

Unit Management Plan
for the
Peconic Headwaters
Natural Resources Management Area

New York State Department of Environmental Conservation
Region 1

January 2006

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PECONIC HEADWATERS NATURAL RESOURCES MANAGEMENT AREA

Unit Management Plan

PREFACE

It is the policy of the Department to manage State land for multiple benefits to serve the people of New York State. This unit management plan (UMP) is the first step in carrying out that policy. The plan has been developed to address management activities on this unit for the next ten year period.

Factors such as budget constraints may necessitate deviations from the scheduled management activities.

INTRODUCTION

The Peconic Headwaters Natural Resources Management Area (PHNRMA) UMP provides the basis for managing the Otis Pike Preserve and several other parcels of State land within the western portion of the Pine Barrens Preserve core area. There are approximately 5,000 acres of land within this management unit.

The Central Pine Barrens Preserve is a 100,000-acre area within the central and eastern portions of Long Island's Suffolk County that includes portions of the towns of Brookhaven, Riverhead, and Southampton. It is divided into a 48,500-acre compatible growth area and a 52,500-acre core area. The core area is predominantly pitch pine and mixed pine-oak forest with scattered coastal plain ponds, marshes, and streams. The region contains one of the highest concentrations of endangered, threatened, and special concern plant and animal species within New York State. It also overlies one of the largest aquifers of pure drinking water in the state and is the last remaining large area of natural open space on Long Island. The preserve was created by the New York State Legislature in 1993 to protect these valuable resources by passage of the Long Island Pine Barrens Maritime Reserve Act (Environmental Conservation Law Art. 57).

The State of New York continues to acquire parcels of undeveloped land within the core area of the Pine Barrens Preserve in accordance with the Central Pine Barrens Comprehensive Land Use Plan adopted in 1995.

SECTION I. INFORMATION ON THE UNIT

A. Location

The Peconic Headwaters Natural Resources Management Area (PHNRMA) is located approximately sixty five (65) miles east of New York City about midway between the north and south shores of Long Island. The area encompasses lands in the unincorporated areas of the towns of Riverhead, Southampton and Brookhaven, County of Suffolk.

In general, the management area is bounded on the north by N.Y.S. Route 25A, the northerly line of the Central Pine Barrens Core area and the centerline of the Peconic River, on the southeast by County Road 51, on the south by County Road 111 and N.Y.S Route 495 (Long Island Expressway) and on the west by County Road 46 (William Floyd Parkway).

The largest parcel within the Peconic Headwaters UMP area is the 3,000-acre Otis Pike Preserve which was formerly part of the U.S. Naval Weapons Industrial Reserve Plant at Calverton. Other parcels include 96 acres adjacent to Brookhaven State Park in Panamoka, 150 acres on the west side of Calverton National Cemetery, two parcels totaling 48 acres on Mill Road south of the Otis Pike Preserve, 5.4 acres at the lower end of the impoundment created by Edwards Avenue Dam, 37.2 acres consisting of Canoe Lake and a narrow wooded buffer around it, two parcels totaling 142.8 acres intersected by South River Road between Nugent Drive and the Peconic River, 300 acres on the south side of Nugent Drive, and the 487.5 acre Eastport Conservation Area.

B. History

1. Generic History of State Forests

The forest lands outside the Adirondack and Catskill regions owe their present character, in large part, to the impact of pioneer settlement. Following the end of the Revolutionary War, increased pressure for land encouraged westward expansion. Up to 91% of wood lands were cleared for cultivation and forage. Early farming efforts met with limited success. As the less fertile soils proved unproductive, they were abandoned and settlement was attempted elsewhere. The stage for succession was set and new forests of young saplings reoccupied the ground which was once cleared.

The State Reforestation Law of 1929 and the Hewitt Amendment of 1931 authorized the Conservation Department to acquire land by gift or purchase for reforestation areas. These State Forests, consisting of not less than 500 acres of contiguous land, were to be forever devoted to “reforestation and the establishment and maintenance thereon of forests for watershed protection, the production of timber, and for recreation and kindred purposes”. This broad program is presently authorized under Article 9, Title 5 of the Environmental Conservation Law.

In 1930, Forest Districts were established and the tasks of land acquisition and reforestation were started. In 1933 the Civilian Conservation Corps (CCC) was begun. Thousands of young men were assigned to plant millions of trees on the newly acquired State lands. In addition, to tree planting, these young men were engaged in road and trail building, erosion control, watershed restoration, forest protection and other projects.

During the war years of 1941-1945, very little was accomplished on the State lands. Plans for further planting, construction, facility maintenance and similar had to be curtailed. However, through the postwar funding, conservation projects once again received needed attention.

The Park and Recreation Land Acquisition Act of 1960, and the Environmental Quality Bond Acts of 1972 and 1986 contained provisions for the acquisition of State land. These lands would serve multiple purposes involving the conservation and development of natural resources, including the preservation of scenic areas, watershed protection, forest management and recreation.

Today there are nearly 700,000 acres of State Forest land throughout the State. The use of these lands for a variety of purposes such as timber production, hiking, horseback riding, skiing, fishing, trapping and hunting is of tremendous importance economically and to the health and well-being of the people of the State.

2. History of the Peconic Headwaters Management Unit

Acquisition of the land within the PHNRMA was the result of the buffer around the former Calverton Naval Weapons Industrial Reserve being given to the Department and additional purchases made as a result of the Long Island Central Pine Barrens Act of 1993.

On September 28, 1999 the United States of America, acting through the Commanding Officer, Northern Division, Naval Facilities Engineering Command, Lester, Pennsylvania issued a deed to the People of the State of New York, through the Commissioner of Environmental Conservation of the State of New York for the property known as the buffer areas for the former Northrop Grumman airfield test facility. This area had been previously managed by DEC under a long range wildlife management plan which was initiated in 1966 under a cooperative agreement with the Navy. This agreement provided for the protection, development, management, and utilization of the fish and wildlife resources of the area and further stated that the area should remain open for public hunting, fishing, trapping, and other wildlife related uses. The cooperative agreement had been developed under authority found in U.S. Public Law 85-337 and 86-797, and New York State Environmental Conservation Law (ECL) Sections 11-0303 and 11-0501. Access to the area has been controlled through a permit system administered by the DEC since 1966.

The Pine Barrens component of the area consists of a group of contiguous and noncontiguous

parcels that have been acquired at various times over the last five years. These are mostly wooded undisturbed parcels that fit the profile of protected pine/oak forest located over the aquifer that the Pine Barrens act is designed to protect.

C. RESOURCE INVENTORY

1. Natural Resources

Physical

Geology Most of the topographic features of Long Island, as we know them today, were created in the Wisconsin glacial stage, which began about 50,000 years ago during the Pleistocene epoch. At least twice during the Wisconsin stage, the glacial ice sheets moved south onto Long Island. The first glacier known as the Farmingdale Advance, stopped with its southernmost front traversing the middle section of the island. By depositing its load of rock and soil, the glacier formed the ridge of land known as the Ronkonkoma Moraine. This ridge runs from Queens County through central Suffolk County and easterly past Montauk Point into the Atlantic Ocean. The first glacier melted from Long Island and was followed by a second. This later glacier, the Iowan Advance, terminated about 20,000 years ago along the north shore from Queens to Orient Point and out to sea creating a ridge of land called the Harbor Hill Moraine. As each glacier melted, streams were created which carried tremendous volumes of sand and gravel in a generally southern direction. This material was deposited to create the gently sloping outwash plains to the south of each of the two moraines.

Soils The soils in the Peconic Headwaters area are predominately an association of Carver and Plymouth sands. Plymouth loamy sand, Riverhead sandy loam, and Haven loam also occur over significant areas.

The soils in the Carver-Plymouth association have severe limitations for agriculture, forestry, and for many non-indigenous trees and shrubs. Carver and Plymouth sands are deep, excessively drained, coarse-textured, acidic soils. The natural fertility of the Carver sands is very low, with very low moisture-holding capacity. Plymouth sands are slightly more fertile and have a slightly higher moisture holding capacity. They both present erosion hazards from any disturbance or intensive recreational use. Plymouth loamy sands are less erodible, reasonably fertile, and fairly suitable for agricultural crops.

Riverhead sandy loam has moderate to high available moisture capacity, is more fertile than the Carver and Plymouth soils, and is suitable for crops.

The Haven series consists of deep, well-drained, medium textured soils. Haven soils have moderate to high available moisture capacity and are well suited for crops, although their natural fertility is low.

Present but less common are the Wareham loamy sand, Atsion sand and Berryland mucky sand. These tend to be wet soils and are more suited for wildlife and forest cover than for intensive uses.

Terrain Elevations on the Peconic Headwaters planning unit range from 30 feet above sea level along the edge of the Peconic River to 300 feet in the hills east of Toppings Path.

Surface Waters There are a wide variety of surface waters within and adjacent to the lands of the PHNRMA (Table 1 in the appendix). These waters and the shoreline around them have one of the highest concentrations of rare plant and animal species in New York State.

Peconic River - The Peconic River is a slow moving, groundwater-fed coastal plain stream draining an area of about 75 square miles. Approximately three miles of the land in the Peconic Headwaters management unit are directly on the river. The Peconic River has two primary headwaters branches which join southwest of Jones Pond in Manorville. The westerly branch begins in a wetlands area west of William Floyd Parkway and south of Route 25 in Ridge and flows east through Brookhaven National Laboratory. The northern branch begins from a series of ponds west of Wading River-Manorville Road and south of Route 25. The Peconic River corridor, from its beginning, to where it passes under the railroad bridge west of Edwards Avenue, is designated as a scenic river in the NYS Wild, Scenic, and Recreational Rivers System. The remainder of the river to the dam in Grangabel Park in Riverhead is designated as a recreational river. Designated Wild, Scenic and Recreational River segments are specified in sections 15-2713 and through 15-2715 of the Environmental Conservation Law.

Ponds - There are 18 ponds that are entirely within the PHNRMA. These ponds range in size from less than 0.5 acres to 11.7 acres. Most of the ponds within the unit are natural. Some of the smallest ponds in the planning unit were created as a result of gravel mining operations.

The PHNRMA includes portions of six ponds ranging from 5.0 to 106 acres. Three of these ponds, Sandy, Grassy and Jones are in the Peconic River headwaters and are entirely in public ownership. The portions of these ponds not in the PHNRMA are in the Robert Cushman Murphy River County Park. These three ponds are natural ponds. The three other ponds are further downstream and are in both public and private ownership with most of the shoreline privately held. The Cranberry Bog Ponds (west of Edwards Avenue) and Forge Pond (from Edwards Avenue to Forge Road) are man-made impoundments in the main stem of the Peconic River. As the name suggests, the Cranberry Bog Ponds were originally impounded as cranberry bogs. Forge Pond was originally impounded to supply power and water for an iron forge. At 106 acres Forge Pond is the largest impoundment in the Peconic River system. Swan Pond immediately south of Forge Pond has a small piece of Otis Pike Preserve on its eastern shore. Swan Pond is a glacial kettlehole. With a depth of 15 feet, Swan Pond is probably one of the deepest ponds on the preserve.

All of the surface waters in the preserve are groundwater-fed. Because of this they experience significant fluctuations in water level caused by groundwater fluctuations. Most of the

Peconic headwater ponds are reported to dry up during extended drought periods. The surface waters in the PHNRMA have low conductivity, are slightly acid and stained with tannins and humic acids as is typical of waters in pine barrens ecosystems.

