BLM
Lower and Upper Nehalem Watershed Councils
Nestucca/Neskowin Watersheds Council
Oregon Youth Authority (Camp Tillamook)
Scappoose Bay Watershed Council
Tillamook Bay Watershed Council
Tillamook County Soil and Water Conservation District
Tillamook Estuaries Partnership
Tualatin River Watershed Council
Yamhill Basin Council

Description:

The primary objective of the partnership is to promote healthy forest/riparian ecosystem conditions throughout the Tillamook Resource Area by collecting and growing native plant seeds and cuttings to develop into large planting stock better able to withstand competition and depredation for management plans and restoration activities on lands administered by BLM and on lands of interest by the various watershed and bay area councils.

Species Benefited:

Chinook salmon
Coho salmon
Steelhead
Chum salmon
Coastal cutthroat trout

Memorandum Of Understanding Bureau Of Land Management Roseburg Resources Company And Oregon Department Of Fish And Wildlife (OR 090-07-02)

For cooperation in the enhancement, restoration, and maintenance of anadromous fish habitat in locations with intermingled land ownership in the Siuslaw River Basin

Memorandum Of Understanding Bureau Of Land Management, Eugene District And Davis Hoveland (OR 090-07-03)

Objective: Integrated pest management and vegetative control in Tyrrell Seed Orchard using grazing.

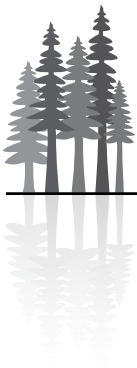
Assistance Agreement: Haa031p00. Bureau Of Land Management, Eugene District and the Siuslaw Watershed Council

Objective: Help the SWC with monitoring, restoration and education efforts to improve watershed health in the Siuslaw Basin. Oct. 1, 2008 (end). Agreement will likely be revisited.

McKenzie River Habitat Restoration Environmental Assessment Bureau of Land Management, Eugene District (OR 090-EA-05-01)

Objective: Provides for funding and technical expertise to improve the quality and quantity of aquatic habitats on private lands within the McKenzie basin.

USDI Coos Bay BLM. 2005. Memorandum of Understanding between Siuslaw National Forest, Coos Bay BLM, US Fish and Wildlife Service Oregon and Washington Office, Washington Department of Fish and Wildlife, Washington State Parks and Recreation Commission, Oregon Department of Fish and Wildlife, Oregon Parks and Recreation Department, USDA Animal and Plant Health Inspection Service, Oregon State University - Oregon Institute for Natural Resources. BLM Agreement No. OR120-02005-02. On file at Coos Bay BLM, North Bend, Oregon.



Agreement with various agencies that provides a framework for cooperation of mutual goals among participating state and federal land management agencies, research and regulatory agencies for conservation and recovery of the western snowy plover Pacific Coast population.

USDI Coos Bay BLM. 2003. Cooperative Management Agreement between Coos Bay BLM, Curry County and Oregon Parks and Recreation Department. On file at Coos Bay BLM, North Bend, OR.

The purpose of this Cooperative Management Agreement (CMA) is to allow BLM, County and OPRD to enter into a partnership to collaborate in management of the western snowy plover and responsible public use of the Floras Lake portion of the New River Area of Critical Environmental Concern.

Siskiyou Mountains Salamander Conservation Strategy

This Conservation Strategy describes the management actions necessary to manage for this species to maintain well-distributed populations across the known range of the species on federal lands administered by Forest Service Region 6, Rogue River-Siskiyou National Forest, Siskiyou Mountains Ranger District, and the Oregon Bureau of Land Management, Medford District, Ashland Resource Area, in the northern portion of its range, the Applegate River 4th field watershed, and to avoid a trend towards listing under the Endangered Species Act.

Jackson Cooperative Travel Management Area Conservation Agreement with ODFW

This Conservation Agreement provides secure seasonal habitat for wintering big game in selected areas through the “green dot” program.

Northern Spotted Owl Critical Habitat

Section 7(a)(2) of the Endangered Species Act of 1973, as amended, prohibits the BLM from any action that would “result in the destruction or adverse modification” of designated critical habitat. 50 CFR §402.02 defines destruction or adverse modification as: “a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. Such alterations include, but are not limited to, alternations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical.” The U.S. Fish and Wildlife Service evaluates potential effects to critical habitat at scales that range from the physiographic province to the area of the proposed project.

