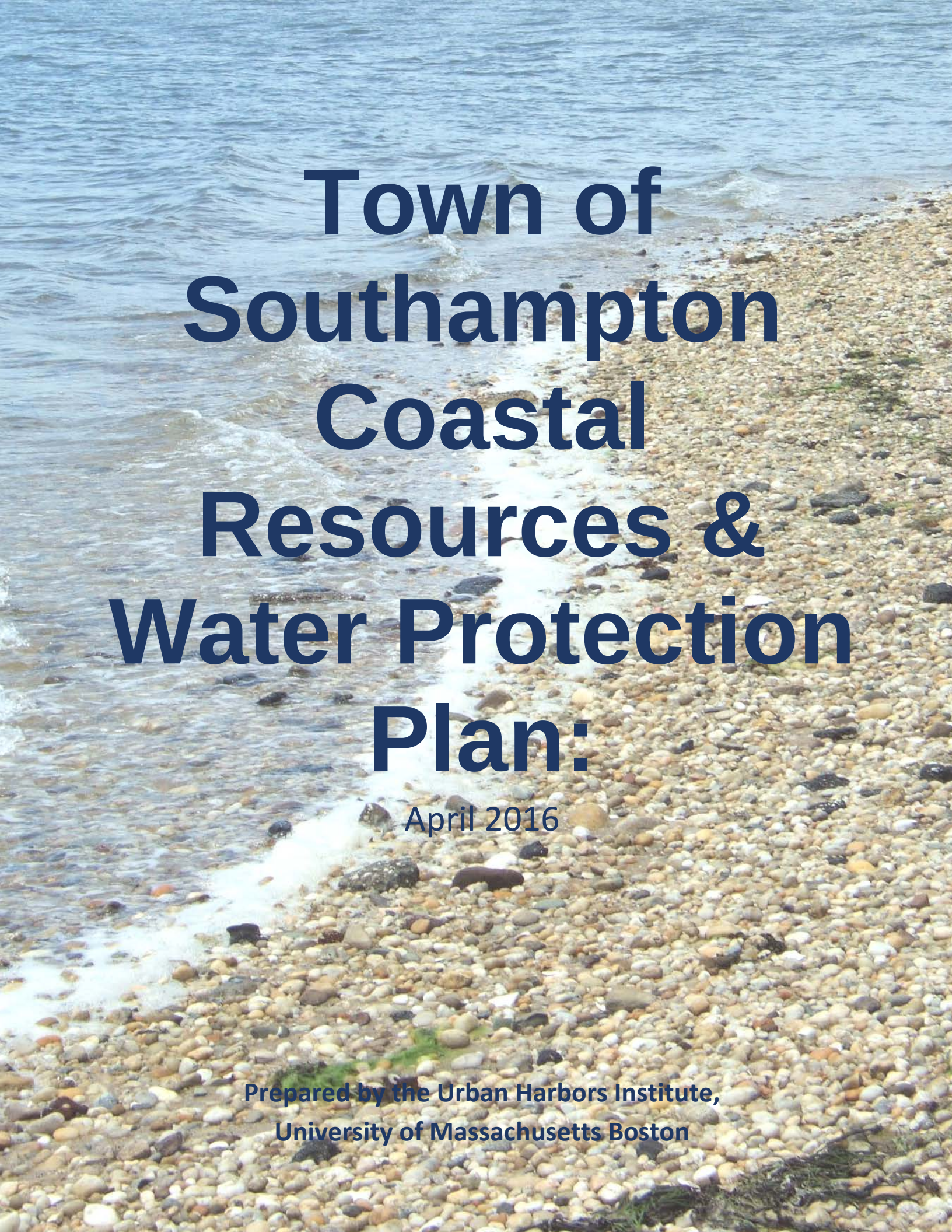




Town of Southampton Coastal Resources & Water Protection Plan:

April 2016

Prepared by the Urban Harbors Institute,
University of Massachusetts Boston

Town of Southampton Coastal Resources & Water Protection Plan

April 2016

Adopted by Town Board Resolution # 2015-1264

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SOUTHAMPTON N COASTAL RESOURCES & WATER PROTECTION PLAN PART ONE: ACTION PLAN

INTRODUCTION

The waters and waterfront area of the Town of Southampton have defined the character of the Town since its founding. The shoreline areas; the barrier islands; the waters of the Atlantic Ocean, Peconic Bay, and south shore bays; as well as the streams and fresh water ponds, have provided the Town with extensive and diverse resources and opportunities. The waters, wetlands, beaches, soils, climate—indeed the entire natural landscape—and the human settlement pattern as it evolved over nearly four centuries, have all been a basis of the Town's quality of life and economy throughout its history. These resources, and the ways in which the community has used and husbanded them over time, have continuously set the stage for the Town's future.

PURPOSE OF THE PLAN

The purpose of the Southampton Coastal Resources & Water Protection Plan (SCRWPP) is to reflect and guide how the Town is now managing, and will manage in the future, the use and protection of the waters of the Town, the waterfront area, and the associated resources. The scope of the Plan recognizes the complexity and diversity of the resources and uses that define the waterfront area:

- the fish and wildlife and the ecosystems on which they depend;
- the salt, brackish and fresh waters, both on the surface and in the groundwater, and their quality and physical character;
- the beaches, dunes, and bluffs and the processes that continually reshape them;
- the agricultural lands and the farmers and economic conditions necessary to make them productive;
- the landforms and landscapes and how they contribute to the visual enjoyment of residents and visitors;
- the boating, swimming, and general public access to the water and the infrastructure they require;
- the commercial and recreational fishing and shellfishing and the health of the fisheries on which they depend;
- the historic and archeological resources that contribute to an understanding of the past; and
- the pattern of development—commercial, residential, and open space—and how it will change in response to natural hazards and population growth.

These are all taken up by the Southampton Coastal Resources & Water Protection Plan.

In addressing these resources and uses, the Plan recognizes that, while there is much commonality throughout the Town, the resources and uses vary from place to place and, as such, place-specific differences are considered. The interrelationships among all of these resources and uses are complex and significant and are considered in addressing any one resource or use.

The Plan is based on a broad understanding of what is known currently—scientific, cultural, and economic knowledge—and recognizes that management of these resources and uses must be adaptable to changing circumstances and information; and, at the same time, management must provide clear

direction and lead to measurable progress. Most importantly, the Southampton Coastal Resources & Water Protection Plan is intended to reflect, as much as possible, a consensus among all those who have a stake in the use and protection of the waters and waterfront resources of the Town.

CONTENT OF THE PLAN

The Southampton Water Protection Plan is comprised of five principle sections:

- 1) Boundary;
- 2) Policies and Their Implementation;
- 3) Inventory of Resources and Analysis of the Issues;
- 4) A Summary of Water Quality Issues and Management Options; and
- 5) Harbor Management Plans.

These sections are organized into two parts: Part I is the Plan to be implemented, the elements that provide the policies that guide all decisions; recommended revisions to laws and regulations, programmatic initiatives, projects, and capital investments that will advance the Plan's policies; and a description of the roles, responsibilities and review processes for coordinated and consistent implementation at all levels of government.

Part II contains those sections that provide background information about the natural and built environment and human uses of the area covered by the Plan and support for the Plan's proposals. It includes a comprehensive section on the Town's surface and groundwater resources, which aggregates information, issues and recommendations into an overall strategy for furthering the Town's efforts to address water quality problems.

Part I

Section 1, *Boundary*, describes the primary geographic area of the Town to which the Southampton Water Protection Plan applies.

Section 2, *Local Policies and Their Implementation*, states the policies and standards that the Town has established to address the issues identified in order to protect the water and waterfront uses and resources. These policies capture, in most instances, policies that the Town has previously established in its plans and local laws. Each policy is followed by a description of the legislative or administrative means the Town will use to implement the Southampton Water Protection Plan. These means include 1) the existing Town laws that manage water and waterfront uses and resources, and 2) new or revised local laws identified during the development of the Plan as necessary to better manage uses and resources based on the policy direction the Town set forth above.

