



U.S. Fish & Wildlife Service

Big Wetlands

In the National Wildlife Refuge System

Wild creatures, like men, must have a place to live. As civilization creates cities, builds highways, and drains marshes, it takes away, little by little, the land that is suitable for wildlife. And as their space for living dwindles, the wildlife populations themselves decline. Refuges resist this trend by saving some areas from encroachment, and by preserving in them, or restoring where necessary, the conditions that wild things need in order to live. - Rachel Carson

Since three-acre Pelican Island was proclaimed a Federal Bird Reservation in 1903, over 95 million acres of land in 540 units have been preserved in what is now the National Wildlife Refuge System. The System encompasses over 4 percent of the total surface area of the United States. The 16 refuges in Alaska contain almost 83 percent of the land in the entire System.

The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States. Most of these resources depend on wetlands or associated deepwater habitats for their survival. Many refuges harbor wetlands and the exceptional collection of species that inhabit them. Some of the Nation's largest remaining wetlands are protected within refuges.

Over 30 million acres, almost a third of the Refuge System, are wetlands. In addition to refuges, this includes nearly 3 million acres of wetlands in the prairie pothole region of the north-central United States. These wetlands are known as "waterfowl production areas," and have Federal protection through fee acquisition or easements. These lands were mostly purchased through the sale of Federal Duck Stamps.

Here are some examples of large wetland complexes acquired and managed by the Fish and Wildlife Service.



Okefenokee National Wildlife Refuge, Georgia and Florida

Georgia and Florida's Okefenokee Swamp is mostly protected in the Okefenokee National Wildlife Refuge. At approximately 680 square miles, Okefenokee is a Wetland of International Importance. A vast bog inside a huge saucer-shaped depression, 90 percent of Okefenokee is protected as designated wilderness. Endangered species in the refuge include the eastern indigo snake, Wood Stork, and Red-cockaded Woodpecker. Numerous migratory birds and many fish species also use wetlands of the refuge.



Ruby Lake National Wildlife Refuge, Nevada

This 40,000 acre refuge lies along the eastern flank of the rugged and scenic Ruby Mountains. Contained within a closed-hydrologic basin, Ruby Lake is a remnant of an ancient, 300,000 acre, 200-foot deep lake. Its seasonal marsh and shallow alkali playas are supplied with water from over 160 springs. Rare within the arid Great Basin, these wetlands have been designated a National Natural Landmark. Named a Globally Important Bird Area, the refuge is used by more than 200 bird species, including the highest concentration of nesting Canvasbacks in North America.



Laguna Atascosa National Wildlife Refuge, Texas

Laguna Atascosa is the largest protected area of natural habitat left in the Lower Rio Grande Valley. Thirty thousand acres of coastal wetlands are protected within the refuge. Laguna Atascosa is home to ten endangered and threatened species. The refuge is

also an important wintering waterfowl area and a Western Shorebird Reserve Network site. At 410 species, it boasts more birdlife than any other refuge. Laguna Atascosa is a major bird watching "hot spot" in the United States, and is estimated to generate \$5.6 million a year to the local economy from ecotourism.



Yukon Delta National Wildlife Refuge, Alaska

The huge delta of the Yukon and Kuskokwim Rivers in western Alaska is protected in the second largest of all refuges, the Yukon Delta National Wildlife Refuge, with over 19.1 million acres. The terrain is mostly low-lying marshlands with interlaced river channels, oxbows, and tens of thousands of lakes and ponds. The Delta is a premier ecosystem supporting enormous numbers of water birds: over 750,000 swans and geese, 2 million ducks, and 100 million shorebirds and other water birds. The threatened Steller's Eider and Spectacled Eider are found on the refuge. Refuge rivers abound in fish. Moose, caribou, grizzly bear, black bear and wolves use the wetlands.



Horicon National Wildlife Refuge, Wisconsin

Horicon Refuge was established in 1941, and currently exceeds twenty-one thousand acres. It protects a large portion of the 32,000 acre Horicon Marsh, the largest freshwater cattail marsh in the United States. The State of Wisconsin owns and manages the adjoining portion of the marsh. The

marsh was once part of a much larger lake formed by melting glacial waters pooling in a scoured lakebed behind a moraine. Erosion gradually allowed the lake to evolve into a marsh.

Once home to millions of waterfowl, the reclaimed marsh now serves as crucial staging and feeding habitat for the Mississippi Valley population of Canada Geese. Horicon Marsh also provides habitat for muskrat, mink, fish frogs, turtles, and 267 species of birds, including swans, cranes, herons, shorebirds, and ducks, with a large nesting population of Redhead Ducks.



Cache River National Wildlife Refuge, Arkansas

Bottomland hardwood forests located in the 10-year floodplain of the Cache River are protected by this 55,000 acre refuge. Cache River Refuge covers approximately 70 miles of river floodplain and includes a complex of 33,000 acres of bottomland forest and associated sloughs and oxbow lakes. The refuge is home to large populations of wintering waterfowl including a very important wintering area for Mallards. The refuge also has shorebirds, wading birds, other migratory birds, and other resident wildlife, fish, and plants, including some endangered species.



Lake Umbagog National Wildlife Refuge, New Hampshire

Lake Umbagog Refuge is one of the newest refuges. Although not as large as some of the other refuges, it has an impressive complex of fens, marshes,

swamps, and especially northern bogs. The bogs contain unique species, including carnivorous pitcherplants and tiny sundews, that are adapted to highly acidic waters and that are low in nutrients. The refuge's 750-acre floating bog of peat covered with plants has been designated a National Natural Landmark because of its uniqueness. The refuge has 211 bird species nesting or visiting, including 25 duck species and 40 shorebird and other waterbird species. It is a primary area for nesting loon and osprey. Moose frequent the wetlands. The refuge, the States of New Hampshire and Maine, and easements with timber and paper companies are protecting much of the Lake and surrounding area.



Tundra and caribou

Dove Davis, EPA

Arctic National Wildlife Refuge, Alaska

The coastal plain of the Arctic Refuge is mostly tundra, a 2.5 million acre wetland. The ground lies permanently frozen below much of the refuge. This impenetrable "permafrost" layer causes many areas to remain wet during the summer. Plants grow rapidly with 24-hour daylight, but the growing season is short. These factors make the tundra a fragile area easily impacted by human activities. In summer, the tundra is sprinkled in low lying areas with thousands of pools, ponds, and lakes, with plants growing in them. Short plants, and in some cases shrubs, cover the wet ground. Grazing animals, such as caribou, lemming, and snowshoe hare, eat the tundra plants. Carnivores, such as the wolf, weasel, and fox, eat the grazers. Nearly 180 species of birds and 36 species of fish can also be found here.

Refuge wetlands are found in 50 States and U.S. territories; visit one near you.

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