The No Action Alternative and Alternatives 1, 2 and 3 were developed before the most recent designation of northern spotted owl critical habitat in the planning area (USFWS 2008b). As a result, those alternatives contain no specific provisions to avoid the destruction or adverse modification of at least some recently-designated critical habitat; and therefore each of those alternatives would include actions that would be likely to appreciably diminish the value of some critical habitat.

The BLM developed the land use allocations of the PRMP in conjunction with the U.S. Fish and Wildlife Service’s development of the *Final Recovery Plan for the Northern Spotted Owl* (USFWS 2008a), on which the current northern spotted owl Critical Habitat Units (Critical Habitat Units) were based. As a result, all northern spotted owl Critical Habitat Units on BLM-administered lands within the planning area would be in the nonharvest land base under the PRMP. The northern spotted owl Critical Habitat Units overlap, to a substantial degree, the late-successional management areas allocated under the PRMP, which would be managed with practices that would enhance the value of critical habitat for the survival and recovery of the northern spotted owl.



The acreage of suitable habitat and dispersal habitat on BLM-administered lands within Critical Habitat Units would increase in each decade under the PRMP (Table H-1). Under the PRMP between 2006 and 2106, the acreage of suitable habitat in Critical Habitat Units would increase by 74.2% and the acreage of dispersal habitat in Critical Habitat Units would increase by 10.2%. The No Harvest reference analysis indicates that the development of suitable and dispersal habitat within the Critical Habitat Units under the PRMP would be substantially similar to that which would occur if there were no active management. The differences in habitat development between the PRMP and the No Harvest reference analysis are due to thinning and other stand treatments that would occur under the PRMP to improve habitat conditions or reduce wildfire risk within the nonharvest land base. These treatments are not part of the analytical assumptions in the No Harvest reference analysis.

Table H-1 shows the changes in the acres of suitable and dispersal habitats within northern spotted owl Critical Habitat Units on BLM-administered lands within the planning area under the PRMP and the No Harvest reference analysis. The acres of dispersal habitat include acres of suitable habitat.

TABLE H-1. ACRES OF SUITABLE AND DISPERSAL HABITATS WITHIN NORTHERN SPOTTED OWL CRITICAL HABITAT UNITS ON BLM-ADMINISTERED LANDS WITHIN THE PLANNING AREA UNDER THE PRMP AND THE NO HARVEST REFERENCE ANALYSIS

		Year						
		2006	2016	2026	2036	2046	2056	2106
Suitable Habitat								
	PRMP	361,330	380,411	402,120	435,455	473,862	520,899	641,834
	No Harvest analysis	362,300	385,700	417,600	460,800	498,000	541,000	643,300
Dispersal Habitat								
	PRMP	585,052	621,415	636,323	641,198	644,562	646,332	647,123
	No Harvest analysis	587,200	624,800	639,900	645,300	648,900	649,100	649,900



Marbled Murrelet Critical Habitat

There are 24 marbled murrelet critical habitat units that include BLM administered lands. Critical habitat was designated by the U.S. Fish and Wildlife Service in 1996 to encompass existing Late-successional Reserves, as defined in the Northwest Forest Plan. A proposed rule that revises designated critical habitat was published on July 31, 2008 (Federal Register, 2008b). The proposal removes approximately 250,000 acres of critical habitat in northern California and Oregon based on new information indicating these areas do not meet the definition of critical habitat.

Until the new rule is final, critical habitat remains as designated in 1996; therefore, the following analysis is based on the 1996 designation. The critical habitat units with BLM-administered lands in the planning area that would be affected by critical habitat designation under the proposed rule are noted in the table below.

Critical habitat units would be managed as late-successional reserves under the No Action Alternative and as late-successional management areas under Alternative 1. By 2106 under the No Action Alternative and Alternative 1, BLM administered lands in 13 and 11 of 24 critical habitat units would be comprised of more than 90 percent murrelet nesting habitat. It is assumed in this analysis that the marbled murrelet critical habitat which is designated as late-successional reserves on U.S. Forest Service lands would follow similar trends to those exhibited by habitat on BLM administered lands under the No Action Alternative and Alternative 1.

Marbled murrelet nesting habitat would increase under Alternative 2 from 218,000 acres to 287,000 acres, or from 47 to 63 percent of habitat capable forest in critical habitat units. The late-successional management areas under Alternative 2 would not completely encompass marbled murrelet critical habitat and as a result 3 of 24 critical habitat units would contain greater than 90 percent nesting habitat by 2106, compared to 13 critical habitat units under the No Action Alternative. Marbled murrelet nesting habitat would increase 10 percent, or more, in four critical habitat units from 2006 to 2016 while 11 critical habitat units would decrease in habitat during this time period. Nine of these 15 units would decrease in habitat more than 10 percent. Nesting habitat would decrease between 2006 and 2026 in 16 critical habitat units. Eleven of these 16 critical habitat units would decrease more than 10 percent. From 2006 to 2106, marbled murrelet nesting habitat would increase in 13 critical habitat units. Twelve of these 13 critical habitat units would increase in habitat more than 10 percent. Murrelet nesting habitat would decrease in 11 critical habitat units, 9 of these units would decrease more than 10 percent.

