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U.S. Fish & Wildlife Service  
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<http://www.fws.gov>

August 2002



U.S. Fish & Wildlife Service

# Wertheim

*National  
Wildlife Refuge*

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## *White Oak Nature Trail Guide*

*Welcome! Wertheim National Wildlife Refuge is part of the Long Island National Wildlife Refuge Complex. Wertheim is one of nearly 540 National Wildlife Refuges in the United States, which form the National Wildlife Refuge System. The System's main purpose is to provide and protect habitats for migratory birds, endangered species, and fish. Wertheim NWR and the other eight units of the Long Island NWR Complex are situated along the Atlantic Flyway, a major bird migration path on the East Coast. Hundreds of species of waterfowl and other birds use the Refuges for nesting, wintering and migratory stopovers, while other wildlife find important habitat year-round.*

**Variety of Habitat Brings Variety of Life!**



This goose, designed by J. "Ding" Darling, has become a symbol of the National Wildlife Refuge System.

This 2,550-acre Refuge supports a variety of wildlife and their habitats. The U.S. Fish & Wildlife Service manages the Refuge to protect migratory birds, endangered species, and other wildlife. Wertheim's forests, grasslands and wetlands are home to many types of songbirds, mammals, shorebirds, fish, reptiles and amphibians. The diversity of habitats found at the Refuge attract and support many different kinds of wildlife from ants to butterflies, ducks to songbirds, owls, hawks, mice, voles, deer and weasel! All of the wildlife here depend in some way on each of the habitat types you'll walk through today.

*Carmans River*



USFWS

**Enjoy your hike!**

Explore the White Oak Nature Trail on the short loop (1.5 mi. long and about an hour to walk) or the long loop (3 mi. and about 2 hours to walk). The terrain along the trail is somewhat sandy and relatively flat, with one or two small hills. For those seeking a smoother walk, start your hike at the end of the trail (past the main office) and walk out a mile on a packed bluestone dust surface (This portion of the trail complies with ADA standards). Marked posts along the trails match the text in this guide.

**Trail hours:** 8:00 am– 4:00 pm, daily

## Things to Enjoy at the Refuge

There are many activities for you to enjoy during your visit.

- Wildlife viewing
- Hiking
- Nature photography and art
- Environmental education\*
- Bird watching
- Canoeing and kayaking
- Fishing†
- Cross-country skiing
- Guided hikes\*
- Volunteer opportunities
- Special events

\*By appointment

†New York State regulations apply, as well as special Refuge rules.

## When to watch

Late October through early April offers the best times to view waterfowl on the Refuge. The forest comes alive in Spring with the arrival of warblers, while chickadees, black ducks and white-tailed deer may greet you year-round.

*Red-winged blackbird*

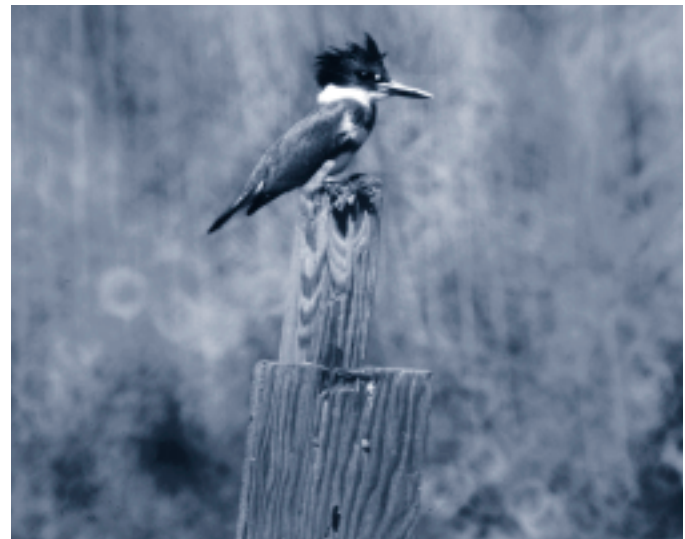


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## Help Protect Wildlife

Everything on the Refuge is either a home or food for wildlife. Therefore, please remember...

- Take only pictures, leave only footprints.
- Use official trails only.

