

Menemsha Hills Management Plan

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1 Introduction

To the east of the fishing village of Menemsha, the landscape rises abruptly out of Vineyard Sound, forming some of the highest hills on Martha's Vineyard. Scouring glaciers, erosion, and the hands of humans shaped the land, which is the abode of a wide variety of plant communities. Two hundred thirty-four acres of this landscape are called Menemsha Hills, a property of The Trustees of Reservations (Figure 1).

The beginnings of Menemsha Hills Reservation were sparked on May 24, 1966, with Nathaniel and Catherine Harris' donation of 1/12th interest in 149.2 acres on Vineyard Sound.¹ By 1977, the Harrises had donated all interest in the land, but it did not have public access via North Road. In 1980, Flora Epstein donated 8.6 acres abutting this land to the east. In 1985, 60 more acres abutting North Road were added to Menemsha Hills using an innovative limited development plan.² Three years later, The Trustees added the summit of Prospect Hill and land connecting the two main parcels, donated by the Prospect Hill Association; plans for opening the property began. After three more years, The Trustees created a 20-car parking lot. Trails were constructed, widened, closed, and moved. Menemsha Hills was then opened to the public.



Figure 1: Locus Map of Menemsha Hills in Chilmark.

Today, approximately 10,000 people visit Menemsha Hills every year. These visitors come mainly to hike and enjoy the scenic beauty of the property. Three miles of trails provide opportunities to hike through many different habitats and natural features—Prospect Hill, old forests, stone walls, shrublands and heathlands, wetlands, and the rocky shores of Vineyard Sound.

Menemsha Hills has significant natural, scenic, and cultural resources. It is home to five rare plant and animal communities and six rare species. Its views are exceptional. Its land-use history is fascinating. Several factors threaten these outstanding features, including off-trail uses and the loss of rare habitats through vegetation succession.

This management plan outlines the purpose and significance of Menemsha Hills and provides clear steps towards achieving the goals set forth within this plan. All of our goals revolve around the purpose and significance of Menemsha Hills as well as The Trustees' mission and The Field Operations Strategic Plan.³ The actions we will take are based on the best available knowledge, are adaptable, are goal-oriented, and can be monitored to determine whether an objective is being achieved. This plan will therefore serve as a blueprint to guide future activities at Menemsha Hills.⁴

¹ Registry of Deeds, book 265, page 443. For clay and mineral rights, see book and pages: 448/319, 361/715, 459/865.

² Map 600, Lot 219. This included 70 acres. Approximately 10 acres were parceled out and sold to generate funds for the property. This land was known as the Sigourney Parcel.

³ The Field Operations Strategic Plan, Conservation in Action, 2003-2008 is a document that provides steps to protect resources, manage the visitor experience, work with land conservation staff, create a great place to work, and partner with volunteers. The document will guide the Department of Field Operations over the next five years.

⁴ A theoretical foundation and conceptual framework for this management plan comes from many sources. The planning process is delineated in *The Visitor Experience and Resource Protection (VERP) Framework: A Handbook for Planners and Managers*. September 1997. US Department of the Interior.

2 Executive Summary

This management plan outlines a vision for the future of Menemsha Hills, a 234-acre property owned by The Trustees of Reservations on Martha's Vineyard.

Building on the organization's mission and current initiatives, and in keeping with the unique qualities of the property itself, our vision for Menemsha Hills is that it will be a treasured community resource that offers visitors a comfortable and safe experience, where they can enjoy and learn about some of the Vineyard's most outstanding natural, scenic, and cultural features.

The vision contains four main elements, which, together, create a holistic framework for the future management of the property. The vision's main elements include:

Creating a High-quality Visitor Experience

Ensuring a high-quality visitor experience is an essential part of this plan. Our visitors will be able to have a thorough understanding of our interpretive themes, through a variety of programs and interpretive materials. Our visitors will walk well-maintained trails to see an increased number of viewsheds and improved vistas throughout Menemsha Hills. Our visitors will feel safe and comfortable throughout their stay with increased services such as drinking water. Our visitors will have abundant hiking opportunities through the creation of an additional loop trail along Vineyard Sound. A greater staff presence will reduce the level of unauthorized uses.

Restoring Habitats and Species

At Menemsha Hills, field operations staff will restore rare habitats and species. Barrens and shrublands will be restored using the most effective techniques available. Shrublands and barrens will continue to thrive as encroaching vegetation is removed. Rare Broom Crowberry will once again spread out through a larger area at Menemsha Hills. At the same time, many forested areas will be allowed to grow, unimpeded, as they mature.

Ensuring the Viability of Menemsha Hills

Menemsha Hills, at slightly over 200 acres, is a small part of a larger ecosystem. By protecting critical lands surrounding Menemsha Hills, The Trustees will increase the viability of Menemsha Hills. Its natural resources will be much better protected as Box Turtles will have more room to roam unimpeded, songbirds will have larger areas of forested tracts for nesting, and other forest species will not be lost to increasing numbers of housing developments. As new houses are built on Martha's Vineyard every day, ensuring that protected areas such as Menemsha Hills are a viable and connected part of the surrounding landscape is essential.

Knowing Menemsha Hills

As we learn more about Menemsha Hills, our restoration and interpretation activities are enriched. This greater knowledge clarifies our direction and steers us in a straighter course. We must continue to learn about Menemsha Hills—its cultural history, its forests, its shrublands, its geology, its waters, and its visitors—so that we can be better managers and interpreters.

The biological framework is described in Allen, T. F. H. and T. W. Hoekstra. 1992. *Toward a Unified Ecology*. New York: Columbia University Press. It includes an excellent discussion on levels of analysis ranging from the organism to the landscape. The integration of science and management is described in Vogt, K. A. J. C. Gordon, J. P. Wargo, et al. 1997. *Ecosystems: Balancing Science with Management*. New York: Springer-Verlag.

The management plan that follows describes the property's outstanding features and outlines over 40 specific recommended actions that will help us achieve our vision. Highlights from the plan are many:

- Menemsha Hills has a wide variety of plant and animal community types. These habitats make Menemsha Hills one of the most diverse conservation lands on Martha's Vineyard.
- Over the course of a year, approximately 3,500 vehicles and 9,500 people visit Menemsha Hills.
- Menemsha Hills possesses several natural features that do not occur at other Trustees properties in the Islands Region. These natural features are intermittent streams, rocky shores, and erosional cliffs.
- In the mixed forest are some of the tallest, oldest trees at Menemsha Hills. Many are over 100 years old, with the oldest approaching 200 years old.
- The landscape of Menemsha Hills has changed considerably over the years, with the driving force being humans and their use of the land. Menemsha Hills is, therefore, a cultural landscape.
- Most of Menemsha Hills will be allowed to grow and become older forests. In these forested areas, natural processes will continue to occur, unimpeded.
- Sixty-four acres of habitats will be restored to rare shrublands and barrens.
- Habitat management actions will be monitored and rare species and communities will be researched.
- A beach loop trail system will be created and current trails will be improved and moved, where necessary, to reduce erosion.
- Views, one of the main reasons why people visit Menemsha Hills, will be significantly enhanced.
- Services such as drinking water and a composting toilet are called for.
- A structure for staff housing is proposed for Menemsha Hills.
- Land conservation measures call for protecting eight critical parcels 154 acres.

All in all, 45 action steps are laid out in this plan (see section 4). These action steps will occur over a ten-year period divided into three phases and will require 6,591 staff hours, 1,133 volunteer hours, and \$66,785. This does not include the costs of a structure, as a facilities plan and budget must be developed.

3 Property Profile

3.1 Missions, Goals, and Aspirations

- The Trustees of Reservations preserves for public use and enjoyment properties of exceptional scenic, historic, and ecological value in Massachusetts and works to protect special places across the state.
- The Trustees will provide inspiring educational programs, exciting recreational activities, and an outstanding overall experience on our properties.
- The Trustees will be a leader in the conservation field through exemplary stewardship of the scenic, historic, and ecological features of the properties that have been entrusted to our care.⁵

3.2 Significance

- Menemsha Hills provides some of the most scenic views and features on Martha's Vineyard. Views from Prospect Hill and the Great Sand Cliffs are arguably some of the best views on the island. Scenic beauty at Menemsha Hills can also be seen in the many habitat types, ranging from a mile of rocky shoreline to old forests with stone walls.
- The Menemsha Hills landscape includes a wide assortment of the community types found in Chilmark's moraine. Such habitat diversity within a small area is remarkable. These communities include several rare habitats such as Scrub Oak shrublands and vernal pools.

3.3 Interpretation Themes

Interpretation is an important aspect of The Trustees' mission in that it will inspire people to become more committed to protecting the natural, historic, and scenic resources of Menemsha Hills, in Massachusetts, and elsewhere. The themes described below are the messages The Trustees aims to convey to visitors of Menemsha Hills:

- The landscape at Menemsha Hills is a vivid testament to powerful geological processes that created and shaped the land.
- Humans have shaped the landscape at Menemsha Hills for thousands of years, creating a continually changing environment.

3.4 Planning Constraints and Considerations

- Our management will embrace the Field Operations Strategic Plan and organizational goals.
- We will be fiscally responsible in our management efforts
- Currently The Trustees can access Menemsha Hills through three points: 1) the North Road parking area off Trustees Way, 2) Prospect Hill Road, and 3) an overgrown road beginning at Nat Harris' driveway. The first access point is for staff and visitors whereas we have assured the Prospect Hill Road residents that The Trustees road use will be limited to staff only. The third access point is a deeded way for Trustees staff only.

3.5 An Overview of the Natural Landscape

3.5.1 Geology

The island of Martha's Vineyard is a relict of the ice age and the warming trends that followed. Repeated Pleistocene glaciations scraped soil and rock from the mainland of New England, leaving only scarified bedrock. These were deposited at the terminal moraines, which were thrust upwards and exposed as a result of

⁵ The goals and aspirations described here are part of our Field Operations Strategic Plan: Conservation in Action, 2003-2008.

the pressure exerted by the continental glacier. Today, the Elizabeth Islands, Cape Cod, Long Island, Nantucket, Block Island, and Martha's Vineyard are all monuments to the power of these glaciers and the ocean that severed them from the continental United States.⁶ Menemsha Hills is located on the terminal moraine of Martha's Vineyard. Its hilly topography reflects the geologic forces that shaped the land.

Ever since the glaciers melted, the sea level has been rising due to a warming climate, creating Martha's Vineyard, affecting plants and animals, and shifting the shorelines. Tundra gave way to spruce followed by oak species—scrub, black, white, dwarf chestnut, scarlet, and post—which began to dominate as they do today for most of the island. Approximately 6,000 to 7,500 years ago, the rising ocean separated Nantucket and Martha's Vineyard from the mainland. The sea level continues to rise today, creating additional erosion pressures on the bluffs of Menemsha Hills.

3.5.2 Topography

Menemsha Hills has some of the most varied topography of any area on Martha's Vineyard. In less than a mile, the land rises from Vineyard Sound to Prospect Hill at 308 feet, one of the highest points on Martha's Vineyard. Bluffs along the shoreline rise to 150 feet. Throughout the landscape, the terrain undulates, with drainage channels etched into the soils. Often the drainage channels and other low-lying areas have pockets of springs, wetlands, or intermittent streams. At higher points, where any moisture typically drains rapidly, the land is much drier and exposed to winds. Steeper slopes are also more prone to erosion and the effects of the sun. Slopes exposed to more sun will be much drier than those on the opposite side of a hill, where more shading will create relatively moister conditions. Most of Menemsha Hills slopes down to the northwest, towards Vineyard Sound. This makes the terrain of Menemsha Hills particularly exposed to northwest winds. These topographic effects play an important role in the patterns of vegetation at Menemsha Hills.

The topography also plays a factor in the drainage patterns of the watersheds at Menemsha Hills. Three main watersheds exist. All of Menemsha Hills between North Road and Prospect Hill drains into Roaring Brook. A small portion in the southernmost portion of Menemsha Hills drains into the Mill Brook, which then flows into Chilmark Pond. Most of the western portion of Menemsha Hills drains into Vineyard Sound.

⁶ Several glaciations preceded the Wisconsin glacial stage. These were the Illinoian, Kansan, and Nebraskan glacial stages. Twenty-five thousand years ago, the Wisconsin ice sheet advanced across New England, reaching the southernmost extent 21,000 years ago. Eighteen thousand years ago, the retreat began as the climate warmed. This ice sheet was composed of several lobes, two of which formed the moraines of Martha's Vineyard—Buzzard's Bay Lobe and Cape Cod Bay Lobe. These moraines, which stretch from the cliffs of Aquinnah to Chappaquiddick along the northern shores of the island, were created by the displacement of unconsolidated sediment sheets with the glacier. The sheets were folded and thrust faulted—forced forward and upward—creating a thrust moraine. Oldale, Robert N. 1992. *Cape Cod and the Islands: the Geologic Story*. Parnassus Imprints, East Orleans, Massachusetts.

Menemsha Hills - Soils

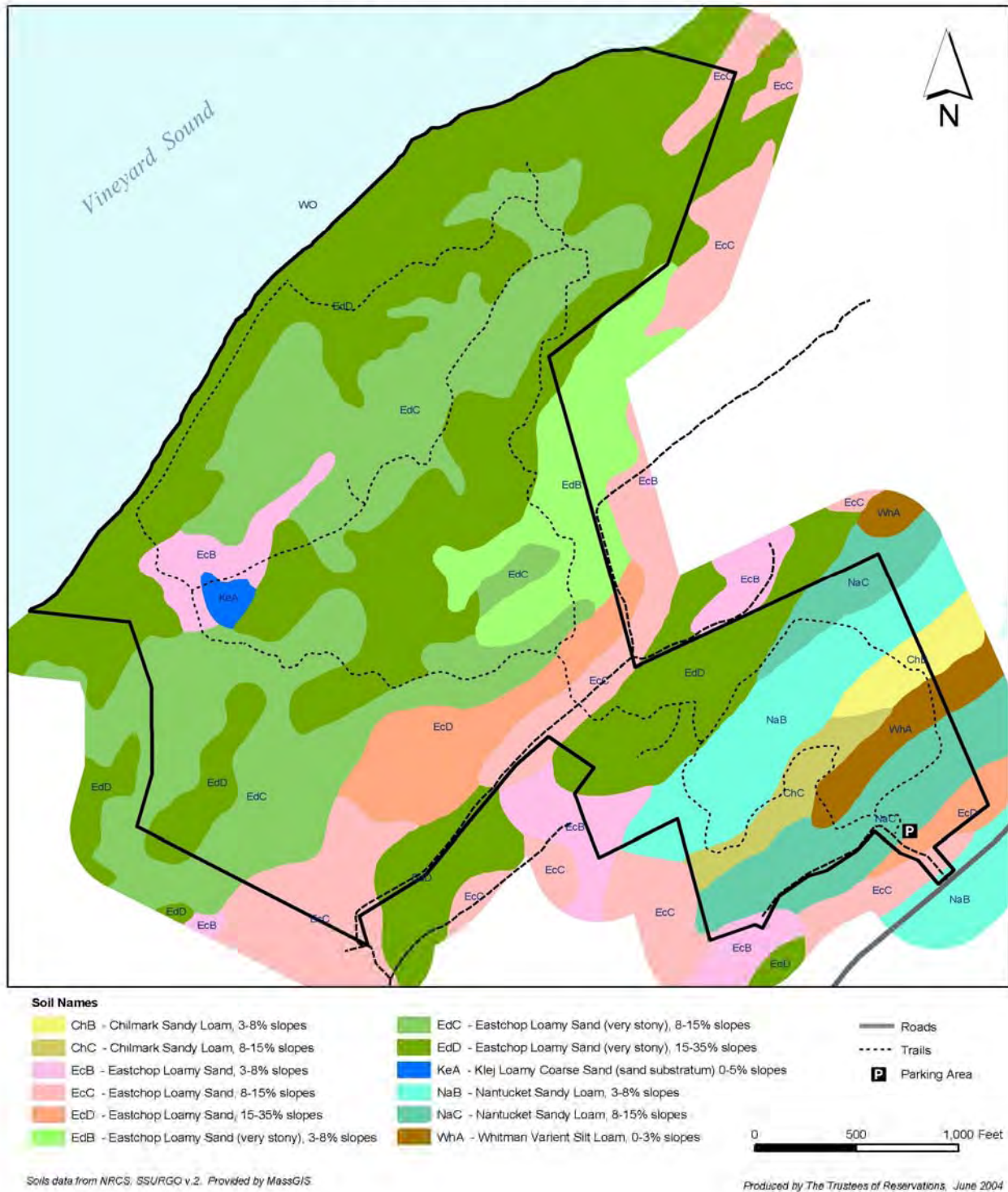


Figure 2: Soils Map of Menemsha Hills. Note the difference in soils between the east and west of Menemsha Hills.