Marbled murrelet nesting habitat would increase under Alternative 3 from 217,000 acres to 269,000 acres, or from 47 to 59 percent of habitat-capable forest on BLM administered lands.

Under Alternative 3, with the exception of Congressionally-withdrawn lands and riparian management areas, almost all marbled murrelet critical habitat units would be subject to regeneration harvests and partial harvests that would remove marbled murrelet nesting habitat. Under Alternative 3, there would be 2 of 24 critical habitat units which would contain greater than 90 percent nesting habitat by 2106, compared to 13 units under the No Action Alternative and 11 units under Alternative 1 and 3 units under Alternative 2. Under Alternative 3, marbled murrelet nesting habitat would increase more than 10 percent in 3 critical habitat units from 2006 to 2106 while habitat would decrease in 9 critical habitat units in the first decade. Six of these 9 units would decrease more than 10 percent. Nesting habitat would decrease between 2006 and 2026 in 11 critical habitat units. Eight of these 11 units would decrease more than 10 percent. From 2006 to 2106, marbled murrelet nesting habitat would increase in 18 critical habitat units, in 12 of these units habitat would increase more than 10 percent, while habitat would decrease in 6 critical habitat units, habitat would decrease more than 10 percent in four of those size units. Although Alternative 3 opens almost all of the critical habitat units to vegetative management compared to Alternative 2, retention tree requirements in both the partial and regeneration harvests provide for much more rapid redevelopment of murrelet nesting habitat. Murrelet nesting habitat would develop up to 70 years sooner in Alternative 3 compared to Alternative 2, because of the role of retention trees in habitat development.

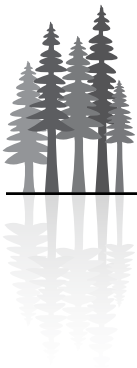


Marbled murrelet nesting habitat would increase under the PRMP from 217,000 acres to 363,000 acres, or from 47 to 82 percent of habitat-capable forest on BLM administered lands.

Twenty-one percent of marbled murrelet critical habitat units are protected in either LSMAs or Congressional Reserves under the PRMP. Under the PRMP, there would be 10 of 24 critical habitat units which would contain greater than 90 percent nesting habitat by 2106, compared to 13 units under the No Action Alternative and 11 units under Alternative 1 and 3 units under Alternative 2. Under the PRMP, marbled murrelet nesting habitat would increase more than 10 percent in 5 critical habitat units from 2006 to 2016 while habitat would decrease in 4 critical habitat units in the first decade. One of these 4 units would decrease more than 10 percent. Nesting habitat would decrease between 2006 and 2026 in 4 critical habitat units. Two of these 4 units would decrease more than 10 percent. From 2006 to 2106, marbled murrelet nesting habitat would increase in 23 critical habitat units, in 21 of these units habitat would increase more than 10 percent, while habitat would decrease less than 10 percent in 1 critical habitat unit.

TABLE H-2. THE ALTERNATIVES AND MARBLED MURRELET CRITICAL HABITAT

Critical Habitat Sub-Unit	Alternative	Marbled Murrelet Habitat (% of habitat-capable)				
		2006	2016	2026	2056	2106
OR-01-c	Alt 1	62	68	68	71	79
	Alt 2	62	60	55	41	43
	Alt 3	62	66	62	43	62
	No Action	62	68	68	71	73
	PRMP	64	69	70	72	93
OR-02-c	Alt 1	27	38	44	54	78
	Alt 2	27	28	34	38	61
	Alt 3	27	29	27	16	31
	No Action	27	38	44	54	60
	PRMP	29	31	41	51	82
OR-02-d	Alt 1	19	23	26	35	92
	Alt 2	19	25	28	43	91
	Alt 3	19	27	29	41	69
	No Action	19	27	32	56	91
	PRMP	19	25	27	38	96
OR-02-e	Alt 1	36	43	46	52	90
	Alt 2	36	40	43	48	82
	Alt 3	36	38	36	25	48
	No Action	36	43	46	52	79
	PRMP	36	42	45	52	94
OR-03-c*	Alt 1	37	47	45	49	93
	Alt 2	37	42	41	48	80
	Alt 3	37	42	43	37	61
	No Action	37	47	47	59	88
	PRMP	42	48	48	55	95
OR-04-a	Alt 1	55	56	57	62	90
	Alt 2	55	51	51	47	53
	Alt 3	55	48	47	23	41
	No Action	55	56	57	62	80
	PRMP	55	55	55	61	72
OR-04-b	Alt 1	83	89	99	99	100
	Alt 2	83	89	99	99	99
	Alt 3	83	89	99	67	99
	No Action	83	89	99	99	99
	PRMP	83	89	97	94	91



