

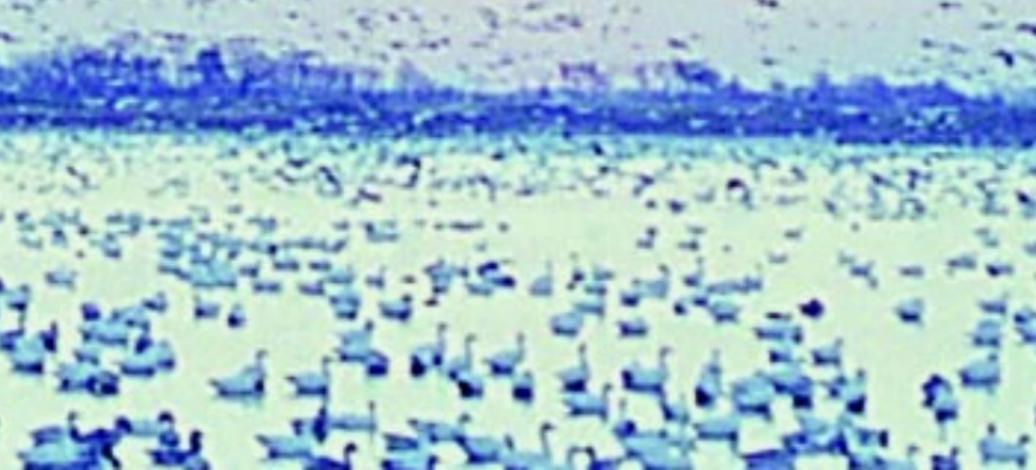
U.S. Fish & Wildlife Service

Bombay Hook

National Wildlife Refuge

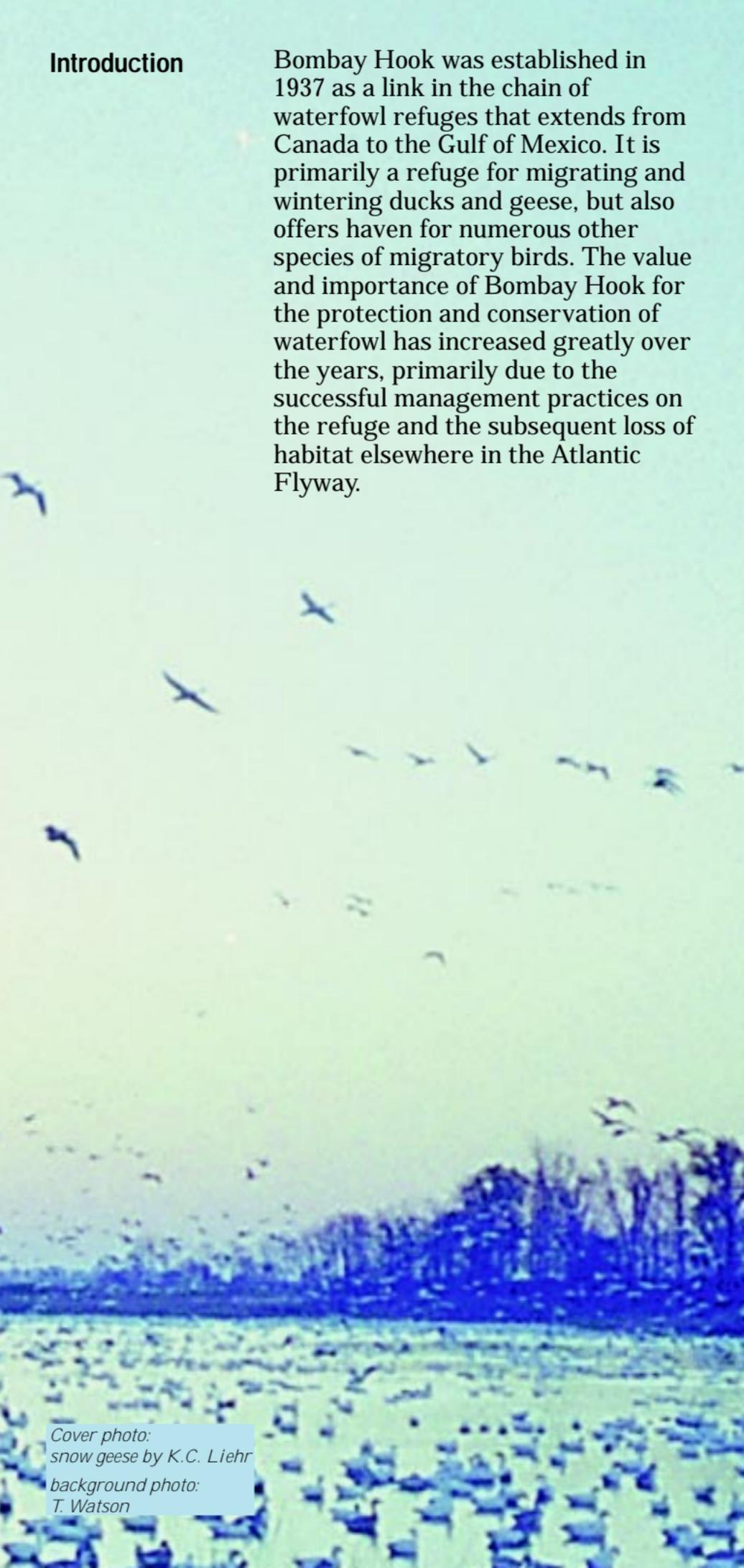


Bombay Hook National Wildlife Refuge comprises 15,978 acres, approximately three-quarters of which is tidal salt marsh. It also includes 1,100 acres of impounded fresh water pools, brushy and timbered swamps, 1,100 acres of agricultural lands, and timbered and grassy upland. The general terrain is flat and less than ten feet above sea level.



Introduction

Bombay Hook was established in 1937 as a link in the chain of waterfowl refuges that extends from Canada to the Gulf of Mexico. It is primarily a refuge for migrating and wintering ducks and geese, but also offers haven for numerous other species of migratory birds. The value and importance of Bombay Hook for the protection and conservation of waterfowl has increased greatly over the years, primarily due to the successful management practices on the refuge and the subsequent loss of habitat elsewhere in the Atlantic Flyway.

A large flock of snow geese is captured in flight against a bright, clear sky. The birds are scattered across the upper two-thirds of the frame, with some appearing as dark silhouettes and others as lighter shapes. Below the sky, a dense line of trees with bare branches stretches across the horizon. In the foreground, a vast field is filled with hundreds of geese, appearing as a textured, light-colored expanse.

*Cover photo:
snow geese by K.C. Liehr
background photo:
T. Watson*

History

The recorded history of the Bombay Hook area began in 1679 with the sale of marshland from Mechacksett, Chief of the Kahansink, to Peter Bayard of New York. Known to the Native Americans as Canaresse, meaning “shaggy bushes” or thicket, Bombay Hook evolved from the Dutch name “Bompies Hoeck” meaning “little-tree point.” Dutch settlers cut salt hay from the marsh, trapped muskrats, and hunted waterfowl. The tidal streams that interlace the marsh were plied for fish, crabs, and oysters.

