



Snowy Egret



Downy Woodpecker



Golden Crowned Kinglet



Belted Kingfisher

Bird photos: Vernon Laux

The plants and animals living in the salt marsh must be able to cope with drastic daily fluctuations in water levels and salinity. Two zones can be distinguished on the marsh by differences in vegetation: the high marsh and the low marsh. The high marsh typically experiences inundation by salt water twice a month during the higher spring tides. Salt meadow cord grass and spike grass are the most common plant species in the high marsh. Groundsel tree, seaside goldenrod, sea lavender, salt marsh aster, and saltwort can be found at the upland edge of the high marsh. The low marsh is typically inundated with salt water twice daily at high tide. Very few plant species can stand being exposed to such extremes in water and salt levels, leading to much lower plant species diversity in the low marsh. The most common grass in this zone is salt marsh cord grass. This grass is usually the tallest in the marsh and can be found growing along the edges of tidal pools, creeks, and other wet areas that are regularly exposed to tidal fluctuations.

Many types of nesting and migrating birds feed on organisms and organic matter found in the marsh's damp, spongy peat and mud flats. Plovers, yellowlegs, dowitchers, whimbrels, and sanderlings represent some of the shorebirds that feed on the small marine organisms brought in on each rising tide. American oystercatchers use their large, orange bills to pry open mollusks and crustaceans found along the marsh's edge, while great-blue herons, snowy egrets, black-crowned night herons, and great egrets feed on small fish that live in the tidal creeks and pools. Because salt marshes are relatively rare on Nantucket, this site is an important feeding and resting area for these and many other species of birds.

These diverse natural communities at Masquetuck provide a wide variety of habitat for the many species of wildlife and plants that occur on the property. Under the Foundation's ownership and management, this area will continue to be protected as valuable open space, as well as provide passive recreation, scientific research, and educational opportunities for the public to learn from and enjoy.

Enjoy your visit!

Please consider recycling this brochure by returning it to the box at the beginning of the trail. Thank you!



The Nantucket Conservation Foundation's property bordering West Polpis Harbor

contains a diverse collection of natural areas, including grassy meadows, beaches, salt marshes, freshwater bogs, shrublands, and hardwood forests.

Property Access

- Parking is available along the edge of the cul-de-sac at the end of the Quaise Pastures Road, next to the split rail fence that marks the property boundary. A series of short walking trails start from here and meander through the hardwood forest, eventually leading to the edge of the salt marsh overlooking West Polpis Harbor in the north eastern portion of the property.
- The Masquetuck Reservation is open to the public from sunrise to sunset.
- There are no public restrooms on the property.
- Hunting is prohibited.

The Nantucket Conservation Foundation

is a non-profit organization that relies on the generosity of its members for its funding. To make a donation that will help support our mission of protecting, preserving and maintaining the island's open spaces please visit our web-site at

www.nantucketconservation.org



Nantucket Conservation Foundation

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A TRAIL GUIDE TO THE

Masquetuck Reservation



Nantucket Conservation Foundation
Nantucket, Massachusetts

Property History

The Nantucket Conservation Foundation's property bordering West Polpis Harbor contains a diverse collection of natural areas, including grassy meadows, beaches, salt marshes, freshwater bogs, shrublands, and hardwood forests. Known as the Masquetuck Reservation, after the Wampanoag name for the Quaise region of the island, this 13.5 acre parcel is located at the end of Quaise Pastures Road, off of the Polpis Road. The Foundation acquired the property in 1990, when the former owners, Robert and Cynthia Jay, donated a portion of the land and the Foundation purchased the balance for \$650,000 with gifts made to the Foundation's Land Fund. Because of the generosity and foresight of all those who contributed towards the effort to acquire this area, it is now protected for the benefit of future generations.

One of the unique features of the Masquetuck Reservation is the number of diverse habitats, or groupings of plants and animals, that can be found in a relatively small area. Between the end of Quaise Pastures Road and the edge of West Polpis Harbor sits a narrow, grassy field that slopes downward towards an extensive salt marsh system. The Foundation maintains this meadow through periodic mowing. Without recurring management, this grassland would soon be invaded by thickets of bayberry, arrowwood, huckleberry, and American hazelnut, species which now exist along the edges of the meadow bordering the hardwood forest. The process by which natural communities change over time is known as succession, and Masquetuck provides several examples of communities that are at different stages in this progression.

