

Westside Fire Recovery Project

Chad Bell and Bobbie Miller

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Effects analysis is available for all alternatives in the MIS report

MIS		Habitat* is not in or adjacent to the project area and is not affected by the project	Habitat* in or adjacent to the project area	Habitat* potentially affected by the project (proceed to Part II) Alternative 2	Habitat removed by project activities (based on analysis in Part II)
Common Name	Scientific Name				
Hardwood Association					
Acorn woodpecker	<i>Melanerpes formicivorus</i>		9,853 acres of oak in 7th field watersheds	728 acres potentially affected by project	728 acres of habitat potentially removed
Western gray squirrel	<i>Sciurus griseus</i>		9,853 acres of oak in 7th field watersheds	728 acres potentially affected by project	728 acres of habitat potentially removed
River/Stream Species Association					
Rainbow trout	<i>Oncorhynchus mykiss</i>		338 miles of stream for resident trout in 7th field watersheds.	4.1 miles stream potentially affected by project components.	0 miles of habitat potentially removed
Steelhead	<i>Oncorhynchus mykiss</i>		224 miles of stream for steelhead trout in 7th field watersheds.	3.1 miles stream potentially affected by project components.	0 miles of habitat potentially removed
Tailed frog	<i>Ascaphus truei</i>		802 miles of stream for tailed frog in 7th field watersheds.	10.5 miles stream potentially affected by project components.	0 miles of habitat potentially removed
Cascades frog	<i>Rana cascade</i>		314 miles of stream for Cascades frog in 7th field watersheds.	7 miles stream potentially affected by project components.	0 miles of habitat potentially removed
American dipper	<i>Cynclus platensis</i>		802 miles of perennial stream and 1,012 miles of intermittent stream in 7th field watersheds.	10.5 miles stream potentially affected by project components.	0 miles of habitat potentially removed
Northern water shrew	<i>Sorex palustris</i>		802 miles of perennial stream and 1,012 miles of intermittent stream in 7th field watersheds.	10.5 miles stream potentially affected by project components.	0 miles of habitat potentially removed

Long-tailed vole	<i>Microtus longicaudus</i>		802 miles of perennial stream and 1,012 miles of intermittent stream in 7th field watersheds.	10.5 miles stream potentially affected by project components.	0 miles of habitat potentially removed
Marsh/Lake/Pond Species Association					
Northern red-legged frog	<i>Rana aurora aurora</i>	Outside known range (not included in FWS T&E species list for Klamath NF)			
Western pond turtle	<i>Clemmys marmorata</i>		802 miles of perennial stream, and 362 acres of lake habitat	1.25 miles of stream potentially affected by project components	0 miles/acres of habitat potentially removed
Snag Species Association					
Red-breasted sapsucker	<i>Sphyrapicus ruber</i>		87,698 acres in analysis area	11,001 acres potentially affected by project	0 acres of habitat potentially removed
Hairy woodpecker	<i>Picoides villosus</i>		48,039 acres in analysis area	6,428 acres potentially affected by project	0 acres of habitat potentially removed
White-headed woodpecker	<i>Picoides albolarvatus</i>		65,751 acres in analysis area	7,552 acres potentially affected by project	0 acres of habitat potentially removed
Vaux's swift	<i>Chaetura vuaxi</i>		65,751 acres in analysis area	7,552 acres potentially affected by project	0 acres of habitat potentially removed
Downy woodpecker	<i>Picoides pubescens</i>		48,039 acres in analysis area	6,428 acres potentially affected by project	0 acres of habitat potentially removed
Pileated woodpecker	<i>Dryocopus Pileatus</i>		65,751 acres in analysis area	7,552 acres potentially affected by project	0 acres of habitat potentially removed
Black-backed woodpecker	<i>Picoides arcticus</i>		17,711 acres in analysis area	1,123 acres potentially affected by project	0 acres of habitat potentially removed
Grassland/Shrub-Steppe Species Association (BVNG)					
Pronghorn	<i>Antilocarpa americana</i>	No habitat	N/A	N/A	N/A
Montane vole	<i>Microtus montanus</i>	No habitat	N/A	N/A	N/A
Loggerhead shrike	<i>Lanius Ludovicianus</i>	No habitat	N/A	N/A	N/A
Swainson's hawk	<i>Buteo swainsoni</i>	No habitat	N/A	N/A	N/A