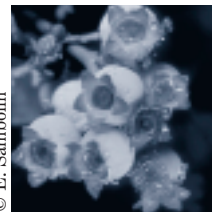


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*Belted kingfisher*

- Respect Refuge boundary signs, closed areas and private property.
- Please keep pets off the Refuge. Their presence disturbs wildlife.
- Keep a walking pace. Running triggers a flight response in wildlife.
- Keep your distance—respect nesting wildlife.
- Pack your garbage out with you.
- Keep noise levels low. You will have a better chance at seeing or hearing wildlife!

*Blueberries*



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It is your responsibility to know and follow Refuge regulations. If you need assistance, please ask for help at the main office.

## Young Forests Offer Fruitful Fare

1

Once an open field, this young forest now surrounds you with black cherry trees, huckleberry, and blueberry. These woody plants provide food for many animals. White-tailed deer, robins, cardinals, wild turkeys, and other wildlife use this area to dine on the delicious fruits of the trees and shrubs found here.

## Wildlife Thrive in Forest Openings

2

Follow the spur trail to an observation blind overlooking a forest opening. These grassy, open spaces have something for all types of wildlife and are an important part of a healthy forest. Openings provide feeding areas for rabbits, white-tailed deer, and meadow voles; food for seed- and insect-eaters such as the short-tailed shrew, white-footed mouse, and wild turkey; and hunting grounds for red fox, long-tailed weasel, snakes, hawks, and owls. Turtles bask in the sun and find nesting spots in forest openings, while American woodcock and wild turkey use them to stage yearly mating rituals.

Meadow vole



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## Mixed Oak Forest Most Common at Wertheim

3

The forest surrounding you here is a mixed oak forest. Dominated by white, red and black oak, and pignut hickory, it is the most common forest type on the Refuge. High and low bush blueberry and black huckleberry form the woody understory. Oak forests support a wide variety of wildlife. You may catch a glimpse of bobwhite quail, blue jays, gray squirrels or chipmunks feeding on acorns and hickory nuts. The berries attract songbirds, raccoons and opossums, while the leafy cover overhead brings ovenbirds, black and white warblers, and scarlet tanagers, to name a few.

Scarlet tanager



© S. Pollack

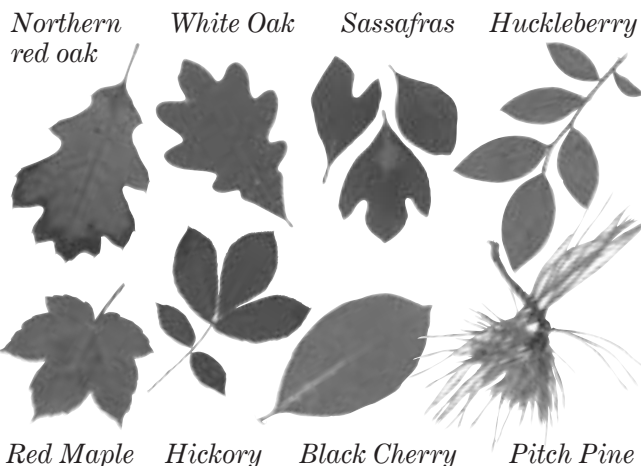


USFWS

Refuge staff and volunteers have put up over 100 bluebird nesting boxes at Wertheim to help these birds reproduce. Bluebirds are cavity nesters, usually making their nests in tree holes. Since natural cavities are scarce, these boxes make it easier for bluebirds to find nesting spots. Chickadees, titmice, tree swallows and house wrens also use these nest boxes.

### Learn Your Trees!

The trees and shrubs at Wertheim NWR offer both food and shelter for all sorts of animals from birds and mammals to reptiles and insects. The leaves below will help you learn these important plants!



### Oak-Pine Forest—Dependable Habitat

4

As you walk, notice the transition of the oak forest to a mixture of oak and pines. Birds often nest in groups of pines because these evergreens provide year-round protection from the weather and predators. Many



© E. Sambolin

*Wild turkey*

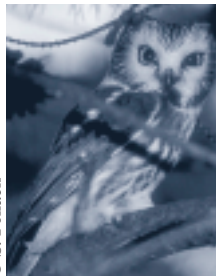
wildlife depend on the acorns and other foods found in this forest.

