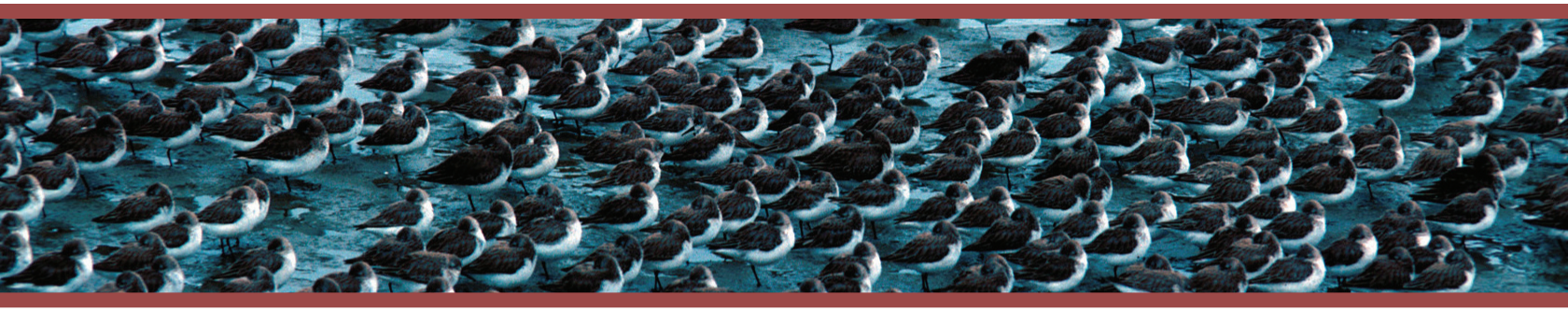

Photo © Tupper Ansel Blake

Animal Concentrations

Klamath Lake hosts the largest concentration of wintering bald eagles in the continental United States, with up to a thousand eagles. At Dean Creek Wildlife Viewing area, numerous elk congregate in marshy fields during the winter. During autumn evenings, up to 35,000 migrating Vaux's swifts swirl and funnel into an old chimney at Chapman School in Portland. Dozens of people gather each night to enjoy this display of the largest known Vaux's swift roost in the world. People have long appreciated the spectacle of thousands or millions of animals gathered in one area. Oregonians can now enjoy fish and wildlife viewing at several popular festivals that celebrate seasonal animal gatherings, including wintering bald eagles and migrating salmon, songbirds, shorebirds, or waterfowl.

Fish and wildlife often gather in concentrations for critical activities such as feeding, breeding, or migrating. Some species breed in colonies, perhaps due to limited, specialized breeding sites or as a strategy to deter predators. Animals also congregate when their food is concentrated. Migrating animals flock to a feeding site to refuel and rest. Or, animals might gather when an important resource is naturally limited in the landscape, such as freshwater in the desert or mineral springs in mineral-poor areas. Frogs and toads that breed in seasonal ponds tend to gather together for a short burst of spring breeding because they have a limited window of opportunity for egg-laying while the ponds stay wet. When Pacific treefrogs gather to breed, a springtime chorus erupts as males sing to attract mates.

When animals gather in these large groups, they can become particularly vulnerable to habitat alteration and to human disturbance. Because of the large number of individuals involved, any factors that impact highly critical sites can affect a large proportion of a species or an entire suite of species.

Identifying the most important sites is the first step in conserving animal concentrations. Approaches include The Audubon Society's Important Bird Area program, which recognizes the importance of migration stopovers and other areas where birds concentrate (for more information see www.oregoniba.org or The Audubon Society of Portland). The Conservation Strategy's Conservation Opportunity Areas include many, but not all, of Oregon's animal concentrations. For animal concentrations, appropriate conservation actions will depend on the species and site, but will focus on maintaining or restoring important habitat features. The table below summarizes important habitat types and features for some of Oregon's animal concentrations.

Animal Concentration	Important Habitat Types	Important Habitat Features
Bald eagles: wintering	Large lakes and rivers	Large trees or snags for communal roosts
Band-tailed pigeons	Estuaries and mineral springs	Mineral concentrations
Bat roost sites (particularly hibernacula, maternal roosts, or diurnal roosts)	Depending on bat species, includes caves, mines, cliffs, bridges, buildings, large hollow trees, or snags with loose bark	Suitable temperature and humidity. Lack of human disturbance is critical for Townsend's big-eared bat and pallid bat.
Deer and elk key winter range areas	Winter range characteristics vary by ecoregion, but usually included warmer sites such as lower valleys and southern slopes	Diverse forested landscapes with openings and a variety of age classes, perennial grasslands, and sagebrush steppe habitats. Woody vegetation for foraging (e.g., bitterbrush, aspen, alder, willow, oak). Cover for insulation and for hiding. Shrubs are important where snow is deep during winter.