Critical Habitat Sub-Unit	Alternative	Marbled Murrelet Habitat (% of habitat-capable)				
		2006	2016	2026	2056	2106
OR-04-c	Alt 1	56	57	57	58	90
	Alt 2	56	56	56	56	82
	Alt 3	56	50	48	41	51
	No Action	56	57	57	58	83
	PRMP	53	53	53	60	89
OR-04-d	Alt 1	54	55	56	56	87
	Alt 2	54	39	33	20	28
	Alt 3	54	54	56	55	53
	No Action	54	55	56	57	82
	PRMP	54	55	57	58	90
OR-04-e*	Alt 1	53	54	55	59	93
	Alt 2	53	53	52	54	85
	Alt 3	53	49	42	35	60
	No Action	53	54	55	59	93
	PRMP	53	54	54	58	93
OR-04-f*	Alt 1	60	61	65	67	87
	Alt 2	60	47	39	16	17
	Alt 3	60	55	46	26	66
	No Action	60	61	65	68	92
	PRMP	62	55	48	43	56
OR-04-g*	Alt 1	48	47	47	48	83
	Alt 2	48	46	42	22	26
	Alt 3	48	41	32	22	55
	No Action	48	46	47	51	82
	PRMP	48	46	46	47	78
OR-04-i*	Alt 1	43	48	51	58	89
	Alt 2	43	43	43	41	59
	Alt 3	43	43	41	38	64
	No Action	43	48	52	62	88
	PRMP	45	48	46	47	62
OR-04-j*	Alt 1	44	49	52	57	92
	Alt 2	44	42	42	37	45
	Alt 3	44	45	43	36	60
	No Action	44	49	53	59	90
	PRMP	45	48	49	55	79
OR-04-k	Alt 1	52	56	59	63	91
	Alt 2	52	55	58	61	84
	Alt 3	52	53	52	33	55
	No Action	52	56	60	65	86
	PRMP	52	56	59	62	94
OR-06-a	Alt 1	67	67	67	67	94
	Alt 2	67	17	17	17	19
	Alt 3	67	11	11	11	67
	No Action	67	67	67	67	94
	PRMP	69	69	69	69	95
OR-06-b	Alt 1	52	55	57	60	88
	Alt 2	52	54	56	55	77
	Alt 3	52	54	53	52	45
	No Action	52	55	58	61	85
	PRMP	52	54	56	63	88



Critical Habitat Sub-Unit	Alternative	Marbled Murrelet Habitat (% of habitat-capable)				
		2006	2016	2026	2056	2106
OR-06-c	Alt 1	76	74	75	77	96
	Alt 2	76	33	27	26	33
	Alt 3	76	64	53	41	79
	No Action	76	76	76	77	95
	PRMP	76	74	74	74	82
OR-06-d*	Alt 1	52	52	53	60	96
	Alt 2	52	40	31	19	22
	Alt 3	52	39	31	24	55
	No Action	52	52	53	61	95
	PRMP	49	46	43	46	64
OR-07-a	Alt 1	62	52	52	74	90
	Alt 2	62	42	32	30	32
	Alt 3	62	65	67	39	54
	No Action	62	51	54	76	89
	PRMP	48	49	50	65	73
OR-07-b	Alt 1	49	60	60	94	94
	Alt 2	49	60	60	100	100
	Alt 3	49	60	60	100	100
	No Action	49	66	66	100	100
	PRMP	47	62	62	100	100
OR-07-d*	Alt 1	45	45	47	65	94
	Alt 2	45	28	24	55	80
	Alt 3	45	45	47	59	85
	No Action	45	45	48	67	95
	PRMP	46	46	48	66	71
OR-07-f*	Alt 1	55	61	62	71	95
	Alt 2	55	42	38	44	47
	Alt 3	55	55	50	47	68
	No Action	55	73	75	86	96
	PRMP	58	62	61	68	81
OR-07-g	Alt 1	47	52	52	53	70
	Alt 2	47	40	22	18	19
	Alt 3	47	50	48	60	40
	No Action	47	52	52	52	73
	PRMP	47	52	52	52	62

* The critical habitat units affected by the proposed rule (July 31, 2008) for revision of critical habitat.