Wild turkey, one of the largest upland birds in North America, thrive in oak-pine forests—roosting in the pines by night and feeding on acorns and hickory nuts by day. Observant visitors may see a turkey, or at least a feather left behind.

**Pine Barrens Full of Life!**

**5**

Early settlers referred to the land that is now the Wertheim NWR and surrounding areas as the pine barrens because the sandy soils here were unable to grow anything of value (in other words, crops). But the pine barren forest around you is full of life—and it all begins with plants!



© S. Pollack

*Saw-whet owl*

Pitch pine, oaks, huckleberry and blueberry dominate this part of the pine barren forest. Caterpillars, ants and aphids depend on leaves and pine needles for food. Predatory insects such as ladybugs and other beetles then eat these leaf-eating insects. Bees and butterflies pollinate some of the trees and shrubs surrounding you. The great variety of insect life in the pine barrens attracts insect-eating animals like shrews, moles, bats, and many different kinds of birds.

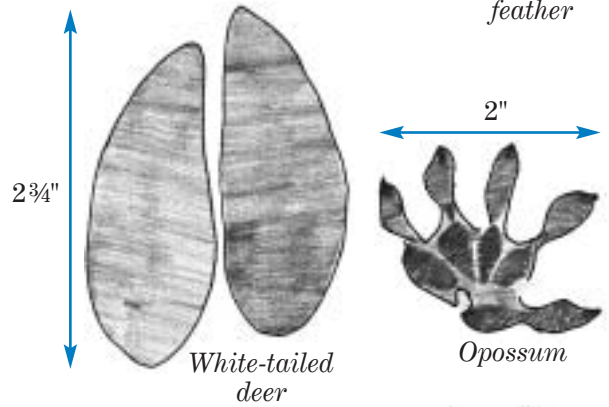
The largest birds and mammals of the pine barrens spend most of their time in the oaks. There, white-tailed deer, wild turkey, blue jays and squirrels congregate in search of acorns. Oaks

**Want to Know Who's Been Here? Wildlife Sign Will Tell You!**

*Viewing wildlife takes patience, quiet, and knowing what to look for. Although you may not see all of the wildlife that depend on the Wertheim NWR to live, there are signs to let you know they are here.*