Sage thrasher	<i>Oreoscoptes montanus</i>	No habitat	N/A	N/A	N/A
Burrowing owl	<i>Athene cunicularia</i>	No habitat	N/A	N/A	N/A
Mature Ponderosa Pine Species Association (Eastside Pine)					
Flammulated owl	<i>Otus flammeolus</i>	No eastside pine habitat	N/A	N/A	N/A
White-headed woodpecker	<i>Picoides albolarvatus</i>	No eastside pine habitat	N/A	N/A	N/A
Pinyon jay	<i>Gymnorhinus cyanocephalius</i>	No eastside pine habitat	N/A	N/A	N/A

**"Habitat" as defined in the Klamath Forest Plan, and supplemented by the California Wildlife Habitat Relationships System (CDFG).*

Species analyzed in Westside Fire Recovery project MIS Report Part II

Implementation of this project contains Project Design Standards (PDSs) that are consistent with ACS goals and objectives.

Forest Plan MIS Category	Forest Plan Defined MIS Habitat	Forest Plan Defined Habitat Components	GIS hab_type knfEveg	Timber Strata or Cal Veg Type	Acres on Forest
Individual Species	Mature/OG conifer forest	Large snags, stumps, logs	Mature MC	DF,DP,DW,JP,KP, MF,MK,MP,MU, PD,PO,PW,RD, WW size 4,5	493,382
Individual Species	Mature/OG true fir forest	Large snags, stumps, logs	Mature F	MH,RF,WB,WF size 4, 5	137,967
Individual Species	Early seral forest types	Grasses, forbs, berries	Early seral	All size N,0,1,2	317,278
Individual Species	Mid-seral veg types	Quality forage	Mid seral	All size 3	401,216
Individual Species	Brush/shrub	Quality forage	Brush	BB,BM,BR,C1,CG, CH,CL,CM,CN,CQ,CS,CV,CW,CX,SN	169,758
Hardwood	Oak woodlands w/large conifers (oak as primary)	Diversity of oaks, large conifers, acorns	Oak	CJ, QC, QG, QK, QT	84,462
Hardwood	Mature mixed hardwood/conifer	Mature conifers and hardwoods	Mature hardwood	QM	12
River/Stream	River/Stream	Water quality, instream woody debris, substrate, flows	**see note below	**see note below	**see note below
River/Stream	Riparian habitat w/dense cover	Canopy, grass/forb, deciduous veg	Riparian	QO, QR, QS, QY, TA combined with river/stream layer	343
Marsh/lake/pond	Lakes, ponds, streams	Associated riparian veg, CWD	Wet meadow and water	HJ and WA	4,545 (HJ) 5,953 (WA)
Snag	Late-successional conifer forest	Snags	Mature MC	See above	See above
Snag	Mature true fir and lodgepole pine	Snags	Mature F and mature LP	See above for F, LP size 4	4,218 (LP) (F above)
Snag	Riparian deciduous	Snags	N/A	N/A	N/A
Snag	Ponderosa pine	Snags	Mature PP	PP size 4, 5	4,017
Snag	Pileated woodpecker specific	Snags	Mature conifer >40% cc	Same as mature MC above but >40% crown closure only	477,197 (subset of above)
Grassland/shrub-steppe	Grasslands and shrubs on Butte Valley National Grassland (BVNG)	Perennial grass cover, sagebrush/grass mosaic	Grassland on BVNG	HG, BS on BVNG	10,607
Grassland/shrub-steppe	Open habitats near seasonally flooded wetlands and brush on	Perennial grass cover, sagebrush/grass mosaic	Grassland on BVNG	BL on BVNG	0
Mature p.pine	Mature eastside pine	Mature pines and snags	Mature EP	EP size 4, 5	3,931
Mature p. pine	Ponderosa pine and mixed conifer	Mature pines and snags	Mature PP or mature MC	Mature PP and MC	See above
Mature p. pine	Eastside pine/juniper	Mature pines and junipers	Juniper	WJ	18,247
Non-MIS habitat			other	UB, AG, BA	15,052