Also included in the implementation portion of this section are various projects—both on-the-ground development and scientific research and studies—that will further the policies adopted as part of this Plan.

Part II

Section 1, *Inventory of Resources and Analysis of the Issues*, summarizes what is known about the waters and waterfront uses and resources within the Town. The section is based on existing Town reports; studies and plans; reports and studies of other public agencies; academic studies; public comments; and interviews with public officials, representatives of local non-governmental organizations, and citizens and tax-payers of the Town. References or links to the documents used

are included whenever possible. This section also identifies the key issues that need to be addressed to assure that decisions affecting the uses and resources of the waters and waterfront advance their long-term protection. The section is organized around topics associated with the policies described in section 2 of Part 1, Policies and Their Implementation.

Section 2, *Water Quality Improvement Strategies*, summarizes the resources and options related to water quality within the Town. These topics are discussed throughout the Plan but, because of their paramount importance to the Town, they were brought together in one location in the Plan to allow consideration in a more comprehensive manner.

Section 3, *Harbor Plans*, summarizes the resources and issues related to the water and waterfront areas within the harbors and embayments of the Town.



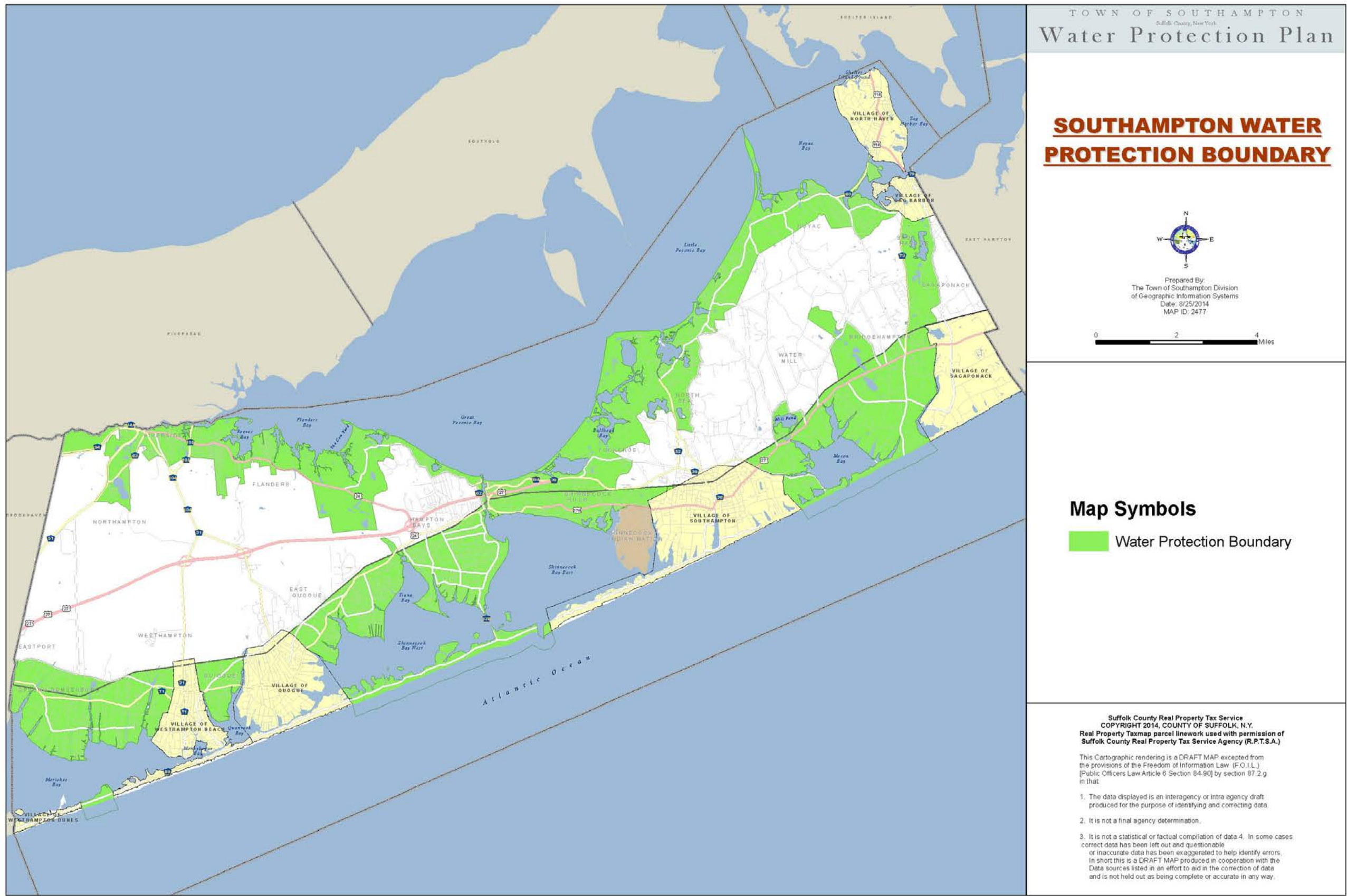
SECTION 1: BOUNDARY

BOUNDARY PURPOSE

As stated in the Introduction, the Town of Southampton Coastal Resources & Water Protection Plan is being prepared as a tool for the Town of Southampton to improve its management of the water and waterfront resources of the Town. To achieve this, the Plan will set policies for the use and protection of the waters, waterfront, and coastal resources of the Town of Southampton.

The geographic focus of Southampton's Coastal Resources & Water Protection Plan is primarily the area encompassing the Town's coastal waters, waterfront, and associated coastal resources, as shown in Figure 1. These resources include, but are not limited to, fishable, swimmable and potable waters; beaches; dunes; wetlands; fish and wildlife habitats (including New York State designated Significant Coastal Fish and Wildlife Habitats); highly productive agricultural soils; scenic landscapes; and historic and cultural resources associated with life along the coast. Relevant uses and activities include, but are not limited to, commercial fishing; agriculture; marinas and boatyards, boating, swimming, and other water related activities; enjoyment and appreciation of coastal scenic and cultural resources; tourism; year-round and seasonal dwellings located in or affected by a coastal setting; and other uses and infrastructure on which the previous uses and activities depend. These resources, uses, and activities are identified more fully and analyzed in the Inventory and Analysis section.

Figure 1: Southampton Water Protection Boundary



The Coastal Resources & Water Protection Plan includes the area where Town decisions can affect Southampton's coastal resources and uses. This varies with the location and extent of the resource or use. Most such decisions will occur at or near the resource or use, and will be concentrated along or near the land or water side of the Town of Southampton shoreline. It is this area where there is a clear interrelationship between land and water uses, and between these uses and coastal resources, that is mapped as part of this Plan—*i.e.*, the area within the Coastal Resources & Water Protection Plan Boundary. For water quality purposes, however, the Plan area is the whole Town.

CRITERIA FOR BOUNDARY DELINEATION

The criteria used to establish this boundary include:

- Conform with the nearest cultural feature or political boundary—cultural features such as, roads, railroads, utility rights of way, or political boundaries are used for ease of identification of the onshore boundary;
- Include all land and waters uses directly impacting coastal waters. Such impact is defined as that which changes the physical, chemical, biological, littoral, or aesthetic characteristics or the socio-economic values of coastal waters to the extent that the character, use or availability of its resources and/or the environmental quality standards of the coastal waters are so adversely affected that they can only be maintained or restored at high cost to society; and
- Include areas subject to coastal flooding, agricultural lands, parks, viewsheds, energy facilities, and water-dependent uses.

