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U.S. Fish & Wildlife Service

Blackwater

National Wildlife Refuge



Cover: Delmarva fox squirrel
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Blackwater National Wildlife Refuge is one of more than 560 refuges in the National Wildlife Refuge System administered by the U.S. Fish and Wildlife Service. The National Wildlife Refuge System is a network of lands and waters managed specifically for the protection of wildlife and wildlife habitat for the continuing benefit of the American people. It represents the most comprehensive wildlife resource management program in the world.

Welcome



This blue goose, designed by J.N. "Ding" Darling, is the symbol of the National Wildlife Refuge System.

Blackwater National Wildlife Refuge (NWR), located 12 miles south of Cambridge, Maryland, was established in 1933 as a refuge for migratory birds. The refuge includes more than 32,000 acres of rich tidal marsh, mixed hardwood and loblolly pine forests, managed freshwater wetlands and croplands. It serves as an important resting and feeding area for migrating and wintering waterfowl, and is one of the chief wintering areas for Canada geese using the Atlantic Flyway. The refuge supports one of the highest concentrations of nesting bald eagles on the Atlantic coast.

History

Native Americans were the first people to utilize the bountiful resources of the Blackwater area. Seven Native American groups occupied the Delmarva Peninsula in the early historic period, including the Nanticoke and Choptank. Later, colonists used the land for agriculture, timbering, and trapping. The first land acquired for the refuge in 1933 was formerly managed as a muskrat fur farm. Remains of old drainage ditches and furrows that can be seen in some wooded areas indicate past agricultural uses.

Wildlife

The varied habitats of Blackwater, from open water to dense woodlands, promote a diversity of wildlife that change in numbers and species with the seasons.

Birds

The best time to view waterfowl is November through February. Wintering species include tundra swans, Canada and snow geese, and more than 20 duck species. The most common ducks found are mallards, blue-winged teal, green-winged teal, wood ducks, wigeon, shovelers, mergansers, and pintails. Although most waterfowl migrate north in the spring, some remain through the summer, using the protected areas of the refuge to raise their young. Nesting waterfowl include mallards and wood ducks.

Other large resident birds include the great blue heron and the bald eagle. Sightings of eagles are fairly common as Blackwater is the center of one of the greatest nesting densities of bald eagles in the eastern United States. Over 85 species of birds breed in the refuge woodlands and surrounding habitat.

Numerous marsh and shorebirds arrive in the spring and fall, searching for food in the vast mud flats and shallow waters of the Blackwater River. Ospreys, or “fish hawks,” are



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Adult bald eagle in nest

common from spring through late summer; nesting in dead trees and platforms that have been placed in the rivers and marshes. Osprey and eagle interactions are interesting due to their competition for fish resources.

The refuge woodlands provide year-round homes for owls, towhees, woodpeckers, nuthatches, woodcocks and wild turkeys. The warmer months invite warblers, vireos, orioles, flycatchers, and many others to this same habitat. A bird checklist for the refuge is available to visitors.

Mammals

In addition to its extensive list of birds, Blackwater supports a variety of mammals, including bats, raccoons, rabbits, otters, opossums, skunks, and red foxes. The marshes are home to large numbers of muskrats and, until recently, the larger nutria, a South American rodent introduced in the 1940s. The nutria caused considerable wetland damage, but an intensive trapping effort, begun in 2002, has eliminated the nutria from the refuge. White-tailed deer are often seen in wooded areas and in fields along the



Young osprey in nesting platform

forest edge. Sika, an elk species native to Asia that were introduced to nearby James Island in 1916, prefer the wet woodlands and marsh. Sika are more nocturnal than white-tailed deer and, therefore, are less likely to be seen. Both gray squirrels and Delmarva Peninsula fox squirrels inhabit the wooded areas.

Management

The goal of refuge management is to maintain and enhance productive habitat for a healthy diversity of wildlife species. Management tools include water level manipulation, forest improvement, and the control and elimination of exotic (non-native) plants and animals. Controlled burns are utilized at Blackwater to reduce the risk of uncontrolled wildfires, regulate exotic vegetation and invigorate the spring growth of native marsh grasses.