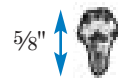
*Wild turkey feather*



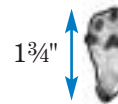
*White-tailed deer*



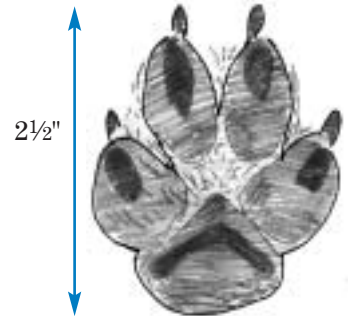
*Opossum*



*White-footed mouse*



*Long-tailed weasel*

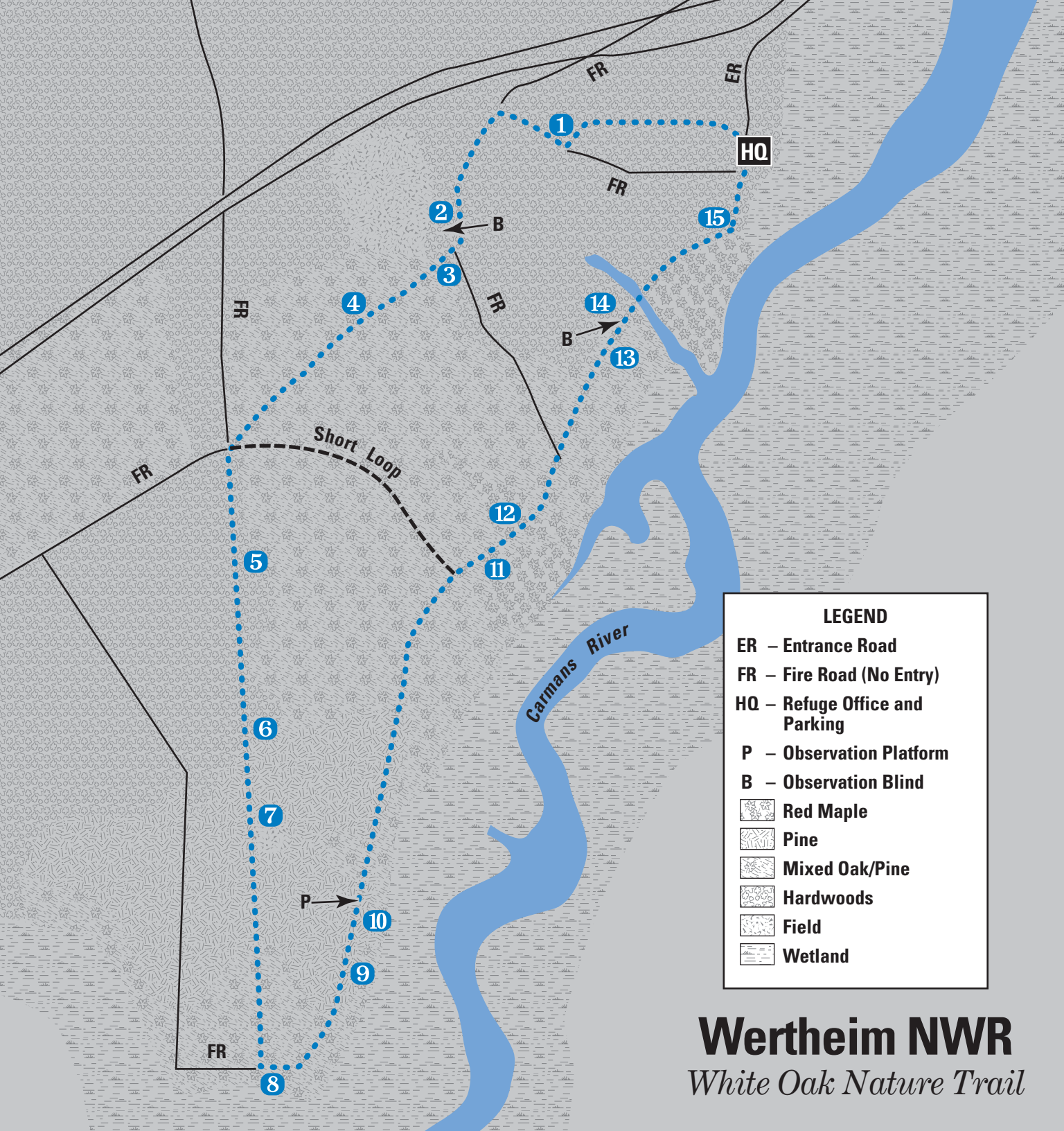


*Red fox*









*Eastern chipmunk*

*Look closely at the ground for tracks, feathers, droppings or mole tunnels. You'll be surprised at the evidence you find!*



### LEGEND

- ER – Entrance Road
- FR – Fire Road (No Entry)
- HQ – Refuge Office and Parking
- P – Observation Platform
- B – Observation Blind
-  Red Maple
-  Pine
-  Mixed Oak/Pine
-  Hardwoods
-  Field
-  Wetland

# Wertheim NWR

*White Oak Nature Trail*

also make favorite nesting sites for hawks and owls. The mice and voles attracted to the forest by insects provide a valuable source of food for these large birds. Other wildlife will eat just about anything they can find. Fox catch small mammals, insects, birds, eggs, berries and acorns. Raccoons have similar taste, but will also dine on frogs and salamanders.

*White-breasted nuthatch*



© E. Sambolin

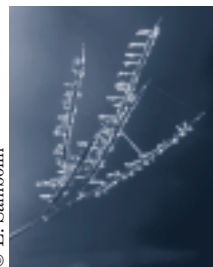
## Wildlife Take Cover

6

Young forest stands like the one surrounding you often provide excellent hiding cover; warm spots and food for many wildlife. The plants are somewhat crowded here, with more vegetation on the branches and ground than in open forests. Look closely into the shrub and tree leaves in search of mourning dove and robin nests. Certain snakes and tree frogs take advantage of this leafy cover for shelter or to sneak up on their next meal. Deer and rabbits feed off the lower branches in spring and summer, while songbirds like brown creepers, nuthatches, and ruby and golden crowned kinglets find important food here in winter.