It is proposed that the boundary for the Town of Southampton include: 1) all areas likely to be affected by future flooding and coastal storms; and 2) areas within the coastal sub-basin watersheds where the density of development, and the development's proximity to coastal ponds and bays, indicate that measures to improve water quality may be required that are not necessary for the entire watershed. Cultural features such as roads, railroads, or political or existing regulatory lines are used to assure that the location of the boundary is readily apparent. Incorporated Villages and the Shinnecock Reservation are excluded from the area encompassed by the boundary.

BOUNDARY DESCRIPTION

The boundary descriptions provided below are shown on Figure 1.

Landward Boundary West of Shinnecock Canal

The landward boundary is generally described as follows:

Beginning at the Town of Brookhaven line at County Route 71 easterly along County Route 71 to its intersection with the Long Island Railroad (LIRR), then along the right of way of the LIRR easterly to Newtown Road, then northerly and westerly along Newtown Road to Red Creek Road, then northerly and westerly along Red Creek Road to Woodview Road, then southerly along Woodview Road to Red Creek Circle, then westerly along Red Creek Circle to Hildreth Road, then northerly on Hildreth Road to Red Creek Road, then westerly along Red Creek Road/Lower Red Creek Road to Flanders Road (Route 24), then along Flanders Road to Townsend Ave., then southerly along Townsend Ave., then westerly parallel to Flanders Road to Huntington Lane, then northerly along Huntington Lane to Flanders Road to Oak Ave., then southerly along Oak Ave. to Silverbrook Drive, then westerly along Silverbrook Drive to Cypress Drive, then northerly on Cypress Ave. to Flanders Road, then westerly to Bell Ave., then southerly along Bell Ave. to Port St., then westerly on Port St. to Stern Ave., then southerly along Stern Ave. to its end, then westerly along a line, crossing County Rd 105 (Cross River Drive), then

southwesterly to a point on County Road south of its intersection with Old Quogue Road, then northerly along Old Quogue Road to Flanders Road, to Woodhill Ave. at the rotary, then southerly on Woodhill Ave. to Pegs Lane then easterly on Pegs Lane to County Route 63, then southerly on County Route 63 to Lakeview Drive to Topping Drive, then southerly on Old Westhampton Road to a point south of Wildwood Lake, then westerly to County Route 51, then northerly on County Route 51, then continuing northerly to Route 24 (County Route 94), then westerly along County Route 94 to the Town of Brookhaven line.

Landward Boundary East of Shinnecock Canal

Beginning at the intersection of North Shore Road and the Long Island Railroad (LIRR) easterly along the right of way of the LIRR to Head of Pond Road, then northerly on Head of Pond Road to Deerfield Road, then southerly on Deerfield Road to the LIRR right of way then easterly to County Route 79, then northerly along Route 79 to Fordham St., then northerly on Fordham St. to Brick Kiln Road, then westerly on Brick Kiln Road to Stoney Hill Road, then northerly on Stoney Hill Road to the northern extent of the CR200 zoning district, then along the northern boundary of the CR200 zoning district to Majors Path, then southerly on Majors Path to North Sea Mecox Road, then westerly on North Sea Mecox Road to County Road 38, then northerly on County Road 38 to Big Fresh Pond Road, then westerly on Big Fresh Pond to Millstone Brook Road, then westerly on Millstone Brook Road to Country Club Drive, then southerly on Country Club Drive/N Magee St. to Whites Lane to Sebonac Inlet Road, then southerly and easterly to Sebonac Road, then easterly on Sebonac Road to Tuckahoe Road, then Southerly on Tuckahoe Road to the right of way of the LIRR.

Seaward Boundary

The seaward boundary of the Southampton Water Protection Plan is the Town boundary in the Peconic Bay and a line extending seaward 1500 feet from the high tide line of the Town's Atlantic Ocean shoreline¹. Excluded from the seaward boundary are areas within incorporated villages plus up to 1,500 feet seaward of any village shoreline.

Areas Outside of the Town's Waterfront Boundary

Other areas are important to the management of the Town's coastal resources and uses which may or may not be included within the boundary, but activities that occur in these areas may still affect the use and protection of the resources of the Town's waters and waterfront.

These areas include watersheds of the Town's coastal ponds and bays. Achieving water quality objectives for the Town's marine waters cannot be done without improved management of activities throughout the watersheds. Figures 2 and 3 depict the major watersheds ("Major Surface Watersheds") and the smaller sub-watersheds ("Surface Watersheds") which drain to the Town's bays and coastal ponds, including areas within villages or adjoining towns. The boundary for the Southampton Water Protection Plan consists of two tiers, the boundary as described above and, for water quality purposes, the watersheds of the coastal embayments—which include the entire Town.

Other factors that have influenced the final boundary determination include areas where the present and historic coastal character of the community is evident, such as concentrations of seasonal homes and tourist services and accommodations, and historic resources. Newer estimates regarding the extent of flood plains, sea level rise, and storm surges may result in future changes to the boundary.

¹ Municipalities have extraterritorial jurisdiction over an area 1500 feet seaward of their boundary if plan is a certified LWRP. See Town Law, Section 130, Navigation Law, Section 46A and Executive Law, Section 922.