Following establishment of the refuge and through the early 1940s, Civilian Conservation Corps members based at Leipsic constructed dikes, buildings, water control structures and impoundments. The CCC built Raymond Pool, removed timber from Shearneck and Finis swamps, built a 99 foot lookout tower, ran ditches for mosquito control, and conducted various wildlife surveys. With the onset of World War II, the Army Air Corps based at Dover used parts of the refuge for experimentation and training in air-to-ground rockets.

The Allee House at Bombay Hook stands today, as it did in the eighteenth century, overlooking the fields and marshes of Kent County. It is one of the most handsome and best



Allee House
Circa 1753
Route 8, DE

preserved examples of an early brick farmhouse in Delaware. The restoration and furnishing of the Allee House were completed in 1966, in 1971 it was placed on the National Register of Historic Places as an important example of the vernacular architecture of eighteenth century Delaware.

Refuge Management and Objectives

The refuge management programs are primarily aimed at developing and protecting desirable habitat for waterfowl and other migratory birds, including the threatened bald eagle. The refuge is located at a focal point for waterfowl migrating between their northern breeding grounds and various wintering areas. Large numbers of ducks and geese arrive each fall to either spend the winter or merely stopover on their way southward.



M. Anthony

Wood Duck

Water levels in refuge impoundments are manipulated to produce desirable emergent and underwater plants for waterfowl. While pools are drawn down, excellent populations of shore and wading birds use the mudflats. Upland agricultural crops are produced on approximately 1,100 acres to provide supplemental food for waterfowl and other migratory birds.