All of the surface waters in the Otis Pike Preserve are Class One Freshwater Wetlands under ECL Article 24 with the exception of Swan Pond, which is a Class Two Wetland. For a more complete discussion of the wetlands see the section on freshwater wetlands. All of the surface waters in the Otis Pike Preserve are also regulated under the Wild, Scenic and Recreational Rivers Act (ECL Article 15).

Groundwater The UMP area overlies a large portion of Long Island's drinking water supply and is designated as a special groundwater protection area. Precipitation over the area recharges three major aquifers: the Upper Glacial, the Magothy, and the Lloyd Sand. These aquifers are composed of unconsolidated materials, generally sand and gravel. The naturally vegetated, generally undisturbed condition of the Peconic Headwaters Management Unit and the coarse textured, sandy soils provide high quality, uncontaminated recharge to this critical aquifer system. The Department's management of the unit will protect this important groundwater resource.

Hydrology The Peconic Headwaters NRMA plays a vitally important role in preserving the health of the Peconic River and its associated ecosystems. The more than 2000 acres of ponds, streams, wetlands, and the Peconic River itself comprise a surface water expression of the very top of the Upper Glacial aquifer. This system is fed by rainfall moving horizontally through the soil south of the groundwater divide, which is located approximately one half mile north of the preserve. Due largely to the porosity of the glacial till underlying the area, and the proximity of the aquifer to the soil surface, the horizontal component of subsurface water movement is often many times greater than its vertical component. This allows rainfall from distant showers to continually replenish river flow. The base flow (water flow between rain events) in the Peconic River remains relatively constant throughout the year, and is determined by factors such as watershed size, yearly rainfall amounts and the degree of development within the watershed. Unlike the Peconic, many rivers and streams on Long Island have been intensely developed, resulting in large areas of impervious surface within their watersheds. Rainfall collected on these surfaces is typically managed through stormwater collection systems, which often pipe rainwater directly into the stream. This practice creates abnormally high stream flows during and immediately after rain events, and often results in little or no stream flow between storms. However, in the relatively undeveloped Peconic River watershed, rainwater falls on natural woodlands and fields, and is allowed to percolate into the soil. The soil acts as a filter, purifying the water and slowing its movement toward the river. This attenuated flow provides a steady input of groundwater to the river, even during periods of dry weather. It is noteworthy that the geographic location of the preserve within the watershed is particularly critical to the long term viability of the river proper, and the preservation of the many unusual natural elements found throughout the Peconic River watershed.

Biological Resources

Fishes A total of 20 species of fish are found in the waters of the PHNRMA (Table 2.) This is a fairly rich species assemblage for Long Island which has a low diversity of freshwater fish species due to the island's isolation from other freshwater systems. Only 24 species of fish are native to the freshwaters of Long Island and 15 of those species are present in the PHNRMA waters. This species richness is most likely due to the fact that the Peconic River is the largest river on Long Island and includes many different habitat types including very small streams, small rivers, small natural ponds and larger impoundments.

The Peconic River has several species that are unique to New York or Long Island, or very rare on Long Island. The banded sunfish (*Enneacanthus obesus*) is found nowhere else in New York and is listed as a New York State threatened species. The banded sunfish is found in a number of the waters on the Otis Pike Preserve. The creek chubsucker (*Erimyzon oblongus*) is found nowhere else on Long Island outside of the Peconic River drainage. The swamp darter (*Etheostoma fusiforme*) and bridle shiner (*Notropis bifrenatus*) are extremely rare on Long Island.

Four of the five species in the Otis Pike Preserve that are not indigenous to Long Island are some of the species that are the best known to anglers. They are largemouth bass (*Micropterus salmoides*), bluegill (*Lepomis macrochirus*), black crappie (*Pomoxis nigromaculatus*) and brown trout (*Salmo trutta*). With the exception of brown trout all of these species are fully naturalized to the Peconic River and the rest of Long Island as well. They maintain their populations naturally without any supplemental stocking. Brown trout have been stocked in the free flowing portion of the Peconic River between Connecticut Avenue and the Long Island Rail Road crossing since 1998. This is primarily to provide some additional fishing opportunity in this section of the river. The conditions in this section of the river are suitable for trout, but because the section of river suitable for trout is only 1.5 miles long it is unlikely that they will establish a naturally reproducing population. The fifth species that is not indigenous is the mosquitofish (*Gambusia affinis*), which was first observed in the gravel pit ponds in September of 2000. Despite three attempts to remove them with rotenone treatments, they are thriving in at least three of the gravel pit ponds.

The fish communities in the Peconic River headwater ponds are subject to periodic loss of habitat when these ponds dry up during extended droughts. Severe droughts can result in the extinction of the entire fish community from some of the smaller ponds. However they repopulate when the groundwater comes back up and a surface water connection between the ponds is reestablished.

Wildlife The animal component of any biological community is intimately related to the vegetation of the area. Wildlife is largely dependent upon the plant life to provide food and shelter requirements. Cover types are useful in describing the fauna of the area. Some species rely on the presence of a single feature or cover type. For example, the pine warbler (*Dendroica pinus*) requires large, mature pines and the red-eyed vireo (*Vireo olivaceus*) requires a canopy of mature deciduous trees, such as the oaks. Many species, however, require two or more cover types in close proximity to meet all their needs. Examples of such species are the great horned

owl (*Bubo virginianus*) and whip-poor-will (*Caprimulgus vociferus*) which require wooded areas for nesting and open areas for feeding. Still other species are found throughout much of the property. Examples of these are the Eastern box turtle (*Terrapene carolina carolina*), common crow (*Corvus cryptoleucus*), masked shrew (*Sorex cinereus*), red fox (*Vulpes vulpes*), and white-tailed deer (*Odocoileus virginianus*). The variety and distribution of cover types on this property meet the needs of many species, whether they are habitat specialists or habitat generalists. Overall, the area supports a moderately rich and diverse wildlife community. Representative species associated with each cover type are discussed in the following section. A more complete species list is included in Table 3 in the appendix.

Vegetation The Peconic Headwaters area is dominated by pine barrens plant communities. The pine barrens is not a single vegetation type, but a number of diverse plant communities of pine, oaks, and ericaceous (heath family) shrubs that merge into each other, creating a mosaic of inter-related plant and animal communities. Several wetland types are present on the preserve, including pine barrens shrub swamps, red maple hardwood swamps, coastal plain ponds and shallow emergent marshes. The key factors that determine the composition of the various pine barrens plant communities are 1) soils, generally acidic, coarse-textured, and of low fertility, 2) elevation/microclimate, and 3) frequency, severity, and intensity of fire. In addition, man-caused disruption or alteration by clearing for agriculture and timber harvesting has also resulted in a diversity of plant communities on this unit.

Cover Types The UMP area is comprised of many different habitat types ranging from dry oak woods to diverse wetland ecosystems. The upland forest cover types described in the following paragraphs vary primarily in their relative proportions of pine versus oak.

Upland Cover Types

Oak-Pine: A variable mixture of pitch pine (*Pinus rigida*) and oaks. The oak species are white (*Quercus alba*), scarlet (*Quercus coccinea*), and black (*Quercus velutina*). The understory is primarily huckleberry (*Gaylussacia baccata*) and blueberry (*Vaccinium angustifolium*) with some scrub oak (*Quercus ilicifolia*). This is the dominant upland vegetative cover type over the Peconic Headwaters planning unit and covers about 2,900 acres. It is found on the Panamoka Conservation Area, in the Otis Pike Preserve on both sides of Schultz Road, in the uplands between Wading River-Manorville Road and Grumman Boulevard, in the uplands between Wading River-Manorville Road and Grumman Boulevard, the forest land east of Connecticut Avenue, east of the Riverhead Economic Development Zone, around Canoe Lake, along South River Road, and along Toppings Path and Hot Water Street, and on the Eastport Conservation Area.

Eastern towhees (*Pipilo erythrophthalmus*), pine warblers (*Dendroica pinus*), Eastern wood-pewee (*Contopus virens*), ovenbirds, scarlet tanagers and other birds typical of dry open woods are found in the pine-oak woodlands. White-footed mice (*Peromyscus leucopus*) and gray tree frogs (*Hyla versicolor*, *H. chrysoscelis*) are found here as well.

Oak - The tree basal area and the crown canopy are dominated by white oak, scarlet oak, and black oak, with scattered pitch pine. The understory is primarily huckleberry and blueberry with some scrub oak. A trace of hickories (*Carya* spp.), sassafras (*Sassafras albidum*), aspen (*Populus* spp.), flowering dogwood (*Cornus florida*), black cherry (*Prunus serotina*), and gray birch (*Betula populifolia*) may also be present. The oak-heath type tends to be found on more fertile soils containing more fine components, silt or clay with more available soil nutrients. Such soils are usually associated with glacial moraines and reflect a higher site class for most species than is shown on the more impoverished pine barren sites. Oak stands also tend to develop in areas where low intensity surface fires have been frequent (every 10 - 20 years), but top-killing fires have not occurred more often than every 40 - 100 years (Jordan et al. 2003, Abrams 1992). Regular low intensity fires in oak forests prevent invasion by mesic, fire intolerant species, assist in the process of regeneration (acorns sprout only within a specific range of litter/duff depths, too much or too little can prevent germination). In order to successfully restore these systems, fire may initially need to be applied at a more frequent rate (2 - 4 years) in order to establish adequate seedlings and saplings through litter and duff layer reduction. While fire has a significant effect on oak seedling germination, high deer populations can prevent oak regeneration and will be considered in combination with the effects of fire.

Wildlife associated with this cover type include gray squirrel (*Sciurus carolinensis*), cardinals (*Cardinalis cardinalis*), tufted titmouse (*Baeolophus bicolor*), scarlet tanagers (*Piranga olivacea*), red eyed vireo (*Vireo olivaceus*) and northern oriole (*Icterus galbula*). Older stands also provide snag or cavity trees, which provide roosting, den or nest sites for a variety of species such as downy woodpecker (*Picoides pubescens*), black-capped chickadee (*Parus atricapilla*), great crested fly catcher (*Myiarchus crinitus*), flying squirrel (*Glaucomys volans*), opossum (*Didelphis virginiana*) and raccoon (*Procyon lotor*). Larger trees also provide preferred nesting sites for red-tailed hawks (*Buteo jamaicensis*) and great horned owls (*Bubo virginianus*). Ground dwelling species which prefer a deciduous over-story are wood thrush (*Hylocichla mustelina*) and ovenbird (*Seiurus aurocapillus*).

Examples of this type within the Peconic Headwaters planning unit are found in the Calverton Conservation Area, in the Otis Pike Preserve between Fresh Pond Avenue and Route 25A, along Mill Road in Manorville, and along the west end of Hot Water Street north of C.R.111. There are approximately 1,000 acres of this cover type on the planning unit.

Pitch Pine: The tree basal area and crown canopy is primarily pitch pine. Oaks (white oak, scarlet oak and black oak) comprise a much smaller percentage of the crown canopy. The understory is a mix of heath species (huckleberry, blueberry, and bear berry) and scrub oak. This is a transition zone between the predominantly oak forests over most of the planning unit and the predominantly pine woods and forests further east. This type occurs on the most easterly parcel in the Peconic Headwaters unit along Nugent Drive and includes about 300 acres.