Figure 2: Major Surface Watersheds

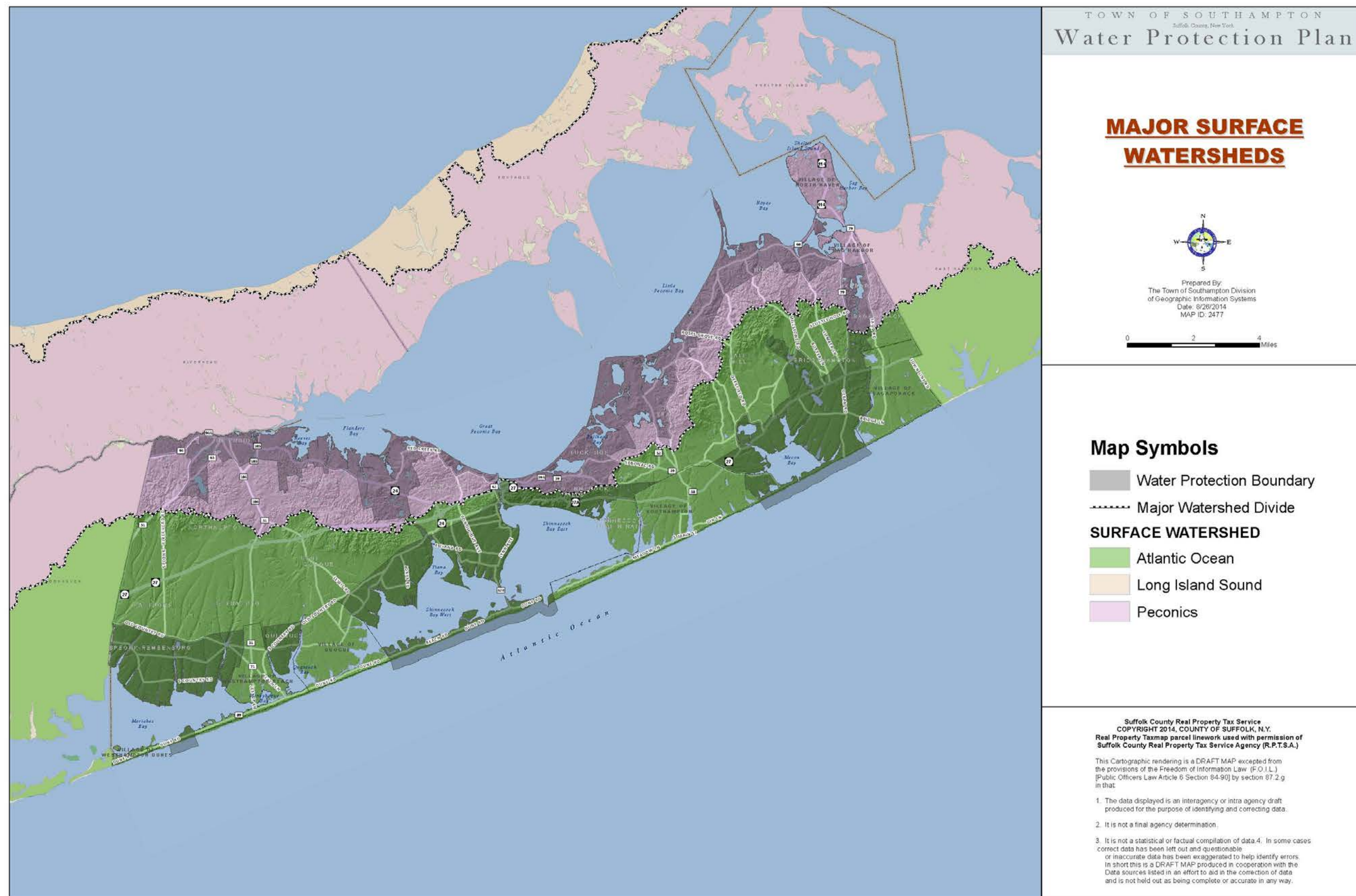


Figure 3: Surface Watersheds

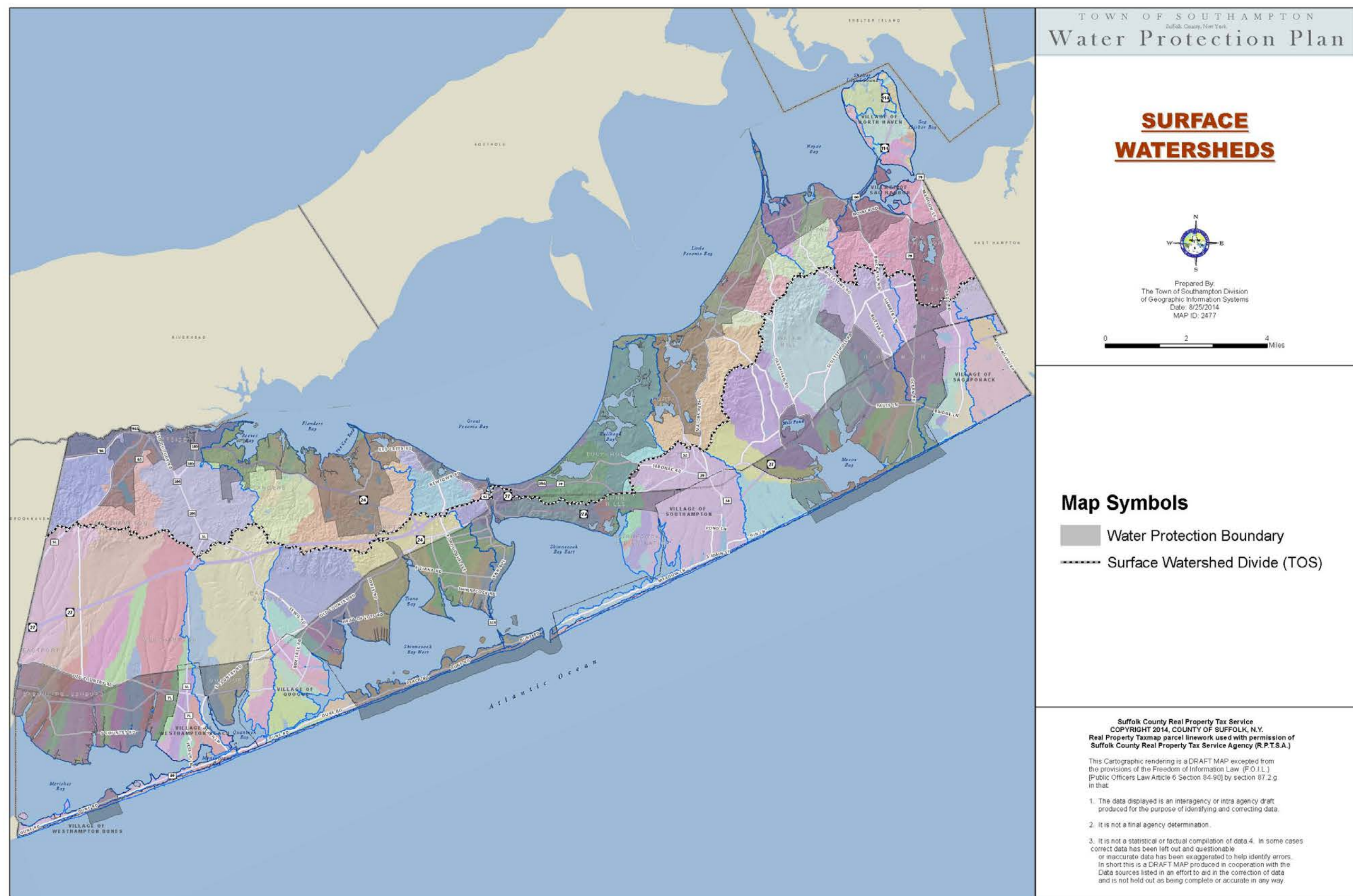


Figure 4: Significant Coastal Fish and Wildlife Habitats