Special Status Animal Species

The following table (H-3) shows the Bureau Special Status Animal Species in the planning area by their occurrence on districts and generalized association with habitat type and structural stage.

TABLE H-3. DOCUMENTED AND SUSPECTED OCCURRENCE OF BUREAU SPECIAL STATUS ANIMAL SPECIES (AS OF DECEMBER 2007) WITHIN THE PLANNING AREA

Scientific Name	Common Name	BLM Status ¹	District Occurrence ²						Habitat Type ³						Structural Stage ³				Noncommercial Areas ⁴
			Coos Bay	Eugene	Klamath Falls	Medford	Roseburg	Salem	Westside Forest Habitat	Eastside Management Land Habitat	Non-forest Habitat	Riparian Habitat	Forest Floor Habitat	Structurally Complex	Mature	Young	Stand Establishment		
Amphibians and Reptiles																			
<i>Actinemy marmorata marmorata</i>	Northwestern Pond Turtle	SEN	D	D	D	D	D	S			X						X		
<i>Aneides flavipunctatus</i>	Black Salamander	SEN				D			X					X	X				
<i>Ascaphus montanus</i>	Inland Tailed Frog	SEN		S					X		X			X	X				
<i>Batrachoseps attenuatus</i>	California Slender Salamander	SEN	D								X			X	X				
<i>Batrachoseps wrightorum</i>	Oregon Slender Salamander	SEN		D				D	X		X			X	X				
<i>Chrysemys picta</i>	Painted Turtle	SEN	S					S									X		
<i>Dicamptodon copei</i>	Cope's Giant Salamander	SEN						D			X			X	X				
<i>Plethodon stormi</i>	Siskiyou Mountains Salamander	SEN				D			X		X			X	X		X		
<i>Rana boylei</i>	Foothill Yellow-Legged Frog	SEN	D	D	S	D	D	S					X				X		
<i>Rana pretiosa</i>	Oregon Spotted Frog	SEN			D	D					X						X		
Birds																			
<i>Pelecanus occidentalis californicus</i>	California Brown Pelican	FE	D	S									X				X		
<i>Brachyramphus marmoratus</i>	Marbled Murrelet	FT	D	D		S	D	D						X					
<i>Charadrius alexandrinus (nivosus)</i>	Western Snowy Plover (Pacific Coast Population)	FT	D										X				X		
<i>Strix occidentalis caurina</i>	Northern Spotted Owl	FT	D	D	D	D	D	D						X	X				
<i>Agelaius tricolor</i>	Tricolored Blackbird	SEN			D	D							X				X		
<i>Ammodramus savannarum</i>	Grasshopper Sparrow	SEN		D					X								X		
<i>Bartramia longicauda</i>	Upland Sandpiper	SEN	D										X		X		X		
<i>Brantha canadensis occidentalis</i>	Dusky Canada Goose	SEN	S	D							X						X		
<i>Brantha hutchinsii leucopareia</i>	Aleutian Canada Goose	SEN	D	S							X						X		
<i>Bucephala albeola</i>	Bufflehead	SEN	D		D								X				X		
<i>Centrocercus urophasianus</i>	Greater Sage-Grouse	SEN		D		D					X						X		
<i>Coturnicops moveboracensis</i>	Yellow Rail	SEN			D								X				X		
<i>Cygnus buccinator</i>	Trumpeter Swan	SEN	S		S								X				X		