3.5.3 Soils

The soils at Menemsha Hills are highly varied, ranging from coarse sands to clay and wetland soils (Figure 2). This variety of soils is a foundation for a wide variety of plant communities. In general, however, the soils at Menemsha Hills fall into two major classifications. To the east of Prospect Hill, the soils are typically sandy loam soils with clay loam and silty clay underlying the sandy loam. This creates poorly drained conditions and moist or mesic soils. The soils are classified as Nantucket and Chilmark, predominately. In some cases, where there are wetlands, the soils have a higher water table. The soils in these areas are classified as Whitman soils.⁷

To the west of Prospect Hill, the soils are typically much drier, with sand as the major component as opposed to the finer loams and clay to the east. These areas, especially those on steeper slopes, are highly erodible and unsuitable for most human activities such as farming or building. The soils in this area are classified as East Chop soils.⁸ Pockets of clay still exist within these sandy soils, as can be seen along the bluffs.

3.5.4 Climate and Disturbances

The Atlantic Ocean, Vineyard Sound, and other waters that surround Martha's Vineyard heavily influence the climate of Menemsha Hills. The abundance of Bluefish, Albacore, and Striped Bass, which arrive in the late spring, are testimony to the warmer currents, which bathe the shores of Martha's Vineyard. The warmer oceans store heat and keep the temperatures of Martha's Vineyard moderated compared to more inland areas, which show a greater fluctuation in annual temperature. Warm September and October waters mean a lengthened autumn, and winter's prevailing northwest winds blowing over cold Vineyard Sound waters slow the approach of summer. These winds and the cold and salt they bring with them sculpt the vegetation, resulting in gnarled trees and slow-growing vegetation. Storm events can also affect the landscape through tree fall or opening gaps in the canopy. In concert with coarse soils, and human disturbances through land-use, these climatic factors have shaped the vegetation and landscape at Menemsha Hills.

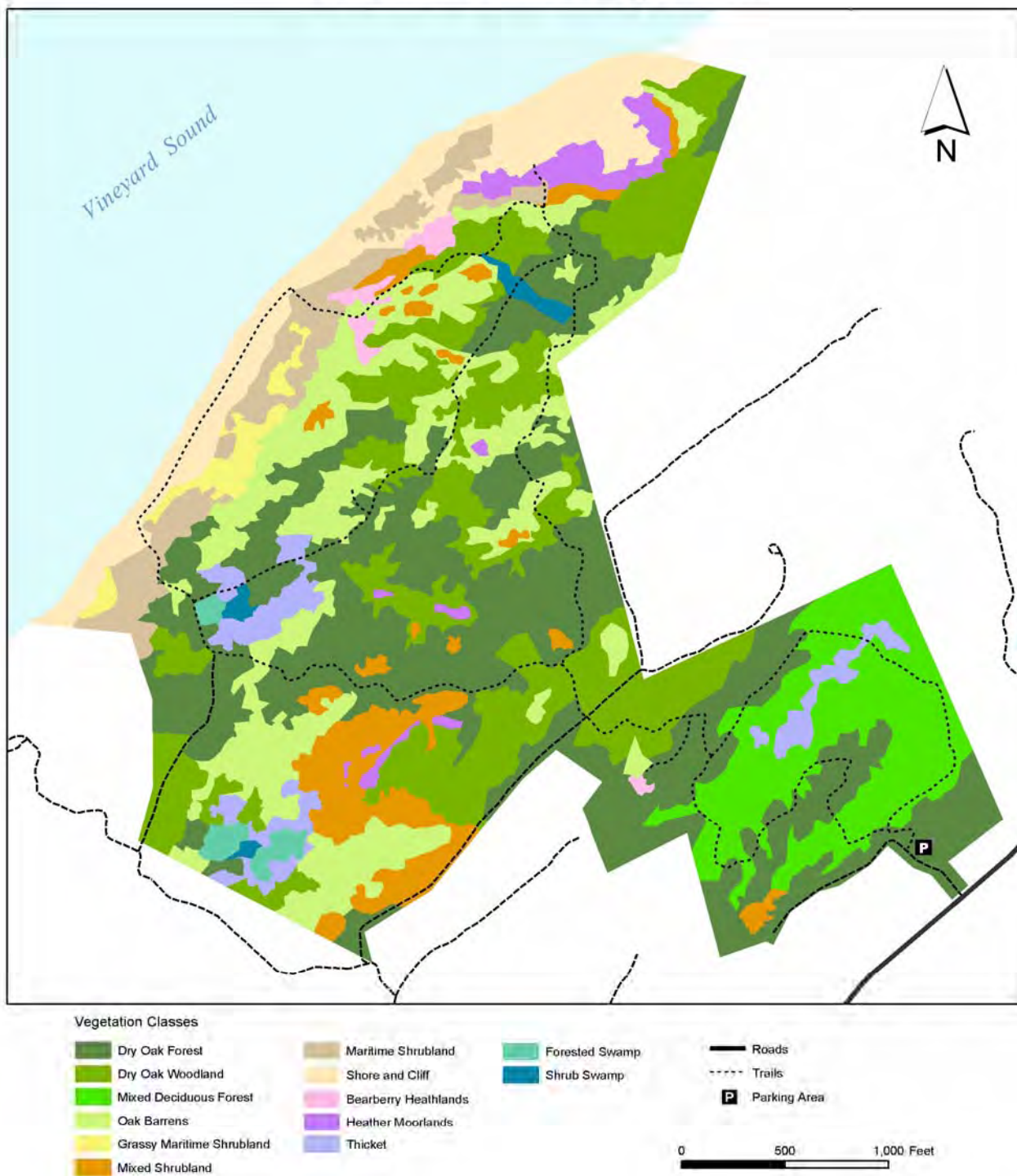
3.5.5 Community Types

Menemsha Hills has a wide variety of plant and animal community types. Beginning at its rocky shores, maritime erosional cliffs tower upwards to maritime shrublands along its fringes. Bearberry heathlands and heather moors carpet the undulating low hills, surrounded by a wide variety of shrublands and thickets. Further inland, oaks and other trees become more important: barrens, dry oak woodlands and forests comprise most of the property. Wetlands, including vernal pools and many springs, seepage areas, and intermittent streams, make their home in the low-lying areas. Combined, these habitats make Menemsha Hills one of the most diverse conservation lands on Martha's Vineyard (Figure 3).

⁷ Soil Survey of Dukes County, Massachusetts. USDA Soil Conservation Service. 1986.

⁸ Soil Survey of Dukes County, Massachusetts. 1986.

Menemsha Hills - Vegetation



Produced by The Trustees of Reservations, June 2004

Figure 3: Vegetation Map of Menemsha Hills.

Rocky Shore

The shoreline at Menemsha Hills is rocky and is representative of much of Martha's Vineyard's north shore. Larger rocks in the intertidal zone are encrusted with barnacles (*Balanus* spp.) and a coating of blue-green algae (*Calothrix* sp.) that rings the rocks, giving them a dark, painted look. Below the barnacles are rockweeds (brown algae such as *Fucus edentatus* and *F. vesiculosus*). Attached to rocks are a myriad of other seaweeds—brown algae, red algae, and green algae. One of the most conspicuous seaweeds is Sea Lettuce (*Ulva lactuca*), which is bright green in color. Sandy patches sparsely cover areas of the shoreline. Sand also fills in between the rocks.

Maritime Cliffs

The cliffs at Menemsha Hills rise out of Vineyard Sound to heights of 150 feet—the tallest cliffs on Martha's Vineyard. The cliffs are mostly sand, although patches of clay occur as well. The cliffs are highly erodible, which creates an interesting mosaic of vegetation on an otherwise barren cliff. Blocks of habitat from above break off and slowly make their way down the cliff face as it erodes. Meanwhile, beach species from below attempt to move up the cliff face. Maritime shrublands thus interface with Beach Grass (*Ammophila breviligulata*) interlaced with other sand-loving species such as Beach Pea (*Lathyrus japonicus*), Seaside Goldenrod (*Solidago sempervirens*), Seabeach Sedge (*Carex silicea*), Seabeach Orach (*Atriplex arenaria*), and Sea Rocket (*Cakile edentula*). In clay areas are wet seeps, where groundwater reaches the more impervious clay and surfaces. Wetland species in these areas include Soft Rush (*Juncus effusus*), Toad Rush (*J. bufonius*), Common Horsetail (*Equisetum arvense*), and Woolgrass (*Scirpus cyperinus*). Invasive and exotic species in these seeps are common; Coltsfoot (*Tussilago farfara*) and Common Reed (*Phragmites communis*) have a strong foothold in these areas.

Maritime Shrublands

Along the fringe of Menemsha Hills' cliffs are maritime shrublands, covering 15.5 acres in a long, narrow band. Wind, salt spray, and sandy soil have kept these shrublands from transforming into forests. Northern Bayberry (*Myrica pensylvanica*), Black Huckleberry (*Gaylussacia baccata*), roses (*Rosa* spp.), Downy Gooseberry (*Ribes hirtellum*), Poison Ivy (*Toxicodendron radicans*), asters (*Aster* spp.), goldenrods (*Solidago* spp.), Little Bluestem (*Schizachyrium scoparium*), and Red Fescue (*Festuca rubra*) are the predominant species. The shrublands are patchy, with some areas more dominated by grasses and herbs and other areas blanketed by dense shrublands. At the downwind edge of these shrublands are dense, stunted, windswept trees, slowly creeping in from the interior forests, woodlands, and barrens.

Heather and Heathlands

Scattered throughout Menemsha Hills are patches of heather and heathlands, totaling 6.6 acres. Heather moors are found covering parts of the Great Sand Cliffs and along a stretch of coarse sand exposed fully to northerly winds. This Beach Heather (*Hudsonia tomentosa*) is typically sparse and grows with Bearberry (*Arctostaphylos uva-ursi*) to form a low mat. A few grasses—Little Bluestem, Strict Hairgrass (*Deschampsia flexuosa*), and Poverty Grass (*Danthonia spicata*) live here as well. In more stable parts along the cliff edge are Bearberry heathlands, which form a dense mat of the trailing shrub, allowing little other growth to survive—a few grasses, herbs, and some smaller shrubs. Further inland, amongst the barrens and forests of Menemsha Hills, are smaller patches of heathlands and heather. Here, the heather is Golden Heather (*Hudsonia ericoides*). Species such as Scrub Oak (*Quercus ilicifolia*), Little Bluestem, Black Huckleberry, and some herbs, such as Sickle-leaved Golden Aster (*Crysopsis falcata*), Canadian Rockrose (*Helianthemum canadense*) and Racemed Milkwort (*Polygala polygama*), grow in these interior heather and heathland patches, which are often only a tenth of an acre in size. Despite their small size, however, they make up an important component in the vegetation diversity.

Mixed Shrublands

Most of the mixed shrublands occur in either dry, loamy sand or windswept areas along the cliffs. Scrub Oak is one of the most common species in these shrublands. Along the cliffs, they are small and stunted. In more

sheltered areas, they are twisted from the ages and often reach 15 feet tall. Black Huckleberry is the most common low shrub, forming a carpet through which the taller shrubs grow. These shrublands, however, are highly diverse, with patches of dense Winged Sumac (*Rhus copellina*), Northern Bayberry, roses, Highbush Blueberry (*Vaccinium corymbosum*), Poison Ivy, Arrow-wood (*Viburnum dentatum*). Vines such as grapes (*Vitis* spp.); raspberries, blackberries, and dewberries (*Rubus* spp.); and briars (*Smilax* spp.) wind their way over the shrubs. Eastern Red Cedar (*Juniperus virginiana*) and Black Cherry (*Prunus serotina*) are also fairly common in these shrublands, which cover 13.3 acres.

Oak Barrens

Oak Barrens are shrub-dominated habitats with a sparse overstory of oak trees, predominately Black, White, and Scarlet Oaks (*Quercus* spp.). These barrens cover 33.8 acres at Menemsha Hills. The same species that occur in the mixed shrublands occur in the oak barrens. The important difference, however, is that these areas are slowly becoming forested as trees encroach. Most trees in these barrens are young, open-grown trees.

Dry Oak Woodlands

Other areas in Menemsha Hills are covered with trees, yet the canopy has not completely closed and a wide diversity of shrubs can exist in open patches between trees. Many of the trees in these woodlands are open-grown trees. These woodlands cover 44.2 acres.

Dry Oak Forests

Dry Oak Forests form the matrix of Menemsha Hills—96.6 acres of which is dry oak forest. In the western part of Menemsha Hills, dry oak forests wrap around barrens, woodlands, and shrublands. A closed canopy of oak trees and an understory of Black Huckleberry characterize these forests. Pitch Pines (*Pinus rigida*) make up only a small portion of this oak-dominated landscape. In the eastern portion of Menemsha Hills, these dry oak forests occur in the upland ridge areas, where the soils are drier. Of all of Menemsha Hills, these habitats are the least diverse in terms of vegetation.

Mixed Forest

The mixed forests at Menemsha Hills (23.2 acres) are very different from the dry oak forests. The soils are moister and could be classified in many parts as “mesic,” especially along the intermittent stream areas. In the mixed forests, oaks are still an important component, but other species occur as well: Red Maple (*Acer rubrum*), Beech (*Fagus grandifolia*), American Holly (*Ilex opaca*), and Tupelo or Beetlebung (*Nyssa sylvatica*). Instead of Black Huckleberry, other shrubs typical of moist environments occur. Shrubs such as Swamp Azalea (*Rhododendron viscosum*), Sweet Pepperbush (*Clethra alnifolia*), Hazelnut (*Corylus americana*), and Arrow-wood are abundant as are briars. Ferns and woodland wildflowers such as New York Fern (*Thelypteris novaboracensis*) and Starflower (*Trientalis borealis*) also occur in this community type.

Thickets

Thickets are tree-less patches of dense briars and shrubs that cover 7 acres at Menemsha Hills. The briars often create a thick mat of vegetation. Typically these thickets are in moist soils near wetlands. Shrubs include Arrow-wood, Sweet Pepperbush, and Swamp Azalea.

Wetlands

Throughout Menemsha Hills are wetlands, which are home to a wide variety of plants and serve as refuge and corridors for animals. Several types of wetlands exist: cliff seeps, springs and creeks, and vernal pools.