****Rivers/streams and fish GIS layers must be brought in separately for project analysis, they are not included in Forest MIS layer.**

MIS Species:	Forest Plan Defined Habitat:	General Natural History Information for Project Level Analysis (citations):
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Information on natural history, including habitat requirements, for MIS was compiled during preparation of the Klamath Land and Resource Management Plan (Forest Plan) and the associated EIS. Supplemental information, as displayed below, was obtained from the California Wildlife Habitat Relationship System and other sources as listed in the Literature Cited section.

Hardwood Species Association:

Acorn woodpecker	Oak woodlands with associated large conifers	Common, yearlong resident, communal groups of 2-16, consisting of at least 2 breeding adults and offspring. Territories consist of defending 1-7 (average 2) large, isolated trees for acorn storage (CWHR, 5/2002). Requires low-density stands of large oaks w/sparse canopy & snags. Peak breeding/nesting activity in May and June (CDFG 1990)
Western gray squirrel	Mature hardwood and mixed hardwood-conifer	Common locally, dependent on mature oak and mixed conifer, require large trees, mast and snags. Homorange size in Sierra Nevada foothills varied from 1.2 to 2.5 acres (males). (CDFG April 1990)

River/Stream Species Association:

Rainbow trout	Rivers/streams	Common in cool, clear, fast-flowing permanent streams and rivers w/in the Klamath River Basin. Refer to fish KNF species range distribution layer for steelhead trout habitat location. Rare to abundant in accessible low gradient non-permanent streams where suitable habitat is present. Flows necessary to provide dissolved oxygen (typically close to saturation); cool water temperatures (optimum 15-18 degrees C); and diverse and abundant invertebrate life is required. Coarse (1-13 cm diameter) gravels in riffles or pools are used for spawning and cobble and boulders for cover. Ample and complex cover from riparian vegetation, CWD, boulders, deep pools, or undercut banks reduces exposure to predators, high flows, and excessive energy expenditure. (Moyle 2002; Mehan 1991; Groot and Margolis 1991).
Steelhead	Rivers/streams	Habitat same as for rainbow trout, but including ability to migrate to and from estuaries and ocean habitats. Refer to fish KNF species range distribution layer for resident rainbow trout habitat location.
Tailed frog	Perennial montane streams with dense vegetation	Considered common in suitable habitats. Occurs in permanent streams of low temperatures in conifer-dominated habitats including redwood, Douglas-fir, Klamath mixed conifer, ponderosa pine, and montane hardwood-conifer. Intermittent streams with all the other proper environmental factors are unsuitable. Occurs more frequently in mature or late-successional stands. Uses submerged rocks and logs in streams for cover. Tadpoles require cool streams and prefer turbulent water. Permanent water is critical for larvae. Individuals have been collected up to 40' from streams during moist periods, during dry periods usually restricted to stream bed. Normal range has a long dimension that rarely exceeds 80'. (CDFG 1988, CWHR, CDFG-HCPB Website)
Cascades frog	Higher elevation streams	Found in water and surrounding vegetation in mountain lakes, small streams, and ponds in meadows up to timber line. Closely restricted to water. Occurs in both ephemeral and permanent ponds or streams, but probably cannot survive in ephemeral situation where at least some of the substrate does not remain saturated. Standing water is required for reproduction. Females prefer to lay eggs at sites with low or patchy aquatic vegetation cover (open, shallow water that is unshaded). Larvae voluntarily select a high water temperature (~27 degrees C), postmetamorphic life stages select temps <17 degrees C. Individuals bask on water covered rocks. Hibernate in mud at bottom of lakes during the winter. (CDFG 1988, CWHR, CDFG-HCPB Website)
American dipper	Cold, swift, perennial streams	Uncommon to common on clear, fast-flowing streams and rivers in montane regions. Eats aquatic insects, fish, snails and tadpoles. Builds a domed nest of grasses in crevice, stump, log, bank or human structure, usually w/in 3-6' of water. Defends territory of up to 1050' of stream during breeding season, year-round density of 2.1 to 4.6 per mile of stream. Peak reproduction activity May to July. (CDFG November 1990)
Northern water shrew	Riparian w/dense grass-forb cover	Common to abundant in montane riparian, nests w/in inches or feet of water, none more than 100' from water. Homorange "small", need perhaps 1 mile or more of stream for viable population (CDF&G, April 1990)
Long-tailed vole	Mesic habitats, dense riparian vegetation	Range map shows Cascade Range (eastern Siskiyou County). Common resident of herbaceous understories of many forest habitats. Abundant in montane riparian, wetlands, cropland, aspen, grasslands, and wet meadows. Nests in burrows in soft soils, or within or beneath logs, seeks cover in dense herbaceous veg. May be found several hundred meters from water. Homorange average .5 acres. (CDFG April 1990)