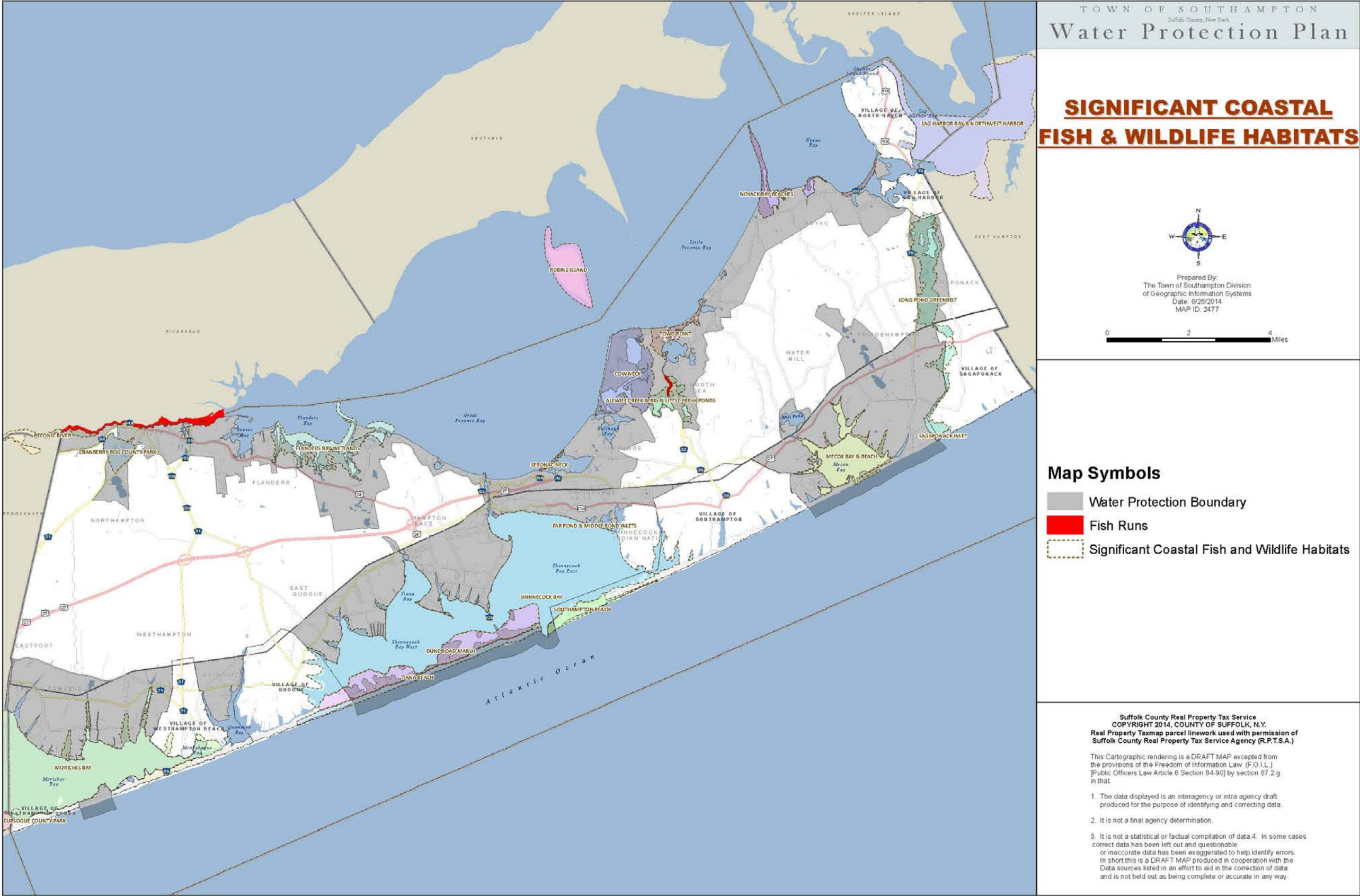


Figure 5: New Atlantic Ecological Marine Units

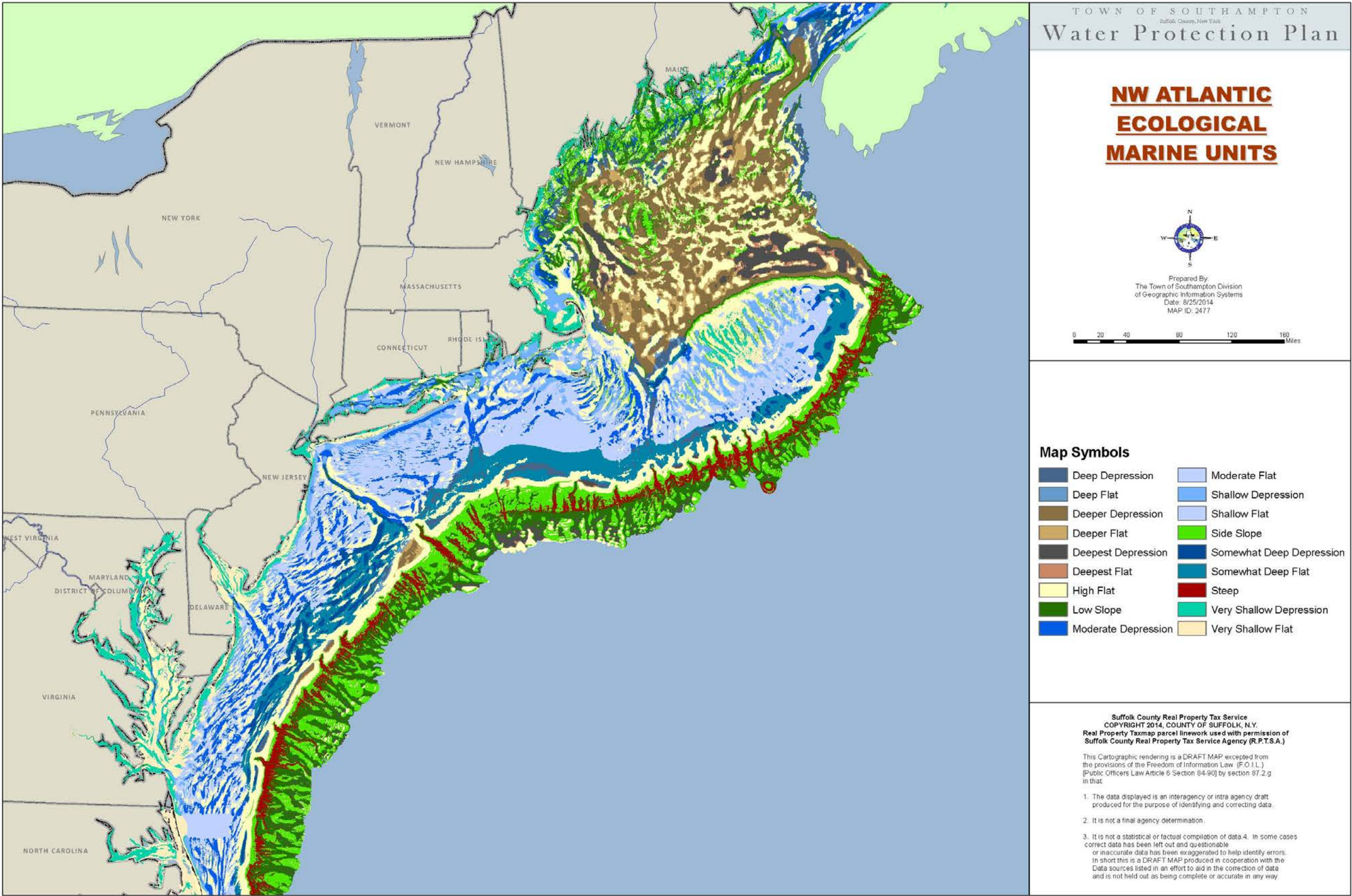
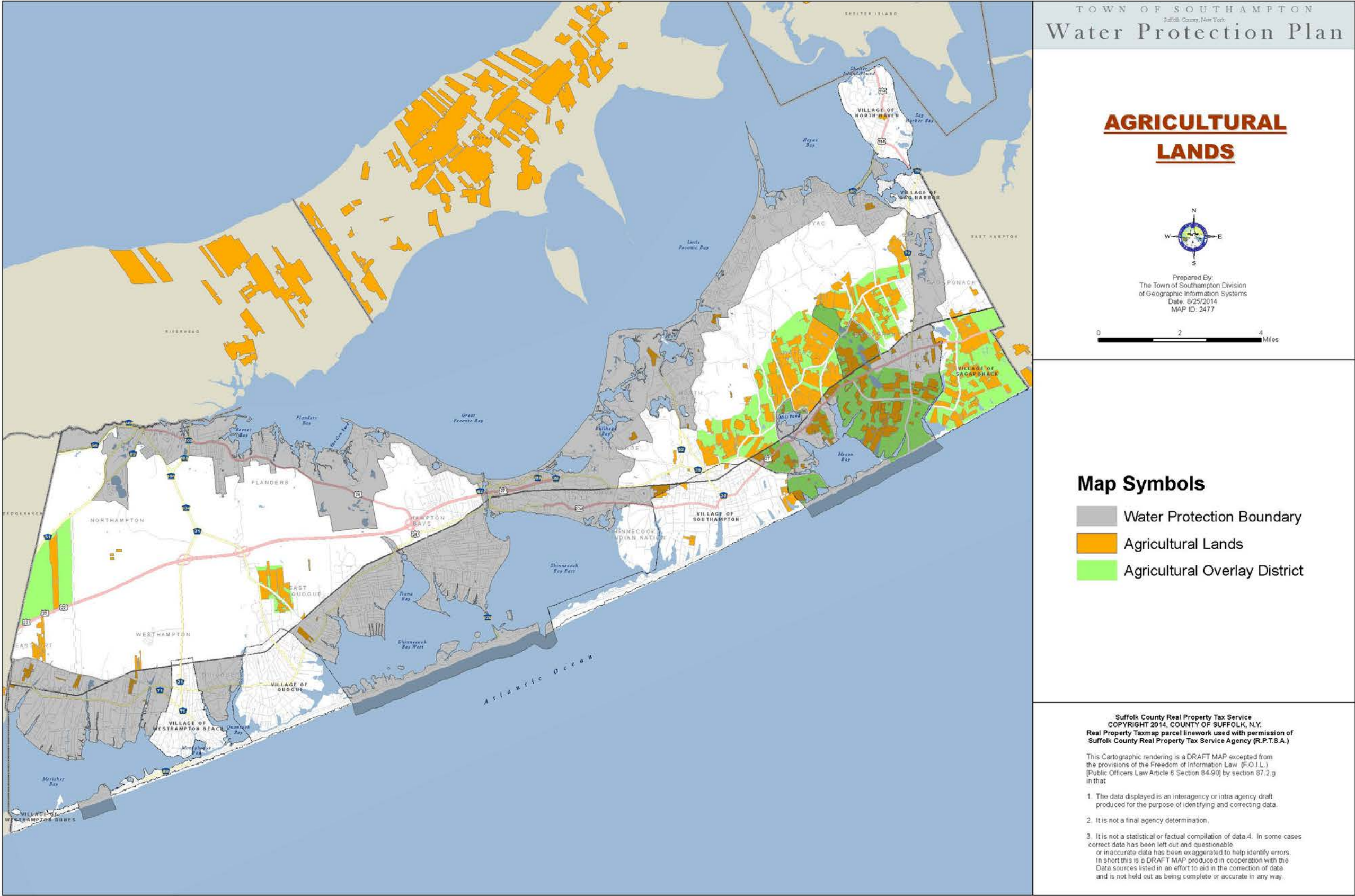


