



## Specialized and Local Habitats

Some natural communities and landscape features are not adequately represented through the “coarse filter” of Strategy Habitats. These communities and features often occur at the local scale and have a patchy distribution across the landscape. They may be difficult to map, particularly using satellite data, so are not represented well in spatial data sets. Some communities are highly specialized to the local environment and host a suite of rare or endemic species. To address the conservation needs of these communities and their associated species, “local and specialized habitats” were determined through review of geographic vegetation data, rare plant or animal occurrences, importance to Strategy Species, and occurrences of animal concentrations, such as migrating or wintering birds.

**Key to ecoregion abbreviations:**

- BM = Blue Mountains
- CP = Columbia Plateau
- CR = Coast Range
- EC = East Cascades
- KM = Klamath Mountains
- NBR = Northern Basin and Range
- WC = West Cascades
- WV = Willamette Valley

Feature	Ecoregions	Comments	Conservation Actions
Alkaline lakes and wetlands	BM, EC, NBR	Most common in Northern Basin and Range, but a few important areas occur in East Cascades and Blue Mountains ecoregions. Habitat for rare plants; feeding habitat for shorebirds	Maintain existing sites. Restore hydrology. Also see Strategy Habitat description for wetlands.
Alpine meadows and dwarf shrublands	BM, EC, KM, NBR, WC	Habitat for small mammals and unique plants; nesting areas for some birds; important foraging areas for wildlife during late summer and early fall, especially during migration. Uncommon in Klamath Mountains ecoregion.	Depending on local conditions, manage recreation and domestic sheep grazing to minimize impacts to plant communities. Monitor for and control invasive plants.
Aquatic vegetation beds	All Ecoregions	Habitat for invertebrates that are base of the aquatic food chain	Retain and restore natural water flow regimes. Control invasive plants such as reed-canary grass. See Strategy Habitat description for freshwater aquatic habitats.
Ash flows and ash beds	BM, EC, NBR	Habitat for endemic and other rare plants, and important fossil localities.	Manage grazing, mining, off-highway vehicle use to minimize conflicts with rare plants.
Aspen forests and woodlands	BM, EC	Particularly important as nesting habitat for songbirds. Habitat for deer and elk. Note: Aspen is a Strategy Habitat for Northern Basin and Range.	Maintain and restore aspen patches using site-appropriate tools such as thinning of encroaching conifers, prescribed fire, and/or exclosures. See Strategy Habitat description for aspen woodlands.
Balds and bluffs	BM, CR, EC, KM, WC, WV	Habitat for unique plant communities and invertebrates such as butterflies. In Coast Range, includes Coastal bluffs and headlands. In Klamath Mountains, includes serpentine barrens and outcrops.	Control encroaching conifers and shrubs at priority sites. Monitor for and control key invasive plants at priority sites. In serpentine barrens, minimize disturbance (e.g., trail or road construction) to rare plant communities.
Bays	CR	Winter habitat for waterfowl and other waterbirds. Rearing area for juvenile anadromous salmonids.	Provide areas of low disturbance during critical time periods. Also see Strategy Habitat for estuaries.