Wildlife species found in the oak type, pine type, brushlands and scrub oak type may also be found in the oak-pine and pine-oak types depending on species composition and development of the stand.

Non-Forest (Old Fields, Grassland-Forb), Shrub Mixture: The old fields and grasslands of the Long Island Pine Barrens and Peconic Headwaters area are very important breeding sites for the northeast Atlantic Coast suite of rare and declining grassland nesting birds. Grassland dependent species like upland sandpiper (*Bartramia longicauda*), grasshopper sparrow (*Ammodramus savannarum*), and vesper sparrow (*Pooecetes gramineus*), now occur in significant numbers in less than a half-dozen sites from Maine to New Jersey. At one time natural grasslands and heathlands occurred along the Atlantic Coast and supported large numbers of various grassland species. The Hempstead Plains on Long Island, for example, covered thousands of acres and supported large numbers of grasshopper sparrows, upland sandpipers, and the now extinct heath hen. In the last 30 years grassland bird species have exhibited massive declines. For example, grasshopper sparrows have declined by an average of 3.9% per year since 1966. Upland sandpipers, grasshopper sparrows, and vesper sparrows are all listed by most of the northeastern states including New York as endangered, threatened or of special concern.

This old field, grassland, forb mixture type of vegetation occurs on the most recently disturbed areas: firebreaks, runway buffer strips, and abandoned agricultural fields. Native grasses occurring in these old fields and grasslands are warm season species including big bluestem (*Andropogon gerardii*), broom-sedge (*Andropogon virginicus*), little bluestem (*Schizachyrium scoparium*), lovegrass (*Eragrostis pectinacea*), and switchgrass (*Panicum virgatum*). Important herbaceous plants (forbs) are common milkweed (*Asclepias syriaca*), orange milkweed or butterfly weed (*A. tuberosa*), asters (*Aster spp.*), lupine (*Lupinus perennis*) and goldenrod (*Solidago spp.*). Lichens, mosses, bearberry (*Arctostaphylos uva-ursi*), false heather (*Hudsonia tomentosa*), and bracken (*Pteridium aquilinum*) are common on the more impoverished soils. To provide wildlife food and cover, some of the openings had historically been planted with sorghum, annual grains or annual and perennial grasses. Meadow voles (*Microtus pennsylvanicus*), garter snakes (*Thamnophis sirtalis*) and cottontail rabbits are most abundant in the grasslands. Woodcock (*Scolopax minor*) perform their courtship flights here in the spring. Bluebirds (*Sialia sialis*) may be found in these areas when nest boxes are provided. Vesper (*Pooecetes gramineus*) and savannah sparrows (*Passerculus sandwichensis*) and bobwhite quail (*Colinus virginianus*) use these open areas for nesting and brood rearing. Bobwhite quail and ring-necked pheasants (*Phasianus colchicus*) utilize grasslands along with brushlands, agricultural areas and woodland borders. Grasshopper sparrows (*Ammodramus savannarum*) are found in many of the larger old field areas. Mourning doves (*Zenaida macroura*), red-winged blackbirds (*Agelaius phoeniceus*) and mockingbirds (*Mimus polyglottos*) feed on fruits and seeds produced in open areas while tree swallows (*Tachycineta bicolor*), common flickers (*Colaptes auratus*) and whip-poor-wills eat insects found there. When numerous shrubs and saplings invade such areas, field sparrows and cedar waxwings (*Bombycilla cedrorum*) will reside here. The rare hognose snake (*Heterodon platyrhinos*) may also be found here.

The old fields were formerly pine barrens that were cleared for agricultural crops. Since the cessation of farming, attempts have been made to halt or slowdown the natural process of succession and maintain them as grasslands. In spite of these efforts, large areas of the fields are being overgrown with trees and shrubs. There are a total of about 350 acres of old fields and grasslands in various stages of succession on the planning unit.

Pitch pine, gray birch (*Betula populifolia*), Eastern red cedar (*Juniperus virginiana*), and cherry (*Prunus spp.*) are the dominant native pioneering species. Non-native black locust (*Robinia pseudoacacia*) and autumn olive (*Elaeagnus umbellata*) are also encroaching into the old fields and grasslands. The autumn olive was intentionally introduced for wildlife cover and food.

Summary of Upland Cover Types

Cover Type	Approximate Acreage
Oak - Pine	2,900
Oak	1,000
Pitch Pine	300
Grassland/Old Fields (G/OF)	350

Wetlands There are approximately 328 acres of wetlands on the Peconic Headwaters Planning Unit. These wetland communities provide habitat for several species of frogs, Fowler's toad (*Bufo woodhousei fowleri*), spotted newt (*Notophthalmus viridescens*), tiger salamander (*Ambystoma tigrinum*) and painted turtle (*Chrysemys picta*). Ducks, herons and even shorebirds, such as the spotted sandpiper (*Actitis macularia*), all use the ponds. Belted kingfishers (*Ceryle alcyon*) and tree swallows (*Iridoprocne bicolor*) also find their food here. The following paragraphs characterize the various wetland plant communities by habitat type.

Coastal plain stream - The Peconic River is a classic coastal plain stream. Such streams are characterized as darkly stained, slow moving watercourses with a low pH, typical of the coastal plain of Long Island. Plant communities consist of submerged aquatic vegetation such as waterweeds (*Elodea*), pondweeds (*Potamogeton*), niads (*Najas*), bladderworts (*Utricularia*), and duckweed (*Lemna*). Typical stream bank shrubs include pussy willow (*Salix discolor*), speckled alder (*Alnus rugosa*), highbush blueberry (*Vaccinium corymbosum*), swamp azalea (*Rhododendron viscosum*), and sweet pepperbush (*Clethra alnifolia*). Other in-water or stream bank vegetation usually includes tussock sedge (*Carex stricta*), skunk cabbage (*Symplocarpus foetidus*), sensitive fern (*Onoclea sensibilis*), royal fern (*Osmunda regalis*), cinnamon fern (*Osmunda cinnamomea*) and soft stem bulrush (*Juncus americanus*). Coastal plain streams are ranked S1 (the rarest category) for rarity in New York State by the Natural Heritage Program.

Pine Barrens Vernal ponds are seasonally fluctuating wetlands found in low lying areas of the coastal plain. These ponds are usually free of fish and provide ideal habitat for the endangered tiger salamander, the marbled salamander (*Ambystoma opacum*), the spotted salamander (*Ambystoma maculatum*), American toad, and the wood frog (*Rana sylvatica*). The vegetative community usually consists of a mix of grasses, sedges, rushes and forbs in the understory with low shrubs as an intermediate layer. Typical species include woolgrass (*Scirpus cyperinus*), three-way sedge (*Dulichium arundinaceum*), cinnamon fern, black chokeberry (*Aronia melanocarpa*), and peat moss (*Sphagnum fallax*). The upland understory surrounding the pond would typically include heath family shrubs such as black huckleberry, deerberry (*Vaccinium stamineum*), and early and late lowbush blueberry. Bracken fern (*Pteridium aquilinum*) and sheep laurel (*Kalmia angustifolia*) are often found landward of the wetland boundary as well.

Coastal plain pond - The coastal plain pond is another important wetland type common to the Otis Pike Preserve. These ponds are permanently flooded wetlands located in shallow depressions or kettle holes south of the terminal moraines in coastal lowlands. These shallow groundwater fed ponds are often hydrologically connected and subject to large seasonal and annual fluctuations in water level. The plant and animal communities of the pond and pond shore usually contain several species which are listed as rare and endangered. The tiger salamander and the banded sunfish are the most notable of the animals. Coastal plain ponds are ranked in the Natural Heritage Program's second rarest category (S2) for New York State.

Coastal plain pond shore - A long list of plants are also common to the coastal plain pond shore community, but many are rare or endangered from a regional, statewide, and even a nationwide perspective. Plants typical to the pond are white water-lily (*Nyphaea odorata*), watershield (*Brasenia schreberi*), bayonet rush (*Juncus militaris*), spike rush (*Eleocharis robbinsii*), purple bladderwort (*Utricularia purpurea*), water milfoil (*Myriophyllum humile*), naiad (*Najas flexilis*), waterweed (*Elodea spp.*), pondweed (*Potamogeton oakesianus*), and a peat moss (*Sphagnum macrophyllum*). Plants found in the pond shore community may change annually depending on water levels. Researchers have determined from the dormant seed banks which exist in these ponds that there are five distinct bands of shoreline vegetation. As water levels drop and the appropriate hydrologic regime is created, seeds which are thought to remain viable for approximately ten years begin to germinate. This is consistent with the typical hydrologic cycle which usually results in a coastal plain pond being left completely dry once every 8 to 10 years. The cycle allows an opportunity for each species to replenish the seed bank, ensuring survival of the pond shore plant community for the future. Plants typical of the coastal plain pond shore are: pipewort (*Eriocaulon aquaticum*), beaked rush (*Rhynchospora macrostachya*), sundews (*Drosera intermedia* and *D. filiformis*), bald rush (*Psilocarya scirpoides*), Canada St. John's wort (*Hypericum canadense*), ludwigia (*Ludwigia sphaerocarpa*), rose coreopsis (*Coreopsis rosea*), gratiola (*Gratiola aurea*), yellow-eyed grass (*Xyris smaliana*), nutrush (*Scleria reticularis*) and panic grasses (*Panicum acuminatum*, *P. verrucosum*). Additionally, many statewide upland and wetland rare plants are found on the preserve properties. The coastal plain pond shore is ranked as S2 (second highest category for rarity) by the Natural Heritage Program.

Red maple-black gum hardwood swamp - Another wetland type common to the UMP area is the red maple-black gum hardwood swamp. This wetland type is often visually impressive because it contains an overstory of mature hardwood trees from thirty to eighty feet in height. Although this wetland type varies around the state, on Long Island, this forested swamp has a dense canopy which is co-dominated by red maple (*Acer rubrum*) and black gum or tupelo (*Nyssa sylvatica*). It usually contains a thick shrub layer comprised of spicebush (*Lindera benzoin*), winterberry holly (*Ilex verticillata*), black chokeberry (*Aronia melanocarpa*), arrow wood (*Viburnum recognitum*) and highbush blueberry (*Vaccinium corymbosum*), swamp azalea (*Rhododendron viscosum*), and sweet pepperbush. The dense canopy and understory create the ideal habitat for a herbaceous layer which is often dominated by a variety of ferns such as cinnamon fern, sensitive fern, royal fern (*Osmunda regalis*), and the netted chain fern (*Woodwardia areolata*) and marsh fern (*Thelypteris palustris*). Other herbaceous species often include skunk cabbage, jewelweed (*Impatiens capensis*), scullcap (*Scutellaria galericulata*), tussock sedge (*Carex stricta*), and other sedges of the genus *Carex*.

The standing water, which is often seasonally present in red maple hardwood swamps, and the adjacent upland woods are ideal habitat for a variety of mole salamanders of the genus *Ambystoma*. This habitat typically includes the marbled salamander, spotted salamander, and the tiger salamander (*Ambystoma tigrinum tigrinum*). In addition, one would expect to find a variety of other amphibians such as the four-toed salamander (*Hemidactylium scutatum*), redback salamander (*Plethodon cinereus*), red spotted newt (*Notophthalmus v. viridecens*), gray tree frog (*Hyla versicolor*), pickerel frog (*Rana palustris*), wood frog, spring peeper (*Hyla crucifer*) and the green frog (*Rana clamitans melanota*).