Waterfowl

The refuge manages 450 acres of freshwater impoundments (constructed wetlands) to provide habitat for migrating and wintering waterfowl. To supplement natural vegetation, a variety of crops are planted within these impoundments and adjacent farm fields, providing an array of foods to meet the nutritional needs of these long-distance travelers.

Furbearers

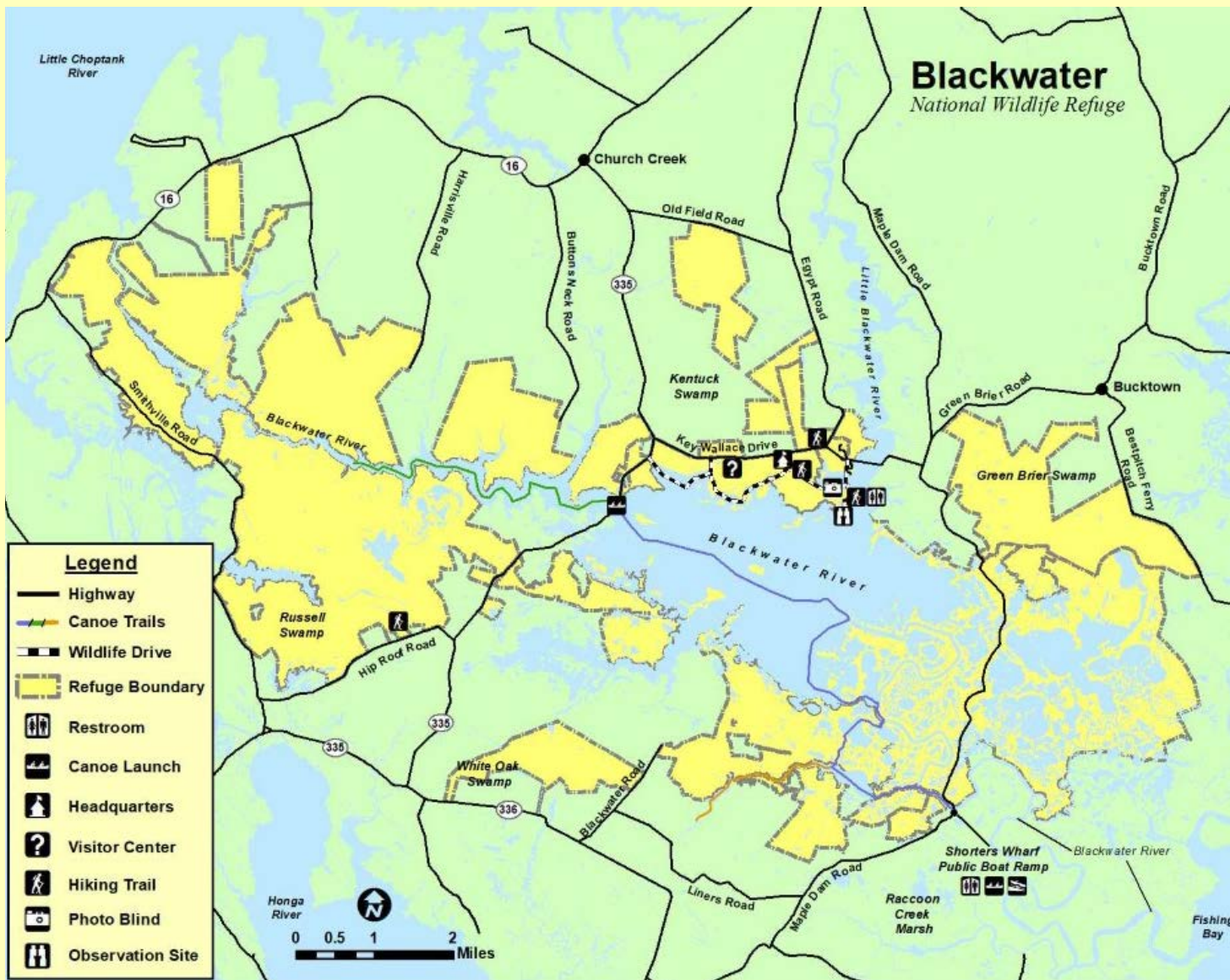
A winter trapping program, regulated by the refuge and accomplished by trappers under a special permit, provides protection for fragile marsh vegetation by reducing the impact of foraging furbearers. All management programs are carefully monitored to ensure the best interests of wildlife resources.