One state-certified vernal pool is inhabited by fairy shrimp, *Eubranchipus vernalis*.⁹ A shrub swamp surrounds the pool, with Buttonbush (*Cephalanthus occidentalis*), Winterberry Holly (*Ilex verticillata*), rushes (*Juncus canadensis*), Beetlebung (*Nyssa sylvatica*), Marsh Fern (*Thelypteris palustris*), and briars (*Smilax* spp.) as key

⁹ The pool is a state-certified vernal pool (No. 1242).

species. Within the dense shrubs, deer take refuge as they browse on the briars. Other smaller temporary pools exist scattered throughout Menemsha Hills, mostly within the mesic forests. These do not contain the animal species required for certification.¹⁰ Many of these smaller pools were created when glacial erratics were removed from the land to create the jetties at Sengekontacket Pond.¹¹

Several springs occur at Menemsha Hills: two tributaries to Roaring Brook, one smaller intermittent stream that flows directly into Vineyard Sound, and several smaller seeps, including cliff seeps. The tributaries serve as corridors for River Otter (*Lutra canadensis*), which cross Menemsha Hills between Roaring Brook and Menemsha Pond. These tributaries are also home to Raccoons (*Procyon lotor*), which have a nearby den. These diverse springs and streams are mostly forested or shrubby, with Old-man's Beard-covered Red Maple (*Acer rubrum*), Beetlebung, and oaks as the predominant trees.¹² The main shrubs are briars, Winterberry Holly, Grape (*Vitis* spp.), Swamp Azalea (*Rhododendron viscosum*), Sweet Pepperbush (*Clethra alnifolia*). In the spring areas, where Sphagnum Moss mats the ground, grow interesting plants such as Poison Sumac (*Toxicodendron vernix*), Water Pennywort (*Hydrocotyl americana*), Jack-in-the-pulpit (*Arisaema triphyllum*), Ground Pine (*Lycopodium obscurum*), Swamp Violet (*Viola macloskeyi* var. *pallens*), New York Aster (*Aster novi-belgii*), and Brown Beaksedge (*Rhynchospora capitellata*).

3.5.6 Significant Natural Features

Menemsha Hills has many natural features that are significant. Its landscape is home to five rare community types and six rare species. It is part of a large forested area, parts of which are old, with tall canopies. Here, natural features can be found that do not occur elsewhere on The Trustees' Islands Region properties.

Unique Natural Features on The Trustees' Islands Region Properties

Menemsha Hills possesses several natural features that do not occur at other Trustees properties in the Islands Region. For this reason, they are significant in the scope of a portfolio of features for visitor enjoyment, education and interpretation, and island ecology. These natural features are intermittent streams, rocky shores, and erosional cliffs.

Old Trees

In the mixed forest are some of the tallest, oldest trees at Menemsha Hills. Many are over 100 years old, with the oldest approaching 200 years old.¹³ In this forest, canopy trees almost three feet in diameter tower to 80 feet. This contrasts with most of the island, and the rest of Menemsha Hills, where forested canopies average around 40 feet tall.

Forested Landscape

Martha's Vineyard has become mostly forested since agricultural activities have declined significantly over the last centuries. The largest forested landscape on Martha's Vineyard, with minimal housing development, occurs in a broad stretch of land between Cedar Tree Neck, Wood's Preserve, and Menemsha Hills. This area is not just important because of its relatively unfragmented forest. It is also home to older forests, old trees, temporary pools, Box Turtles, neotropical migratory songbirds, and rare plants.

¹⁰ In order for a vernal pool to be certified, at least one of a suite of certain animal species need to be present, as determined by the Commonwealth. These animal species either require vernal pool habitat (obligate) or are associated with it (facultative). The state MNHESP publishes a list of obligate and facultative organisms required for certification.

¹¹ P. G. Harris, personal communication.

¹² Although wetlands comprise a small area at Menemsha Hills, over 40 plants inhabit them.

¹³ One tree had 165 rings taken at breast height (1999 data). The age of trees is difficult to ascertain since some trees can live as seedlings for years in a forest environment. All of Menemsha Hills was likely cleared and pastured at one point, although an 1883 map shows an area that appears to be either forested or regrowing into forest. This is the area where the older trees are located.

These forests are home to a large number of plants that rarely occur on Martha's Vineyard. Uncommon clubmosses, spleenworts, and ferns live in the moist, shady soils. Uncommon forest sedges grow in this landscape on drier ridges with more open understories. Rare orchids still exist in this landscape: Large Whorled-pogonia (*Isotria verticillata*) and Crane-fly Orchid (*Tipularia discolor*). Other rare plants are Canadian Sanicle (*Sanicula canadensis*) and Hairy Agrimony (*Agrimonia pubescens*). In the richer soils of these forests are other unusual and uncommon plants including White Baneberry (*Actaea alba*), Red Columbine (*Aquilegia canadensis*), and Hooked Buttercup (*Ranunculus cymbalaria*).

In the spring, songbirds return from their winter homes in the tropics. In these richer forests are songbirds that are uncommon elsewhere on Martha's Vineyard. Scarlet Tanager (*Piranga olivacea*), Veery (*Catharus fuscescens*), Red-eyed Vireo (*Vireo olivaceus*), Wood Thrush (*Hylocichla mustelina*), American Redstart (*Setophaga ruticilla*), and other neotropical migratory songbirds breed in these forests during the summer.

Reptiles and amphibians live within these wooded environments as well, with Box Turtles, Northern Black Racer (*Coluber constrictor constrictor*) and Redback Salamander (*Plethodon cinereus*) as some of the most well known species. This forested area is likely habitat for the largest Box Turtle population on Martha's Vineyard.

Throughout these forests are also low-lying forested swamps and temporary pools, which are home to a wide variety of invertebrates such as clam shrimp (*Limnadia* sp), fairy shrimp, fingernail clams, and dragonflies such as the broad-winged Swamp Darner (*Epiaeschna heros*) and the scarlet Ruby Meadowhawk (*Sympetrum rubicundulum*).

Whitetail Deer (*Odocoileus virginianus*) are abundant throughout this forested landscape, throughout which are patches of forests with ancient trees up to 250 years old. In parts, forest canopies reach over 100 feet tall. Most of this forest, however, is younger, reflective of reforestation following the abandonment of pastures in the 1800s.

Rare Communities

Maritime Erosional Cliff Community (S2)¹⁴

The Great Sand Bank is a unique feature on Martha's Vineyard that creates one of the most memorable vistas as well as a haven for ground-feeding insects, adapted to the sandy environment. Here, the tiger beetle is king. These species (*Cicindella formosa generosa*, and *C. punctulata*, among others) are ferocious predators and are abundant in these habitats. Sand wasps are also predators and common—Eastern Sand Wasps (*Bembix americana spinolae*), Great Golden Digger Wasp (*Sphex ichneumoneus*), and thread-waisted wasps (*Ammophila* sp.)—digging their burrows in the sand. This variety of predators makes the Great Sand Bank a very dangerous place for unsuspecting invertebrate prey.

Heathlands (S1)

Heathlands, such as those found at Menemsha Hills, are one of the least common habitats in the state. The heather moors, bearberry heathlands, and other heathlands throughout the state have declined significantly due to development and succession.

Maritime Shrubland Community (S3)

These shrublands along the edge of the cliffs are home to one of the most abundant deer populations at Menemsha Hills. The abundant berries and cover provide food and shelter for migrating songbirds. Northern Harrier (*Circus cyaneus*) hunt along this community, although their nesting at Menemsha Hills has never been confirmed. Along the north shore of Martha's Vineyard, these shrublands are declining dramatically, as forests begin to grow to the edge of cliffs. An open, grassy variant of this community also exists at Menemsha Hills.

¹⁴ The Natural Heritage Program has a state ("S"-rank) ranking system for natural communities. S1 refers to extremely rare communities (only 1-5 examples left, with extreme reductions in range). S2 refers to very rare communities. S3 refers to rare communities. S4 and S5 describe communities that are more common.

The remnant grassy shrublands, although now more shrubby in nature, are reflective of the once-abundant grasslands and pasturelands at Menemsha Hills. Grasslands are currently one of the most rare habitats in the state.

Scrub Oak Shrubland (S1)

Amongst the wide variety of shrublands at Menemsha Hills are Scrub Oak shrublands. These shrublands are extremely rare in Massachusetts and are home to many rare species, especially invertebrates such as moths. At Menemsha Hills, rare moths have been found in these habitats.

Vernal Pools (S3)

Vernal pools are temporary pools defined by their unusual animal communities. They are scattered throughout Menemsha Hills, mainly to the east of Prospect Hill in the mesic forest. Most vernal pools on Martha's Vineyard occur in the moraine, where topographic features and soil conditions create these temporary pools. The vernal pool communities on Martha's Vineyard, however, are species-poor, with fairy shrimp and Spotted Salamander (*Ambystoma maculatum*) being the two main vernal pool species that occur on Martha's Vineyard.¹⁵ Nevertheless, these pools are an important part of Martha's Vineyard ecology.

Rare Species

Broom Crowberry (*Corema conradii*), Crowberry Family

Special Concern

Broom Crowberry patches occur in sandy openings from New Jersey to Newfoundland. The species has a limited distribution and is listed as a rare species in New Jersey, New York, and Massachusetts. Four main clusters of populations occur in Massachusetts—Plymouth, Lower Cape, Martha's Vineyard, and Nantucket.¹⁶ On Martha's Vineyard, only small populations of the plant remain. Encroaching shrubs and trees and loss of open habitat threaten these populations. At Menemsha Hills, two patches of Broom Crowberry occur. Broom Crowberry dominates the first site, with Little Bluestem, Scrub Oak, reindeer moss, Golden Heather, Black Huckleberry, and Bayberry also occurring. Along the edges of the crowberry patch, which numbers over 1,000 individuals, shrubs have encroached and limit the available habitat to the small remaining patch. At the second site, approximately 58 plants of Broom Crowberry grow among Golden Heather. Bearberry and other shrubs are also present. At both sites, which are approximately 200 feet apart, the area of suitable habitat is extremely small.

Spiny Oakworm Moth (*Anisota stigma*), Giant Silk Moth Family

Special Concern

Found in a forest opening, this species feeds on oak. This species is fairly common throughout the island, and has been common in the past¹⁷. Elsewhere in Massachusetts it is rarely found except in the Scrub Oak frost bottoms of southeastern Massachusetts.

Gerhard's Underwing Moth (*Catocala herodias gerhardi*), Owlet Family

Special Concern

Also found in barrens habitats, this moth's larvae emerge in mid-May and feed on young emerging leaves and flowering parts of Scrub Oak. They pupate in June among the leaf litter. Moths emerge in approximately three weeks and lay eggs on Scrub Oak. This species was found within an opening in the forest, where Scrub Oak is prevalent.¹⁸

¹⁵ On Martha's Vineyard, there is only one species of salamander and no frogs that are obligate (species that require vernal pools exclusively) to vernal pools. The vernal pool at Menemsha Hills is certified as a vernal pool because of the presence of a fairy shrimp species.

¹⁶ MNHESP fact sheet: Broom Crowberry.

¹⁷ Jones and Kimball, 1943.

¹⁸ Paul Goldstein, personal communication

Chocolate Renia Moth (*Renia nemoralis*), Owlet Family

Watch List

This species likely feeds on decaying leaf litter, although currently its food source is unknown. The northernmost range of this species is Martha's Vineyard. The species ranges as far south as Texas and Florida.

Eastern Box Turtle (*Terrapene carolina*), Box and Water Turtle Family

Special Concern

Between 1999 and 2003, 16 Box Turtle sightings were reported in the forests between Cedar Tree Neck and Menemsha Hills. Three of these are from Menemsha Hills, in the forests surrounding Prospect Hill. Box Turtles are omnivorous and feed on invertebrates as well as mushrooms and blueberries. Microhabitat, such as a sunny open forest gap, rather than macrohabitat (a broad stretch of forest) may be the determining factor in Box Turtle use. Box Turtles typically have home ranges between 4 and 200 acres.¹⁹

White M Hairstreak (*Parrhasius m-album*), Hairstreak and Blues Family

Watch List

The White M Hairstreak is likely a permanent resident of Martha's Vineyard, as opposed to a migrant. Only three records occur at present for Martha's Vineyard, which is part of the northernmost range for this species. This species feeds on oak trees and may be more commonly found in the tree canopy, where it may often go undetected.²⁰

3.5.7 Threats to Natural Resources

Erosion

Natural erosion is a threat along cliff areas. As the sea level rises, the rate of erosion is likely to increase. Many of the rare habitats occur along this zone, so any increase in erosion along the cliffs will disproportionately affect the rare habitats. Erosion also occurs in steep, sandy areas of the trail system. This erosion occurs because of human use of the trails combined with the erosion-prone nature of the steep, sandy soils.

Succession

Over time, the landscape at Menemsha Hills will become completely forested. This process of succession from grassland to forest takes many years. At present, Menemsha Hills is in transition, with still much area as woodlands, barrens, or shrublands. Without any management, the process of succession will continue and the rare habitats will be lost.

Wildfire

The threat of wildfire is high at Menemsha Hills, especially in the western section of the property, where the drier soils and wind create more favorable conditions for wildfire. Wildfire on a large scale is a threat to wildlife, people, and homes.

Illegal Tree Cutting

Along the border of Menemsha Hills, several cases of illegal tree cutting have occurred. The tree cutting has been a means for abutters to improve their views.

Deer Poaching

Hunting is currently not permitted at Menemsha Hills. Deer poaching is a continual problem at Menemsha Hills. The many access points allow for easy entrance to deer habitat. Tree stands and deer carcasses are evidence of these activities.

¹⁹ John Kelly, personal communication.

²⁰ Matt Pelikan, personal communication. The three records of this species are all visual (no voucher specimen): early May 1997 (Merges), early May 1999 (2 sightings, Pelikan).

Off-trail Uses

Off-trail uses can significantly impact a sensitive resource. Most off-trail uses occur at the Great Sand Bank. There, ATVs, walkers, paragliders, snowboarders, and others are a threat to the bank by damaging vegetation, increasing erosion, and impacting the habitat in general.

Dogs

Currently, dogs are not permitted at Menemsha Hills, yet dog walking, nevertheless, frequently occurs. Dogs can threaten wildlife such as Whitetail Deer and Box Turtle.

Exotic Species

Exotic species only occur in large numbers in two areas: in seepage areas, where Phragmites and Coltsfoot are abundant, and along Prospect Hill Road, where Spotted Knapweed occurs. The Phragmites is a short-term invasion, as its habitat will shortly erode away: it is found in a clay seepage area of the cliffs. The Coltsfoot, although exotic, is not common on Martha's Vineyard and is not considered an invasive species. The Spotted Knapweed, however, is a threat to the upland habitats of Menemsha Hills and, if left unchecked, could invade along trails and in restoration areas.

Housing Development

The future construction of housing developments around Menemsha Hills has the potential to isolate the reservation from other protected areas and to fragment large areas of forest. In Chilmark, housing development has progressed at a rapid rate.

3.5.8 Significant Opportunities

Restoring Rare Habitats and Species

Restoring rare habitats such as grassy maritime shrublands and heathlands and rare species such as Broom Crowberry would greatly increase the value of the natural resources at Menemsha Hills. Restoring habitats in key locations also has the benefit of reducing the chance of wildfire.

Increased Presence

Increased staff presence is an opportunity that would reduce the level of unauthorized activities such as deer poaching and off-trail uses. An increased staff presence would also increase communication with our neighbors. Staff housing at Menemsha Hills would create such a presence.

Continued Applied Ecology Research

As we acquire more information on Box Turtles, rare moths, old forests, the invertebrates of the Great Sand Bank, rocky shores, and other habitats, our management of these resources improves. Updating knowledge of the property's natural resources is therefore an important part of adaptive management.

3.6 Cultural Resources

3.6.1 An Overview of the Cultural Landscape

The landscape of Menemsha Hills has changed considerably over the years, with the driving force being humans and their use of the land. Menemsha Hills is, therefore, a cultural landscape. Today, shrubs and trees dominate, with little evidence of the once-widespread pastures and grasslands of the nineteenth century. Prior to European settlers, who created these open lands, the Wampanoag made Menemsha Hills their home.



Figure 4: An 1883 map of Menemsha Hills showing stone walls, fields, and forested areas along Roaring Brook.