Figure 6: Agricultural Lands





SECTION 2: LOCAL POLICIES AND IMPLEMENTATION TECHNIQUES

The Policies of the Town of Southampton Coastal Resources & Water Protection Plan (SCRWPP) were developed to address the circumstances specific to the nature and uses of the Town's waterfront and coastal resources. The broad policy topics of the SWPP include development and land use; historic and cultural resources; scenic resources; flooding, erosion, and sea level rise; water quality and quantity; the ecosystem and natural resources; air quality; solid waste and hazardous substances and waste; public access and recreation; water-dependent uses; the sustainable use of living marine resources; agriculture, and energy and mineral resources. The Policies:

- consider the economic, environmental, and cultural characteristics of the Town,
- are designed to be comprehensive and reflect Town laws and authorities, and
- represent a balance between economic development and preservation that will permit beneficial use of, and prevent adverse effects on, the Town's waterfront and coastal resources.

The policies are designed to become part of the Town Comprehensive Plan, with a special focus on coastal areas. The policy statements herein are followed by explanations that provide guidance and standards for applying the policy statement to a broad spectrum of circumstances. The policy statements and their explanations will be utilized to shape Town actions.

The following text describes the core topics of the Southampton Coastal Resources & Water Protection Plan. For each topic, the Plan provides a general description of the topic area, identification and analysis of the issues, and the policies and implementation techniques developed to address the issues. The issues were identified through public meetings, interviews, reviews of existing studies and plans, and

discussions with the Town. Additional background information and further discussion of the issues is available in Part 2 of this Plan (Inventory of Resources and Analysis of Issues).

DEVELOPMENT AND LAND USE

The land within the proposed waterfront area boundary hosts a diverse range of uses. Residential uses, primarily medium density², are the dominant use. Commercial uses are concentrated in the several hamlets of the Town, most of which are within the Plan boundary area, or in its incorporated villages, which are outside of the Plan boundary area. Agricultural uses are found throughout the southern waterfront area but are concentrated near and east of Mecox Bay. The majority of the Town's agricultural lands lie outside the Plan boundary area in the more easterly central part of the Town. Marine-related uses are found along all portions of the Town shoreline. Although there are few vacant parcels within the Plan boundary area, some land is available for development. Institutional uses and golf courses, occupying large parcels of land, also characterize portions of the area encompassed by the Plan boundary, particularly to the east of the Shinnecock Canal and in the northeast part of the Town. Large areas of other open space also exist, particularly near the head of the Peconic Bay and along stretches of the barrier island west of the Shinnecock inlet. These areas of open space are primarily park land. Smaller areas of public open space are found throughout the Plan boundary area. Low density development, vacant land, open space, and agricultural lands (other than those in the southeast portion of the Town) are mainly found in the interior portions of the Town, and not within the waterfront area. Figure 7 shows these areas and the land use distribution.

The 2006 Land Cover map reflects the general patterns of development shown on the Land Use map but shows a more refined pattern of developed land. Land Cover maps are also available for 1996 and will be available for future dates so that the change in land cover over time can be identified and analyzed and may be used in monitoring measurable objectives for managing the pattern of development and its associated impacts, such as increases in impervious surfaces and resultant runoff impacts.

Southampton is a resort community and, given the seasonal changes, the population cannot be meaningfully expressed as a static number. According to the 2010 federal census, the permanent resident population of Southampton was more than 57,000—a figure that includes the population of the incorporated villages within the overall boundary of the Town. During the summer months the population can swell to approximately 168,000. This occurs when seasonal homes are fully occupied, lodgings and camp sites are full, and permanent residents have guests³.

The major regulatory programs guiding the pattern of development include: the various zoning districts (the Resort and Waterfront Business District is an important determinant of the character of the pattern of water-related development along the waterfront); the Pine Barrens

² As defined on the appended map prepared by the Town of Southampton entitled *Land Use*.

³ Unless otherwise noted, the population figures and projections are taken from Suffolk County Department of Planning reports.