Endangered & Threatened Species

Endangered species are a special responsibility for the U.S. Fish and Wildlife Service. The Delmarva Peninsula fox squirrel, which once ranged from southeastern Pennsylvania throughout the Delmarva Peninsula, was declared endangered in 1967 due to loss of suitable woodland habitat. Decades of biological and forest management programs at Blackwater and other lands led to the stabilization and expansion of fox squirrel populations, which resulted in its triumphant removal from the endangered species list in 2015.



Our national symbol, the bald eagle, was also once an endangered species. It was removed from the endangered species list in June, 2007. Thanks to the hard work of the U.S. Fish & Wildlife Service and many others, bald eagle numbers at the refuge, in the Chesapeake Bay area, and around the country continue to increase. Like other birds of prey, the eagle's decline stemmed from causes endemic to our times - pesticides, pollution, irresponsible shooting, and human





©Mary Konchar

Great blue heron

encroachment. Blackwater played an important role in protecting habitat critical for the eagle's recovery. Though no longer endangered, the bald eagle will continue to be protected under other federal laws.

Wildlife Calendar

Events may vary by one or two weeks depending on weather conditions.

January

Geese, swans and ducks are present in the marsh along with hawks, great blue herons, and a few species of shorebirds. Golden eagles may be observed in the area, and bald eagles are often conspicuous along Wildlife Drive. Great horned owls are incubating eggs, while bald eagles are rebuilding their nests and beginning to lay eggs high in loblolly pine trees.

February

First northward bound migrants appear late in February - killdeer, robins, and bluebirds. Most pairs of bald eagles have eggs in their nests. Wintering waterfowl are preparing for the long flight north through intense foraging.

March

Most migratory waterfowl depart for points north. Masses of red-winged blackbirds pass through; some remain to nest. Osprey return from southern wintering grounds and begin constructing nests. Young bald eagles (eaglets) begin to hatch.

April

Waterfowl are incubating eggs. The majority of migrant marsh birds return by mid-April. Blue-winged and green-winged teal pass through. (Blue-winged are latest in spring and earliest in fall). Delmarva Peninsula fox squirrels are born. Eaglets grow quickly in their nests. Osprey, wild turkey and northern bobwhite all begin to nest. Peak shorebird migration occurs in late April to early May.

May

Migratory songbirds peak in late April and early May with warblers being most conspicuous and abundant. White-tailed deer fawns (usually twins) begin to appear. Eaglets start to fledge; this will occur from the end

Sika



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©Larry Hitchens



Male red-winged blackbird on cattail

of the month through the middle of June. The first broods of waterfowl appear.

June

Ospreys begin to hatch. Eaglets fledge. Songbirds begin to nest. Young waterfowl begin to fly.

Note: In the summer, be prepared for large concentrations of flies and mosquitoes in the marsh and woods.

July

Large quantities of insects are consumed by swallows, kingbirds, and flycatchers. The conspicuous marsh hibiscus (mallow) begins to bloom along marsh edges at the end of the month. Osprey young leave the nest.

August

Wading bird numbers increase. Blue-winged teal begin to arrive from the north on their southward migration. Some bald eagles disperse northward after the breeding season.

September

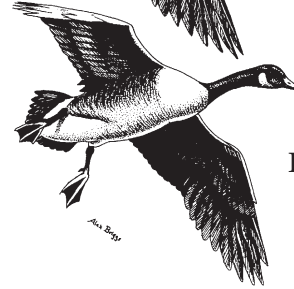
Ospreys migrate to South and Central America. Waterfowl numbers gradually increase. Egrets and herons accumulate until cold weather pushes them south. Tickseed sunflowers bloom; cattails go to seed. Songbird migration peaks in late September and early October. Toads are abundant.

October - December

Autumn colors peak. Blackbirds, the last of the songbirds to migrate, peak in October and November.



Abundance of ducks and geese gradually increases. Peak times for waterfowl can vary from year to year: Tundra swans from northwest Canada usually arrive in November. Several hundred remain throughout the winter.



White-tailed deer and sika breed from October to December.

Bald eagle numbers increase with the arrival of migrants from the north. Golden eagles are occasionally seen.