Several Wampanoag homesites likely existed at Menemsha Hills and the area is full of evidence of their use of the land. The Wampanoag lived on Martha's Vineyard for thousands of years prior to European settlement.²¹ By the time Europeans arrived to describe what they saw, approximately 3,000 to 3,500 Native Americans were living on Martha's Vineyard, a population density much higher than elsewhere in New England.²² The Wampanoag used fire, hunted, fished, shellfished, traded, and grew crops such as corn. They also used and gathered plants for food, shelter, medicine, tools, travel (wooden boats), and fuel. Their homes, called wetu, were made of

sapling trees bent at both ends and sunk into the ground then covered with mats of cat-tail or other plants. The ease of constructing their homes facilitated moving between sites: the Wampanoag would move several times a year, moving to a sheltered site in the winter. At Menemsha Hills they would likely move to the south sides of the hills, which sheltered them from the winter winds and warmed them in the early morning sun.²³ A well-used trail meandered through the hills, facilitating travel between Menemsha Pond and Roaring Brook, both of which had Wampanoag settlements. A meadow still exists at the Roaring Brook site, which was referred to as the "great field of the Indians."²⁴ Much of the land around the meadow was likely wooded or shrubland.²⁵

In 1681, the change from Wampanoag use to European settler use began with a stroke of a pen. At this time, Governor Mayhew first sold the purchase rights to the land from Roaring Brook to Menemsha Pond to Benjamin Skiffe.²⁶ Twenty years passed before the land was bought from the Wampanoag and sold to the first generation of settlers. By the time of the American Revolution, this landscape had changed significantly to pastureland, meadows, woodlands, orchards, fences, a grist mill, and agricultural fields.²⁷ The land was subdivided and improved. Sheep grazed the grasslands. Prospect Hill was an open landscape.²⁸

²¹ The oldest site on Martha's Vineyard is dated at 4,300 years old. Potentially, much older human remains have been found at Squibnocket, although haven't been published. The oldest site in eastern Massachusetts is dated at 11,000 years. Based on the Bull Brook site (Byers, 1954-1955) and the Wapanucket No. 8 site (Robbins and Agogino, 1964).

²² Cook, S. F. 1976. The Indian population of New England in the seventeenth century. *Publications in Anthropology*, no. 12:1-91. Berkeley: University of California.

²³ Evidence of circular depressions in the ground exists in these southerly exposures at Menemsha Hills. An archaeological dig, however, has not been conducted to verify their use as a home site. P. G. Harris located these sites.

²⁴ Ebba Hierta, personal communication.

²⁵ Aside from the open field, little other pre-settlement information exists describing the character of the landscape.

Through deduction, one can assume that areas outside of the "field" were not field—i.e. shrublands, woodlands, or forests. How much field and how much forest, however, is not known.

²⁶ Ebba Hierta, personal communication.

²⁷ Ebba Hierta, personal communication. In 1756, the deed to Samuel Hillman from his father, Jonathan, contained this description: "Meadow, pasture land, wood land adjoining to my dwelling house" In 1790, Samuel Mayhew transferred his land to son John Mayhew, reserving the right for himself "all the wood standing thereon...also to myself the feeding of 20 sheep on said land." James Norton died in 1811 and left an estate that included "the homestead farm containing about 225 acres;" his dwelling house, barn, blacksmith shop and corn house; two horses, 10 cattle, three swine and 50 sheep.

²⁸ "During the war, Simon Mayhew (father of Samuel and Timothy) reportedly spotted warships in Vineyard Sound, gathered a small band of neighbors who marched up and down Prospect Hill throughout the day, creating the false

Change continued to occur on the landscape into the 1800s, when most of Menemsha Hills was open pasture divided by stone walls (Figure 4).²⁹ Industry became a dominant force in the area, as water power from Roaring Brook and clay in the hills fueled two brickyards. The useful pigments in the colorful clay also spawned a paint mill on the brook. Clay mining occurred throughout Chilmark and on the cliffs near the brickyards. Farming was still an important part of life in Chilmark. A growing whaling industry, industrialization, the Civil War, and westward settlement patterns were some of the many factors that led to its decline, however.

By the end of the nineteenth century, the trends leading to a decline in farming also led to a change in landowners. As land values were depressed in the late 1860s, Nathaniel Harris, a businessman from Boston, bought the brickyard, lands in and around Menemsha Hills and clay mining rights. The brickyards operated until shortly after his death in 1880. A kaolin mining and processing operation, which was located on the cliffs of Menemsha Hills, closed shortly thereafter. The hurricane of 1938 destroyed its skeletal remains.

By this time, the landscape had begun to change considerably. Pastures, grazed by fewer and fewer sheep as the years passed, slowly became more and more wild. Descendants of Nathaniel Harris still used the land, but mainly for summertime homes. Shrubs grew. Trees began to take over areas. The birth of the shrublands, barrens, woodlands, and forests began at this time. The landscape we see today is therefore a reflection of past land-uses.

3.6.2 Significant Cultural Features

Unlike an historic home, Menemsha Hills' cultural features are subtle. Menemsha Hills is a cultural landscape lined with stone walls. The trees and holes dug into the ground tell the story of past land-uses.

Stone Walls

Stone walls form an important feature at Menemsha Hills. Some stone walls may date back to the original subdivisions of the land; others mark the dividing point between "Cape Higgon" and "Menemsha." They are an unmistakable part of the landscape.

Wampanoag Wetu Sites

The Wampanoag lived in homes called wetu.³⁰ The wetu was constructed from a frame of sapling trees, bent at both ends and sunk into the ground. At least three potential wetu sites exist at Menemsha Hills. A circle dug into the ground, often with an opening facing the sun, typifies these sites.

The Cultural Landscape

Because of the land-use history of Menemsha Hills, every acre has been affected to one extent or another. As described in the overview of the cultural landscape, most of the land was grassland in the 1800s. These pastures then regrew to forest, woodlands, barrens, and shrublands. Patches of grassy shrublands along the shoreline are remnants of this landscape. Evidence of the open areas also exists when looking at the open-grown "wolf trees." Their spreading branches are testimony to the open landscape they grew in. Patches of heathlands are also examples of the open areas that once occurred at Menemsha Hills. Views to the east show the chimney of the brickyards, evidence of past industry that affected the land at Menemsha Hills.

impression that there were soldiers quartered there and guarding the area. If they were easily seen from the Sound, the land between the hill and the Sound would have had to have been fairly open." Ebba Hierta, personal communication.

²⁹ Photographs from the latter parts of the nineteenth century show the landscape as completely open. Ebba Hierta, personal communication. An 1883 map of Martha's Vineyard shows almost all of Menemsha Hills as open, save for a small patch of forested or shrubby area.

³⁰ *Wampanoag Way: An Aquinnah Cultural Trail*. Aquinnah Cultural Center, Inc. Wampanoag Tribe of Gay Head, Aquinnah.

3.6.3 Significant Opportunities

Archaeological Survey

The cultural features have not been studied at Menemsha Hills. Currently, a lack of information exists on features such as the Wampanoag sites.

Landscape Restoration

Certain aspects of the cultural landscape will disappear without restoration. Before it is too late, some of the grassy shrublands can be restored to grasslands. Shrublands and barrens are not as threatened, though will also disappear without restoration.

Interpretation

Many opportunities for increased interpretation of cultural resources exist at Menemsha Hills. Once more is learned about the Wampanoag sites, for example, they can be interpreted for the public. The land-use history of the property can also be used for interpretation.

3.7 The Visitor Experience

All aspects of the visitor experience—the Town of Chilmark context, nearby recreational opportunities, the trail system, communications, signs, parking, restrooms, rules and regulations, education and interpretation, scenic features, and a visitor profile—are described below.

3.7.1 Visitor Profile

Visitation at Menemsha Hills is low. The 20-car parking lot, however, can be full during fair weather days during the early fall and spring, especially during weekends. During the summer, visitation is typically lower, likely because people are choosing to visit properties with sandy beaches. Menemsha Hills can also be a hot environment in the summer, not conducive conditions for hiking the moderately strenuous hilly terrain. Likewise, the winter has lower visitation as well, when fewer people live on Martha's Vineyard and the cold winter winds can keep people away.

Over the course of a year, approximately 3,500 vehicles and 9,500 people visit Menemsha Hills.³¹ On average, 12 vehicles parked at Menemsha Hills every day during the fall.³² The number of vehicles was highest in September, with approximately 19 cars per day using the parking lot. In the winter, the number of vehicles per day declined to 4.8 vehicles per day.

Visitors at Menemsha Hills are predominately from Massachusetts (68.9%), with 31% of visitor respondents from Martha's Vineyard. Other visitors come from New York (5.7%), Connecticut (4.7%), and other New England states. Most visitors (97.2%) arrive by car with an average group size of 2.7. Most (60%) visitors come with one other person and are repeat visitors (57%). Visitors consider the following to be important reasons for visiting Menemsha Hills: enjoying the scenery, exercising, relaxing, and seeking peace and quiet.³³ The most important reason people listed was enjoying the scenery (27.1%) and spending time with friends and family (18.8%). Prospect Hill was the most common destination (79.4%), with other areas listed less frequently.³⁴

³¹ This is a best estimate given current data and assumes that visitation between September and March is typical of an entire year, which is likely not the case. Based on five months of vehicle counter data, September to February, 2003 (1728 vehicles over five months) and the average number of people in a party (2.7). The total is 9,461 visitors.

³² Vehicle counter data from Menemsha Hills between September 1 and December 28, 2003.

³³ Anderson, L., D. Loomis, L. Vernegaard. 2004. *Menemsha Hills Reservation: Visitor Characteristics, Experiences, and Interests*. Respondents answered on a scale of 1 to 5, with 5 considered an extremely important reason for visiting and 4 considered a very important reason. The following were the average scores for the top reasons: enjoying the scenery, 4.45; exercising, 4.21; relaxing, 4.17; seeking peace and quiet, 4.13.

³⁴ All other sites—Harris loop (short hiking trail, 55.8%), long scenic loop (long hiking trail to beach, 52.8%), great sand bank overlook (57.8%), and beach area (55.8%)—were listed as a destination less often. This is a survey error, as the short

The primary activity of Menemsha Hills is passive recreation in the form of walking and hiking. Most people listed this as the primary activity.³⁵ Other less common activities were nature study, beach activities, photography, jogging, picnicking, fishing, geocaching, hunting mushrooms, walking dogs, biking, and creating beach art.

3.7.2 Significant Scenic Features

Enjoying the scenery is the most important reason why people visit Menemsha Hills.³⁶ Menemsha Hills has exceptional scenery, which includes broad water views as well as shorter views through forested areas. The undulating terrain is a foundation for many of the scenic features. Over the years, as Menemsha Hills has become more forested, sweeping vistas have been lost.

Prospect Hill

At 308 feet, Prospect Hill offers a view of Vineyard Sound, the Elizabeth Islands, Menemsha Pond, the Gay Head lighthouse, and Aquinnah. Prospect Hill has historically been a lookout site, whether for British Navy ships or whales. Trees now block the view to the east.

Great Sand Cliffs

From the top of the cliffs are views of the Brickyard, Vineyard Sound, the Elizabeth Islands, and the Gay Head lighthouse. The views also stretch along the north shore around Great Rock Bight and Cape Higgon.

Other Water and Landscape Views

Along the western section of the loop trail to the Great Sand Cliffs is another view of Aquinnah and Vineyard Sound, looking over a broad swath of barrens and shrublands. The eastern section of the loop trail has a memorial bench with views of Vineyard Sound. From the shoreline is a view of Vineyard Sound, surrounding landscapes, and the cliffs. Periodically, along the western trail to the cliffs, Vineyard Sound can be seen through the trees.

Interior Views

Smaller views and subtle beauty are also common at Menemsha Hills. The woodlands of “wolf trees” are full of character and subtle aesthetics. Along the trail are also several ponds and pools, which provide a source of reflections and a quiet areas for retreat. Large, lichen-covered rocks dot the landscape, and stone walls frame trails and run through forests, reminders of a pastoral setting of old. Views of some of the tallest trees on Martha’s Vineyard provide a contrast to shorter trees typical of most of the island.

3.7.3 Current Rules and Regulations

1. Vehicles are permitted only in the designated parking area located off North Road. Motorized vehicles, including trail bikes, motorcycles, snowmobiles, and all off-road vehicles, are prohibited elsewhere on the Reservation.
2. Camping is prohibited for public health reasons.
3. Littering is prohibited. Please carry out anything you carry in.

hiking trail must be taken in order to reach Prospect Hill, for example. Perhaps people were answering based on their destinations and considered the trails as a means to an end.

³⁵ Anderson, L., D. Loomis, L. Vernegaard. 2004. *Menemsha Hills Reservation: Visitor Characteristics, Experiences, and Interests*.

³⁶ Anderson, L., D. Loomis, L. Vernegaard. 2004. *Menemsha Hills Reservation: Visitor Characteristics, Experiences, and Interests*. Enjoying the scenery was listed as 4.45 out of 5 as a reason for visiting. A 4 is very important and a 5 is extremely important. In addition, it was the most important reason why people visited Menemsha Hills, with 27.1% of respondents listing it as the most important reason.

4. The density of surrounding woodlands, the general dry conditions of the forest floor, moors and fields, and the exposure to drying winds make the use of fire hazardous. All fires are prohibited.
5. Cutting or removing vegetation is prohibited. Trees, shrubs, and wildflowers are of scientific interest, and all are part of the beauty of the landscape.
6. Disturbing, removing, defacing, cutting, or otherwise causing damage to a natural feature, sign, poster, barrier, building, or other property on the Reservation is prohibited.
7. The use of horses, bicycles, or other mechanical devices on the trails and terrain of the Reservation are prohibited.
8. Sliding down or climbing up the shoreline cliffs is dangerous and accelerates erosion, and is therefore prohibited. Visitors must use designated trails to travel between the beach and upland.
9. Hunting and firearms are prohibited. From time to time, however, TTOR may conduct controlled hunting programs for management purposes.
10. Conduct that disturbs the tranquility of the Reservation or its enjoyment by others is prohibited.
12. The Reservation is open at sunrise and closes 1 hour after Sunset. Use of the reservation at other times is prohibited.
13. Swimming is prohibited. Dangerous rocky beach conditions exist. No lifesaving equipment is provided.
14. Dogs and other pets are not permitted.
15. Access to the Reservation is through marked entrances only.

3.7.4 Education and Interpretation

Menemsha Hills offers unsurpassed opportunities for public education and natural history interpretation. Woodlands, geologic features, historic significance, wildlife, and an extensive trail system provide opportunities to delight, inspire, and educate visitors. Since the property's opening, interpretive programs for the public and school education programming have been offered.

During this same period, The Trustees has increased its organizational emphasis on the role of education. This commitment is based on the principle that one of the most effective ways to foster the protection of the Massachusetts landscape is to re-connect people to the land through place-based educational and interpretive programs. By helping the public to see and understand the special scenic, historic, and ecological qualities of Menemsha Hills Reservation, The Trustees believes that visitors will join the effort to take care of the property.

Education programs for schools and natural history programs for the public are administered by the Education & Interpretation Coordinator. School-based programs are offered through the Claire Saltonstall Education Program (CSEP) and provided by the Education & Interpretation Coordinator and two part-time assistants. Guided walks and geocaching are also educational activities offered at Menemsha Hills. These are discussed below.

Educational programs for school groups

The Claire Saltonstall Education Program (CSEP) was created in 1991 through an endowment from William and Jane Saltonstall, with additional start-up capital from William and Nan Harris and Kib and Tess Bramhall.

The goals of the CSEP are:

- To increase island students' familiarity with properties owned by The Trustees of Reservations on Martha's Vineyard
- To establish a personal relationship with students and nature by conducting original research and hands-on activities at Trustees' properties
- To provide data that will contribute to land management decisions made by The Trustees.