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Bitterbrush communities	BM, EC, NBR	Bitterbrush is an important habitat component that provides forage, cover, and nesting habitat for a variety of wildlife, including deer and elk winter range. In Northern Basin and Range, bitterbrush is found in canyons, often in areas with more moisture, in a mosaic with sage and rabbitbrush.	Continue restoration efforts. Improve understanding of bitterbrush regeneration methods.
Bogs and fens	BM, CR, EC, KM, WC, WV	Habitat for unique and rare plants, including carnivorous plants in some areas. In Klamath Mountains, includes serpentine wetlands.	Maintain and restore natural flow regimes and hydrological conditions. Conserve and manage known occurrences of serpentine wetlands. Also see Strategy Habitat description for wetlands.
Canyon shrublands (also known as moist deciduous shrubland)	BM, CP, EC, NBR	Nesting habitat for songbirds, hiding cover for deer, once winter habitat for sharp-tailed grouse	Maintain healthy stands and restore degraded stands. Some degraded stands can benefit from prescribed fire, removal of encroaching invasive junipers, or management of grazing season timing.
Caves and old mines	BM, CR, EC, KM, NBR, WC	Habitat for rare invertebrates and cave-roosting bats, such as Townsend's big-eared bat and several myotis species. In East Cascades, includes lava tubes.	Use gates or seasonal closures to protect known roost sites from recreational caving and other disturbance. When mines are closed for human safety, provide for bat entry and exit.
Chaparral and Ceonothus shrubland	BM, CR, KM, WC, WV	Nesting and foraging habitat for songbirds. Important for kingsnakes, some butterflies and other invertebrates. May occur in early successional habitats or at high elevations where temperatures and other factors inhibit tree growth. In Klamath Mountains, often removed as fire hazard; increasing removal with development, particularly in particularly in lowland valleys. Where not removed, often they become senescent without the fires needed for regeneration. Unusual habitat in the Willamette habitat, which makes existing sites important for local diversity.	Maintain shrub diversity during forest management activities. Delay replanting with conifers where shrub habitat is limited. Control key invasive plants (i.e., Scotch broom and Armenian [Himalayan] blackberry) at priority sites.
Depressional wetland forests (swamps) and shrublands	CR, KM, WC, WV	Have seasonally fluctuating water levels; are nutrient-rich; provide habitat for a variety of wildlife	Maintain existing habitats, promoting the presence of beavers where they would create hydrological conditions beneficial to wetland creation and would not conflict with other uses of the land. Also see Strategy Habitat description for wetlands.
Eelgrass beds	CR	Basis for aquatic food chain; important rearing area for juvenile fish, including commercially important species; foraging habitat for black brant.	Maintain and restore eelgrass habitats. Also see Strategy Habitat description for estuaries.
Forest openings	CR, WC	Forest openings provide essential structural complexity and plant diversity. These structures provide foraging and nesting habitat for deer, elk, black bear, ruffed grouse, olive-sided flycatcher, willow flycatchers, orange-crowned warblers, MacGillivray's warblers, white-crowned sparrows, fox sparrows, and common night-hawk. Open areas with snags are important for purple martins, western bluebirds and mountain bluebirds. Clouded salamanders live in large logs and stumps in openings, and their populations increase following wildfires. Disturbances such as wildfire, disease and insect outbreaks reset succession and often result in large or small openings with high forb and shrub diversity and structure such as large snags and logs. With management emphasis on older successional stages on public land and more intensive management of private forest lands, openings with structural complexity and plant diversity are now rare. This has resulted in a declining food base for black-tailed deer and elk and loss of nesting and foraging habitat for some songbirds.	During salvage logging or other timber harvest, minimize ground disturbance, maintain and create snags and logs, and maintain patches of shrubs. Look for opportunities to create forest openings and maintain natural forb, grass and shrub species. Control key invasive plants in openings. After burns, reseed with native grasses and forbs and maintain open habitats after burns by delaying replanting with conifers. Carefully evaluate salvage logging in burned late-successional forests.
Grasslands	EC, NBR	Includes alkali grasslands, perennial bunchgrass, and montane grasslands. Important for raptors, grassland birds, and rare plants	Maintain and restore these features using site-appropriate tools. Monitor for invasive species. Manage grazing to minimize impacts to native species.
Greasewood flats and washes	BM, CP, EC	Typically found in flats, washes and terraces with saline soils and shallow water tables; flood intermittently, but remain dry for most growing seasons; habitat for rare plants. High estimated habitat loss in Blue Mountains ecoregion but still common in Baker and Grande Ronde valleys. Very high estimated loss in Columbia Plateau (more than 96 percent) and East Cascades (more than 99 percent) ecoregions.	Maintain and restore greasewood habitats. In Blue Mountains, include black greasewood habitats when managing for a mosaic of valley bottom habitats.