Marsh/Lake/Pond Species Association:

Northern red-legged frog	Shallow wetlands, ponds and streams with emergent vegetation.	Inhabits quiet pools of streams, marshes, and occasionally ponds usually below 3936 ft. Highly aquatic with little movement away from streamside habitats, prefers shorelines with extensive vegetation. Usually escapes to water. Peak breeding March through July. (CDFG May 1988)
Western pond turtle	Permanent or nearly permanent water in a variety of habitats.	Uncommon to common in suitable aquatic habitat throughout CA. Associated with permanent or nearly permanent water in a wide variety of habitats. Turtles require basking sites such as logs, rocks, mats of floating veg, or open mud banks. They retreat under water when disturbed. Nesting occurs upland up to 1/4 mile from water in a variety of soil types. Eggs are laid from March to August. (CDFG May 1988)

Snag Species Association:

Red-breasted sapsucker	Mid- to late seral mixed conifer and riparian deciduous	Uncommon to fairly common, nests in montane riparian, aspen, montane hardwood-conifer, mixed conifer and red fir, especially near meadows, clearings, lakes or streams. Nests and roosts in tree cavities which it excavates in snags or rotted trees. In Modoc Co., defense area minimum reported at 150' around nest tree, territory up to 15 acres. Probably most sensitive to disturbance from early June to late July. (CDFG Nov 1990 and NTMB Reference Book, 1994).
Hairy woodpecker	Riparian deciduous habitats with large trees for cavities	Fairly common, permanent resident in mixed conifer and riparian deciduous habitats. Uses stands of large, mature trees and snags of sparse to intermediate density. Also - uses relatively open or patchy stands of conifers with adjacent riparian habitats and abundant snags. In central Ontario, breeding territory averaged 7 acres (range 6-8). Peak nesting activity late May through June. (CDFG Nov 1990)
White-headed woodpecker	Ponderosa pine and high elevation mixed-conifer	A common year-long resident of montane coniferous forests up to lodgepole pine and red fir habitats. Nests in open conifer habitats, often near edges or roads or clearings or near natural openings. Excavates cavity in large snag or stump at least 2' in diameter at nest height (6'-50' above ground). Average territory of 15 acres reported for Blue Mts or Oregon. Peak reproductive activity mid-June through mid-July. (CDFG Nov 1990).