## Wildlife Need Grasslands

7



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*Big bluestem grass*

The small forest opening just beyond the fence represents the native grasslands that once grew widely throughout Long Island. The grasses here—switch grass, little bluestem, big bluestem—grow late in the spring and do not produce seeds until summer. Grass seeds (grains) are an important and critical source of protein, carbohydrates and minerals for wildlife and for people. Since grass grows throughout the summer, even after being “grazed,” it provides a steady source of food for wildlife, especially grassland-dependent birds like sparrows, bobolink and meadowlark. Sunny spots like this one are also preferred as nesting spots for eastern box, snapping, painted and eastern mud turtles.

## Wetlands for Wildlife and People!

8

At the fence you can view a large expanse of wetlands associated with the Carmans River. Wetlands are some of the most productive habitats in nature. Water-loving plants thrive here because of the wet, nutrient-rich soils, while many species of birds depend on wetlands for their supply of fish, worms, and shellfish. From October through April, these wetlands support almost four thousand ducks such as black ducks, gadwalls, hooded mergansers, and scaup. May through October brings twenty-four different

*Hooded merganser*



© E. Sambolin

kinds of shore birds including sandpipers, yellowlegs, plover, and willet. Watch the river to see wading birds like herons and egrets hunt for fish along the shores.

The River benefits you, too! Did you know that most commercially valuable fish and shellfish spawn, nurse, or feed in wetlands? Wetlands act as filters, cleaning the water of pollutants before it flows into the ocean. They also act as sponge-like buffers between the land and ocean by absorbing excess water from storms and floods—often protecting our lives and homes.

Another great way to explore the Wertheim National Wildlife Refuge is by canoe or kayak down the Carmans River. Explore the wetlands up close. You can stop at Indian Landing for a rest or take a short walk through an oak-pine forest. Inquire about canoe/kayak launching in our main office.

*Great egret*



© S. Pollack

## Tall Trees for Little Birds

9

Pitch pine grows on either side of the trail here. Scan the branches. Do you see all of those cones? Pine seeds fill each cone—an important food source for mice, squirrels, chipmunks, finches and more! The pine warbler, a small yellow and olive-colored songbird, breeds only in this type of habitat. Pine warblers feed among the needles in the uppermost branches and build their nests in pine trees at least 20 feet off the ground. Listen for the warbler's soft, musical trill or twitter (almost like a sewing machine). With patience, you may see one foraging above you.

*Pine warbler*



© S. Pollack

## Backwaters— Stop for a Drink or Stay Awhile

10

Follow the spur trail to an observation blind overlooking a small backwater area of the Carmans River.

Backwaters form at the edges between open water, wetlands and dry land. White-tailed deer and red fox often stop here to drink, while ducks, wading birds and songbirds rest, feed or nest. Watch the water's surface for muskrat, or swallows swooping down to catch their insect prey. In spring and summer, listen for the red-winged blackbird's gurgling song (konk-la-ree), or scan the sky for ducks, osprey and gulls flying along the river.



## Watch for Osprey

Often seen flying above the river or nesting on platforms piled with sticks, this fish-eating hawk is a common migratory bird at the Refuge. Watch patiently. You may see an osprey flying above the water, hovering, then plunging feet-first to catch its meal. After a successful strike, the osprey will carry its fish, head-forward, to the nest or other safe, high place.

*Osprey*



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## Forest Layers Feed Fine-feathered Friends

11

Look at the forest from ground to sky and notice the layers made by the different heights of the plants. Certain birds feed in each layer. Ovenbirds, rufous-sided towhees and wild turkeys find food on the forest floor. Catbirds and wrens look for insects in the shrubs' leaves; vireos, warblers, and tanagers find them in the leafy overstory; and chickadees and titmice hunt for insects on twigs and branches. Flycatchers and redstarts catch flying insects in the leaves of the uppermost branches.

*Catbird*



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## Seasonal Pond—A Nesting Sanctuary

12

This vernal pond dries up in the summer, making it impossible for fish to survive here. Since fish—which eat amphibian eggs—do not pose a threat, spring peepers, wood frogs, spotted salamanders and others find this pond ideal for nesting! Listen for the mating call (a loud, piercing chirp) of the peepers in spring. Chances are, they're calling from this pond.