Shrub swamp Substantial areas of shrub swamp exist in the Peconic River headwater area. These areas are often located as a transition between the open water wetlands and red maple hardwood swamps or areas of upland forest. Shrub swamps vary greatly in species composition depending on soil type and climatic conditions. In our region, where the soil ranges from mineral to muckland peat, one would expect to find plant species such as speckled alder (*Alnus rugosa*), pussy willow (*Salix discolor*), water willow (*Decodon verticillatus*), meadow-sweet (*Spirea latifolia*), steeple bush (*Spirea tomentosa*), swamp azalea, highbush blueberry, male-berry (*Lyonia ligustrina*), staggerbush (*Lyonia mariana*), spicebush, buttonbush (*Cephalanthus occidentalis*) and arrow wood.

A similar faunal composition exists in the shrub swamp as in the deciduous swamp. Amphibians such as the wood frog, and spotted and tiger salamanders attach their egg masses to underwater vegetation during their respective breeding seasons.

Shallow emergent marsh wetlands also exist within the UMP area boundary. These wetlands are typically associated with streams and rivers and are often part of a wetland complex which includes the wetland types mentioned above. Soils range from mineral to organic muckland which is permanently saturated and seasonally flooded. Water depth ranges from six inches to about three feet during periods of high water. However, by mid to late summer, these wetlands

are often dry. The plant community is dominated by grasses and a variety of herbaceous wetland plants with the remaining, smaller component, dominated by sedges. Typical plants are: bluejoint grass (*Calamagrostis canadensis*), reed canary grass (*Phalaris arundinacea*), rice cutgrass (*Leersia oryzoides*), fowl mannagrass (*Glyceria canadensis*), tussock sedge, three way sedge (*Dulichium arundinaceum*), woolgrass, wild iris (*Iris versicolor*), sweetflag iris (*Acorus americanus*) and water smartweeds of the genus *Polygonum*. It is important to recognize that these shallow emergent marsh wetlands can offer a uniquely productive but ephemeral habitat for a variety of amphibians such as the spring peeper, Fowler's toad and mole salamanders. The food chain in these wetlands often consists of detritus, bacteria, rotifers, protozoa and fairy shrimp (suborder Eubranchipoda). Fairy shrimp eggs overwinter, hatch in March or early April and provide a phenomenal number of individuals prior to the seasonal decline in water level. This type of vernal ecosystem provides an ideal breeding habitat for vertebrate species such as the endangered tiger salamander.

Rare, Threatened, and Endangered Species The unique wetlands and uplands on the preserve contain many rare, special concern, threatened, or endangered plants, plant communities, reptiles, amphibians, and invertebrates. In fact, the Peconic Headwaters area and the Long Pond drainage in Sag Harbor contain the highest number of rare and endangered plant and animal species for any wetland or upland area in all of New York State. Some of the most notable species include the tiger salamander (endangered), the northern cricket frog (threatened), the banded sunfish (threatened), the coastal barrens buck moth (special concern), long-beaked bald rush (rare), orange fringed orchids (*Platanthera ciliaris* - exploitably vulnerable), rose coreopsis (*Coreopsis rosea* - rare), silvery aster (*Aster concolor* - endangered), Nuttall's lobelia (*Lobelia nuttallii* - rare), quill-leaved arrowhead (endangered), hairstreak butterflies, rare damselflies, and many more. A complete list of rare species as identified by the New York Natural Heritage Program is in the appendix following Part 1 of the Full Environmental Assessment Form.

Invasive Plant and Animal Species Undisturbed, wooded upland areas in the planning unit are generally free of invasive plant species. Gypsy moth (*Lymantria dispar*) outbreaks have been occurring in recent years on significant portions of the oak and oak-pine communities in the planning unit.

Wetland areas are typically more susceptible to invasion by undesirable plant and animal species. For example, reed grass (*Phragmites australis*) has encroached on several of the ponds and the Peconic River. As mentioned in the section on fish resources, the mosquito fish is an undesirable non-indigenous invasive in the gravel pit ponds (Dog Ponds) south of Manorville Road.

2. Cultural Resources

The term cultural resources encompasses a number of categories of human created resources including structures, archaeological sites and related resources. The Department is required by the New York State Historic Preservation Act (SHPA) (PRHPL Article 14) and SEQRA (ECL Article 8) to identify and assess impacts to such resources with respect to the management

activities proposed in this UMP.

Archaeological sites are any location where materials (artifacts, ecofacts) or modifications to the landscape reveal evidence of past human activity. This includes a wide range of resources ranging from precontact Native American camps and villages to Euroamerican homesteads and industrial sites. Such sites can be entirely subsurface or can contain above ground remains such as foundation walls or earthwork features.

The quality of the site inventory information varies a great deal in all respects. Very little systematic archaeological survey has been undertaken in New York State. Therefore all current inventories must be considered incomplete. Even fewer sites have been investigated to any degree that would permit their significance to be evaluated. Many reported site locations result from 19th century antiquarian information, artifact collector reports that have not been field verified. Often very little is known about the age, function or size of these sites. This means that reported site locations can be unreliable or be polygons that encompass a large area. Should systematic archaeological inventory be undertaken at some point in the future it is very likely that additional resources will be identified.

3. Man-Made Facilities

Buildings - There are four buildings on the unit which are in disrepair and currently not being used. Some of these buildings are structurally sound and could be renovated for various uses such as storage or an information center. The buildings include a 58' x 32' former potato barn on Grumman Boulevard, a 26' x 11' brick/vinyl siding building on Edwards Avenue near the dam and fishing access site, and there are a 40' x 28' 'A' frame barn and 42' x 24' storage barn on the Eastport property at C.R. 51 immediately north of C.R. 111.

Roads, trails, and parking areas - There is a system of roads in the 'ponds/field trial' area of Otis Pike Preserve connecting the various ponds and fields in that area. Toppings Path and Hot Water Street are unpaved Suffolk County roads which traverse the southeast portion of Otis Pike Preserve and the Eastport property. There are numerous other unpaved administrative roads on the various parcels within the planning unit

In addition to the hunter access parking spaces there are three parking areas on the Wading River-Manorville Road providing access to Otis Pike Preserve.

There are designated mountain bike trails on the Calverton and Eastport properties. The bike trails are each approximately ten miles long. There are also parking areas for 5 vehicles at each of these bike trails.

Other than the Pine Barrens (Paumanok) Trail, which crosses portions of the unit, there are no designated hiking or horseback riding trails on the Peconic Headwaters management unit. However, hikers, bikers, and horseback riders may use existing roadways.

Agricultural Land - There are four fields on the Otis Pike Preserve that were leased to local farmers by the Department of the Navy prior to the land being transferred to New York State in

1999. The fields have been fallow since that time. Three of the fields, consisting of 38, 39, and 48 acres, are between Fresh Pond Avenue and Route 25A where it joins Route 25. The fourth field is a 30-acre parcel located east of the Calverton Economic Development Zone and north of Grumman Boulevard.

Dams and Water Control Structures - There is a dam at Edwards Avenue on the Peconic River. The concrete dam is cracked and the bottom board of the flow level control structure is missing. The Dam Safety Unit has inspected the dam and recommended that an engineering study be completed. The Regional Operations Unit has applied for funding to conduct the engineering study and repair the dam.

Fishing Access Sites, Canoe/Boat Launches, and Parking Areas:

Sandy Pond, Angler Site 1 - Wading River Road: (Same as hunter parking spot # 2), 4 car limit, ½ mile trail to pond.

Jones Pond, Angler Site 2 - Shultz Road: Angler parking only, undeveloped.

Linus Pond Angler Site 3 - Wading River Manorville Road: (Same as hunter parking spot # 9), two car limit.

Forest Pond Angler Site 4 - Line Road: (Same as hunter parking spot # 10). Trail to ponds.

Prestons Pond, Angler Site 5 - Grumman Boulevard: (Same as hunter parking spot # 12), undeveloped.

Peconic River at Connecticut Avenue, Angler Site 6: Canoe launch, parking.

Peconic River, Angler Sites 7 and 8, River Road: Angler parking only, undeveloped.

Upper Peconic Angler Site 9, Mill Rd west of Edwards Avenue: Four car parking, steps to the water.

Peconic River at Edwards Avenue, Angler Site #10 : Canoe launch, undeveloped parking area.

Forge Pond Fishing Access Site #11 is located on South River Road, east of Route 24. This access site has parking for ten cars and has steps and a boat slide to the water.

Section II. Public Use Demands and Current Management

The Peconic Headwaters area is located in one of the most densely populated regions of the state. There is increasing pressure from the public to utilize these lands. It is the Department's goal to provide outdoor recreation opportunities, while protecting the natural resources and ensuring compatibility among different users. To help achieve these goals a permit system was implemented in 1979. There is no fee for the access permit, which is valid for three years. Individuals may obtain a State Land Access Permit for the following activities:

Hunting	Hiking	Bicycling
Trapping	Dog Training	Falconry
Horseback Riding	Fishing	Canoeing or Boating

Between five and six thousand access permits are issued each year for the region.

A Temporary Revocable Permit (TRP) must be obtained for any organized or group event, or special use of the property. Typical uses requiring a TRP are organized group hikes, sporting dog field trials, fox hunting with horses and hounds, trail maintenance by user groups, and scientific studies. About 100 TRPs are issued each year in the region.

Activities that are not allowed except with a Temporary Revocable Permit (when deemed appropriate) include, but are not limited to:

- Use of motorized vehicles;
- Camping;
- Recreational fires;
- Removal or cutting of any plant or part thereof;
- Removal of any natural or manmade object.

For public safety and to prevent user conflicts, the Department reserves the right to limit use at its discretion. Currently the bike trails and horseback trails within areas open for hunting are closed during the November, December and January hunting season. Also, TRPs for group activities are not issued during the November through January hunting season.

The old fields south of Grumman Boulevard have been used for many years by sporting dog clubs for training and field trials. The six areas (B North, B West, B South, C, D, and E) designated for sporting dog training and field trials are shown on the attached map. Of the six areas, only B North, B West, B South, and C contain fields of significant size. Table 1 shows the current authorized seasonal use of those areas for dog training by individuals, club training, and national association (such as the American Kennel Club) sanctioned field trials. The only restrictions on use of these fields from March through October have been prohibiting individual training in B North and B South from April 15th to August 15th, only allowing national association sanctioned events in area E, and closing area D until May 1st.

Otis Pike Preserve Grasslands/Old Fields
Table 1. Current Seasonal Use for Sporting Dog Field Trials/Training

Table 1A. Individual Trainers (Access Permit Required)

Area	March	April	May	June	July	August	Sept	Oct
B North	open			closed			open	
B West								
B South				closed				
E*								
C								
D	closed							

Table 1B. Club Training Events (Temporary Revocable Permit (TRP) required, min. of 10 members, 1 event/month/club)

Area	March	April	May	June	July	August	Sept	Oct
B North								
B West								
B South								
E				closed				
C								
D	closed							

Table 1C. Field Trials Sanctioned by National Association (TRP required)

Area	March	April	May	June	July	August	Sept	Oct
B North								
B West								
B South								
E*								
C								
D	closed							

* Use of Niger Pond in area E is not permitted for dog training or trials.