Vaux's swift	Late-successional forests with large hollow snags	A summer resident in N. CA. Roosts in hollow trees and snags, occasionally in chimneys and buildings; often in large flocks. Nests in redwood, DF and occasionally other coniferous forests. The most important requirement appears to be an appropriate nest-site in a large, hollow tree, esp. tall burned-out stubs. Forages over most habitats high in air, apparent preference for foraging over rivers and lakes. No homerange or territory data, homerange may be very large (Zeiner et al. 1990) and territory presumably limited to nest tree. Suggested minimum snag size of 30' tall and 20" diameter. Nesting season June through August. (CDFG, Nov. 1990 and NTMB Reference Book, 1994)
Downy woodpecker	Riparian deciduous habitats	A common, year-long resident of riparian deciduous and associated hardwood and conifer habitats. Closely associated with riparian softwoods. Excavates cavity in snag or dead branch 4-50' above ground. Requires abundant snags, and tree/shrub, tree/herbaceous, and shrub/herbaceous ecotones. In Ontario, breeding territories of 5 and 9 acres observed. Peak nesting May through June. (CDFG Nov 1990)
Pileated woodpecker	Late-successional coniferous forests	Uncommon, year-long resident of mature, montane conifer habitats with permanent water. Occupies dense (preferably >40% canopy), mature forest with large numbers of snags, stumps and logs. Frequents DF, WF and RF more than other conifers. Nest tree selection at least 20" DBH. Homerange or territory estimated (in Oregon) at 320-600 acres. Bull and Meslow, 1977, recommended a 100 acre nest core and a 500-1200 acre forage area with 90 snags over 20" per square mile. Peak reproduction early May through mid-June. (CDFG Nov. 1990)
Black-backed woodpecker	High elevation fir and lodgepole pine	Uncommon year-long resident predominantly in true fir and lodgepole pine forests. Prefers relatively large trees for foraging and nesting, canopy cover may range from sparse to dense. Apparently attracted to stands with wood-boring insect infestations, frequents areas with snags, windfalls, and burns. Present in areas some years, absent others. No data on homerange or territory, in Michigan foraging was observed at least .25 miles from nest. Peak nesting mid-May through early July. (CDFG, Nov. 1990)

Grassland/shrub-steppe Species Association:

Pronghorn	Grassland, shrub-steppe and agricultural lands	Fairly common resident of NE California, found only in sagebrush, low sage, bitterbrush, grassland, PJ, riparian, and alkali desert scrub habitats. Prefer low, rolling topography in open grassland and sagebrush. Optimal habitat described as 40-60% grass, 10-30% forb, and 5-20% shrub cover. Large herds in winter (600+), smaller groups in spring/summer. Homeranges extremely variable, up to .5 mi in spring/summer, up to 5.8 miles in fall/winter. Summer range, dominant males hold territories up to 2 square miles with some water. (CDFG, April 1990).
Montane vole	Grasslands with relatively high plant moisture	Found in Cascade Range (middle and eastern portion of SisQ), common to abundant in wet meadow, perennial grassland, and alpine dwarf-shrub habitats. Also may be common in herbaceous understory of many forest habitats, as well as sagebrush, bitterbrush, annual grassland and cropland (5000-12,000' elevation). Nest of dried grasses is constructed in a burrow excavated in moist soil. Requires dense herbaceous growth for cover, prefers meadows or grasslands with a water source. In Montana, home ranges averaged about .25 acres. Reported densities range up to 220/ac, and fluctuate considerably from year to year. (CDFG, April 1990)
Loggerhead shrike	Diverse shrub-steppe habitats	A common resident of lowlands and foothills throughout CA. Prefers open habitats with scattered shrubs, trees, posts, fences, or other perches. Uses scattered trees and shrubs for nesting and cover. Territories in Contra Costa and Kerns Counties averaged 18.7 acres (11-40 ac). Peak reproduction in May and June. (CDFG Nov 1990 and NTMB Reference Book, 1994)
Swainson's hawk	Perennial grasslands and shrub-steppe.	Uncommon breeding migrant in Klamath Basin. Breeds in stands with few trees in juniper-sage flats and riparian areas. Forages in adjacent grasslands or ag fields. Homeranges in Utah and Wyoming averaged 1.0 to 1.5 sq. mi. Peak nesting period is about April through June. (CDFG Nov 1990 and NTMB Reference Book, 1994)
Sage thrasher	Low, moderately spaced sagebrush	A common summer visitor and breeder east of the Cascade Range, primarily in sagebrush and low sagebrush habitats. Uses moderately spaced shrubs for cover and nesting. Breeding territories in Idaho averaged 2.3 ac. Density in Washington was recorded at 5 pairs per sq. mi. Peak breeding season is May and June. (CDFG Nov 1990 and NTMB Reference Book, 1994)
Burrowing owl	Open habitat near seasonally flooded wetlands and dense brush	Summer resident in northeastern plateau of CA (Klamath). Uses open, dry grassland and desert habitats, and in grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats. Uses rodent or other burrows for roosting and nesting cover. Mean homerange was 2 acres in Oakland (.1 to 4 ac). Susceptible to disturbance and soil compaction. Peak breeding season April through May. (CDFG Nov 1990 and NTMB Reference Book, 1994)