The CSEP offers high quality, hands-on, outdoor and classroom environmental education programs to Martha's Vineyard schools free of charge and provides off-Island school programming for a fee.

For the 2002/2003 school year, 43 teachers and 725 students, approximately 39% of the Island's elementary school population, or 27% of the entire Island school population, participated in the CSEP. Menemsha Hills hosted 177 students on 16 field trips. By far the most popular program offered at Menemsha Hills is the Geology Program. Geology programs are offered to 1st, 3rd, and 5th graders in conjunction with their required rock and mineral studies established in the Massachusetts State Education Frameworks. Other programs offered through the CSEP at Menemsha Hills included insects, forests, vernal pools, nature in winter, and an educational quest or treasure hunt.

Transportation from the schools to The Trustees properties has been a challenge as school budgets are being reduced. In 2003, The Trustees acquired a 14-passenger minibus in order to provide transportation for students participating in the CSEP programs, including those at Menemsha Hills Reservation.

Other Children's Programs

Education staff offers programming for community groups, off-island schools, after-school programs, etc. Topics vary and include geology, vernal pools, and others as requested.

Guided Walks

Guided walks are provided throughout the year. Walk topics have included land use history, geology, birds, and others and have been led by the education coordinator and knowledgeable volunteers. These are advertised in the Trustees' Newsletter and the local papers. In addition, special guided walks of the Menemsha Hills Brickyard are offered 2 times annually as part of the Special Places Conservation Restriction Walk Series. In 2003, more than 200 people participated in a program at Menemsha Hills (83) and the Brickyard (122).

Geocaching

Aside from hiking in general, the only self-guided experience at Menemsha Hills is geocaching. Geocaching is an entertaining adventure game for Global Positioning System (GPS) users. Participating in a cache hunt is a good way to take advantage of the wonderful features and capability of a GPS unit. The basic idea is to have individuals and organizations set up caches all over the world and share the locations of these caches on the internet. GPS users can then use the location coordinates to find the caches. Once found, a cache may provide the visitor with a wide variety of rewards. If a visitor takes a reward, they are asked to leave something for the cache.

3.7.5 Signs and Posted Materials

Six directional signs, one property sign, and one bulletin board are found at Menemsha Hills. The signs are located at the trailhead and at each major trail intersection. The signs allow visitors to navigate the property successfully and inform visitors in terms of what to expect. The trail intersection signs are at the spur to Prospect Hill, at the north side of the Harris loop, at the beginning of the scenic loop to the beach, at the end of the scenic loop, and at the spur towards the beach. These signs show arrows pointing towards destination points, with distances and hiking time included. A property sign is located along North Road and allows visitors to locate the entrance road. The bulletin board is located at the entrance to trail system near the parking lot. It provides basic information on Menemsha Hills, including a map. Brochures can be found at the bulletin board.

The bulletin board provides the only interpretive material found at Menemsha Hills. Interpretive material has been attempted in the past. In 1994, The Trustees education coordinator and a class of 4th and 5th grade students from the Menemsha School created an interpretive sign about the Elizabeth Islands and the view from Prospect Hill. In 1998, trail markers were used as part of a self-guided Harris Loop interpretive trail. A brochure described natural history information found at each numbered marker. Both of these interpretive projects were short-lived due, in part, to the harsh weather conditions—the interpretive panel, for example, was not weatherproof.

3.7.6 Trails

Approximately three miles of trails at Menemsha Hills form two main loops. The trails are mostly bare ground, save for a boardwalk to the beach. The boardwalk is approximately halfway completed, with plans to finish by the end of 2004. The boardwalk will alleviate erosion problems on the trail, where water seeps onto the trail system. Every year, a volunteer crew works on erosion control projects along the trail system. Steeper, sandier portions of the trails are the primary erosion areas, where visitor use combined with rain events can cause rutting and the breakdown of water bars. During the summer, brush is cleared along the trailside. This reduces the chance of visitor exposure to ticks and keeps the trails more open for hiking.

3.7.7 Parking

A twenty-vehicle parking lot exists at Menemsha Hills. The parking lot is rarely full, although it can fill up during beautiful days in the spring and fall or for planned interpretive programs. The lot is bare ground, rectangular, and does not delineate individual spaces for vehicles. The lot is located just off of North Road and is hidden from view behind a small hill.

3.7.8 Access

All visitors to Menemsha Hills access the trail system through the parking lot and the North Road access. Several other means to access Menemsha Hills exist, although they are not available to the general public. Staff access exists along Prospect Hill Road as well as from an overgrown trail accessing Menemsha Hills from the west. Another trail accesses Menemsha Hills from the Roaring Brook area. The other access points provide entry points for illegal activities such as poaching or trespassing with ATVs.

3.7.9 Restroom Facilities

At the parking area, a chemical toilet is provided between Memorial Day and Thanksgiving. The chemical toilet is cleaned once a week and is only moderately used, given the typically low visitation at Menemsha Hills.

3.7.10 Communications

The Trustees communicates its mission and information on Menemsha Hills through a number of means—our website, a bulletin board, publications, and programs. The Trustees' web site (<http://www.thetrustees.org>) includes a page dedicated to Menemsha Hills (http://www.thetrustees.org/pages/322_menemsha_hills.cfm). The web page includes a property description, photographs, permitted activities, a brief description of trails, facilities, school programs, and property acquisition history. A trail map can be downloaded from this website. A property guide, which also includes a trail map and more extensive descriptions of the natural landscape of Menemsha Hills, can be found at the Islands Regional Office or at our bulletin board at Menemsha Hills. The bulletin board currently has a poster with large map and property description. Periodically, newsletter articles provide stories about Menemsha Hills to our members. As described previously, walks led by geologists and naturalists are another way to communicate about Menemsha Hills.

3.7.11 Other Services

Drinking water is not currently a visitor service provided at Menemsha Hills. Drinking water was requested by 53.2% of visitor survey respondents. 27.3% of respondents wanted more benches and 21.6% wanted more

signs.³⁷ Since the visitor survey was conducted, the signs have been updated (see signs, above). One memorial bench currently exists on the eastern section of the loop to the great sand bank. The memorial bench was created from stone found on the property. Some clearing and pruning of vegetation created a view from the bench. A geocache exists on the beach.

3.7.12 Recreational Opportunities

Surrounding Menemsha Hills are a wide variety of popular hiking and beach-going opportunities. To the northeast is Great Rock Bight, which in the summer is more popular than Menemsha Hills, for it offers a sandy beach 10 minutes away on foot. Waskosim's Rock Reservation (185 acres), Peaked Hill Reservation (115 acres), Fulling Mill Brook Preserve (50 acres), and Middle Road Sanctuary (100 acres) are five larger conservation lands open to hiking in Chilmark. On the south shore, the Town of Chilmark operates beaches at Squibnocket and Lucy Vincent. The Martha's Vineyard Land Bank provides access to Chilmark Pond and the pond's barrier beach at its Chilmark Pond Preserve. Other nearby recreational areas are Moshup Beach at the Gay Head Cliffs, Cedar Tree Neck, Sepiessa Reservation, Long Point Wildlife Refuge, and the Manuel F. Correllus State Forest. In total, these conservation lands provide many opportunities for various beach-going activities, hilly hikes, dog walking, hunting, kayaking, and swimming.

3.7.13 Town of Chilmark Context

The Town of Chilmark is a rolling landscape of forests, fields, small villages, and summer homes. Despite the growth in a seasonal, transient community, Chilmark retains its rural feel, with the town of Menemsha still a working fishing village, farms, and other facets of a rural life. Menemsha Harbor still has 20 commercial moorings—vessels used in tunafishing, swordfishing, lobstering, and other fishing activities. In 1997, the Town of Chilmark issued 49 hunting and sporting permits and 220 shellfishing permits.

3.7.14 Threats and Issues

By and large, visitors did not feel that problems exist at Menemsha Hills. The visitor use survey asked whether or not particular issues were problems or not. None of these were considered even a small problem.³⁸ Mountain biking and dog walking were considered issues that needed to be addressed. In general, rules and regulations cannot be enforced without staff presence. Currently, Menemsha Hills is an understaffed property.

Succession

Visitors described the scenic beauty of Menemsha Hills as a main reason for their visit, with a large proportion of those visitors accessing Prospect Hill and the Great Sand Bank, two of the scenic spots at Menemsha Hills. A 360-degree view from Prospect Hill has decreased to 180 degrees as trees have encroached. Other views will continue to be lost as forests continue to grow.

Mountain Biking

Certain uses create user conflicts. At Menemsha Hills, mountain bikes can pose a safety problem for other visitors, especially along trails where blind curves exist. It can also disrupt the peace and tranquility of other users. Mountain biking is not permitted at Menemsha Hills yet is a frequent use. Most visitors (67.4%) were against allowing mountain biking. Only 14.8% of surveyed visitors were in favor of allowing mountain bikes.

³⁷ Anderson, L., D. Loomis, L. Vernegaard. 2004. *Menemsha Hills Reservation: Visitor Characteristics, Experiences, and Interests*.

³⁸ Survey categories included the following: trails poorly marked, reservation was hard to find, insufficient information about the reservation, litter, too many rules and regulations, unavailable map of park, trails poorly maintained, bikes on trails, inconsiderate visitors, too many signs, too many people, unprofessional staff, unavailable staff, and poorly informed staff. Anderson, L., D. Loomis, L. Vernegaard. 2004. *Menemsha Hills Reservation: Visitor Characteristics, Experiences, and Interests*.

Dogs

Currently, dogs are not permitted at Menemsha Hills, yet dog walking is a common activity. Dogs can disrupt visitors and may be incompatible with mountain biking, horseback riding, and other activities. Visitors have mixed opinions with respect to dogs, with 39.6% supporting allowing dogs, 38.6% against dog walking, and 21.8% neutral.

Erosion

Trail erosion in steeper, sandy areas and along wet trails can impact the visitor experience and safety. Many areas prone to erosion have been addressed through water bars, elevated boardwalks, and other devices that alleviate erosion. In some trail areas, the erosion continues and may be a chronic issue.

Improving Services

Not everyone wants improved services such as drinking water. Some prefer a more remote, less “improved” property. Property management at Menemsha Hills needs to address the level of services that it will provide to visitors. A balance must be found.

3.7.15 Significant Opportunities

Enhancing and Creating Viewsheds

The scenic beauty of Menemsha Hills was listed as the primary reason why people visited the property. Scenic values are also one of the most threatened resources at Menemsha Hills.

Interpretation

Sixty-six percent of visitors were interested in learning more about Menemsha Hills, primarily through printed materials (56.7%) and self-guided walks (50.7%).³⁹ These results indicate significant interest in passive interpretation opportunities.

Increased Presence

Under the current staffing situation, Menemsha Hills is significantly understaffed. Rules and regulations cannot be enforced under this scenario and property management and visitor services are adequate. In addition, space for a regional office and staff housing is seriously needed. Construction of a single-family residential dwelling and outbuildings is allowed at Menemsha Hills, which may be an appropriate location for an office, housing, and/or a visitor center.⁴⁰

Volunteer Involvement

Continuing to use volunteers at Menemsha Hills will improve the property and will connect people to the land.

3.8 Property Administration, Finance, and Management

Menemsha Hills is part of the Islands Region, one of five administrative regions of The Trustees in Massachusetts. The Island Region, in turn, is divided into three property management units: Nantucket, Chappaquiddick, and Up-island. The Up-island Management Unit includes Menemsha Hills as well as Long Point and a large number of Conservation Restrictions in Chilmark, West Tisbury, Aquinnah, and Gosnold. These lands total over 4,000 acres.

³⁹ Only visitors who responded that they would like to learn more about Menemsha Hills’ cultural or natural history responded to the question: “how would you prefer to learn about the reservation’s natural and cultural resources?” Anderson, L., D. Loomis, L. Vernegaard. 2004. *Menemsha Hills Reservation: Visitor Characteristics, Experiences, and Interests*.

⁴⁰ Quitclaim deed for Sigourney Parcel, book 600 page 219

3.8.1 Staff

Menemsha Hills is the least staffed property in the Islands Region. The Up-island Management Unit staff consists of an Up-island Superintendent, an Up-island Assistant Superintendent and seasonal rangers and maintenance staff. One seasonal staff maintains Menemsha Hills for two to three half-days during the summer (June through September). Part-time ranger staff patrol for two to three half-days a week during the summer months. Days are rotated so as to patrol as wide range of times and days as possible. Two staff, the Up-island Superintendent and Assistant Superintendent, patrol Menemsha Hills between September and June. Full-time staff supervisory activities include one day a week during the summer. The Islands Regional staff dedicates 5% of islands administrative, ecology, and planning activities to Menemsha Hills. In addition, 15 to 20% of islands interpretation and education activities are based around Menemsha Hills.

3.8.2 Volunteers

Volunteers assist at Menemsha Hills during Conservation Works, when they repair the trail system. The Conservation Works takes place one time per year. In addition, volunteers assist with an up-island committee and with the management planning process. In the past student volunteers have assisted with boardwalk construction through the Landmark Volunteer program. Student Conservation Association volunteers have also assisted with stewardship projects. Volunteers therefore are a key component of managing Menemsha Hills.

3.8.3 Membership and Income

Income to support stewardship at Menemsha Hills comes from membership, donations, and endowment. The number of Trustees members designating their membership donation to Menemsha Hills is low. Between March 2003 and March 2004, only 42 gifts were designated towards Menemsha Hills. A donation box is provided near the bulletin board, with a suggested donation of \$1. Approximately \$1,000 is donated each year in this manner. Menemsha Hills has a \$26,460 endowment. Total annual income is approximately \$5,000. Increasing membership at Menemsha Hills will be difficult without a greater staff presence.

3.8.4 Management Costs

The costs of management at Menemsha Hills include direct expenditures such as equipment, maintenance, and signs as well as indirect expenditures such as full-time personnel and administration. Total direct expenditures for FY 2005 are \$9,536. Total indirect expenditures are \$19,492. This totals \$29,028 per year. Income, however, only totals \$5,075, making Menemsha Hills a deficit property for The Trustees. Income includes membership, endowment proceeds, and reservation receipts.

3.9 Land Conservation

In addition to the 234 acres at Menemsha Hills, The Trustees hold Conservation Restrictions (CRs) on 1,400 acres in the forested landscape around North Road and Vineyard Sound. In total, over 2,700 acres of protected open space occurs within this forested area. The larger conservation areas are Seven Gates Farm (1,230 acres protected), Cedar Tree Neck Preserve (312 acres), Wood's Preserve (519 acres), Waskosim's Rock Reservation (185 acres), The Trustees holds CRs at the Ganz CR (75 acres), and Kloss CR (51 acres). Around Menemsha Hills are several CRs, including those at the Brickyard (67 acres). These CRs total over 70 acres. The Brickyard CRs abut Great Rock Bight (29 acres) for a total of approximately 330 acres of contiguous protected open space. In addition, the shoreline of West Tisbury is protected from jetty and pier construction as a District of Critical Planning Concern. Many areas surrounding Menemsha Hills, however, remain unprotected and are vulnerable to development and subdivision.