Figure 7: Land Use

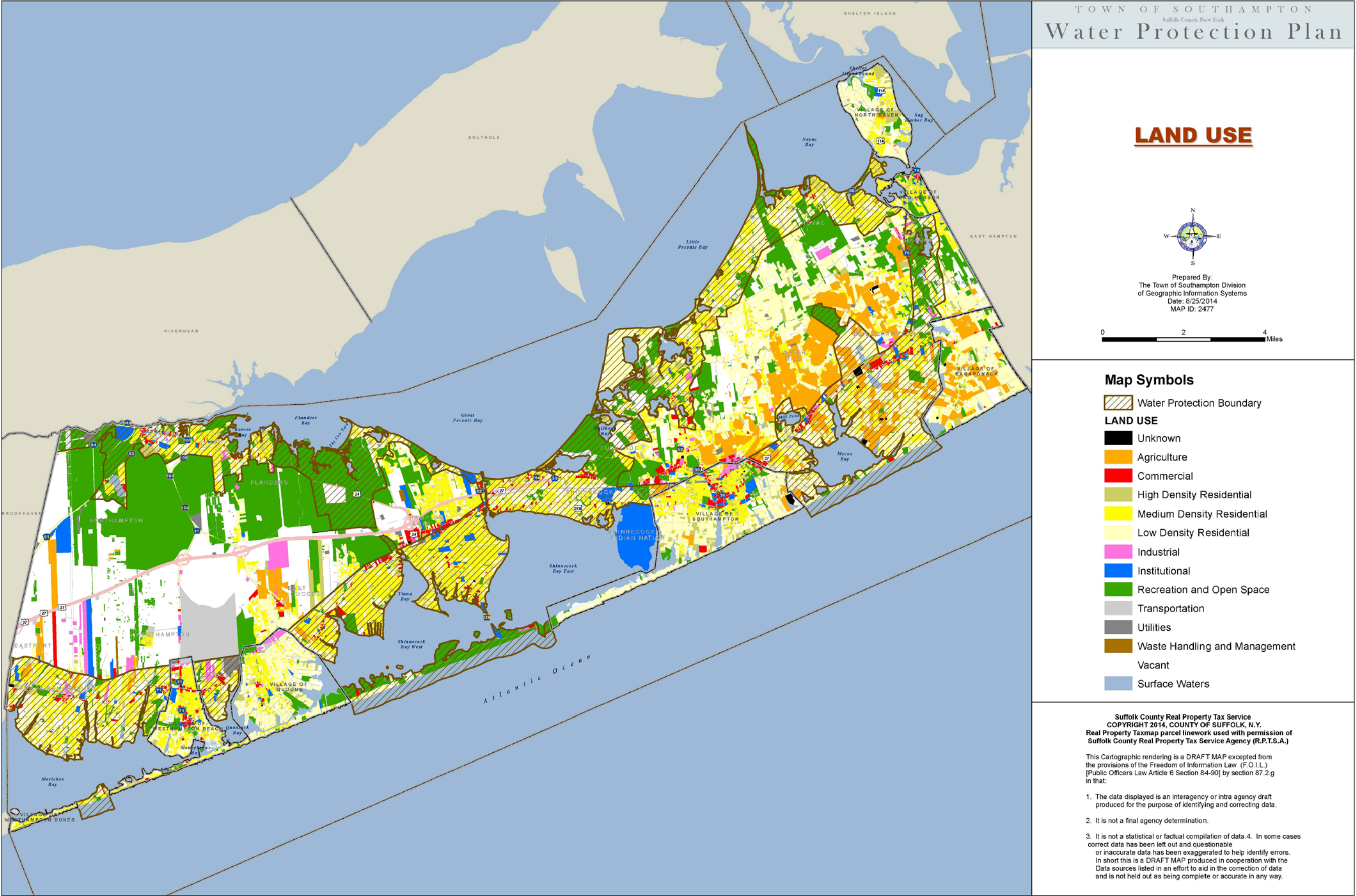


Figure 8: Land Cover from 2006 National Land Cover Database

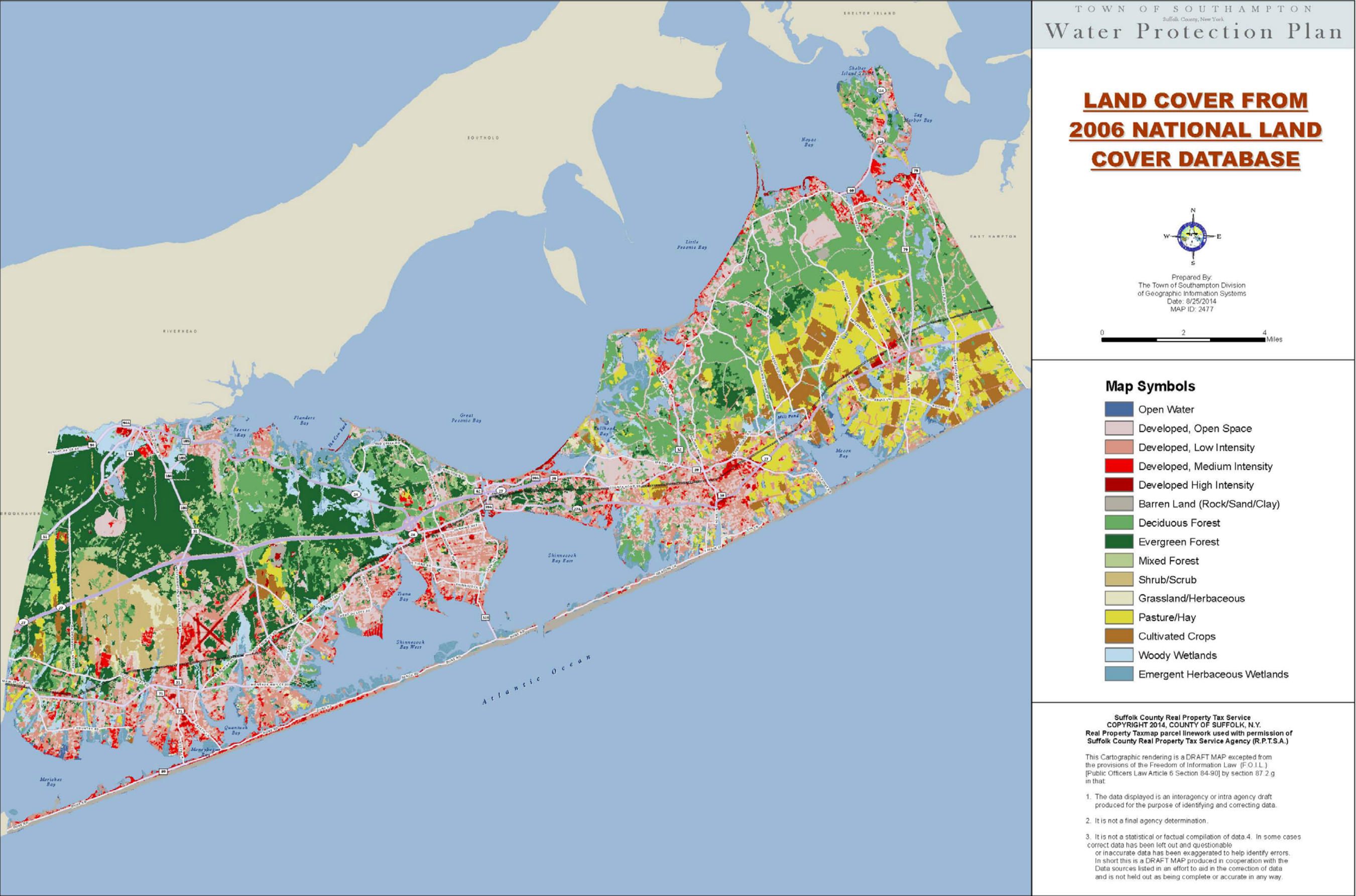
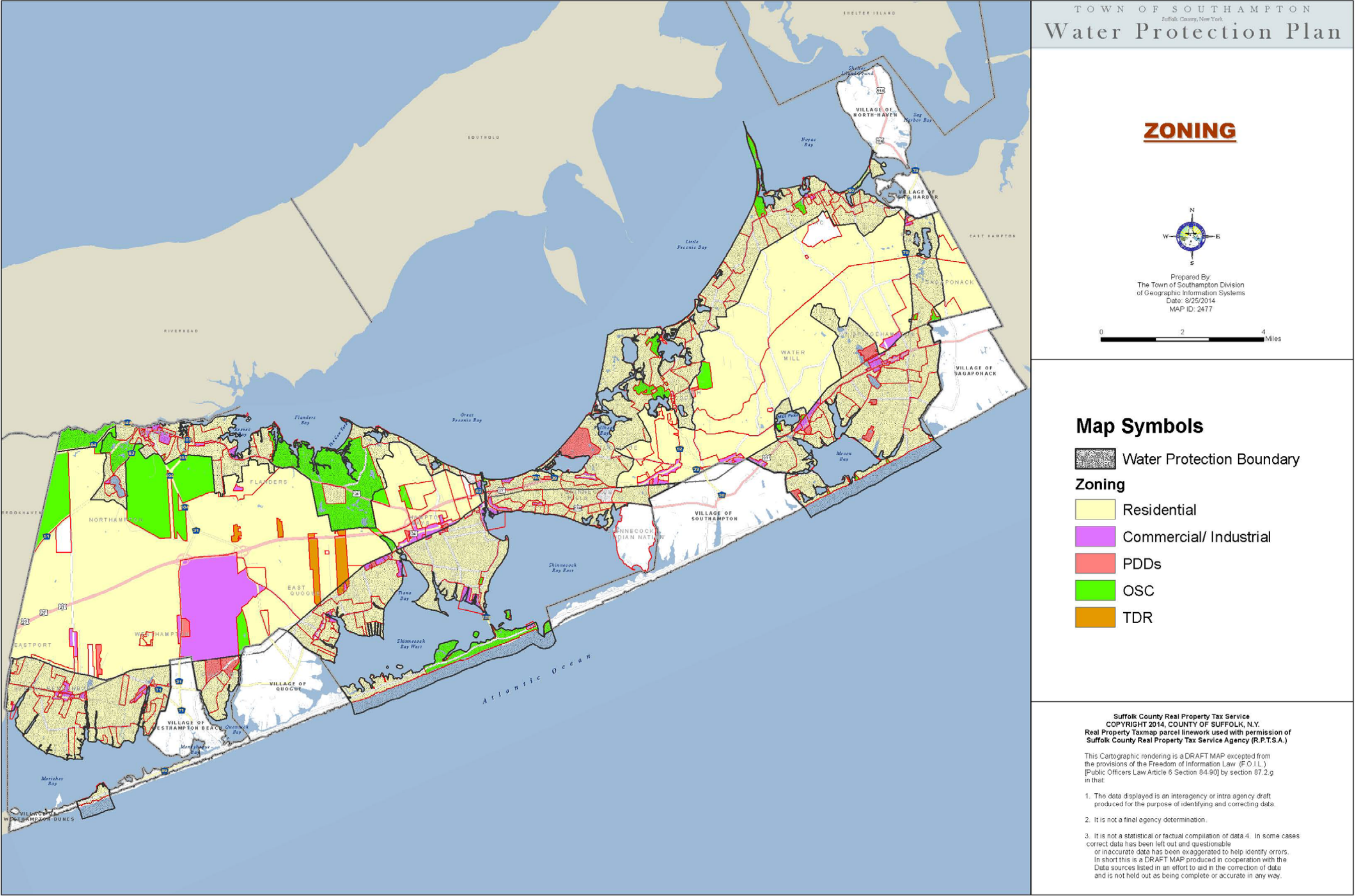