*Spring peeper*

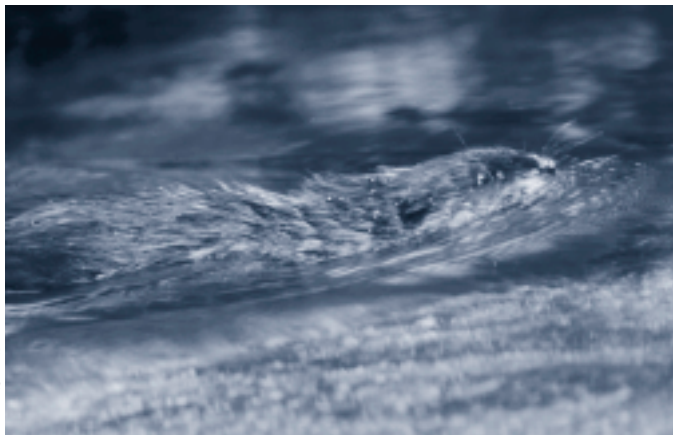


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## Carmans River—A Natural Treasure

13

Follow the trail to a blind overlooking a part of the Carmans River—the third largest and least developed river on Long Island. Fresh and salt water mix here as the river flows into the sea, making the river an important estuary on Long Island. The River is a vein of life flowing through the Refuge. Plants like red maple, rose mallow, and saltmarsh fleabane thrive here because of the nutrient-rich soil. Birds such as herons, egrets and osprey depend on it for the abundant fish, worms, crabs, and clams, while wood ducks find nesting habitat in spring. Since the water here doesn't freeze over, black ducks and other wintering waterfowl depend on the estuary in winter.

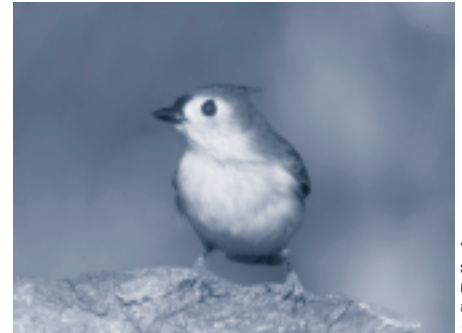
*Muskrat*

Yellow perch, brook trout and largemouth bass prefer the freshwater section of the River, while white fluke, bay anchovy, winter flounder, and northern puffer favor the salt water at the southern end. White perch and hogchoker flourish in the brackish areas, where fresh and salt water mix. Bass, alewife and American eel live all along the River. The Carmans stretches 10 miles southward from the Brookhaven National Laboratory to the Great South Bay.

## Water Holds a Wealth of Life

# 14

Water is one of the key ingredients to wildlife habitat. This pond, called Owl Pond, is a great source of water year-round and supports a wide variety of life. Watch the water for a while. Did you glimpse a water strider or a sunfish? Pumpkinseed and bluegill also call this pond home and eventually become food for certain turtles, snakes and herons. Waterfowl and painted turtles feed on the underwater plants here, which are

*American black duck**Tufted titmouse*

## Wertheim NWR: Managed for Wildlife and for You!

# 15

*Birding with Kathleen O'Connor*

The Wertheim National Wildlife Refuge is truly a haven for wildlife. Its diverse habitats of pine and oak forest, wetlands and the Carmans River give food, shelter, water and space to many of Long Island's wildlife species. Waterfowl and other migratory birds depend on the Refuge as nesting, feeding, breeding and stopover grounds. Some make the Refuge a home year-round. Fox, deer, chipmunks, and turkey make use of the forest and grasslands at Wertheim, while spring peepers and other amphibians, and reptiles abound in and around the wetlands.

Wildlife comes first on all National Wildlife Refuges. However, some Refuges can also provide wildlife-dependent opportunities to the public, like the nature trails here at Wertheim. We hope you have enjoyed your visit!

## For More Information

Wertheim NWR is one of nine Refuge units managed on Long Island. For more information about Wertheim or the other Refuges, please call the Long Island NWR Complex Headquarters at 631/286-0485, or stop in the office Monday-Friday, 8 am – 4:00 pm