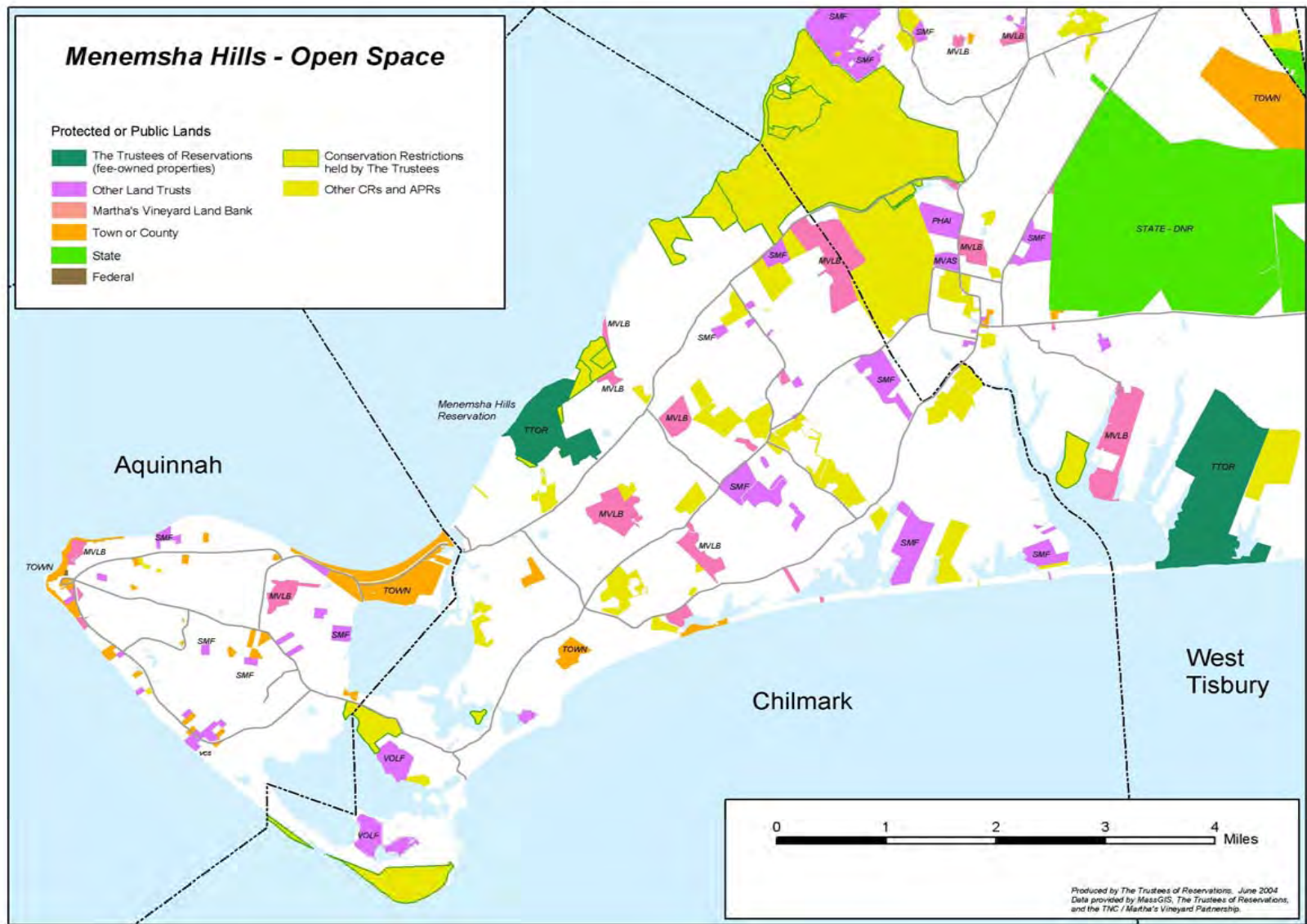


Figure 5: Open Space Context for Menemsha Hills.

Chilmark comprises 13,171 acres on Martha's Vineyard. Over 2,000 acres or 15% of this land is protected as open space (Figure 5).⁴¹ Almost 200 of these acres are farms that are permanently protected with Agricultural Preservation Restrictions (APR). Over time, most of Chilmark has been subdivided into parcels of land less than 20 acres, threatening its rural feel. Presently, 2,500 acres of land greater than 20 acres are unprotected and undeveloped in Chilmark. This is 18% of Chilmark's land area. These 2,500 acres are divided among over 50 parcels averaging 47 acres. The small size of parcels remaining in Chilmark and high land values create a challenge for future land conservation efforts.

Rapid growth and development in Chilmark increases the challenge of protecting open space in Chilmark and around Menemsha Hills. Recently, Chilmark has experienced a housing boom, with its year-round and seasonal populations increasing significantly. Between 1980 and 1996, 425 building permits were issued in Chilmark. The number of seasonal housing units correspondingly increased 112% between 1980 and 1990 to 871 units. Over the same period, year-round housing units increased 30% to 286 units. As of 1997, the permanent population of Chilmark was 919 and the summer population was 6,086, a 562% increase.⁴²

Several land conservation opportunities exist. Further protecting lands along the boundaries of Menemsha Hills will increase the integrity of the property. Protecting lands between Menemsha Hills and Cedar Tree Neck will continue to protect the forested landscape around North Road.

⁴¹ <http://www.ci.chilmark.ma.us/stats.html>. This includes land owned by conservation groups, conservation restrictions, APRs, and town-owned land.

⁴² <http://www.ci.chilmark.ma.us/stats.html>.

4 Recommended Actions

This section describes the actions that we recommend for the management of Menemsha Hills into the future. These actions and guiding principles will steer our management to create a Menemsha Hills that reflects the goals, mission, and aspirations of The Trustees. The action steps listed in this section are derived from issues and opportunities described in previous sections and focus upon protecting resource integrity and providing a high-quality visitor experience. Action steps are listed in tabular form and are numbered, for ease of reference.

4.1 The Vision

The vision draws upon the Field Operations Action Plan, our mission, and the goals of The Trustees (section 3.1). Four main facets of the vision intertwine to create a holistic management framework for Menemsha Hills. These four facets are:

Creating a High-quality Visitor Experience

Ensuring a high-quality visitor experience is an essential part of this plan. Our visitors will be able to have a thorough understanding of our interpretive themes, through a variety of programs and interpretive materials. Our visitors will walk well-maintained trails to see an increased number of viewsheds and improved vistas throughout Menemsha Hills. Our visitors will feel safe and comfortable throughout their stay with increased services such as drinking water. Our visitors will have abundant hiking opportunities through the creation of an additional loop trail along Vineyard Sound. A greater staff presence will reduce the level of unauthorized uses.

Restoring Habitats and Species

At Menemsha Hills, field operations staff will restore rare habitats and species. Barrens and shrublands will be restored using the most effective techniques available. Shrublands and barrens will continue to thrive as encroaching vegetation is removed. Rare Broom Crowberry will once again spread out through a larger area at Menemsha Hills. At the same time, many forested areas will be allowed to grow, unimpeded, as they mature.

Ensuring the Viability of Menemsha Hills

Menemsha Hills, at slightly over 200 acres, is a small part of a larger ecosystem. By protecting critical lands surrounding Menemsha Hills, The Trustees will increase the viability of Menemsha Hills. Its natural resources will be much better protected as Box Turtles will have more room to roam unimpeded, songbirds will have larger areas of forested tracts for nesting, and other forest species will not be lost to increasing numbers of housing developments. As new houses are built on Martha's Vineyard every day, ensuring that protected areas such as Menemsha Hills are a viable and connected part of the surrounding landscape is essential.

Knowing Menemsha Hills

As we learn more about Menemsha Hills, our restoration and interpretation activities are enriched. This greater knowledge clarifies our direction and steers us in a straighter course. We must continue to learn about Menemsha Hills—its cultural history, its forests, its shrublands, its geology, its waters, and its visitors—so that we can be better managers and interpreters.

4.2 Natural Resources Management

Natural resources actions will protect and enhance the natural resources of Menemsha Hills. This section outlines action steps for habitat management, species management, research, and road and trails management. Approximately 65 acres of rare habitats will be improved, restored, and maintained (Figure 6). Natural processes within forested areas will continue unimpeded. Roads and trails will be improved. Research will monitor our progress in restoring rare habitats.

4.2.1 Natural Resources Management Guiding Principles

- Forested areas outside of habitat management zones will be allowed to grow and become older forests. In these forested areas, natural processes will continue to occur, unimpeded. These forests will take on more characteristics of old growth forests, which offer habitat for many species. Older forests are currently uncommon on Martha’s Vineyard and throughout the Commonwealth.
- Habitat Management within the habitat management zones will use the Habitat Management Toolbox⁴³ as a guiding document. For the habitat restoration and maintenance actions the guiding principles as described in the toolbox are:
 1. To emphasize the importance of land-use history.
 2. To maximize the understanding of how a site fits into the surrounding landscape.
 3. To achieve a balance between the constraints of cost and the frequency of applying a management tool.
 4. To emphasize the need for monitoring rare species and habitat change.
 5. To fully investigate all risks to rare species when managing.
 6. To provide for flexibility in using combinations of tools for habitat management.
 7. To emphasize the importance of using this toolbox in a dynamic manner.
 8. To emphasize the need for information sharing and continued research.
- This plan addresses natural resources over the next decade. In the long-term, once this plan is fully implemented, combining the three restoration areas into one larger unit may become an appropriate habitat management strategy that reduces habitat fragmentation.

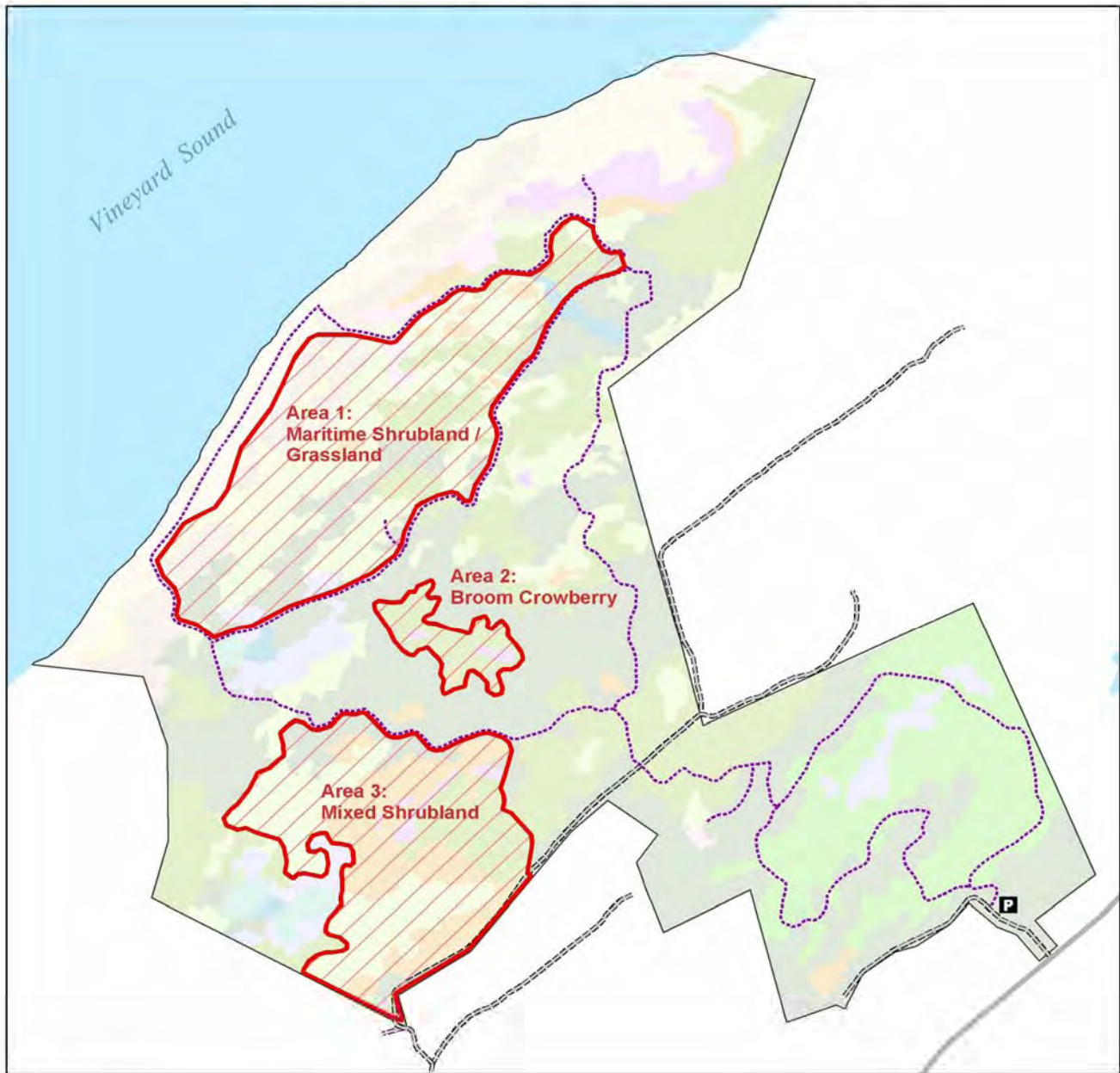
4.2.2 Habitat Management and Research


No.	Action	Description/Rationale
1.	Expand the available habitat around the Broom Crowberry populations (Figure 6).	Creating a contiguous environment for the two patches will encourage Broom Crowberry to expand within 3.4 acres, in the long term, while improving habitat for other early-successional plant and animal species. Initial treatments will involve mowing and thinning of trees.
2.	Restore and maintain 35.8 acres of maritime shrublands, grassy shrublands, and open glades and barrens along the Vineyard Sound shores (Figure 6).	Use appropriate restoration techniques, such as thinning and prescribed burning, in the area between the trail system and the cliffs. This restoration will also enhance scenic and cultural resources. Feeding habitat for Northern Harriers will be enhanced.
3.	Restore and maintain 25.8 acres of mixed shrublands in the southern parts of Menemsha Hills (Figure 6).	This is one of the largest remaining patches of barrens and shrublands along Vineyard Sound. Trees are encroaching into these shrublands. Maintenance of this area by removal of the encroaching trees and other land management techniques will benefit rare species.

⁴³ Raleigh, L., J. Capece, and A. Berry. 2003. *Sand Barrens Habitat Management: A Toolbox for Managers*. The Trustees of Reservations.

4.	Continue to research the forests, rocky shores, the Great Sand Bank, and other habitats at Menemsha Hills.	As our research continues, our knowledge of the resource will improve. This will assist with better resource management.
5.	Establish a monitoring system for Menemsha Hills.	With new habitat management initiatives as described in this plan, a monitoring system should be developed and implemented, which informs future management.
6.	Continue to study the few remaining pools at Menemsha Hills to identify vernal pools.	Most pools have been surveyed. Additional vernal pools may be present at Menemsha Hills. Further inventories of pools will verify the status of these pools.

Menemsha Hills - Restoration Projects



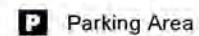
 Restoration Project Areas

Refer to Vegetation Map for shading of plant communities.

 Roads

 Dirt Roads

 Trails

 Parking Area



0 500 Feet

Produced by The Trustees of Reservations, June 2004

Figure 6: Restoration areas for Menemsha Hills.