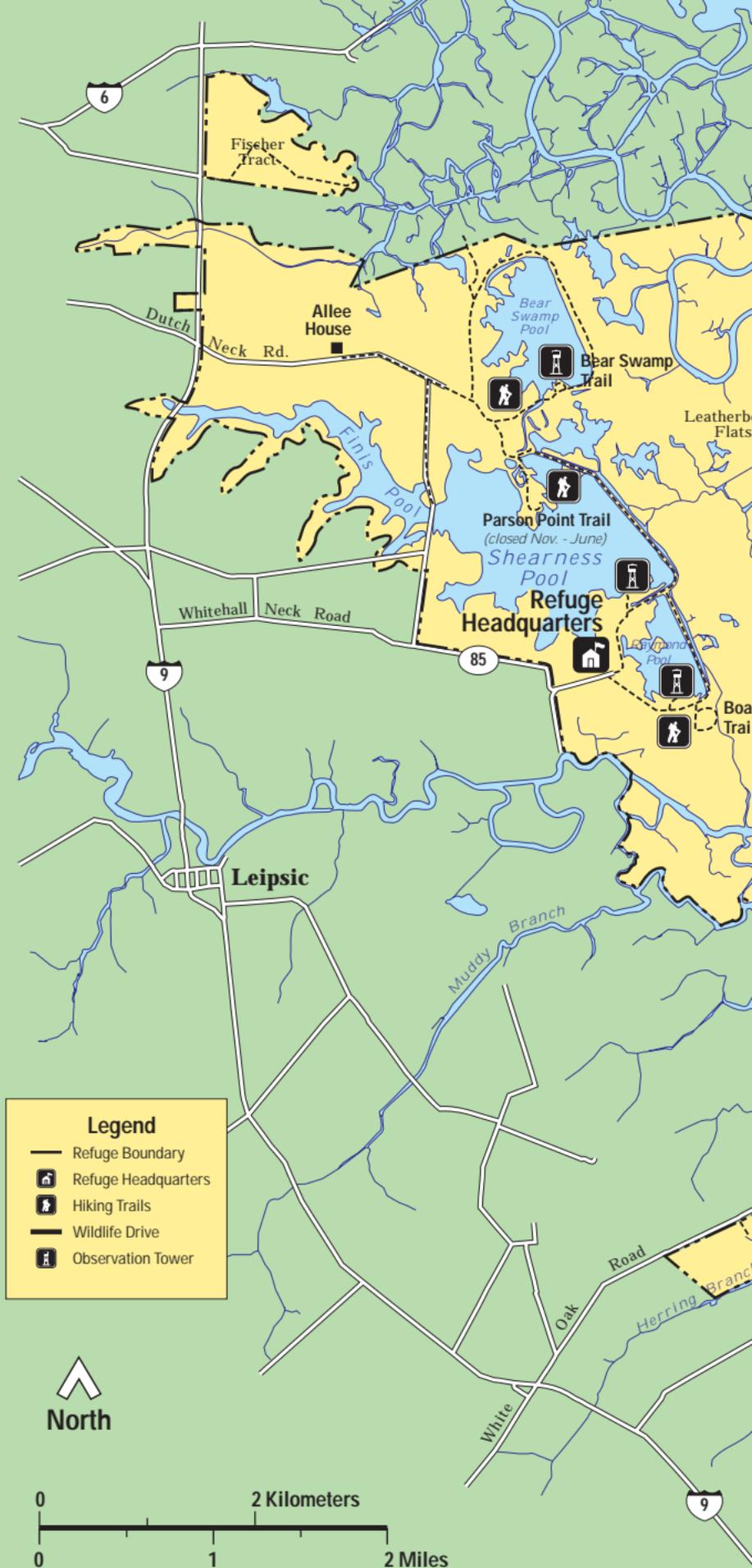


Hollingsworth

Pintail Duck

Tidal salt marsh is the most valuable wildlife habitat in the State of Delaware. Large portions of the refuge have been maintained in a near pristine state. The marsh,

with its intersecting tidal streams and rivers, provides excellent natural habitat for the birds and mammals of the area and also serves as a nursery and breeding area for marine organisms, many of which are of sporting and commercial interest.



Heading North on Route 13 from Dover, take Route 42 East to R and take a right on Whitehall Neck Road, which ends at the refu

Heading South on Route 13 from Smyrna, take Road 12 East (S and take a left on Whitehall Neck Road after 1/4 mile.



east to Route 9, Leipsic. Proceed North on Route 9 for 2 miles to the refuge entrance.

east (Smyrna-Leipsic Rd.) until it merges with Route 9 (5 miles),

Wildlife Calendar

Though wildlife can be seen year round at Bombay Hook, fall and spring offer the best opportunity for observing peak concentrations of migratory birds.

The period from October 1 through November 30 is generally the most interesting to the refuge visitor as this is the season during which waterfowl populations are at their peak. Over 150,000 ducks and geese utilize the refuge at this time.

Spring is another preferred season for the visiting public. March is the second peak for waterfowl as they travel through on their return to northern breeding grounds. April brings early shorebird migrants from South America and the emergence of reptiles and amphibians from winter hibernation.