Visitor Activities *Visitor Center*

The Visitor Center features exhibits, a second floor observation area, a library, a butterfly garden, and a bookstore managed by the Friends of Blackwater NWR.

Wildlife Drive

The Wildlife Drive is a four mile paved road that winds along freshwater ponds, through woods, past fields, and adjacent to marshes. The majority of the Wildlife Drive is one way for motorized vehicles, but walking and bicycling is permitted in both directions. All visitors must access Wildlife Drive via its main entrance on Key Wallace Drive. Pets are allowed inside vehicles only. An entrance fee is required.

Walking Trails

Interpretive trail leaflets are available at the Visitor Center or the trail-head kiosks. The *Marsh Edge Trail* and the *Woods Trail* are located on the Wildlife Drive. The *Marsh Edge Trail* is a 0.4 mile paved path through forests along the edge of the Little Blackwater River. The *Woods Trail* loops through prime Delmarva Peninsula fox squirrel habitat of pine and mixed

hardwoods for 1 mile. Located at the corner of Key Wallace Drive and Egypt Road, the approximately 3-mile *Key Wallace Trail* passes through some of the oldest trees on the refuge. The *Tubman Road Trail*, located off of Hip Roof Road, takes visitors 1.5 miles through a mixed landscape of forest, old fields, and wet sloughs. Portions of this trail are often wet; boots are recommended. Visitors are reminded that pets are not permitted on the trails.

For Your Safety and Comfort

Poison ivy is common along the trails. Remember the saying “leaves of three, let it be.” Biting insects and ticks are abundant from April through October. Protective clothing and insect repellent are recommended. Restrooms are located in the Visitor Center, and at the parking areas of the Education Building and the Marsh Edge Trail.

Bike Route

Bicycling is permitted along the entire length of the Wildlife Drive in both directions. An entrance fee is required.

Fishing/Boating

Boats may only be launched from designated county boat ramps or the refuge launch on Rt. 335. Note that some waters are closed October 1 - March 31. No fishing is allowed from the Wildlife Drive, but shoreline fishing is available on the Key Wallace Drive causeway. Airboat use is not permitted. Further information on fishing/boating regulations can be obtained at the Visitor Center and the refuge website.

Paddling Trails

Three marked canoe/kayak trails totaling over 20 miles are available for paddling (seasonal closures apply). Canoes and kayaks may be launched from designated areas only. Detailed paddling trail maps are available at the Visitor Center and the refuge website.

Hunting

Hunting for deer, waterfowl and wild turkey is permitted seasonally in designated areas of the refuge.

Hunters may inquire at the Visitor Center or visit the refuge website to find out how to obtain hunting permits.

Volunteer Opportunities

For general information on volunteer opportunities on the refuge, please call 410/228 2677.

Hours

Visitor Center - Open Tuesday through Sunday 10:00 am to 4:00 pm. Closed Mondays and federal holidays.

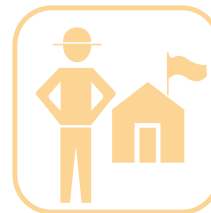
Wildlife Drive and outdoor facilities are open daily, dawn to dusk, year-round. Some trails and portions of the Wildlife Drive may be closed occasionally due to special circumstances or inclement weather.

Entrance Fees

A daily permit is required for all visitors to the Wildlife Drive.

Private Vehicle - \$3.00
Pedestrian, Bicyclist - \$1.00
Federal Duck Stamp or federal pass holder - Free
Commercial Van or Bus up to 20 passengers - \$50.00
21 or more passengers - \$100.00

See refuge website for additional information regarding commercial activities.



Entrance passes are available at the Visitor Center. The current Federal Duck Stamp is valid July 1 to June 30 (\$25). The Interagency Annual Pass (\$80) and the Blackwater NWR Pass (\$12) are valid one year from the date of issue. The annual Senior Pass (\$20) and the lifetime Interagency Senior Pass (\$80) are available to those 62 years or older. Free passes include the Interagency Access Pass for people who are blind or permanently disabled, the Military Annual Pass for active duty military and dependents, the Military Lifetime Pass for veterans and Gold Star families, and the “Every Kid Outdoors” Pass for 4th Graders who possess a completed voucher.