Scientific Name	Common Name	BLM Status ¹	District Occurrence ²						Habitat Type ³					Structural Stage ³				
			Coos Bay	Eugene	Klamath Falls	Medford	Roseburg	Salem	Westside Forest Habitat	Eastside Management Land Habitat	Non-forest Habitat	Riparian Habitat	Forest Floor Habitat	Structurally Complex	Mature	Young	Stand Establishment	Noncommercial Areas ⁴
<i>Cypseloides niger</i>	Black Swift	SEN	S														X	
<i>Dolichonyx oryzivorus</i>	Bobolink	SEN	D														X	
<i>Egretta thula</i>	Snowy Egret	SEN	D														X	
<i>Elanus leucurus</i>	White-Tailed Kite	SEN	D	D	D												X	
<i>Eremophila alpestris strigata</i>	Streaked Horned Lark	SEN	D	S													X	
<i>Falco peregrinus anatum</i>	American Peregrine Falcon	SEN	D	D	D	D	D										X	
<i>Fratercula cirrhata</i>	Tufted Puffin	SEN	S														X	
<i>Haliaeetus leucocephalus</i>	Bald Eagle	SEN	D	D	D	D	D										X	
<i>Histrionicus histrionicus</i>	Harlequin Duck	SEN	D	D													X	
<i>Larus pipixcan</i>	Franklin's Gull	SEN	D	D													X	
<i>Melanerpes lewis</i>	Lewis' Woodpecker	SEN	D	D	D	D	D										X	
<i>Pelecanus erythrorhynchos</i>	American White Pelican	SEN															X	
<i>Picoides albolarvatus</i>	White-Headed Woodpecker	SEN															X	
<i>Podiceps auritus</i>	Horned Grebe	SEN	D	S													X	
<i>Podiceps grisegena</i>	Red-Necked Grebe	SEN	D	S													X	
<i>Poocetes gramineus affinis</i>	Oregon Vesper Sparrow	SEN	D	D	D	D	S	D	S	D	X					X		
<i>Progne subis</i>	Purple Martin	SEN	D	D													X	
Invertebrates																		
<i>Plebejus icarioides fenderi</i>	Fender's Blue Butterfly	FE		D													X	
<i>Branchinecta lynchi</i>	Vernal Pool Fairy Shrimp	FT					D										X	
<i>Algamorda newcombiana</i>	Newcomb's Littorine Snail	SEN	D														X	
<i>Allomyia scotti</i>	Scott's Apataman Caddisfly	SEN						S									X	
<i>Bombus franklini</i>	Franklin's Bumblebee	SEN		S													X	
<i>Callophrys johnsoni</i>	Johnson's Hairstreak	SEN	S	S	D												X	
<i>Callophrys polios maritima</i>	Hoary Elfin	SEN	S	S													X	
<i>Chioeatis aspasma</i>	Siskiyou Short-Horned Grasshopper	SEN		S	D												X	
<i>Cicindela hirticollis siuslawensis</i>	Siustlaw Sand Tiger Beetle	SEN	S														X	
<i>Colligyrus Sp. Nov. 1</i>	Columbia Dusksnail	SEN															X	
<i>Cryptomastix devia</i>	Puget Oregonian	SEN															X	
<i>Deroceras hesperium</i>	Evening Fieldslug	SEN		S	D	S											X	



Scientific Name	Common Name	BLM Status ¹	District Occurrence ²						Habitat Type ³					Structural Stage ³			
			Coos Bay	Eugene	Klamath Falls	Medford	Roseburg	Salem	Westside Forest Habitat	Eastside Management Land Habitat	Non-forest Habitat	Riparian Habitat	Forest Floor Habitat	Structurally Complex	Mature	Young	Stand Establishment
<i>Euphydryas editha taylori</i>	Taylor's Checkerspot	SEN		S													X
<i>Fluminicola</i> Sp. Nov. 11	Nerite Pebblesnail	SEN			S	D											
<i>Fluminicola</i> Sp. Nov. 3	Klamath Rim Pebblesnail	SEN			D												
<i>Gilabates oregonius</i>	Salamander Slug	SEN	S	S													
<i>Gonidea angulata</i>	Western Ridged Mussel	SEN					D	S									X
<i>Helisoma newberryi newberryi</i>	Great Basin Ramshorn	SEN															X
<i>Helminthoglypta hertelini</i>	Oregon Shoulderband	SEN	S			D	D										X
<i>Hemphillia glandulosa</i>	Warty Jumping-Slug	SEN															
<i>Hesperarion mariae</i>	Tillamook Westernslug	SEN	S	D													
<i>Lanx klamathensis</i>	Scale Lanx	SEN							D	S							
<i>Lanx subrotunda</i>	Rotund Lanx	SEN	S														X
<i>Lygus oregonae</i>	Oregon Plant Bug	SEN		S													X
<i>Monadenia chaceana</i>	Chase Sideband	SEN				D	D										
<i>Monadenia fidelis beryllica</i>	Green Sideband	SEN	S				D										
<i>Monadenia fidelis celeuthia</i>	Traveling Sideband	SEN															
<i>Monadenia fidelis</i> Ssp. Nov.	Modoc Rim Sideband	SEN								D							
<i>Ochlodes yuma</i>	Yuma Skipper	SEN								S							X
<i>Pisidium ultramontanum</i>	Montane Peaclam	SEN									S						
<i>Plebejus saepiolus littoralis</i>	Insular Blue Butterfly	SEN	D														X
<i>Polites mardon</i>	Mardon Skipper	SEN	S	S													X
<i>Pomatopsis binneyi</i>	Robust Walker	SEN	S														
<i>Pomatopsis californica</i>	Pacific Walker	SEN	S								S						
<i>Pristioma arcticum crateris</i>	Crater Lake Tightcoil	SEN															
<i>Pristioma pilsbryi</i>	Crowned Tightcoil	SEN															
<i>Prophysaon vanattaee pardalis</i>	Spotted Tail-Dropper	SEN	D	S													
<i>Pterostichus rothi</i>	Roth's Blind Ground Beetle	SEN		S													
<i>Rhyacophila chandleri</i>	A Caddisfly	SEN	S														
<i>Rhyacophila haddocki</i>	Haddock's Rhyacophilan Caddisfly	SEN															
<i>Saldula villosa</i>	Hairy Shore Bug	SEN	D														X
<i>Speyeria coronis coronis</i>	Coronis Fritillary	SEN															X
<i>Vespericola sierranus</i>	Siskiyou Hesperian	SEN															X