Animal Concentration	Important Habitat Types	Important Habitat Features
Deer and elk herds (migration routes and transition range)	Varies by ecoregion and combines features of summer and winter range; travel corridors that are unobstructed by roads and urban areas	Varies, but includes both forage and cover to provide safe passage between winter and summer ranges
Freshwater mussel beds	Aquatic habitats	Clean water with low contamination and sedimentation; natural water flow regimes. Freshwater mussels are important to tribal culture; filter water; are indicators of high water quality; and are an important food source for fish, mink, otters, and raccoons
Great blue herons: nesting colonies (rookeries)	Riparian habitats	Large trees near foraging areas (open grassy and wetland habitats); low levels of human disturbance during the nesting season. Great blue heron nesting colonies are declining and at risk in some areas, particularly in the Willamette Valley.
Lamprey (juveniles concentrate in high densities)	Freshwater habitats. Potential preference for low-gradient floodplain habitats and lower mainstem river channels.	Unknown.
Pond-breeding amphibians (toads, frogs, salamanders)	Ponds and other shallow wetlands. In many areas, these ponds are created by winter and spring rains, then dry up each summer. These temporary ponds provide essential breeding habitat for amphibians living nearby.	Critical breeding habitat, particularly during spring and early summer. Must remain wet long enough for tadpoles to metamorphose; be relatively free of predators or disturbance; and, provide sufficient food.
Raptors: migrating and wintering	Fields and pastures, grasslands and prairies, sagebrush steppe, wet meadows; ridges are important during migration	Habitats where prey are concentrated (e.g., open grassy areas for rodents; riparian and deciduous shrub communities for songbirds; lakes for waterfowl); thermals over ridges for soaring
Salmon juvenile rearing areas	Estuaries or low-gradient stream reaches.	Suitable habitat complexity, temperature, and low fine sediment loads
Salmon adult holding areas	Stream reaches	Prefer stream reaches with suitable temperature and habitat complexity.
Sage-grouse leks	Big sagebrush	Cover of 15-50 % cover for nesting. Open areas used by males for courtship. Areas rich in forbs such as playas, meadows, and higher elevation sagebrush steppe habitats are important for brood rearing.
Seabird nesting colonies	Coastal bluffs; offshore islands and rocks; and sandy islands	Depending on species may include deep soil for burrowing (tufted puffin and storm-petrels), rocky ledges (common murres), or unvegetated sandy areas (Caspian terns). Isolation from mammalian predators and human disturbance is critical.
Seal and sea lion haul-outs and pupping areas	Flat offshore rocks and isolated beaches	Isolation from human disturbance is important.
Shorebirds: migrating and wintering	Wet prairies, flooded fields, mudflats, shorelines of wetlands and reservoirs, estuaries, sandy ocean shore	Open, moist muddy or sandy areas with high invertebrate prey density
Songbirds: migrating	Deciduous and mixed deciduous-conifer forests; high- elevation deciduous or mixed shrub communities, especially near water; riparian habitat	Deciduous trees and shrubs with high invertebrate prey density and cover for insulation and hiding. Forested buttes are important in urban and agricultural landscapes
Tadpole aggregations (for example, Western toads)	Shallow areas in mountain lakes and ponds	Maintain shallow mountain lake habitats, including native aquatic and lakeside vegetation.
Waterbird nesting colonies	Lakes and marshes with both deep and shallow water	Varies by species, but includes isolated and sparsely vegetated islands (American white pelican); trees (snowy egret; emergent vegetation (eared grebes). Isolation from mammalian predators and human disturbance is important.
Waterfowl and other waterbirds: migrating and wintering	Wetlands, lakes, reservoirs, and estuarine bays	Diverse water features with high food availability (aquatic plant, invertebrate, or fish) and open water for security
Vaux's swift roosts	Late successional conifer; urban and suburban	Large hollow trees and snags for nesting and roosting; chimneys (which imitate hollow trees)