Past management goals for these fields have been to improve cover and food availability for upland game birds (quail and pheasant) and to provide recreational opportunities for hunting, sporting dog training and field trials, bird watching, horseback riding, and hiking.

Various practices, including mowing, plowing, discing, planting, fertilizing, liming, and controlled burning have been used to achieve those goals. All food plantings, fertilizing, and liming were discontinued in 1999.

SECTION III. MANAGEMENT GOALS

It is the goal of the Department to manage State land for multiple benefits to serve the needs of the people of New York State. Management planning will consider the resources of the Peconic Headwaters Unit as they relate to the resources of the overall region in order to protect the biological diversity of the region and to optimize the many public benefits provided by protected lands in the region.

A. Stewardship

Goal - Manage these properties to protect, enhance, and restore their natural resources consistent with the Long Island Pine Barrens Maritime Reserve Act (Article 57 of the ECL); the Wild, Scenic, and Recreational Rivers Act (Article 15, title 15 of the ECL); the Peconic Estuary Program; and the Freshwater Wetlands Act (Article 24 of the ECL); with special consideration for rare and endangered plants, animals, and natural communities.

B. Recreation

Goal - Provide a range of recreational opportunities that are compatible with the protection of the natural resources of the unit. Preference will be given to natural resource related activities, especially the traditional pursuits of hunting, trapping, fishing, hiking, horseback riding, and nature study.

C. Education and Research

Goal - Use the area for outdoor education and research which will develop a sense of stewardship and responsible use of the area and increase understanding of the unit's natural and cultural resources. Increase public awareness and understanding of the unit's ecosystems and the relationship between natural systems and people.

D. Management Plan Review

Goal - Provide a means to assess implementation and effectiveness of the management plan.

SECTION IV. MANAGEMENT OBJECTIVES AND ACTIONS

A. STEWARDSHIP

Goal - Manage these properties to protect, enhance, and restore their natural resources consistent with the Long Island Pine Barrens Maritime Reserve Act; the Wild, Scenic, and Recreational Rivers Act; the Peconic Estuary Program; and the Freshwater Wetlands Act; with special consideration for rare and endangered plants, animals, and natural communities.

Objective A.1 - Protect the diverse forest, grassland, wetland, and riverine communities from incompatible activities and other factors (e.g., overuse, pollution, invasive species, harmful insects and disease, wildfires, over-browsing, and habitat fragmentation) which may degrade their quality.

Action A.1.1 - Exclude motorized vehicles and stop trash disposal by closing access points and strictly enforcing laws and regulations.

Close access to sites where repeated infractions occur, such as Fresh Pond, by placing bollsters and cross pieces or by installing new steel gates where appropriate.

Improve law enforcement regarding unauthorized use of motorized vehicles during permitted group activities and of illegal use of various motorized off road vehicles.

Parking areas will be cleaned regularly by the Division of Operations. Trash and illegally dumped material will be reported to the Operations Division and will be removed as soon as possible.

Action A.1.2 - Monitor the effect of existing uses to determine any necessity for corrective actions or adjustments in use.

If trails are overused, as indicated by excess compaction or erosion, they will be closed until repairs are made for that section.

Effects on freshwater wetlands will be monitored by documenting changes in the vegetative composition in wetland areas when they are opened for public use. To document these changes, the regional Bureau of Habitat will establish exclosures (10 feet long by three feet wide) that run perpendicular to the shore line. The center of each exclosure will be situated at the water/shoreline interface on the date of exclosure establishment. The exclosures will exclude all larger animals but shall permit smaller animals such as mice, amphibians, and insects to pass through. On an annual basis, comparisons of the density and diversity of vegetation shall be made between the exclosed areas and adjacent unexclosed areas of identical size. Additional shoreline transects will be run to document the plant diversity along the shorelines of both ponds

open to the public and ponds closed to public activity. These methods will provide an assessment of any potentially harmful effects on wetland vegetation resources.

Action A.1.3 - Implement the Unit Fire Management Plan (in appendix) to maintain diverse forest habitats and reduce the risk of destructive wildfires.

Maintain and enhance diverse and dynamic forest cover types including oak, pine-oak, and pine forests. Allow or manage for forest regeneration, succession, and varied habitats and forms, through processes including prescribed fire, and mechanical treatments as described in the Unit Fire Management Plan.

The effect of the fire plan is included in the completed environmental assessment form for this unit management plan and the corresponding negative declaration. An environmental assessment will also be prepared for each individual prescribed burn of an area greater than ten acres.

Action A.1.4 - Control populations of selected wildlife species through hunting and other appropriate means.

Species capable of overbrowsing and thus detrimentally affecting the vegetative community will be controlled through managed hunting opportunity. Deer control is necessary for the maintenance of overall ecosystem health. Overabundant deer can prevent natural recruitment of seedlings and saplings into the overstory as well as alter the species composition of understory plant communities. These changes in turn can lead to a decrease in the diversity of fauna that depend upon diverse vegetative communities. The Bureau of Wildlife will continue to provide public hunting opportunities and will adjust seasons accordingly to make sure overabundant species are kept in check.

Action A.1.5 - Identify and acquire from willing sellers adjacent parcels of land that would enhance protection of the unit's resources.

Action A.1.6 - Work with the New York State Invasive Plant Council and the Long Island Weed Management Task Force to manage invasive plants through a multi-faceted approach including prevention, early detection, removal, control, and education.

Action A.1.7 - Monitor insect and disease occurrences relative to their effect on the health of the biological systems in the planning unit. Coordinate with U.S. Forest Service and DEC Central Office to develop control measures for gypsy moths, orange striped oakworms, and other pests if necessary.

Objective A.2 - Protect and enhance populations of rare, endangered, and other selected species, and their habitats.

Action A.2.1 - Utilize the Natural Heritage Program inventory information to ensure protection of sensitive species and habitats.

Listed terrestrial vertebrates identified in the Natural Heritage database for the Peconic Headwaters area include the endangered tiger salamander and Northern cricket frog, and special concern species: grasshopper sparrow, vesper sparrow, whippoorwill.

Action A.2.2 - Survey and/or monitor populations of selected species of plants and animals (e.g., annually survey bobwhite quail and tiger salamander populations) and when necessary, formulate and implement management actions to ensure that desirable populations are maintained.

Terrestrial vertebrates of concern include game species such as Northern bobwhite and Eastern wild turkey as well as listed species including state endangered tiger salamanders and northern cricket frogs as well as species of special concern such as the grasshopper sparrow, eastern hognose snake, box turtle and spotted turtle (*Clemmys guttata*).

Bobwhite quail are surveyed annually during the peak of the quail mating period in late June - early July along established routes throughout the Peconic Headwaters area. Each route, through which is run twice over successive mornings just after dawn, has 7-10 survey points, each of which is visited for an eight minute period during which all bobwhite calls are recorded. The results of surveys are used to target areas in need of habitat management for quail and also to gauge the impact of hunting on quail populations. In conjunction with data on quail take obtained at the Ridge Hunter Check Station during the course of the small game season, the survey results will provide the basis for recommendations to alter the season or limit the areas open to quail hunting.

Turkey populations will be surveyed following the Department of Environmental Conservation's Bureau of Wildlife protocol as it is defined in the New York State Turkey Management Plan. Results from these surveys will be used to track the size and distribution of the turkey population and will be used to address any future proposals to open turkey seasons in Region 1.

Tiger salamander breeding ponds on the property have been surveyed since 1984. Though annual surveys are an objective of the endangered species program, limitations of staff and resources have generally resulted in most ponds being surveyed only every 2-3 years. When surveyed, ponds are examined in mid-winter, when ponds first thaw, for the presence of adult breeding salamanders and the presence of egg masses. Adult surveys are conducted at night when the salamanders are active. Egg mass surveys can be conducted at the same time with flashlights or during the daytime. Ponds are then revisited in late June and seined to capture immature salamanders before they leave the pond in late July. During these surveys, all species captured are recorded, so the surveys double as a monitoring tool for all amphibian populations at these locations. The presence and abundance of immature salamanders is used to estimate productivity, and the surveys in general are used to monitor the health and distribution of the species.

When tiger salamander ponds (generally ephemeral pools with submerged aquatic vegetation present) are disturbed such that future productivity of salamanders at that location becomes doubtful, management actions will be taken to restore the pond back to desirable conditions. Factors triggering management actions include, but are not limited to: illegal stocking of tiger salamander ponds with fish, degradation of subaquatic vegetation due to heavy use or invasive species, shoreline disturbance, altered hydrology resulting in the presence of standing water year-round. Management actions include, but are not limited to: removal of introduced fish species through application of acceptable pesticides, water level management to restore the hydrology of the pond to ephemeral status (standing water not present year round); closure of the pond to uses deemed detrimental to the persistence of tiger salamanders, vegetation management to restore desirable species.

The Regional Freshwater Fisheries Unit will continue to monitor populations of the threatened banded sunfish in the Peconic Headwaters unit and throughout the Peconic River system, which is the entire range of this species in New York State. Monitoring will include periodic seine and electrofishing surveys conducted in conjunction with the Bureau of Fisheries Endangered Species Unit. Locations of banded sunfish populations will be provided to the Habitat Inventory Unit for inclusion in the Natural Heritage Database. Physical habitat values (water levels and vegetative cover), water chemistry (water temperature, pH, conductivity and dissolved oxygen) and population parameters (relative abundance, size distributions and other species present) will also be monitored and the results maintained in the Bureau of Fisheries Database. The entire New York State range of the banded sunfish will be monitored on a five-year rotation with every known banded sunfish population assessed once every five years. Other waters in the range, where banded sunfish have not been documented, will be checked for banded sunfish at least once every ten years.

Objective A.3 - Maintain and enhance old field/grassland habitat.

Action A.3.1 - Use prescribed burning, mechanical removal, and other appropriate methods to control invading shrub and tree species and encourage growth of native plants in selected areas. All burning will be done in accordance with the Fire Management Plan in the appendix and will use an individual fire plan for each unit.

About 60 acres of old fields/grasslands in the area south of Grumann Boulevard and east of Wading River-Manorville Road will continue to be actively managed using mowing, prescribed burning, and hand cutting on various portions of the area each year. A three acre open area between Grassy and Sandy ponds, west of Wading River Road, will also be maintained as oldfield/grassland. A 30 acre former agricultural field east of the Calverton Economic Development Zone is now being managed as grassland habitat and will be mowed and/or burned as needed. Approximately 100 acres of fields at the Eastport property will also be mowed, burned, and hand cut as needed to maintain the area for grassland nesting birds and other wildlife. The 122 acres of land between Route 25A and Fresh Pond Avenue, that were leased for farming when the Department of the Navy owned the property, will also be managed as old

field/grassland habitat for wildlife. The Navy had discontinued leasing these fields prior to transferring them to DEC and the legislation enabling the transfer specifically requires that the entire property be managed as a wildlife preserve.

Following either mowing or burning, woody vegetation that is missed by the mower or that is not killed by burning will be mechanically removed. Hand tools will generally be used in conjunction with limited use of chain saws and motorized trimmers. Only vegetation with stems less than four inches in diameter (measured at 4.5 feet above root flare) will be removed without explicit approval of the DEC regional director. Individual plants or groups of plants to be saved will be identified. Volunteers will be supervised by Department staff.