Scientific Name	Common Name	BLM Status ¹	District Occurrence ²						Habitat Type ³					Structural Stage ³				Noncommercial Areas ⁴
			Coos Bay	Eugene	Klamath Falls	Medford	Roseburg	Salem	Westside Forest Habitat	Eastside Management Land Habitat	Non-forest Habitat	Riparian Habitat	Forest Floor Habitat	Structurally Complex	Mature	Young	Stand Establishment	
Mammals																		
<i>Balaenoptera musculus</i>	Blue Whale	FE	S														X	
<i>Eschrichtius robustus</i>	Gray Whale	FE	S														X	
<i>Megaptera novaeangliae</i>	Humpback Whale	FE	S														X	
<i>Eumetopias jubatus</i>	Steller Sea Lion	FT	S														X	
<i>Arborimus longicaudus</i>	Oregon Red Tree Vole (Northwest OR Coast; N of Hwy 20)	SEN						D							X			
<i>Antrozous pallidus</i>	Pallid Bat	SEN		S	D	D	S							X	X		X	
<i>Brachylagus idahoensis</i>	Pygmy Rabbit	SEN			S											X	X	
<i>Corynorhinus townsendii</i>	Townsend's Big-Eared Bat	SEN	D	D	D	D	D							X	X	X	X	
<i>Enhydra lutris</i>	Sea Otter	SEN	S														X	
<i>Euderma maculatum</i>	Spotted Bat	SEN													X	X	X	
<i>Martes pennanti</i>	Fisher (West Coast distinct population segment)	SEN	D	D	S	D	S							X				
<i>Myotis thysanodes</i>	Fringed Myotis	SEN	D	S	D	D	D	S						X	X	X	X	
<i>Odocoileus virginianus leucurus</i>	Columbian White-Tailed Deer (Douglas County distinct population segment)	SEN						D								X	X	

¹ Status Codes: FE – Federally listed as endangered; FT – Federally listed as threatened; SEN – Bureau Sensitive

² Occurrence Codes: D – Documented to occur within the district; S – Suspected to occur in the district.

³ Habitat Type and Structural Stage Codes: X – species is generally associated with the habitat type or structural stage, respectively.

⁴ Examples of noncommercial areas include: noncommercial forests, oak woodlands, shrublands, grasslands, cliffs, rock outcrops, talus slopes, meadows, wetlands, springs, fens, ponds, vernal pools, coastal sand dunes, and coastal ocean waters.



Land Birds

Table H-4 cross references the focal species identified in the Partners-in-Flight land bird conservation strategies that overlap the planning area and cross references them to the habitat and structural data that can be obtained from the vegetation data model for the plan revision.