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Feature	Ecoregions	Comments	Conservation Actions
Inland dunes	NR	Includes unvegetated to moderately vegetated (10-30% plant cover) active and stabilized dunes. Habitat for reptiles, small animals, and unusual plants.	Includes unvegetated to moderately vegetated (10-30 percent plant cover) active and stabilized dunes. Habitat for reptiles, small animals, and unusual plants.
Intertidal mudflats	CR	Foraging habitat for shorebirds (critically important during migration); habitat for invertebrates such as clams; estuarine mineral springs are necessary resource for band-tailed pigeons.	Manage water flows to maintain mudflat habitats; maintain or restore water quality and natural sedimentation patterns to maintain habitat quality for invertebrates. Also see Strategy Habitat description for estuaries.
Large lakes and associated wetlands	EC, NBR	Year-round habitat for waterbirds and aquatic species; critical wintering habitat for waterfowl and bald eagles; lakeshore edges are feeding areas for migratory shorebirds.	See Strategy Habitat description for wetlands. Also see Strategy Habitat description for freshwater aquatic habitats.
Large pool habitats	All ecoregions	Required by several Strategy Species, particularly fish but also used by turtles; declining.	Maintain and restore water flow to maintain large pool habitat. Also see Strategy Habitat description for freshwater aquatic habitats.
Mountain mahogany woodland and shrubland	BM, EC, NBR	Mountain mahogany communities may spread with fire suppression, but depend on fire for long-term maintenance. Expanding in some areas, but lacking regeneration in others. Threatened by juniper encroachment in some areas, especially in Northern Basin and Range. Many stands have non-native understory vegetation. In East Cascades ecoregion, mountain mahogany is more diverse than other ecoregions. Here, it includes birchleaf mountain mahogany which covers moist shrublands in the southern portion of the ecoregion. Mountain mahogany is important nesting habitat for birds because it provides tree structure in open shrub-dominated landscapes. It is a valuable forage plant for deer and elk.	Develop methods to manage mahogany stands and encourage regeneration. Restore understory vegetation at priority sites.
Oak and oak-pine woodlands	BM, WC (Strategy Habitat in CR, EC, KM, WV)	Found on western-most portion of Columbia Plateau ecoregion, near border of East Cascades ecoregion. Once common in the West Cascades foothills, oak habitats have been replaced by conifer forests due to fire suppression and conifer planting. Here, oak woodlands remain only in dry sites with shallow soils. Important for western gray squirrel, reptiles, birds and native plants.	Maintain and restore oak habitats through selective thinning of encroaching conifers and prescribed fire; restore native plants in understory.
Off-channel habitat (beaver ponds, oxbow lakes, stable backwater sloughs, and flooded marshes)	All ecoregions	Provides critical habitat for juvenile salmonids and other fish, northwestern pond turtles, freshwater mussels, dragonflies and other invertebrates.	Raise awareness so that activities can be managed for minimal impact. Maintain current off-channel habitat and restore, where possible. Maintain or restore stream hydrology. Manage beaver populations to provide for beaver-created habitats, while minimizing conflicts with other land uses. Also see Strategy Habitat description for freshwater aquatic habitats.
Off-shore rocks (e.g., sea stacks)	CR	Critical nesting habitat for seabirds; haul-outs for marine mammals; roosting areas for bald eagles, peregrine falcons, and Aleutian Canada geese.	Implement existing restrictions and continue successful outreach efforts to minimize disturbance during sensitive nesting and pupping seasons.
Port Orford Cedar forests	KM	Endemic to Klamath Mountains; associated with serpentine soils and characterized by unusual plant and animal associations. Severely impacted by the invasive Port Orford root-rot, particularly near the coast.	Maintain existing habitat. Minimize vehicular traffic and/or new road construction where potential exists to spread the invasive root pathogen.
Rock habitats (cliffs, rimrock, rock outcrops, and talus)	BM, CP, CR, EC, KM, NBR, WC	Habitat for peregrine falcons, cliff swallows, and other cliff-nesting birds, cliff-roosting bats, rare plants, and wildlife that use rocks for shelter, and/or foraging areas (such as lizards, piñon mouse, bobcat and yellow-bellied marmots). Talus is habitat for Larch Mountain salamander, pika and unusual invertebrates. In the Willamette Valley, hibernacula for snakes, including western rattlesnakes. In dry ecoregions, rock habitats are particularly important for salamanders as a refuge from hot, dry weather.	These habitats have few limiting factors in most ecoregions. In the East Cascades, residential development at the edge of rims alters vegetation and disturbs nesting birds. Work with local planners to implement existing setback distance standards. Rock mining should be avoided in talus areas where known populations of Larch Mountain salamander and rare invertebrates occur. For all ecoregions, if important roosts or nest sites are known, minimize disturbance (such as rock climbing) during the breeding season.
Rocky shore and tidepools	CR	Rocky shores are habitat for marine invertebrates and shorebirds such as black oystercatcher, rock sandpiper, black turnstones and surfbirds. Tidepools are habitat for marine invertebrates and fish.	Minimize disturbance during shorebird nesting season. Work with local communities and land management agencies to minimize impacts from tidepool viewing, a popular activity.