Mature Ponderosa Pine Species Association:

Flammulated owl	Mature conifer stands and eastside pine habitats	A common summer resident in a variety of coniferous habitats from ponderosa pine to red fir forests. Nests in cavity or woodpecker hole in aspen, oak, or pine snags and trees (secondary cavity nester). Occasionally will nest in burrow or nest box. Favors small openings, and edges and clearings with snags for nesting and roosting. Territory defended in May and June, seldom more than 900 ft diameter, varying from 4-10 acres. Most susceptible to disturbance during peak breeding season in June and July. (CDFG Nov 1990 and NTMB Reference Book, 1994)
White-headed woodpecker	Ponderosa pine and high elevation mixed-conifer	See above, white-headed woodpecker under Snag Association
Pinyon jay	Eastside pine and pine/juniper habitats	A fairly common but somewhat local resident in coniferous habitats east of the Cascade-Sierra Nevada Crest. Preferred nesting habitats are PJ and eastside pine. Trees of moderate size, esp. PJ afford nesting and roosting cover. Nesters most numerous in pinyon, ponderosa and Jeffery pine woodlands with sparse to open canopy and a well defined shrub layer. Live in integrated, social flocks year round and nest in colonies. Flock homerange is up to 7 miles or more. Peak egg-laying in probably April through June. (CDFG Nov 1990 and NTMB Reference Book, 1994)

Literature Cited:

- California Wildlife Habitat Relationships System (CWHHR). May 20, 2002. Website: www.dfg.ca.gov/whdab/cwhr. California Department of Fish and Game.
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- California Department of Fish and Game - Habitat Conservation Planning Branch. May 21, 2002. Website: www.dfg.ca.gov/hcpb/conplan
- United States Department of Agriculture (USDA). May 1, 1994. Neotropical Migratory Bird (NTMB) Reference Book, Volume I. Pacific Southwest Region, Vallejo, CA.

MIS	Forest Plan Habitat	Level of Analysis	Reasons for Selection as MIS
Individual Species			
Northern spotted owl	Mature and old-growth conifer forest	Forest Plan	Specific habitat needs, represents other old-growth species, sensitive to habitat changes
Northern goshawk	Mature conifer forest	Forest Plan	Indicator of mature forest conditions on eastside and higher elevations than NSO
American marten	Mature conifer forest	Forest Plan	Indicator of habitat quality, specific habitat needs, indicator of mature true fir and large logs, special interest
Pacific fisher	Mature conifer forest	Forest Plan	Indicator of habitat quality, special interest species
Black bear	All forested types, early and late seral vegetation types	Forest Plan	Associated with early and late seral stages and need for logs, special interest game species
Black-tailed deer	All successional stages, especially early and middle, hardwoods, brush, pine, etc.	Forest Plan	Associated with early and mid-seral stages, important game species
Hardwood Species Association			
Acorn woodpecker	Oak woodlands with associated large conifers	Forest Plan and Project	Indicator for diversity of oak species and large conifers
Western gray squirrel	Mature hardwood and mixed hardwood-conifer	Forest Plan and Project	Indicator for mature hardwood and mixed conifer-hardwood
River/Stream Species Association			
Rainbow trout	Rivers/streams	Forest Plan and Project	Indicator for water quality, in-stream woody debris, bottom substrate, flows and channel condition
Steelhead	Rivers/streams	Forest Plan and Project	Indicator for water quality, in-stream woody debris, bottom substrate, flows and channel condition
Tailed frog	Perennial montane streams with dense vegetation	Forest Plan and Project	Indicator for water quality, in-stream woody debris, bottom substrate, flows and channel condition
Cascades frog	Higher elevation streams	Forest Plan and Project	Indicator for water quality, instream woody debris, bottom substrate, flows, and grassy streamside vegetation
American dipper	Cold, swift, perennial streams	Forest Plan and Project	Indicator for water quality, instream woody debris, bottom substrate and flows
Northern water shrew	Riparian w/dense grass-forb cover	Forest Plan and Project	Indicator of riparian vegetation including canopy, deciduous veg, and grass/forb.
Long-tailed vole	Mesic habitats, dense riparian vegetation	Forest Plan and Project	Indicator of riparian vegetation including canopy, deciduous veg, and grass/forb.
Marsh/Lake/Pond Species Association			
Northern red-legged frog	Shallow wetlands, ponds and streams with emergent vegetation.	Forest Plan and Project	Indicator of standing open water and associated vegetation, chosen for sensitivity to physical aquatic conditions and CWD.
Western pond turtle	Permanent or nearly permanent water in a variety of habitats.	Forest Plan and Project	Indicator of standing open water and associated vegetation, chosen for sensitivity to physical aquatic conditions and CWD.
Snag Species Association			