A large portion of the woody stems not consumed by prescribed burning were mechanically removed on the big field area north of the power line road during the second week in April 2001, one week after the burn. Subsequent field evaluation of remaining woody plants during the first week in May indicated that most (~95%) of the woody plant stems had been killed by the prescribed burn but that they were resprouting from the base. Periodic removal of the new growth on woody plants would deprive the invasive plants of new food from photosynthesis - weakening the plants and eventually killing them. Cutting of the new growth on woody plants could possibly be done after a prescribed burn when sufficient resprouting of woody plants has occurred but prior to the area becoming suitable again for bird breeding. Removal of new growth on woody plants could also be done after young birds have fledged in mid-August.

Multiple treatment (burning, mowing, and/or cutting) to repress woody vegetation will continue each year. Fields that are heavily overgrown with woody plants will probably need treatments in successive years. Fields relatively free of woody invasives may only need occasional treatment.

Time periods during which burning and mowing may be implemented in a field that is not being rested are from February 1 through April 30, and from August 15 through December 31. The Department currently does, and will continue to grant burn window extensions until May 15 as long as a pre-burn inspection for nesting birds is conducted within 3 days of the proposed burn.

As mentioned previously, none of the fields in the area used for field trials currently receive complete rest from disturbance by sporting dog field trials and training during the bird breeding season. Alternately excluding one-third of the field areas from field trials, dog training, mowing, and prescribed burning for an entire year would provide field nesting birds with at least one large undisturbed breeding area for an entire season as well as habitat for all wildlife for a complete year. Because prescribed burning temporarily degrades habitat for some species by removing the tall, dead grasses, burning will not be done in the fall prior to a field being rested, but can be done in the fall of the year after a field has been rested. Partial or strip mowing can be done in any year prior to arrival of birds in the spring or after birds have left in the fall.

In order to have field areas of roughly equal size so that a rotation system can be implemented, the current designations used to identify the field areas will be modified. The current area C

combined with the current area B north will be referred to as the Line Road Fields and will be one of the fields to be rested in alternate years. The current area B west, north of the old power line will be referred to as Big Field North and will not be in the rest rotation system; and the current area B west, south of the power line will be referred to as Big Field South and will be rested in alternate years. The following map and table illustrates the rest-rotation system for the area.

Since the spring of 2000, DEC has used data from prescribed burning and mowing operations to determine the relative time (work hours) and cost required to burn an area versus mowing the same area. In addition, the effectiveness of burning versus mowing needs to be evaluated. Comparison of other benefits and costs of burning and mowing such as the value of prescribed burning for training staff in fighting wildfires also need to be considered.

Mowing will continue on an as needed basis to remove invasive woody growth that is not controlled in the annual burn program. To maintain a diversity of grassland habitat features, grasslands will be allowed to undergo various degrees of succession before being burned or mowed.

Action A.3.2 - Plant native grassland species in selected areas.

The former agricultural fields on the Fresh Pond area of Otis Pike, the old fields between Grumman Boulevard and Wading River - Manorville Road, on the Eastport property, and the former 30 acre agricultural field east of the Riverhead Economic Development Zone on the north side of Grumman Boulevard will be managed as preserves for grassland birds and native grassland plants. A partnership with federal government agencies including United States Fish and Wildlife Service and United States Department of Agriculture as well as wildlife-interest groups such as the National Wild Turkey Federation will be forged to address the needs for grassland restoration at these locations. Additional restoration of native grassland species may be pursued pending the success of initial attempts.

Objective A.4 - Restore degraded habitats to a natural condition.

Action A.4.1 - As areas become degraded through improper use or other causes, various soil stabilization techniques will be employed and appropriate native plant species planted to restore degraded habitats and unnecessary trails and roads.

Action A.4.2 - Prevent establishment of, control, and/or eradicate invasive and exotic species from grassland and wetland habitats. When exotic plant species compromise the persistence of native resources, they will be removed by utilizing the most effective and environmentally sound method available.

Action A.4.3 - Illegally stocked fish will continue to be removed from sensitive wetland areas if the presence of the introduced fish is determined to be detrimental to native species.

Objective A.5 - Provide a safe environment for all users and facilitate activities by administrative and emergency personnel.

Action A.5.1 - As hazardous conditions or situations are identified, they will be corrected by the DEC Operations Division.

Action A.5.2 - Evaluate and maintain sufficient administrative roads.

Action A.5.3 - As additional properties are acquired or as development occurs adjacent to the unit, additional areas where hunting is prohibited (restricted zones) will be designated. Buffer areas of 500' from existing buildings and occupied areas will be demarcated with Restricted Area - No Hunting signage.

Objective A.6 - Utilize the knowledge and volunteer efforts of individuals and groups who are familiar with and use these properties to assist with stewardship of the unit.

Action A.6.1 - Organize and establish a communication network to report violations and problems, address user interests and conflicts, obtain suggestions, coordinate volunteer activities, and discuss pertinent issues.

Action A.6.2 - Utilize the "Adopt A Natural Resource" program as appropriate.

Objective A.7 - (Deleted) This objective had stated that agricultural use would be allowed to continue on a portion of the property. However, the federal legislation allowing transfer of the property to New York State required that it be managed as a nature preserve. Agricultural use would have been incompatible with a nature preserve.

Objective A.8 - Protect against destructive wildfires, manage habitat, and provide a safe environment on the unit and adjacent properties.

Action A.8 - Implement and monitor the Fire Management Plan in the appendix.

Objective A.9 - Coordinate natural resources management with adjacent public land owners.

Action A.9 - Continue participation as members of the Long Island Pine Barrens Commissions' Protected Lands Council, Wildfire Task Force, Law Enforcement Council, and associated subcommittees.

Objective A.10 Increase proactive enforcement patrols and other efforts to prevent illegal activities such as use of motorized vehicles and dumping.

Action A.10.1- Coordinate multi-agency patrols for illegal ATV use.

The use of multiple agencies in stings and clean ups has been a benefit to the resource already. The continued use of ATV enforcement with the outlook of impounding the vehicles is a deterrent to illegal users.

Action A.10.2 - Post sensitive area signs and enforce protection of those areas.

Ponds, streams, and other wetlands will be posted as sensitive areas and will be accorded the highest priority for protection from illegal use. Group use with a Temporary Revocable Permit will be limited or excluded in these areas.

Objective A.11 - Maintain, rehabilitate, or demolish existing structures.

Action A.11.1 - Rehabilitate the old potato barn on Grumman Boulevard and use it for storage of equipment and supplies.

Action A.11.2 - Rehabilitate the small building near the Edward's Avenue Dam and use it as an information center.

Action A.11.3 - Rehabilitate the 'A' frame building on the Eastport property for use as hunter safety training or a ranger station and equipment storage.

Action A.11.4 - Demolish the old barn adjacent to the "A" frame as it is not constructed in accordance with modern building standards.

Objective A.12 - Restore migratory fish to the upper reaches of the Peconic River.

Action A.12.1 - Mitigate barriers to fish migration at the LIPA, Forge Pond, and Edward's Avenue Dams.

B. RECREATION

Goal - Provide a range of recreational opportunities that are compatible with the protection of the natural resources of the unit. Preference will be given to natural resource related activities, especially the traditional pursuits of hunting, trapping, fishing, hiking and nature study.

Objective B.1 - Continue to provide outdoor recreational opportunities under the daily and/or seasonal access permitting system for the following activities: hiking, horseback riding, bicycling, small game hunting, archery deer hunting, firearm deer hunting, night hunting for raccoon and fox, trapping, dog training, fishing, and boating.

Action B.1 - Evaluate current and potential levels of use to determine all of their effects.

Every year the Regional Natural Resources Unit will conduct a survey of State Land Access Permit holders to determine the level and types of use by permit holders. This will allow the Department to monitor the levels of use by permittees .

The Bureau of Wildlife keeps annual records on the numbers of Daily Access Permit holders on the property. This allows the Department to monitor the level of use by the hunting public during the intensive use periods of the annual small game season and January special firearms season.

All persons obtaining permits for fishing on the Peconic River Headwaters Management Area will be encouraged to join the Freshwater Fisheries Angler Diary Program. This will provide feedback to the Department on the quality of fishing in the waters of the unit.

Objective B.2 - Provide opportunities for the sport of falconry under the seasonal access permitting system.

Falconry will be permitted under the seasonal access program and is limited to the months of October and February and weekends in January only. Only game in season may be taken.

Objective B.3 - Allow continuation of sporting dog field trials, fox hunting with hounds and horses, and other appropriate activities through issuance of temporary revocable special-use and group permits (TRPs).

Action B.3 - Evaluate effects of current and potential levels of use.

Sporting dog field trials will not be permitted during small game and firearm deer hunting and bird breeding seasons. Fox hunting with hounds and horses will continue to be permitted through issuance of TRPs as long as activities do not occur on weekends or other busy small game hunting times in November or December, or weekdays during the January firearm deer season.

Objective B.4 - Provide trails for hiking, bicycling, and horseback riding.

Action B.4.1 - Designate selected existing roads and trails for hiking, horseback riding, and bicycling.

Action B.4.2 - Regularly monitor and evaluate the trail system. Perform maintenance as needed, open and close trails, and modify the trail system as appropriate to correct undesirable conditions.

Objective B.5 - Maintain and improve the existing fishing access, boat/canoe launching sites and parking areas, and assess possible development of new sites.

The angler parking areas on the Peconic Headwaters Unit have been inspected by the Regional Fisheries and Operations Units and the following needs have been identified for these sites:

Action B.5.1 - Jones Pond, Angler Site 2 Otis Pike Preserve, Wading River Road: This site needs to be designed for two car parking. The current parking area is a trail head for the Paumanok Trail and is on the inside of a curve in the road making this an unsafe parking area. There is a cleared area immediately south of the trail that is on County land. Developing a cooperative agreement with the County to place a small parking area on the County owned land will provide better parking access for trail users and anglers. Access to the trail and the pond from the cleared area involves crossing a freshwater wetland so there are permitting issues that need to be addressed. The Regional Fisheries Unit will coordinate with the County on the cooperative agreement and initiate the permitting process.

Action B.5.2 - Prestons Pond, Angler Site 5 Otis Pike Preserve, Grumman Boulevard: This site needs to be designed for two car parking. This is a relatively simple matter of moving some poles to allow space for two cars to park. Wetlands are not an issue, but a Wild, Scenic, and Recreational River System (WSRRS) Permit will be needed. The Regional Fisheries Unit will initiate the permit application process when drawings are complete.

Action B.5.3 - Peconic River, Angler Site 7 Otis Pike Preserve, River Road: This parking area was historically located well off the road and was ultimately closed because of dumping problems. Access to this area can be provided as effectively by moving the site east about 1/4 mile to where the gated roadway goes into the property and crosses the river. This location is where the Fisheries Unit stocks trout. A design for a two car angler parking area at this location is needed. Wetlands are not an issue, but a WSRRS Permit will be needed. The Regional Fisheries Unit will initiate the permit application process when drawings are complete.

Action B.5.4 - Peconic River at Edwards Avenue Fishing Access and Canoe Launch:

- a) The most important issue here is the deteriorated condition of this dam. There is water coming through the concrete wall of the dam. Funding for dam repair needs to be investigated as soon as possible. The Dam Safety Unit has inspected the dam and recommended that an engineering study be completed. The Regional Operations Unit has applied for funding to conduct the engineering study and repair the dam.
- b) This location should have a parking area for two or three cars with curb cuts on Edwards Avenue. The parking area would be set up so that it could only be entered from Edwards

Avenue southbound and cars leaving the site would have to go southbound on exiting. Parking should not be permitted adjacent to the river. This would provide for hand launch of boats and canoes, not trailer launch at this location. This will need wetlands and WSRRS permits and more coordination within the Natural Resources Unit and with Suffolk County Department of Public Works.