4.2.3 Species Management and Research

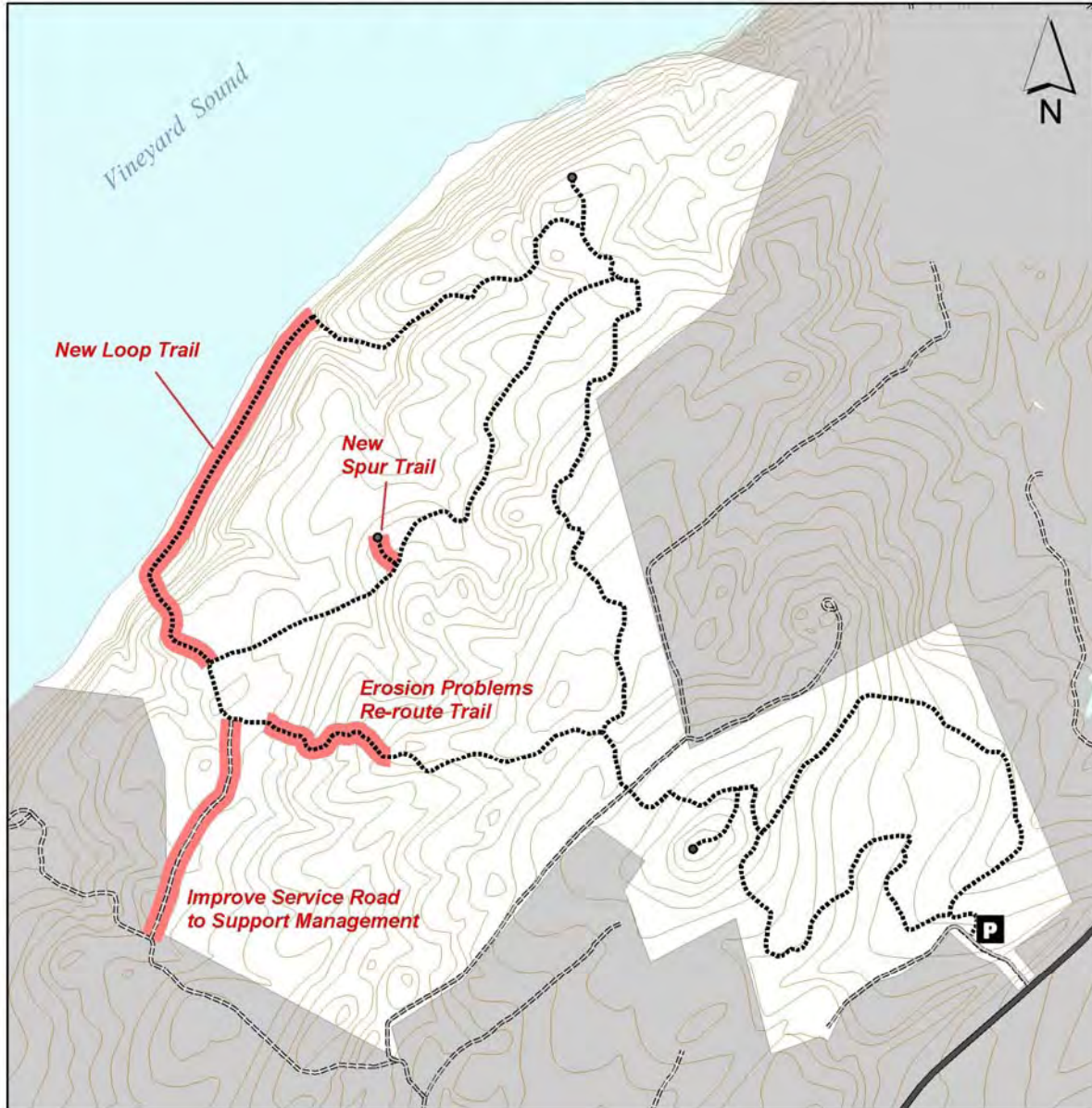
No.	Action	Description/Rationale
7.	Enhance the existing Broom Crowberry populations.	The two existing populations are not vigorous and are threatened by encroaching shrubs. Management of these areas should be cautious and use the best available knowledge of Broom Crowberry management. This action step goes hand-in-hand with action step 1.
8.	Continue to assess Box Turtle populations in the North Road region.	Box Turtles are extremely difficult to monitor. Working with partners and visitors to properties ensures that more Box Turtle sightings are recorded.
9.	Continue to inventory for rare invertebrate species.	On-going inventories of rare invertebrates ensures that existing species are monitored; other rare species may be present as well.
10.	Monitor Menemsha Hills annually for invasive and exotic species.	Should some species invade, control may become necessary to protect the ecology of the area.
11.	Remove invasive species along road corridors.	Roads often act as corridors for invasive species, such as Spotted Knapweed, facilitating their entry into protected areas. Removing these species at the source will lessen the risk of spread into the center of Menemsha Hills.

4.2.4 Road and Trail Management

No.	Action	Description/Rationale
12.	Relocate areas of trail that are prone to erosion (Figure 7).	The steep trail system has sections that currently are prone to erosion. Creating switchbacks and relocating the trail will alleviate the erosion pressures in those areas.
13.	Improve and maintain the access road from the Harris driveway into the Menemsha Hills trail system (Figure 7).	The Trustees has a right-of-way access along this road, which is currently overgrown. Improving it will allow access to the interior of Menemsha Hills for Trustees staff and emergency vehicles. This will greatly assist with emergencies, wildfires, and property management.
14.	Create a beach loop trail system (Figure 7).	Creating this trail will allow visitors to travel along a third loop along the rocky shores of Vineyard Sound. This trail will help to relieve the pressure of a single route to the beach.

15.	Create a spur trail that overlooks Vineyard Sound in the midst of a glade of wolf trees (Figure 7).	This additional spur will provide additional views and additional opportunities for solitude and relaxation.
16.	Create a low fence along Trustees Way, the road to the west of the parking lot.	The unobtrusive fence will deter unauthorized uses of Menemsha Hills, such as off-trail vehicle use or rock mining.

Menemsha Hills - Trails and Roads



- Roads
- ==== Dirt Roads
- Trails
- P** Parking Area
- Proposed Changes

0 500 1,000 Feet

Produced by The Trustees of Reservations, June 2004

Figure 7: Road and Trail Changes at Menemsha Hills.

4.3 Cultural Resources

Guidelines for archaeological resource protection are highlighted here. Our current knowledge of cultural resources is incomplete. The historic and pre-historic fabric of Menemsha Hills is an important part of the site’s cultural landscape.

4.3.1 Cultural Resource Management Guidelines

As a framework for the treatment of historic buildings and cultural resources, The Trustees has adopted the U.S. Secretary of the Interior’s Guidelines for the Treatment of Historic Structures and follows similar guidelines for the management of cultural landscapes. Specifically, staff will work with The Trustees’ Director of Historic Resources to:

- Report archaeological sites to the Massachusetts Historical Commission
- Maintain sites in their natural condition and work to protect them from inadvertent destruction
- Keep records of any finds, noting, where possible, the exact horizontal and vertical location.
- Deposit archaeological artifacts in The Trustees’ Collection Center or other appropriate location.
- Prohibit any digging that has not been approved and report any unauthorized excavation to the State Archaeologist.
- Discourage vandalism by not marking archaeological sites.
- Minimize risk to archaeological sites by not constructing trails or other facilities in the immediate vicinity of a site.

No.	Action	Description/Rationale
17.	Engage a cultural resource specialist to assess cultural resources at Menemsha Hills.	Building on current land-use/cultural resource knowledge, the cultural resource specialist will investigate and assess cultural resources at Menemsha Hills.
18.	Name the trail loops at Menemsha Hills using historically accurate and relevant names.	Naming the trail loops using historic names will highlight the property’s rich cultural past and will assist in orienting visitors.
19.	Remove shrubs from stone walls in select locations.	In areas where shrubs are obscuring critical views to stone walls, shrubs will be removed.

4.4 Visitor Experience

Guiding principles form the core of this section. These guiding principles call for a peaceful visitor experience focusing on hiking and enjoying the scenery and natural features. This section of the plan calls for the enhancement and creation of a variety of scenic vistas. A self-guided interpretive trail will be created. The Trustees will maintain their current rules regarding dogs and mountain bicycles. This is in keeping with our guiding principle to maintain solitude and peace and quiet for visitors. Hunting rules will be developed so that they are consistent with other properties in the Up-island management unit.

4.4.1 Guiding Principles

- The Trustees will manage Menemsha Hills so that it will continue to be a place for visitors to enjoy solitude, peace and quiet, scenic beauty, and simple recreational activities such as hiking.
- The Trustees will work to protect and enhance the resources at Menemsha Hills, while allowing public access and enjoyment. Because public enjoyment cannot be sustained if the resource is

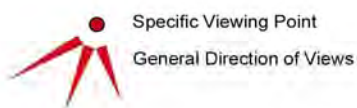
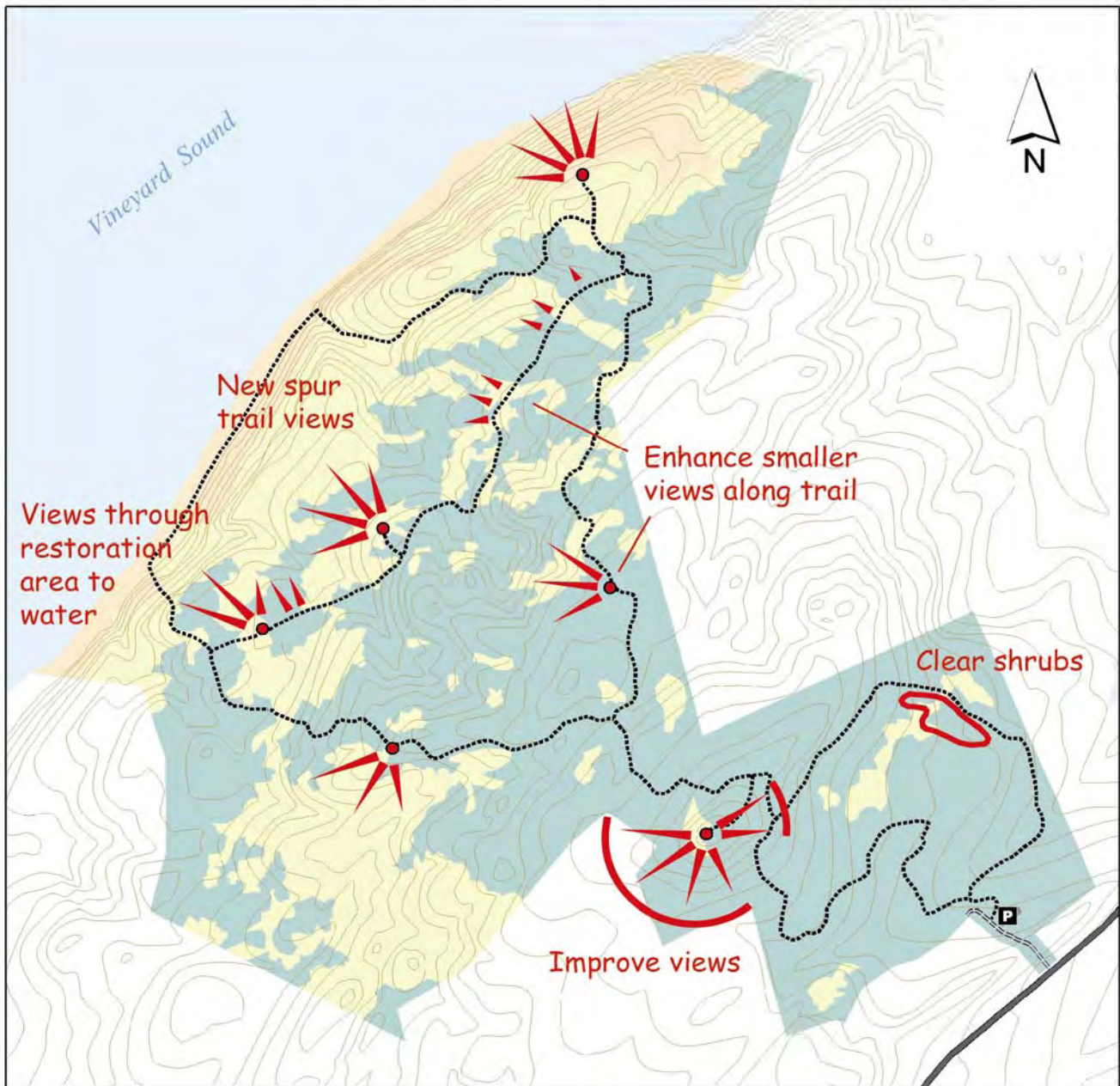
damaged, resource protection must remain as a paramount goal. Only by preserving the significant resource features can we attain our visitor experience goals.

- The Trustees will protect the qualities that distinguish the visitor experience at Menemsha Hills
- The Trustees will meet the basic needs of visitors for safety and comfort.
- Visitors should feel welcomed to Menemsha Hills and be given the opportunity to learn about The Trustees as a conservation organization.
- The Trustees’ staff and volunteers will be courteous, professional, knowledgeable, and identifiable.
- The Trustees will provide opportunities for visitors to actively participate in the management and protection of the property by encouraging meaningful volunteer activities.
- The Trustees will strive to be a good neighbor and to communicate actively with neighbors of Menemsha Hills.
- Small weddings of less than 30 people and 15 vehicles with no infrastructure will be permitted at the superintendent’s discretion.
- Mountain bikes and dogs are not permitted at Menemsha Hills as they are not compatible with our other guiding principles.
- Vistas development will be based on the need to enrich the visitor experience and/or protect and enhance natural habitats as determined in the management plan (see Figure 8). The Trustees will not cut special vistas for abutters or donors.

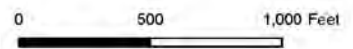
Property Rules

No.	Action	Description/Rationale
20.	Rules that provide for limited and controlled hunting will be developed. These rules will be consistent with existing hunting practices at Long Point Wildlife Refuge.	Hunting will be allowed by permission only. We will clarify what we expect from hunters while they visit our property. The rules will include sections on safety and procedures as determined by the property superintendent.
21.	Ensure that The Trustees proactively address emerging recreational activities.	To prevent unwanted and unanticipated impacts to the property, the rules will be amended to include the following rule: “All other activities must be reviewed and permitted by the property superintendent.”

Menemsha Hills - Scenic Resources



- Forest and Woodlands
- Grassland, Heathland or Oak Barren
- Roads
- Trails
- P Parking Area



Produced by The Trustees of Reservations, June 2004

Figure 8: Scenic Views Management

4.4.2 Scenic Vistas

No.	Action	Description/Rationale
22.	Expand and enhance the view at Prospect Hill.	The current view will be expanded along its fringes. Towards the southeast, a view corridor will be created through the forest to open views of the interior of Martha's Vineyard.
23.	Clear dense shrubs along northern section of Harris Loop trail.	This section of trail currently has partially-obstructed views of old, tall forests. Clearing along the trail in this short section of trail will open interior views.
24.	Create openings along the Vineyard Sound portion of the long scenic loop trail.	This action goes hand-in-hand with habitat restoration action steps and will create additional viewsheds along this trail.
25.	Maintain other smaller viewsheds as needed.	Other, subtler viewsheds exist throughout Menemsha Hills. Maintaining these will provide a diversity of views. Examples include mowing under wolf trees or removing shrubs along stonewalls.

4.4.3 Education and Interpretation

No.	Action	Description/Rationale
26.	Create a self-guided interpretive trail	The interpretive trail will allow visitors to learn about the natural and cultural resources in an unobtrusive manner.
27.	Continue to provide educational programs for children and families.	Menemsha Hills is a well-used destination for the CSEP program because of its accessibility and abundance of interpretive opportunities. Continuing with these programs and enhancing them as needed to meet Massachusetts curriculum frameworks is an integral part of the CSEP program.
28.	Refine the "quest" that provides visitors with a fun means of learning more about the properties and their outstanding features.	The quest that currently exists is quickly becoming a popular visitor use at Menemsha Hills. As The Trustees learns more about this and other quests, it can be refined and enhanced for visitors' enjoyment.
29.	Create a new property map that reflects changes instituted in this management plan.	Following the implementation of this management plan, the current property map will be outdated and will need replacement.

30.	Improve the Menemsha Hills page of The Trustees' web site by making maps, interpretive materials, and the Menemsha Hills management plan available via The Trustees' web site.	The internet has changed the way people obtain, collect, and keep information. The Trustees is using its website to help visitors prepare for their visit, and in some cases, learn about and enjoy a property without even visiting.
31.	Continue to provide a suite of guided walks.	The guided walks at Menemsha Hills and the nearby Brickyard are well-attended and further The Trustees' mission.