Hardwood Forest

Hardwood forest ecosystems dominate this property. Forests composed of 40-50 foot high stands of red oak, white oak, black tupelo, red maple, sassafras, American beech, and hickory trees are rare on Nantucket. Such habitats tend to occur in small depressions scattered across the northeastern portion of the island that were formed during the last glacial era approximately 12,000 years ago. The forests that developed in some of these low areas are locally called "hidden forests," because they are somewhat hidden when viewed from a distance. The trees found at these sites can grow relatively taller than other forests on Nantucket because they are somewhat protected from the constant salt spray and high winds that occur on the island.

The hardwood forest represents the climax community at Masquetuck, meaning that succession will not proceed further once it reaches this stage, provided that the vegetation is not disturbed by



Salt Marsh with Groundsel

natural or human processes. Red oak, hickory, American beech, and white oak trees dominate the drier areas of the forest, while black tupelo, sassafras, and red maple are found in pockets of wet, low areas. Some of the trees at Masquetuck are very old. Because much of the land on the island was cleared and used for agriculture at some point during the last three hundred years, large, old trees are relatively rare on Nantucket.

Growing below the tree canopy and forming the next vertical layer in the forest are woody shrubs such as high bush blueberry, inkberry, winterberry, and swamp azalea. Below these is a third layer of flowering plants and ferns, including wintergreen, whorled loosestrife, Canada mayflower, bracken, and cinnamon fern. These arrangements of different vegetation levels influence the types of songbirds that nest and feed in the forest. Different species utilize different layers for habitat, thus allowing many species to occur in relatively close proximity. Birds frequently observed in the forest at Masquetuck include the black-capped chickadee, yellow warbler, gray catbird, downy woodpecker, red-eyed vireo, and great-crested flycatcher.

Freshwater Bog

In the southern portion of the property is a natural freshwater bog wetland. This small kettlehole depression in the landscape likely formed when the weight of a large block of ice left behind by the last glacier created a depression that now intersects the water table, keeping this depression consistently wet and allowing wetland vegetation to grow. The bog contains dense mats of *Sphagnum*, a group of mosses that are capable of holding up to twenty-five times their weight in water. As the top portions of these plants grow, the underlying portions become deprived of sunlight and die. In this way, thick mats of *Sphagnum* slowly

built up over time and become compressed by the weight of the waterlogged plants on the surface, forming thick layers of peat. Over time, the surface of bogs such as this rise as the *Sphagnum* grows and accumulates, resulting in the top layers becoming more and more isolated from the underlying water table, which carries a supply of minerals and nutrients. Eventually, the elevated bog wetland stays wet primarily through rainwater and melting snow, which is very low in minerals and nutrients. Therefore, the plants found growing on the surface of bogs are adapted to growing in nutrient-poor, oxygen-depleted, acidic conditions.

Shrubs observed within the bog wetland at Masquetuck include leatherleaf, sheep laurel, and bog rosemary, all of which are members of the heath family. They form extensive, efficient root systems that obtain oxygen and nutrients with the aid of beneficial fungi associated with their root hairs. These shrubs also conserve energy by having evergreen leaves, thus eliminating the need to produce them annually. Sundews, a variety of carnivorous bog plant, are also known to occur at this site. These small, inconspicuous plants bear a rosette of leaves with sticky, glandular hairs that entrap insects that land on them. Special enzymes produced by the plant then "digest" their captives, providing a source of scarce minerals and nutrients.

The bog wetland at this site is a fascinating habitat that is best viewed at a distance from the trail that runs along the southeastern edge of the property. The surface of the bog and its associated plant species is fragile and susceptible to disturbance by even minor foot traffic. Also, poison ivy and poison sumac are abundant.