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Salt desert scrub	NR	This low-to-medium shrub habitat can be found on dry sites with saline soils, such as dry lake beds, flat desert pavements, low alkaline dunes, around playas, or on gentle slopes above playas. It provides habitat for kit fox and suits reptile and small mammal species that are primarily or exclusively associated with this habitat.	Cheatgrass invasion and increasing surface fuel accumulation are problems at some locations. Microbiotic soil crusts are particularly critical in these habitats, so it is important to minimize activities that cause soil disturbance.
Sand spits, sand bars, and sparsely vegetated islands (surrounded by salt-water or freshwater)	CR, EC, NBR	Sparsely vegetated sandy habitats that are isolated from disturbance due to humans and mammalian predators are important roosting and nesting sites for colonial waterbirds such as American white pelican, brown pelicans, gulls, cormorants, and Caspian terns. In eastern Oregon, this habitat occurs in large lakes and wetlands.	Maintain open habitat characteristics and minimize disturbance at key sites.
Seasonal wetlands (vernal pools, playas, and freshwater mudflats)	BM, CP, EC, KM, NBR, WV	Habitat for amphibians, rare plants, fairy shrimp and other invertebrates, grassland birds, migrating and wintering shorebirds. Playas are also important for migrating waterfowl. Difficult to survey and map. Once common in floodplains and small depressions in the Columbia Plateau, Willamette Valley and Klamath Mountains ecoregions, much of this habitat has been lost in these ecoregions.	Maintain and restore natural water flows and water quality (to maintain habitat quality for invertebrates). Control key invasive plants. Evaluate methods to imitate function through old ditches and depressions in fields. Improve mapping capabilities. Also see Strategy Habitat description for Wetlands and U. S. Fish and Wildlife Service Draft Recovery Plan for Vernal Pool Ecosystems in California and Oregon.
Springs, seeps, and headwaters	All ecoregions	Habitat for amphibians, invertebrates, and rare plants. The isolated nature of springs is one of the factors resulting in high levels of invertebrate endemism in the East Cascades. In dry ecoregions, spring and seep habitats are important as a source of water for wildlife and as habitat for amphibians and invertebrates. These habitats have been impacted by livestock watering and agricultural uses.	Use incentives, and, where applicable, maintain existing protection standards to provide buffers around springs, seeps and stream headwaters during forest management and road building activities. Use open-bottomed culverts or bridges when building roads or upgrading culverts to allow fish and amphibian passage. In dry ecoregions, use cooperative incentive programs to fence spring heads, which provides benefits to wildlife but allows water to be available for other uses.
Western juniper savanna with mature trees; late successional western juniper woodlands	BM, CP, EC, NBR	Western juniper savanna consists of scattered, often large, juniper trees within shrub-steppe. Late successional juniper woodlands may have a higher density of trees, but are characterized by large-diameter trees. These juniper habitats are important for juniper titmouse, raptors and other birds. In Columbia Plateau ecoregion, the remaining ferruginous hawk nest sites are primarily juniper trees.  Currently, about three to five percent of Oregon's juniper woodland is considered late-successional. A high percentage of old-growth juniper in Central Oregon near Bend, Redmond and Madras has been lost. Remaining stands are highly fragmented and are threatened by encroaching small junipers. In contrast, recruitment of juniper in sandy shrub steppe of the Columbia Plateau is naturally poor, so young juniper trees are not replacing older ones lost to cutting or natural death.	Remove small-diameter encroaching juniper trees while maintaining larger diameter junipers and connectivity of juniper patches. Reintroduce fire where practical. Need better spatial data on distribution of mature juniper savanna. In Columbia Plateau, maintain existing large juniper trees and examine factors affecting tree recruitment. Research is underway to determine the age, composition, structure, and wildlife usage of old growth juniper woodlands (for more information, see the Eastern Oregon Agricultural Research Center website <a href="http://oregonstate.edu/dept/EOARC/researchhome/research.html">http://oregonstate.edu/dept/EOARC/researchhome/research.html</a> )
Western larch forest and woodland	BM, EC	Occurs on cool moist sites interspersed with ponderosa pine habitats; may have been much more common historically in the Blue Mountains ecoregion.	Maintain large-diameter larch trees and patches of larch forest to provide local diversity; control key invasive plants.