- c) The turkey wire fence should be replaced with a wood fence. If the original permit for this project is still in force, this work can probably be done under that permit.
- d) Assess potential to rehabilitate the building on this site for use as an information center.
- e) The adjacent property on Mill Road has been acquired from Suffolk County and will be developed as a parking area for fishing and boating access to the impoundment above the dam.

Action B.5.5 - Upper Peconic Fishing Access Site, Angler Site 8 Otis Pike Preserve, Mill Road:

- a) Finish guard rail work - Done May 2001
- b) Add one or two steps on the trail - Done May 2001
- c) Grade and gravel parking area. - Done May 2001
- d) Plant rugosa rose or other ground holding vegetation on the eroded slope and protect with snow fence Plants have been ordered and were scheduled for planting spring 2002.
- e) Install small kiosk - Done May 2000.

Action B.5.6 - Forge Pond Fishing Access Site:

- a) Determine feasibility of installing a concrete ramp for launching small trailered boats at this location.
- b) Redesign parking and access drive to accommodate trailers and improve ingress and egress.
- c) Move parking areas closer to the road to reduce unauthorized activities. Design for ten cars and five cars with trailers.

Action B.5.7 - Canoe Lake:

Access to Canoe Lake is presently very limited because anyone wishing to access the lake must cross a privately owned golf course. The Department will investigate the possibility of negotiating a cooperative agreement with adjacent landowners to provide better access to Canoe Lake for fishing.

Action B.5.8 - Swan Pond:

The State owned land on the east shore of Swan Pond is entirely surrounded by land owned by Suffolk County Department of Parks, Recreation, and Conservation. Providing access to Swan Pond for fishing will require negotiating a cooperative agreement with Suffolk County to develop a parking area on County park land and a foot trail across county park property to the pond. The foot trail would be from 0.25 to 0.75 miles depending upon the location of the parking area. The Regional Fisheries Unit will initiate discussions with Suffolk County on the feasibility of developing an access trail to Swan Pond for angler access.

Objective B.6 - Evaluate the need and appropriateness for adjusting use levels and modifying facilities as the demand changes and as new properties are acquired.

Action B.6 - Monitor the effects of current use levels and the quality of recreational experiences.

The annual survey of permit holders discussed under Action B.1 will provide a technique for determining the quality of the recreational experiences in the unit. The reporting of the number of daily access permits issued will provide a measure to monitor changes in use during hunting seasons.

The Angler Diary Program discussed in Action B.1 will provide feedback on the quality of the angling experience in the waters in the unit.

Objective B.7 - Develop and provide informational materials on recreational opportunities.

Action B.7 - Produce and distribute recreational use maps which include trails, parking areas and other pertinent information.

The Regional Fisheries Unit will prepare an updated brochure on fishing access, regulations and opportunities in the Peconic Headwaters Unit Management Area. This brochure will be completed by the end of FY 2002/2003.

The Bureau of Wildlife prepares updated maps of the management area on an annual basis and distributes them from the Regional License Office and the Ridge Hunter Check Station.

Objective B.8 - Continue and improve upon proactive patrols during recreational activities to ensure safe and legitimate use.

Action B.8.1- Ensure that all illegal trails are posted as such, closed and enforced.

Action B.8.2 - Ensure proper compliance with access permits and TRPs.

Objective B.9 - Provide opportunities for people with disabilities to access as much of the planning unit as feasible.

Action B.9 - Conduct an assessment during the first year of implementation to determine ways in which the area can be made more accessible to people with disabilities.

C. EDUCATION and RESEARCH

Goal - Use the area for outdoor education and research which will develop a sense of stewardship and responsible use of the area and increase understanding of the unit's natural and cultural resources. Increase public awareness and understanding of the unit's ecosystems and the relationship between natural systems and people.

Objective C.1- Provide opportunities for educational activities which will develop an understanding and appreciation of the unit's natural resources, their management, and the opportunities for using the area.

Action C.1.1 Encourage educational field trips by local schools.

Objective C.2 - Develop educational materials that describe the fish, wildlife, plants and ecosystems of the unit.

Action C.2.1 - Create and install interpretive signs at access points to inform users about the area's natural resources and their value.

Action C.2.2 - Produce educational brochures describing the various natural communities on the management unit.

Action C.2.3 - Install kiosks at selected parking areas to display informational materials in an aesthetically pleasing manner.

Action C.2.4 - Install facility signs at selected locations.

Action C.2.5 - Establish a presence on the Internet.

Objective C.3 - Encourage monitoring and research activities which will add to the knowledge of the natural resources of the area and aid in management of them.

Action C.3.1 - Partner with researchers for assistance in developing management strategies.

Action C.3.2 - The property will be made available for the testing of new trapping techniques to individuals and entities that have the required permits and licenses.

Action C.3.3 - Establish a data base with maps of locations of all past and present research and monitoring plots.

Action C.3.4 - Partner with the Central Pine Barrens Commission, the Foundation for Ecological Research in the Northeast (FERN), and the Nature Conservancy to maintain a monitoring data base focusing on:

- . Updating and expanding NY Natural Heritage Program records.
- . Monitoring effects of prescribed and wild fires.
- . Monitoring long term changes in forest cover types and forest health.
- . Monitoring for changes in invasive plant and animal species.

Objective C.4 - Protect archaeological sites and make them available for research.

The historic and archaeological sites located within the unit as well as additional unrecorded sites that may exist on the property are protected by the provisions of the New York State Historic Preservation Act (SHPA - Article 14 PRHPL), Article 9 of Environmental Conservation Law, 6NYCRR Section 190.8 (g) and Section 233 of Education Law. No actions that would affect these resources are proposed in this unit management plan. Should any such actions be proposed in the future they will be reviewed in accordance with the requirements of SHPA. Unauthorized excavation and removal of materials from any of these sites is prohibited by Article 9 of Environmental Conservation Law and Section 233 of Education Law. In some cases additional protection may be afforded these resources by the federal Archaeological Resources Protection Act (ARPA).

The archaeological sites located on this land unit as well as additional unrecorded sites that may exist on the property may be made available for appropriate research. Any future archaeological research to be conducted on the property will be accomplished under the auspices of all appropriate permits. Research permits will be issued only after consultation with the New York State Museum and the Office of Parks, Recreation and Historic Preservation. Extensive excavations are not contemplated as part of any research program in order to assure that the sites are available to future researchers who are likely to have more advanced tools and techniques as well as more fully developed research questions.

D. MANAGEMENT PLAN REVIEW

Goal - Provide a means to assess implementation and effectiveness of the management plan.

Objective D.1 - Conduct an annual review, and additional reviews as necessary, by the UMP team to assess implementation progress, effectiveness of actions taken, and to revise or modify the plan as appropriate.

Action D.1.1 - Determine annual budgetary needs (including, but not limited to rehabilitation and improvements, stewardship, and capital construction).

By August 1 every year develop a program plan and budget for the following fiscal year.

By April 1 every year complete a schedule for implementing planned activities for that fiscal year.

Action D.1.2 - Provide additional input to Departmental annual work plans.

Action D.1.3 - Management team will meet periodically as needed to discuss and address management issues.

SECTION V. PROJECTED USE AND MANAGEMENT

A. Facilities

The old potato barn on Grumman Boulevard will be repaired and used for storage of equipment such as a tractor and boats.

The small brick building near Edwards Avenue Dam will be used as an information center.

The 'A' frame on the Eastport property will be renovated and used for hunter safety training or a ranger field station and equipment storage. The adjacent barn is structurally unsound and will be demolished.

B. Natural Resources

The overriding goal for managing the Peconic Headwaters Unit is the protection of its natural resources. The diverse natural resources of the unit will be protected utilizing a multifaceted approach including aggressive law enforcement, environmental education, active monitoring of the condition of the resources and the effect of various activities upon them, control of invasive species, continuation of the hunting program to control wildlife populations, habitat restoration and management, wildfire control and prescribed burning, coordination with adjacent land owners, acquisition of appropriate contiguous parcels, and utilization of the resources available from land users and stewardship volunteers. Specific actions are described in the previous section of this UMP. The estimated costs and priorities for each action are tabulated in section VI.

C. Public Use Management

1. *Access* The Department will continue to implement the permit system for users of the unit. The permit system was evaluated by the Natural Resources staff and it was determined that it is an important management tool, because of the recreational pressure placed on this unit. The permit system allows the Department to control and monitor recreational use on the properties. It provides an opportunity to establish contact with the users, inform them of the variety of activities available, and educate them about the important benefits of protecting the natural resources. The permit system incorporates safety procedures and requirements which make for a safe and enjoyable experience for all users.

Individuals can obtain a three-year State Land Access Permit for the following activities: hunting, hiking, bicycling, boat launching, fishing, trapping, dog training, cross-country skiing, horseback riding, and falconry. These permits can be obtained from the regional office at Stony Brook and there is no fee.

For any organized or group events, or special activities a temporary revocable permit must be obtained for the legal use of the unit. These permits can be obtained from the regional office at Stony Brook, and may require liability insurance and an application fee.

Permits will not be issued for the commercial use of the unit.

2. The Americans with Disabilities Act (ADA) and Its Influence on Management Actions for Recreation and Related Facilities

The Americans with Disabilities Act (ADA), along with the Architectural Barriers Act of 1968 (ABA) and the Rehabilitation Act of 1973; Title V, Section 504, have had a profound effect on the manner by which people with disabilities are afforded equality in their recreational pursuits. The ADA is a comprehensive law prohibiting discrimination against people with disabilities in employment practices, use of public transportation, use of telecommunication facilities and use of public accommodations. Title II of the ADA applies to the Department and requires, in part, that reasonable modifications must be made to its services and programs, so that when those services and programs are viewed in their entirety, they are readily accessible to and usable by people with disabilities. This must be done unless such modification would result in a fundamental alteration in the nature of the service, program or activity or an undue financial or administrative burden to the Department. Since recreation is an acknowledged public accommodation program of the Department, and there are services and activities associated with that program, the Department has the mandated obligation to comply with the ADA, Title II and ADA Accessibility Guidelines, as well as Section 504 of the Rehabilitation Act.

The ADA requires a public entity to thoroughly examine each of its programs and services to determine the level of accessibility provided. The examination involves the identification of all existing programs and services and a formal assessment to determine the degree of accessibility provided to each. The assessment includes the use of the standards established by the U.S. Department of Justice rule as delineated by the Americans with Disabilities Act Accessibility Guidelines (ADAAG, either adopted or proposed) and/or the New York State Uniform Fire Prevention and Building Codes, as appropriate. Each unit management plan prepared by the Department will outline a proposed assessment process and a schedule for completing the assessment. This activity is dependent on obtaining an inventory of all the recreational facilities or assets supporting the programs and services available on the unit. The assessment will also establish the need for new or upgraded facilities or assets necessary to meet ADA mandates. The Department is not required to make each of its existing facilities and assets accessible. The facilities or assets proposed in this UMP are identified in the "Management Actions" section.

