U.S. Fish and Wildlife Service

Habitats and Wildlife Resources at Ridgefield NWR

Introduction

Ridgefield National Wildlife Refuge encompasses 5,218 acres of Columbia River floodplain habitat with a mean elevation less than 20 feet above sea level. Historically, much of this area flooded periodically and consisted of deciduous riparian forest, wet meadows, seasonal sloughs and wetlands. These habitats still remain, but in less than pristine conditions due to major landscape alterations such as diking, water manipulations (dams), and presence of invasive species. Construction of dikes and operation of dams has all but nullified the dynamic processes that shaped the Columbia River floodplain, thus compromising the long-term health of these habitats. The refuge also contains 75 acres of higher elevation fields, Oregon white oak and mixed conifer forest. The refuge supports most of the wildlife species typical of these habitats along the Columbia River.

The refuge was established in 1965 primarily to support waterfowl species, such as the dusky Canada goose. This mandate requires that management actions benefit these species, which is reflected in the intensive land and water management regimes utilized by the refuge. The refuge manages approximately 1,650 acres of mixed pasture grasses and 150 acres of croplands (corn and grain) to support migrant and wintering populations of waterfowl. However, the refuge strives to balance this management with more passive management for neotropical migratory birds, native mammals, amphibians and reptiles.

Floodplain Habitats (riparian forests)

The dominant tree species on the refuge are Oregon ash (*Fraxinus latifolia*), black cottonwood (*Populus trichocarpa*), and willows (*Salix* spp.). These trees along with the understory shrubs, forbs and grasses, evolved with the historic flooding of the Columbia River. Native understory plant communities include alder, red-osier dogwood, elderberry, snowberry, and nettles. Due to flood control, past grazing practices and other human-induced disturbances, much of the understory of riparian habitats are dominated by invasive non-native plants such as reed canary grass, Himalayan blackberry, false indigobush, teasel, and thistles. The Carty and Roth units, which are not diked and are still connected directly to the Columbia River via sloughs and creeks, support the largest stands of riparian forest. The Bachelor Island and River S units are diked and have been intensively farmed and grazed for nearly 100 years. These units continue to be intensively managed for seasonal wetlands, croplands and pastures for waterfowl, cranes, and other waterbirds; thus riparian habitat is limited and mostly confined to the river and slough shorelines. The Refuge's riparian forests are utilized by over 100 species of songbirds and raptors. Red-tailed hawks, great horned owls, swallows, flycatchers, warblers and finches are commonly observed in these habitats. A colony of approximately 450 pairs of great blue herons and great egrets nest in the tall riparian forests of the Bachelor Island and Roth units.

Floodplain Habitats (wetlands)

The refuge manages 880 acres on the Bachelor Island and River S unit wetlands as seasonal moist soil units and emergent wetlands. Since these units are diked from the Columbia River, water must be pumped into and out of these units. Wetlands are manipulated to produce native and non-native vegetation that is utilized by waterfowl and waterbirds for nesting cover, loafing, and food. Food resources produced include green forage, seeds, tubers and corms, as well as the accompanying aquatic invertebrate communities. Over 30 species of waterfowl and 20 species of waterbirds and shorebirds utilize these wetlands seasonally. Many other species such as amphibians and insectivorous birds, benefit from these wetlands. Painted turtles, common garter snakes, Pacific chorus frogs, red-legged frogs, and bullfrogs are commonly observed in these wetlands. The non-native nutria, a large water-loving rodent, is abundant in wetlands throughout the refuge.

Waters on the remainder of the refuge are unmanaged and are allowed to fluctuate as dictated by their respective watersheds and the influences of the Columbia River. Both Gee Creek and Campbell Slough are tidally influenced and provide important habitat for fish. This natural connection maintains unique ecological processes that cannot be duplicated in the managed wetlands. Thirty species of fish, including steelhead and coho salmon, are associated with waters on and around the refuge. Mammals within these stream and wetland systems include beaver and river otter.

Other Habitats

The upper elevations of the Carty unit host 60 acres of upland forest. Tree species include Oregon white oak, western redcedar, and Douglas-fir. Subcanopy species include Indian-plum, oceanspray, Pacific ninebark and rose; native wildflowers are still prevalent in this unit. Oak trees are increasingly rare in western Washington but continue to be important for the unique species associated with them. Slender-billed nuthatches, a rare westside subspecies, still haunt the oak canopy, while holes in oak branches provide nesting for wood ducks, chickadees, wrens, and woodpeckers.

Invasive Species

Worldwide, invasive species are considered to be one of the major threats to native plant and wildlife diversity. Invasive plants can dominate the landscape, crowding out desirable plants and reducing biodiversity. Reed canary grass is the dominant wetland grass of refuge wetlands and seasonally wet uplands and forms monotypic stands that suppress native plants. Himalayan blackberry has swallowed the subcanopy of much of the riparian and upland forests, and infests pastures and wetland edges. Other non-native noxious weeds such as tansy ragwort, thistles, teasel, and poison-hemlock require annual control measures to prevent these species from overwhelming pastures and fields.

While seemingly less insidious, non-native animals also compete with or consume native wildlife, reducing wildlife diversity. Nutria consume large amounts of wetland vegetation while riddling dikes and shorelines with their burrows and dens, creating economic damage, safety concerns, as well as exacerbating erosion. Bullfrogs have colonized virtually every still water course on the refuge and have been documented elsewhere to eat anything they can cram into their large mouths. Bullfrogs are particularly adept at preying on native reptiles and amphibians, and have been implicated in the Pacific Northwest as a major cause of declines in these species.
Non-native fish account for over 50% of the species in and around the Columbia River. Their impacts are not well documented but some species are believed to decimate amphibian populations by consuming eggs and larvae. The control of invasive species is of paramount concern to refuge managers and is a primary focus of refuge management.