4.5 Infrastructure

Basic services and increased presence are the main focuses of infrastructure actions. These actions will be conducted with the visitor, wildlife, cultural resources, and ecology in mind, in keeping with the tranquil, scenic, and wild nature of Menemsha Hills.

4.5.1 Guidelines

- All facilities and infrastructure should be as unobtrusive as possible. Signs, benches, and other structures will be minimized so as to create a simple, scenic visitor experience.
- Facilities will be concentrated at the parking area, which will serve as the gateway to Menemsha Hills.
- Facilities will be designed and developed using green environmental standards (including the possibility of re-using structures that become surplus on other parts of the island).
- Up to three additional benches will be permitted at Menemsha Hills, in locations approved by the superintendent. After three benches, additional benches need the Regional Director's approval.

No.	Action	Description/Rationale
32.	Implement the organization's memorial gift guidelines.	Implementation will depend on a list of gift opportunities; gifts will be acknowledged in the parking area and memorial gifts will be approved at the superintendent's discretion.
33.	Select a site for electrical service, water, and composting toilets.	This site will be determined based on the future potential location of staff housing.
34.	Tie-in electrical service to the parking area.	A hook-up location occurs just adjacent to the parking lot, so this action step is relatively simple. This would provide power for the water pump as well as for the future structure.
35.	Provide drinking water for visitors.	Drinking water is a needed service.
36.	Provide year-round composting toilets for visitors.	Year-round toilet facilities are needed for school programs as well as for other visitors.
37.	Develop a facilities plan	The facilities plan will be the blueprint for the staff housing at Menemsha Hills.

No.	Action	Description/Rationale
38.	Provide a structure for staff housing at Menemsha Hills.	Staff housing at Menemsha Hills will increase our presence at the property.

4.6 Land Conservation

Resources such as viewsheds, wildlife corridors, intact forests, and rare habitats are found on lands adjacent to Menemsha Hills. Continuing to protect land around Menemsha Hills using a wide variety of land conservation techniques is an important part of planning. As the lands surrounding Menemsha Hills have the ability to impact the resources of Menemsha Hills, adjacent parcels must be taken into account in order to protect these resources. In addition, public access easements are important to secure access to the Brickyards and trail corridors that link Menemsha Hills with other trail systems in the area.

A critical lands assessment was conducted to serve as a guideline to future land conservation. Within the Menemsha Hills area, we have analyzed over sixty parcels totaling 982 acres. These parcels are important in terms of their relationship to Menemsha Hills. These parcels were ranked, then eight parcels considered the most important in terms of protecting Menemsha Hills' resources were classified either as critical, significant, or valuable. By limiting the assessment to the top parcels, land protection efforts will be more focused and, we believe, successful. The criteria are defined as follows:

1. **Critical:** Parcels whose preservation is essential to the protection and integrity of key features on the reservation, such as wetland and aquifer recharge areas, hilltops and other unique landforms, scenic roads or road frontages, special vegetative features, rare species habitat or scenic views seen from the reservations. They also include parcels that eliminate inholdings.
2. **Significant:** Parcels whose preservation would add significantly to the reservation, but whose loss would not detract significantly from the character and quality of the reservation.
3. **Valuable:** Parcels whose preservation would add to the scenic, historic or ecological value of the reservation or would contribute to its efficient management, but are not considered critical or significant (e.g. contiguous parcels of land without unique features). Valuable parcels at Menemsha Hills would include those that support an open space or biotic corridor.

The eight critical, significant, and valuable parcels are described below. These parcels total 154.1 acres and would further solidify the protection of Menemsha Hills' resources. The parcels include larger areas that protect habitats as well as smaller areas that protect viewsheds, wildlife corridors, or public access. Seven structures occur on these parcels, and 3.8 acres are already protected under a conservation restriction (CR).

Critical Lands

1. **Parcel 14-1.** This 40-acre parcel includes a 3.8-acre CR that abuts Menemsha Hills. The entire parcel abuts Menemsha Hills and includes significant shrubland habitat, Vineyard Sound shoreline, and viewsheds. One house occurs on this parcel.
2. **Parcel 9-1.** This four-acre parcel of shoreline connects the Brickyard CR with Menemsha Hills.
3. **Parcel 14-26** is 3.1 acres. This is a part of the viewshed from Prospect Hill. Protecting this parcel is essential towards maintaining the viewshed to the west. Currently this parcel is undeveloped.

Significant Lands

1. **Parcel 20-28.** This 20-acre parcel is adjacent to Menemsha Hills and includes a ridgetop with significant views. This parcel is undeveloped.
2. **Parcel 14-16** is 8.1 acres and includes 845 feet of undeveloped roadside and abuts Menemsha Hills. Protecting this parcel would ensure that this gateway to Menemsha Hills along North Road would be protected. One building occurs on this parcel.

3. **Parcel 14-9**, at 58.1 acres, is the largest unprotected parcel in the vicinity of Menemsha Hills. Protecting it would assist in the protection of Roaring Brook, which flows through this parcel, as well as the contiguous forests in the Menemsha Hills area. Three structures occur on this parcel.

Valuable Lands

1. **Parcel 13-6.1**. This 20-acre parcel includes 1,000 feet of undeveloped roadside along North Road, protects the watershed of Roaring Brook, and contains contiguous forested area. Two buildings occur on this parcel.
2. **Parcel 20-35** is 3.8 acres and abuts Menemsha Hills. This parcel is undeveloped and is part of a River Otter corridor.

In addition to the following critical lands, two additional land conservation actions are described in the following table. These actions will improve our public access capabilities.

No.	Action	Description/Rationale
39.	Work with the Land Bank on local trail system creation, wherever needed and possible.	Linking conservation lands with trail systems is an important goal that the Land Bank has spearheaded.
40.	Continue to secure and acquire easements that provide access to the Brickyard.	By securing access to Brickyard, we will further our ability to protect its valuable resources and to interpret them to the public.

4.7 Outreach Opportunities

Outreach is an important part of advancing The Trustees’ mission. From encouraging visitors to become stewards and members to increasing the name recognition of The Trustees of Reservations, a successful outreach campaign will create a better Menemsha Hills and will engage people in its protection.

4.7.1 Guidelines

- Identify where volunteers can be most effective in advancing the conservation goals for Menemsha Hills.
- Develop the programs that will maximize volunteer success.
- Support volunteers by developing meaningful projects and by providing good leadership, training, and recognition.
- Incorporate Menemsha Hills into regional and state-wide initiatives such as Communications and Marketing Department strategies and Education and Interpretation plans.
- Promote membership at Menemsha Hills based on the Membership Department goals and strategies.
- Actively promote events, stewardship activities, and interesting property facts through a wide range of media including newspaper, radio, television, and internet.

No.	Action	Description/Rationale
41.	Continue to provide Conservation Works volunteer days at Menemsha Hills	Conservation Works has been a successful volunteer program at Menemsha Hills that should be continued.
42.	Continue to engage volunteers wherever possible and needed.	Other volunteer opportunities in implementing this management plan may exist. These projects should follow the volunteer guidelines listed above.

43.	Every two years, provide an update to the local community that outlines major initiatives and provides members of the community an opportunity to ask questions.	This update allows us to communicate with the local community. Good communication will foster good neighbor relations.
44.	Attend Brickyard Beach Association meetings	Communicating with the Brickyard Beach Association will strengthen our relationship with this neighboring organization.
45.	Integrate Menemsha Hills into a regional marketing strategy for the Islands	Elements of this marketing plan will include: encouraging repeat visitation and conversion to members; cross-promoting other TTOR properties on the Islands and other hiking properties across the state; developing educational and interpretative materials on the property and self-guided walks; and consideration of new and/or improved elements of the visitor experience

5 Implementation

Section 3 outlines the action steps recommended to achieve the objectives of this management plan. The implementation of these action steps is outlined in this section. Financial resources permitting, these action steps will be implemented over three phases. Phase 1 will include FY2006, FY2007, and FY2008.⁴⁴ Phase 2 will be between FY2009 and FY2011. Phase 3 will extend from FY2012 until FY2014.

The table below shows the total costs and additional volunteer hours necessary for each phase. The total costs of implementing this plan are estimated at \$66,285 (2004 dollars). This does not include the costs of constructing on-site housing, whose costs will be unknown until a plan is developed. Only items requiring new financial resources have been assigned a cost. In several cases, costs are unknown.

The Implementation table (see Excel spreadsheet) lists all of the recommended actions and their assigned phase, and identifies the resources that will be needed to implement the action steps. Volunteer and staff hours include all hours for the life of the plan (ten years). Several other guidelines were used to construct the implementation table, including:

1. Only items requiring new financial resources have been assigned a cost; costs are shown in 2004 dollars.
2. Each recommended action was assigned a priority rating, defined here:

Critical actions will address:

- Urgent safety issues
- Threats that are causing serious damage to the to Menemsha Hills’ significant resources.
- Issues that are seriously degrading the visitor experience
- Regulatory requirements

Needed actions will address:

- Threats to the Menemsha Hills’ resources that are not causing an imminent threat to their integrity
- Key Trustees’ initiatives (such as expanded educational and interpretive programming)
- Basic improvements to visitor services

Desired actions will address:

- Enhancements that optimize the visitor’s experience or Menemsha Hill’s resources

3. Typically, these priority rankings coincide with phases 1, 2, and 3. However, there are many instances where “needed” or “desired” actions can be addressed earlier in the process. Some of these actions may be “quick and cheap” fixes that advance our goals with little effort; some may be done sooner because of funding or volunteer opportunities.

Phase	New Costs
1	\$23,250
2	\$35,285
3	\$8,250 + housing
Total	\$66,785

⁴⁴ The Trustees’ fiscal year runs from April 1 to March 31. This means FY 2005 = April 1 2004-March 31, 2005.

5.1 Monitoring and Review

The Menemsha Hills management plan will inform the development of annual work plans for the staff responsible for managing the reservation. The staff will review progress on these recommendations on an annual basis and will summarize progress and revisions in memo form for inclusion with the management plan. The Up-island committee will be briefed annually on the management plan implementation progress.

Menemsha Hills Management Plan - Implementation										
ABBREVIATIONS										
Staff Roles										
UIS = Up-island Superintendent										
EIC = Education and Interpretation Coordinator										
RE = Regional Ecologist										
C&M = Communications and Marketing										
RD = Regional Director										
D = Development										
M = Marketing										
PHASES										
Phase 1 = FY2006-FY2008										
Phase 2 = FY2009-FY2011										
Phase 3 = FY2012-FY2014										
Action Step No.	Action Description	Phase	Rating	Resp. Staff	Staff Hours Needed	Volunteer Hours Needed	Phase 1 (\$)	Phase 2 (\$)	Phase 3 (\$)	Notes
Resource Management Actions										
1	Expand the available habitat around the Broom Crowberry populations.	On-going	Needed	RE, UIS	200	50				The habitat surrounding the Broom Crowberry will require multiple treatments in order to be restored to appropriate habitat.
2	Restore and maintain maritime shrublands, grassy shrublands, and open glades and barrens along the Vineyard Sound shores.	III	Needed	RE, UIS	600	200			7,000	Staff and volunteer hours include prescribed burning, clearing, and other actions.
3	Restore and maintain the mixed shrublands in the southern parts of Menemsha Hills.	II then on-going	Needed	RE, UIS	200					
4	Continue to research the forests, rocky shores, the Great Sand Bank, and other habitats at Menemsha Hills.	On-going	Needed	RE	200					

5	Establish and implement monitoring system for Menemsha Hills.	I	Needed	RE	80					
6	Continue to study the few remaining pools at Menemsha Hills to identify vernal pools.	On-going	Desired	RE	40	40				
7	Enhance the existing Broom Crowberry populations.	I	Critical	RE, UIS	40	20				
8	Continue to assess Box Turtle populations in the North Road region.	On-going	Needed	RE	50					
9	Continue to inventory for rare invertebrate species.	On-going	Desired	RE	200					
10	Monitor Menemsha Hills annually for invasive and exotic species.	On-going	Needed	RE	100					
11	Remove invasive species along road corridors.	I	Needed	RE, UIS	5	5				
12	Relocate areas of trail that are prone to erosion.	II	Critical	UIS	80	80				
13	Improve and maintain the access road from Harris driveway into Menemsha Hills trail system.	II	Needed	UIS	80					
14	Create a beach loop trail system.	II	Needed	UIS	200	100	20,000			The resources are needed for a stair system from the beach up the bluffs.
15	Create a spur trail that overlooks Vineyard Sound in the midst of a glade of wolf trees.	I	Needed	UIS	8	8				
16	Create a low fence along Trustees Way.	I	Needed	UIS	70	20				
17	Engage a cultural resource specialist to assess cultural resources at Menemsha Hills.	II	Desired	RE	740		10,035			

18	Name the trail loops at Menemsha Hills using historically accurate and relevant names.	I	Needed	Regional & HQ Staff	2	2				
19	Remove shrubs from stone walls in select locations.	III	Needed	UIS	80	80				
Visitor Experience Actions										
20	Develop and implement consistent hunting rules at Menemsha Hills	I	Needed	UIS	4	2				
21	Ensure that The Trustees proactively address emerging recreational activities.	On-going	Critical	UIS						
22	Expand and enhance the view at Prospect Hill.	I	Needed	UIS	40	40				
23	Clear dense shrubs along northern section of Harris Loop trail.	I	Desired	UIS	40	40				
24	Create openings along the Vineyard Sound portion of the long scenic loop trail.	II	Desired	UIS	80	20				
25	Maintain other smaller viewsheds as needed.	On-going	Needed	UIS	200	50				
26	Create a self-guided interpretive trail	I	Desired	EIC	100		1,000			
27	Continue to provide educational programs for schools.	On-going	Needed	EIC	2,250	100				Hours are over the life of the plan and are based on current program time.
28	Refine the “quest” that provides visitors with a fun means of learning more about the properties and their outstanding features.	On-going	Needed	EIC	200	100	250	250	250	
29	Create a new property map that reflects changes instituted in this management plan.	III	Needed	C&M, GIS, Regional Staff	40				1,000	

30	Improve the Menemsha Hills page of The Trustees' web site by making maps, interpretive materials, and the Menemsha Hills management plan available via The Trustees' web site.	On-going	Needed	Regional Staff, C&M						
31	Continue to provide a suite of guided walks.	On-going	Needed	EIC	400	150				
Infrastructure Actions										
32	Institute a memorial gift policy.	I	Needed	RD, D, M	4					
33	Develop a facilities plan	I	Needed	UIS, RD, RE	20	4				
34	Provide a structure for staff housing at Menemsha Hills.	III	Needed	UIS, RD	Unknown	Unknown			Unknown	
35	Provide drinking water for visitors.	I	Needed	UIS	10		20,000			
36	Provide year-round composting toilets for visitors.	II	Needed	UIS	30			5,000		
37	Tie-in electrical service to the parking area.	I	Needed	UIS	10		2,000			
Land Conservation Actions										
38	Work with the Land Bank on local trail system creation, wherever needed and possible.	On-going	Desired	RD, RE	100					
39	Continue to secure and acquire easements that provide access to the Brickyard.	On-going	Critical	RD, RE	Unknown					
Outreach Actions										
40	Continue to provide Conservation Works volunteer days at Menemsha Hills	On-going	Needed	UIS	10					Volunteers will assist with other action steps in this plan.
41	Continue to engage volunteers wherever possible and needed.	On-going	Critical	UIS	Unknown					

42	Provide an update to the local community that outlines major initiatives and provides members of the community an opportunity to ask questions. Every two years.	On-going	Needed	UIS	25	20				
43	Attend Brickyard Beach Association meetings	On-going	Needed	UIS	3					
44	Integrate Menemsha Hills into a regional marketing strategy for the Islands	I	Needed	Regional Staff, C&M	50	2				
TOTALS					6,591	1,133	23,250	35,285	8,250	
									Note: total phase 3 costs do	