TABLE H-4. MATRIX RELATING PARTNERS-IN-FLIGHT FOCAL LAND BIRD SPECIES TO HABITAT ANALYSIS GROUPS

Species	Westside Forested Habitat										Habitat on Eastside Management Lands								
	Habitat Association						Structural Stage				Habitat Association				Structural Stage				
	Western Conifer	Western Hardwood	Eastside Conifer	Eastside Hardwood	Eastside Ponderosa Pine	Legacy Components	Nonforest	Structurally Complex	Mature with Multilayered Canopy & Structurally Complex	Young	Stand Establishment	Sagebrush	Grassland	Juniper	Eastside Conifer	Young (0-30 years)	Medium (40-70 years)	Old (80+ years)	Open (no age)
Acorn Woodpecker		x						x	x										
Ash-Throated Flycatcher				x		x			x										
Ash-Throated Flycatcher		x						x	x										
Bewick's Wren		x								x	x								
Black-Backed Woodpecker							x												
Black-Capped Chickadee		x				x				x	x								
Black-Throated Gray Warbler	x								x	x									
Black-Throated Sparrow												x						x	
Blue-Gray Gnatcatcher		x								x	x								
Blue Grouse							x												
Boblink							x												
Brewer's Sparrow							x					x				x	x		
Brown Creeper	x		x			x		x	x										
Bullock's Oriole		x						x	x					x				x	
Burrowing Owl							x					x				x			
Bushtit		x							x										
California Towhee		x								x	x								
Chipping Sparrow		x			x			x	x										
Clark's Nutcracker							x												
Common Nighthawk							x												
Cooper's Hawk		x						x	x										
Downy Woodpecker		x				x		x	x	x									
Ferruginous Hawk													x					x	
Flammulated Owl			x					x	x										



Species	Westside Forested Habitat										Habitat on Eastside Management Lands								
	Habitat Association						Structural Stage				Habitat Association				Structural Stage				
	Western Conifer	Western Hardwood	Eastside Conifer	Eastside Hardwood	Eastside Ponderosa Pine	Legacy Components	Nonforest	Structurally Complex	Mature with Multilayered Canopy & Structurally Complex	Young	Stand Establishment	Sagebrush	Grassland	Juniper	Eastside Conifer	Young (0-30 years)	Medium (40-70 years)	Old (80+ years)	Open (no age)
Grasshopper Sparrow							x					x							x
Gray Flycatcher													x		x	x			
Green-Tailed Towhee		x							x	x									
Hammond's Flycatcher	x							x	x										
Hermit Thrush			x					x											
Hermit Warbler	x							x	x										
House Wren		x							x	x									
Hutton's Vireo	x							x	x										
Lark Sparrow											x	x			x	x	x	x	
Lazuli Bunting											x			x	x				
Lesser Goldfinch		x							x	x									
Lewis' Woodpecker				x	x	x	x	x						x					
Loggerhead Shrike							x				x					x	x		
Nashville Warbler		x		x					x	x									
Northern Harrier							x												
Oak Titmouse		x				x			x	x									
Olive-Sided Flycatcher	x		x			x				x									
Orange-Crowned Warbler	x									x									
Oregon Vesper Sparrow							x												
Pacific-Slope Flycatcher	x							x	x										
Pileated Woodpecker	x					x		x											
Prairie Falcon							x												
Purple Martin							x												
Pygmy Nuthatch					x	x		x											
Red Crossbill	x							x	x										
Red-Eyed Vireo		x						x	x										
Red-Naped Sapsucker							x												
Red-Shoulder Hawk		x						x	x										
Rufous Hummingbird	x									x									
Sage Grouse							x				x	x			x				x



Species	Westside Forested Habitat										Habitat on Eastside Management Lands								
	Habitat Association						Structural Stage				Habitat Association				Structural Stage				
	Western Conifer	Western Hardwood	Eastside Conifer	Eastside Hardwood	Eastside Ponderosa Pine	Legacy Components	Nonforest	Structurally Complex	Mature with Multilayered Canopy & Structurally Complex	Young	Stand Establishment	Sagebrush	Grassland	Juniper	Eastside Conifer	Young (0-30 years)	Medium (40-70 years)	Old (80+ years)	Open (no age)
Sage Sparrow							x				x					x	x		
Sage Thrasher							x				x						x	x	
Sandhill Crane							x												
Sharp-Tailed Grouse							x				x				x	x			
Streaked Horned Lark							x												
Swainson's Thrush		x							x										
Tree Swallow							x												
Varied Thrush	x							x											
Vaux's Swift	x					x		x											
Virginia's Warbler							x												
Western Bluebird	x					x				x									
Western Meadowlark							x												
Western Screech Owl							x												
Western Wood Peeweee		x						x	x										
White-Breasted Nuthatch		x				x													
White-Headed Woodpecker					x	x			x										
Williamson's Sapsucker			x			x		x	x										
Willow Flycatcher	x	x								x	x			x	x				
Wilson's Warbler	x								x	x									
Winter Wren	x								x	x									
Wrentit		x								x	x								
Yellow-Billed Cuckoo		x						x	x					x		x	x		
Yellow-Breasted Chat	x	x								x				x	x				
Yellow Warbler		x					x			x									