Shorebirds are at their highest concentrations during May, primarily due to the arrival of horseshoe crabs laying eggs along the bay shore and mud flats. These eggs provide the shorebirds with needed energy to complete their northward migration.

Wading birds such as herons, egrets, and glossy ibis, reach their peak numbers during the summer months. Mammals can be seen year round, particularly in the early morning and evening hours. These include white-tail deer, beaver, muskrat, red fox, river otter, woodchuck and opossum.



Great Blue Heron

Ruth Pfeffer



Whitetail deer

M. Anthony

Biodiversity (Biological Diversity)



M. Anthony

Frog



J. Richie

Painted Turtles

Biodiversity is the variety and interdependence of plants and animals within their preferred habitats. All habitats are needed to sustain diversity. The greater variety of habitats, the greater variety of plants and animals. All classes of animals are important—from the vertebrates that include 5 classes of animals with backbones (mammals, birds, reptiles, amphibians, and fish), to the invertebrates, animals without backbones (insects, shell fish, worms, centipedes, millipedes, etc.). Bombay Hook is managed to provide a diverse group of habitats: freshwater, brackish and salt marsh, bay, grassland, farm field, and forest.



Ruth Pfeffer

Horseshoe Crab



Ruth Pfeffer

Semipalmated sandpiper and Ruddy Turnstone

Public Use

The public is welcome to visit the refuge for wildlife observation, nature study, and photography year round during daylight hours.

Visitor facilities include a visitor center, auto tour route, observation towers, and nature trails. Bear Swamp Trail and the Visitor Center are handicapped accessible. A cassette tape interpreting the auto tour is available.



Marian Johnson-Pohlman

Bird Watchers

The Visitor Center is normally open Monday-Friday from 8:00 a.m. to 4:00 p.m., and on spring and fall weekends, from 9:00 a.m. to 5:00 p.m. It is closed on summer and winter weekends. Tours, habitat studies, nature walks, and audiovisual programs are available to groups

upon advance request. Volunteer, teacher, and leader workshops are offered in the spring and fall. General public programs are offered during special event days such as Earth Day, Migratory Bird Day, National Wildlife Refuge week and our annual field day. Volunteers staff the Visitor Center, conduct environmental education programs, lead activities during special events, assist with wildlife surveys and provide trail maintenance.

A 12-mile round-trip auto tour route and several nature trails (ranging from $\frac{1}{4}$ to 1 mile in length) provide opportunities to observe and photograph wildlife. Three of the trails also have 30-foot observation towers. The historic Allee House is open for tours on spring and fall weekends from 2:00 p.m. to 5:00 p.m.

Public hunting, primarily for waterfowl and deer, is permitted under special regulations on portions of the refuge during the Delaware state season.

Entrance Fee Options



Ruth Pfeffer

Bald eagle

To help pay for the purchase of more wildlife habitat and for management of refuges, Congress passed the Emergency Wetlands Resources Act in 1986. The law authorized the Fish and Wildlife Service to charge entrance fees at national wildlife refuges such as Bombay Hook.

Visitors may pay the daily fee or purchase one of several annual passes—the Federal Duck Stamp, Bombay Hook Pass and Golden Eagle Passport. All are sold at the refuge. Anyone who is 62 years of age or older may purchase the lifetime Golden Age Pass for \$10. Permanently disabled persons are eligible for a free Golden Access Pass. All passes will admit you and your passengers or family. Children under 16 are admitted free.

Educational and scientific groups may enter free with prior notice. Refuge staff will be happy to issue a pass and answer any questions.

Bombay Hook National Wildlife Refuge

Bombay Hook is one of over 500 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 and represents the most comprehensive wildlife management program in the world. Units of the system stretch across the United States from northern Alaska to the Florida Keys and include small islands in the Caribbean and South Pacific. The character of the refuges is as diverse as the nation itself.

The Service also manages National Fish Hatcheries and provides Federal leadership in habitat protection, fish and wildlife research, technical assistance and the conservational and protection of migratory birds, certain marine mammals and threatened and endangered species.

Bombay Hook
National Wildlife Refuge
2591 Whitehall Neck Road
Smyrna, DE 19977
Office: 302/653 9345
Visitor Center: 302/653 6872
Fax: 302/653 0684
Email: R5RW_BHNWR@mail.fws.gov
Hearing impaired visitors may call the
Delaware Relay Center at 1 800/232 5460 TDD
1 800/232 5470 voice.

This brochure is also available upon
request in a large print version.

U.S. Fish & Wildlife Service
1 800/344 WILD
<http://www.fws.gov/r4eao>

May 1999