The Americans with Disabilities Act Accessibility Guidelines (ADAAG)

The Americans with Disabilities Act (ADA) requires public agencies to employ specific guidelines which ensure that buildings, facilities, programs and vehicles as addressed by the ADA are accessible in terms of architecture and design, transportation and communication to individuals with disabilities. A federal agency known as the Access Board has issued the ADAAG for this purpose. The Department of Justice rule provides authority for these guidelines.

Currently adopted ADAAG address the built environment: buildings, ramps, sidewalks, rooms within buildings, etc. The Access Board has proposed guidelines to expand ADAAG to cover outdoor developed facilities: trails, campgrounds, picnic areas and beaches. The proposed ADAAG is contained in the September, 1999 Final Report of the Regulatory Negotiation Committee for Outdoor Developed Areas.

ADAAG apply to newly constructed structures and facilities and alterations to existing structures and facilities. Further, it applies to fixed structures or facilities, i.e., those that are attached to the earth or another structure that is attached to the earth. Therefore, when the Department is planning the construction of new recreational facilities, assets that support recreational facilities, or is considering an alteration of existing recreational facilities or the assets supporting them, it must also consider providing access to the facilities or elements for people with disabilities. The standards which exist in ADAAG or are contained in the proposed ADAAG also provide guidance to achieve modifications to trails, picnic areas, campgrounds (or sites) and beaches in order to obtain programmatic compliance with the ADA.

ADAAG Application

Current and proposed ADAAG will be used in assessing existing facilities or assets to determine compliance to accessibility standards. ADAAG is not intended or designed for this purpose, but using it to establish accessibility levels lends credibility to the assessment result. Management recommendations in each UMP will be proposed in accordance with the ADAAG for the built environment, the proposed ADAAG for outdoor developed areas, the New York State Uniform Fire Prevention and Building Codes, and other appropriate guiding documents. Until such time as the proposed ADAAG becomes an adopted rule of the Department of Justice, the Department is required to use the best information available to comply with the ADA; this direction includes the proposed guidelines.

3. *Motorized vehicles* Motorized vehicles will be restricted to the designated parking areas. Efforts will be undertaken to prevent all unauthorized motorized access to the property. Access points will be blocked with earthen berms or gates. Motorized vehicles authorized through temporary revocable permit will be limited to existing administrative roads. A permit may also be issued for the use of a motorized vehicle on the unit to provide access for mobility impaired persons.

4. *Signs* Signs will be able to withstand vandalism and the weather. Signs will be located as follows:

- Identification sign for key entrance ways,
- Posting signs for boundary,
- Restricted signs for non-hunting areas,
- Educational/informational kiosks at trail heads, to include: a map of the unit, rules and regulations, recreational activities available, historical and natural history, interpretive signs and public safety signs (ticks, poison ivy, etc.),

- Trail identification markers located at intervals along the trails,
- Parking/no parking signs for designated areas and gates,
- Interpretive signs at designated stops along the trails.

5. *Trail usage* Designated and marked trails are restricted to their specific type of use only. Bikers and horseback riders may use existing roads. Hikers may use existing roads and trails.

6. *Field Trials* Field trials will be permitted through the TRP process. Based on the completion of the grassland management plan, certain fields will be left untouched in any given year and will be off limits for field trials. The gravel pit ponds on Wading River - Manorville Road will be off-limits to field trial activities from November 1 - August 1.

SECTION VI. MANAGEMENT ACTIONS: STAFFING AND BUDGET

(NPS = non personal services)

Management Action	One Time Action			Recurring Annual Actions		
	Staff Days	NPS Cost \$	Priority	Staff Days	NPS Cost \$	Priority
<i>A. Stewardship</i>						
Action A.1.1 - Exclude motorized vehicles and stop trash disposal by closing access points and strictly enforcing laws and regulations.						
Forestry	2	500	1	2	500	1
Rangers	4	500	1	104	20,000	1
Operations		15,000	1		15,000	1
Action A.1.2 - Monitor the effect of existing uses to determine any necessity for corrective actions or adjustments in use.						
Forestry	5	300	2	10		2
Action A.1.3 Implement the unit fire management plan to reduce the risk of destructive wildfires.						
Rangers	10	70,000		50		
Action A.1.4 - Control populations of selected wildlife species through hunting and other appropriate means.						
Wildlife				110	3,000	1
Action A.1.5 - Identify and acquire adjacent parcels of land whose acquisition would enhance protection of the unit's resources.						
Real Property				5		
Forestry				2		1
Rangers	5					
Action A.2.1 - Utilize the Natural Heritage Program inventory information to ensure protection of sensitive species and habitats.						
Wildlife	2					
Habitat						
Action A.2.2 - Survey and/or monitor populations of selected species of plants and animals (e.g., annually survey bobwhite quail and tiger salamander populations) and when necessary, take management actions to ensure that desirable populations are maintained.						
Fisheries - Banded Sunfish Surveys				10	100	1
Wildlife				30	500	1

Management Action	One Time Action			Recurring Annual Actions		
	Staff Days	NPS Cost \$	Priority	Staff Days	NPS Cost \$	Priority
Action A.3.1 - Use prescribed burning, mechanical removal, and other appropriate methods to control invading shrub and tree species in selected areas. Forestry Rangers Wildlife	4 40	1,000	1	4 40 15	1,000	1 1
Action A.3.2 - Plant native grassland species in selected areas. Forestry Wildlife	1 10		2 2	1		2
Action A.4.1 - Use various soil stabilization techniques and establish appropriate native plant species to restore degraded areas. Forestry	2		3	2		2
Action A.4.2 - Remove invasive and exotic species when possible. Forestry Fisheries - Coordinate occasional rotenone treatment Wildlife	2		2	2 1 5	500 500	2 2 2
Action A.5.1 - Locate and remove hazardous items and material. Correct hazardous or dangerous conditions and situations. Forestry Rangers	1 4		1	1 2		1
Action A.5.2 - Evaluate and maintain sufficient administrative roads. Forestry Operations	2		3	2		3
Action A.5.3 - Identify areas where hunting is prohibited (restricted zones). Forestry Wildlife Rangers	1 2		1	1 5 2		1 1
Action A.6.1 - Organize and establish a communication network to report violations and problems, address user interests and conflicts, obtain suggestions, coordinate volunteer activities, and discuss pertinent issues. Forestry Rangers	10 10		2	10 5		2

Management Action	One Time Action			Recurring Annual Actions		
	Staff Days	NPS Cost \$	Priority	Staff Days	NPS Cost \$	Priority
Action A.6.2 - Utilize the "Adopt A Natural Resource" program as appropriate. Forestry Rangers	2 4		2	2 4		2
Action A.8 - Implement and monitor a fire management plan. Forestry Rangers	2 20		1	2 20		1
Action A.9 - Continue participation as members in the Protected Lands Council. Forestry Rangers	30 12		1	30 12		1
Action A.10.1 Coordinate multi-agency patrols for ATV use. Rangers			1	52	6,000	1
Action A.10.2 Post sensitive area signs and enforce protection of those areas. Rangers	12		1	12		1
Action A.11.1 Rehab and maintain Grumman Blvd. potato barn. Operations	8	3,000	3	1	200	3
Action A.11.2 Rehab and maintain building at Edward's Avenue Dam. Operations	10	4,000	3	1	200	3
Action A.11.3 Rehab and maintain 'A' frame at Eastport. Operations	20	5,000	3	1	200	3
Action A.11.3 Demolish old barn next to 'A' frame.	4	1,000	3	-	-	-
Stewardship Totals :		One-time Costs				
					Annual Costs	
				558	47,700	
<i>B. RECREATION</i>						
Action B.1 - Evaluate current and potential levels of use to determine all of their effects (access permit activities). Fisheries - Angler Diary Program Forestry Wildlife Rangers	10 10		2	15 10 10 5		2 2
Action B.2 - Manage falconry use. Wildlife				1		2

Management Action	One Time Action			Recurring Annual Actions		
	Staff Days	NPS Cost \$	Priority	Staff Days	NPS Cost \$	Priority
Action B.3 - Evaluate effects of current and potential levels of use (TRP activities). Forestry Rangers	10 10		2	10 5		2
Action B.4.1 - Use selected existing roads and trails to establish a network of marked trails for hiking, horseback riding, and bicycling. Forestry Rangers	5 10		2	5 5		2
Action B.4.2 - Regularly monitor and evaluate the trail system. Perform maintenance as needed; open and close trails, and modify the trail system as appropriate to correct undesirable conditions. Forestry Rangers Operations	2 10	10,000	2	2 5		2
Objective B.5 - Maintain and improve the existing fishing access, boat/canoe launching sites, and parking areas and assess possible development of new sites. Fisheries/Operations - Design and build/upgrade 6 Angler Parking Areas Operations - Routine maintenance of Angler Parking Areas Fisheries - Negotiate with adjacent landowners for access to Canoe Lake and Swan Pond	50 15	100,000	1 2	20	1,000	1
Action B.7 - Monitor the impacts of current use levels and the quality of recreational experiences. Forestry Rangers	4 10		2	4 5		2
Action B.8 - Produce and distribute recreational use maps which include trails, parking areas and other pertinent information. Fisheries - Revise fishing brochure and keep it current. Forestry Wildlife Rangers	5 1 10		1 2	1 1 10 5		1 2 1
Action B.9.1- Insure that all illegal trails are posted as such, closed and enforced. Forestry Rangers	1 10		2	1 10		2

Management Action	One Time Action			Recurring Annual Actions		
	Staff Days	NPS Cost \$	Priority	Staff Days	NPS Cost \$	Priority
Action B.9.2 - Insure proper compliance with access permits and TRPs. Forestry Rangers	21 40		2	21 40		2
Recreation Totals: One-time Costs	234	110,000				
Annual Costs				191	1,000	
<i>C. EDUCATION and RESEARCH</i>						
Action C.2.1 - Create and install interpretive signs at access points to inform users about the area's natural resources and their value. Forestry Wildlife Operations	2 5	600 3,000 2,000	2 2	1	100	2
Action C.2.2 - Produce educational brochures describing the various natural communities on the management unit. Forestry Rangers	2 10	5,000	3	1 5		3
Action C.2.3 - Install kiosks at selected parking areas to display informational materials in an aesthetically pleasing manner. Forestry Operations	2	600 9,000	2	1	300	2
Action C.2.4 - Install facility signs at selected locations. Forestry Operations	2	5,000	2	2		2
Action C.2.5 - Establish a presence on the Internet. Forestry	2		2	2		2
Education Totals: One-time Costs	25	25,200				
Annual Costs				12	400	
<i>D. MANAGEMENT PLAN REVIEW</i>						

Management Action	One Time Action			Recurring Annual Actions		
	Staff Days	NPS Cost \$	Priority	Staff Days	NPS Cost \$	Priority
Action D.1.1 - Determine annual budgetary needs (including but not limited to rehabilitation and improvements, stewardship, and capital construction). Forestry Rangers	2 1		2	2 1		2
Action D.1.2 - Provide additional input to Departmental annual work plans. Forestry Rangers	2 3		2	2 3		2
Action D.1.3 - Periodic meeting of management team to discuss and address management issues. Forestry			2	2		2
Mgmt. Plan Review Totals: One-time Costs	8					
Annual Costs				10		
Total One-time Costs	508	\$235,500				
Total Annual Costs				771	\$49,100	

SECTION VII. BIBLIOGRAPHY

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