Red-breasted sapsucker	Mid- to late seral mixed conifer and riparian deciduous	Forest Plan and Project	Indicator of snags as a habitat element and of other species which depend on sapwells for food.
Hairy woodpecker	Riparian deciduous habitats with large trees for cavities	Forest Plan and Project	Indicator of snags as a habitat element and of other species which depend on woodpeckers for cavities or as prey.
White-headed woodpecker	Ponderosa pine and high elevation mixed-conifer	Forest Plan and Project	Indicator of snags as a habitat element and for other species which depend on woodpeckers for cavities or as prey.
Vaux's swift	Late-successional forests with large hollow snags	Forest Plan and Project	Indicator of large snags as a habitat element
Downy woodpecker	Riparian deciduous habitats	Forest Plan and Project	Indicator of snags as a habitat element and for other species which depend on woodpeckers for cavities or as prey.
Pileated woodpecker	Late-successional coniferous forests	Forest Plan and Project	Indicator of snags as a habitat element and for other species which depend on woodpeckers for cavities or as prey.
Black-backed woodpecker	High elevation fir and lodgepole pine	Forest Plan and Project	Indicator of snags as a habitat element and for other species which depend on woodpeckers for cavities or as prey.
Grassland/Shrub-Steppe Species Association (Butte Valley National Grassland - BVNG)			
Pronghorn	Grassland, shrub-steppe and agricultural lands	Forest Plan and Project	Indicator for coverage of perennial grasses, increased mesic conditions and diverse sagebrush/grassland mosaic on the BVNG.
Montane vole	Grasslands with relatively high plant moisture	Forest Plan and Project	Indicator for coverage of perennial grasses, increased mesic conditions and diverse sagebrush/grassland mosaic on the BVNG.
Loggerhead shrike	Diverse shrub-steppe habitats	Forest Plan and Project	Indicator for diverse sagebrush mosaic on the BVNG.
Swainson's hawk	Perennial grasslands and shrub-steppe.	Forest Plan and Project	Indicator for coverage of perennial grasses and diverse sagebrush/grassland mosaic on the BVNG.
Sage thrasher	Low, moderately spaced sagebrush	Forest Plan and Project	Indicator for coverage of perennial grasses, increased mesic conditions and diverse sagebrush/grassland mosaic on the BVNG.
Burrowing owl	Open habitat near seasonally flooded wetlands and dense brush	Project level	Indicator for coverage of perennial grasses, increased mesic conditions and diverse sagebrush/grassland mosaic on the BVNG.
Mature Ponderosa Pine Species Association			
Flammulated owl	Mature conifer stands and eastside pine habitats	Project level	Indicator for mature eastside Ponderosa pine habitat with large snags
White-headed woodpecker	Ponderosa pine and high elevation mixed-conifer	Project level	Indicator for mature eastside Ponderosa pine habitat with large snags
Pinyon jay	Eastside pine and pine/juniper habitats	Project level	Indicator for mature cone-producing eastside ponderosa pine and juniper