Salt Marsh

In the eastern portion of the property, a long, thin peninsula of upland extends along the edge of West Polpis Harbor, bordering an extensive salt marsh system to the west. This unique, wind-sheared maritime forest contains mature sassafras, white oak, and black tupelo trees, surrounded on three sides by harbor and salt marsh. The narrow beach facing the harbor makes an excellent location for viewing belted kingfishers, ospreys, mergansers, Canada geese, and many other species of shorebirds and waterbirds.

Tidal cycles that create the twice daily ebbing and flooding tide make salt marshes one of the most productive and valuable ecosystems on earth. Each rising tide brings in a flux of new nutrients, algae, bacteria, fungi, and tiny marine organisms that form the base of a very complex and productive food chain. Many varieties of marine animals that spend their adult



Swamp Azalea



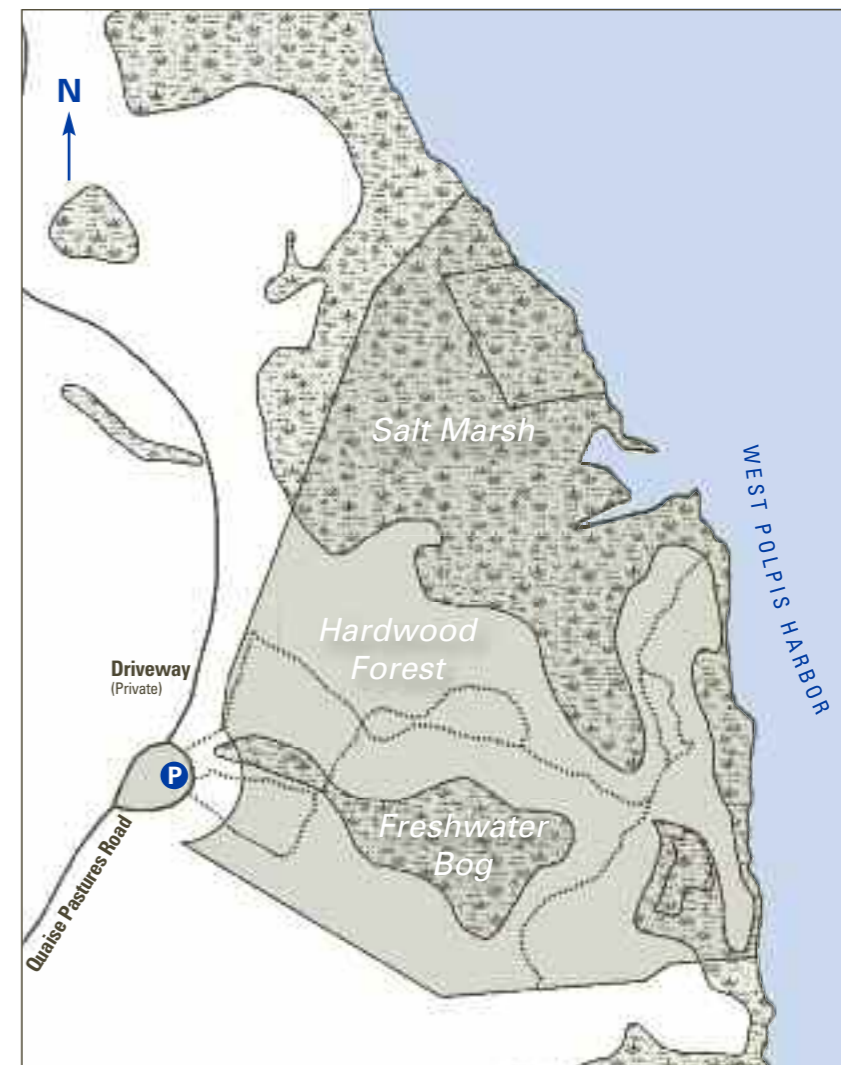
Cinnamon Fern











Northern Arrowwood



Fox Grapes



Masquetuck Reservation

 Walking Paths (Pedestrians only)	 Open Water	 NCF Properties
 Single-Lane Dirt Road	 Vegetated Wetlands	 Private Property <small>Please respect the privacy of our neighbors</small>
 Paved Road	 Parking	