Figure 9: Zoning



Program and its transfer of development rights; Agricultural Districts; County regulation of septic systems; wetland regulations; and flood plain and coastal hazards area regulations. Other public programs that influence the pattern of development are those associated with the provision of infrastructure, including flood and storm damage prevention programs, land purchases for open space and other purposes such as agricultural development rights, the Town's Hamlet studies, the Town's Master Plan, and other planning studies. The Town's Hamlet studies are an important means for managing the character of those portions of the Town and their role in the Town's overall development pattern.

Issues and Analysis

Land use and development issues integral to addressing water quality, visual quality, habitat protection, management of coastal processes, sea level rise and flooding, water-dependent uses, and agriculture are discussed in the sections of this document specific to those topics.

Development Patterns

The pattern and uses of developed and open land help define the character of Southampton. Within the Town, the developed land features historic hamlets (as well as the villages) that serve as commercial centers. These hamlets possess a distinctive character (*e.g.*, they reflect a maritime heritage) and serve as focal points for commercial, cultural, and recreational activities within the Town. The Vision Statement of the 1999 Comprehensive Plan Update⁴ says to, "Promote business centers that not only meet consumer needs, but also enable small business retention and attraction, and bolster the hamlet and Village centers that are essential to Southampton's economy, 'town and country' image, and quality of life."

The following factors delineate how the Town will manage the general pattern of development to accommodate the projected increases in permanent population, new seasonal residences, commercial development and redevelopment:

- continual implementation of Comprehensive Plan recommendations and zoning code updates;
- transferring development away from sensitive areas such as within the Central Pine Barrens Core for drinking water protection, and limiting clearing on specific parcels to allow for greater recharge into aquifers (through the Aquifer Protection Overlay District (APOD) and the Pine Barrens program),
- preservation of prime agricultural soils and the farming heritage of the Town (through the Agricultural Overlay Districts, cluster subdivision requirements, and purchase of development rights programs), and
- regulation of new construction or placement of structures in order to maintain a safe distance from areas of active erosion and from the impacts of coastal storms/sea level rise. Existing programs include the Coastal Erosion Hazards Act and the Fire Island to Montauk Point Study.

Existing zoning, at saturation, would accommodate substantially more growth than projected population increases would require but not necessarily in a manner likely to protect or improve the character of the development. Within the above constraints on, or determinants of, the location and intensity of development, development requires management and regulatory approaches that achieve the following:

- maintaining the rural and small-town character of Southampton and the extensive natural areas within the Town,

⁴ Town of Southampton. 1999 Update to the Southampton Comprehensive Plan.

- maintaining the recreational uses that characterize large tracts of private land (zoning incentives that retain the existing recreational uses (*e.g.*, golf courses) should be considered),
- keeping the open space character of institutional uses,
- avoiding conversion of economically valuable uses such as water-dependent/enhanced uses to those that privatize the waterfront (including revisions to zoning regulations that allow for conversions of hotels/motels to condominium uses in Resort and Waterfront Business (RWB) Districts, and
- maintaining the traditional and unique character of each hamlet.

Policy 1: Foster a pattern of development in the Town of Southampton that enhances community character, preserves open space, makes efficient use of infrastructure, makes beneficial use of a coastal location, and minimizes adverse effects of development.

Natural areas, parks, woodlands, the barrier islands, the Pine Barrens, working agricultural lands, as well as large institutions and existing golf courses, contribute to the open space and recreational component of the Town's pattern of development. The open landscape provides ecological, scenic, recreational, and economic benefits to the Town. "The wealth of natural resources in Southampton Town today, from the Pine Barrens and its pristine aquifer, to the estuaries, wetlands, beaches, parks and open spaces, [is] integral to Southampton's unique quality of life enjoyed by both seasonal and year-round residents. As such, the ecological integrity of Southampton's natural resources must be maintained and protected"⁵.

The distribution of developed and open lands establishes a pattern of human use that reflects an historic choice to base economic development on the natural resources of the Town, such as its rich farmland and fishery resources. In order to maintain the Town's character and all of the associated benefits (*e.g.*, tourism, employment, cultural preservation), development, public investment, and regulatory decisions should preserve open space, agriculture, and natural resources and sustain the historic hamlets as centers of activity. Water-dependent uses generally should locate in existing areas of maritime activity in order to support the economic base and maintain the maritime character of these centers, and to avoid disturbance of shorelines and waters in open space areas.

The Town has formalized this sentiment in its regulations, stating,

"The Town Board through the adoption of the 1999 Comprehensive Plan Update has determined that the natural, scenic, and/or agricultural qualities of open land, areas of special character or special historic, cultural or aesthetic interest or value are important to the Town of Southampton and should be protected. The scenic, historic, cultural, and economic identities of the Town are embodied in its farmland as well as the natural environment. Indirectly, the Town's second home and tourism industries are anchored by the scenic beauty and history provided by the Town's farmland and natural resources. For example, the continued loss of farmland is at this time critical to the future of farming

⁵ Town of Southampton. 1999 Update to the Southampton Comprehensive Plan.

for, with continued losses, the critical mass necessary for a farming economy will disappear”⁶.

This policy to foster a development pattern that provides for beneficial use of the Town’s resources is reflected in the Town’s local laws that manage the pattern of development including the Zoning Law (Chapter 330 of the Town Code), Transfer of Development Rights Law (Chapter 244) and the Community Preservation Fund (Chapter 140). All the other policies of the Plan, particularly those addressing scenic and historic resources; development in areas subject to flooding, storm surge, erosion, and sea level rise; public access and recreation; agriculture; and the working waterfront, are also central to advancing this policy.

1.1. Manage development and redevelopment consistent with the vision of the Comprehensive Plan.

- a. Adhere to the Town Zoning Law standards for uses, densities, and siting of development. The zoning law reflects the proposed land uses and pattern of pattern of development. However, among the uses permitted in any zoning district, the SWPP identifies certain uses as the preferred proposed land use. Existing agricultural uses are preferred to new residential use, existing golf courses may be preferred to new residential uses, existing water-dependent and enhanced uses are generally preferred to other uses. Park land is to remain park land. The open space character of large institutional uses is to be maintained. Purchase or transfer of development rights is also a determinant of the proposed land use.
- b. Adhere to the recommendations established by the Town’s adopted hamlet studies.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 330, Zoning
- Town Board adoption of Hamlet Plans

1.2 Ensure that development or uses take appropriate advantage of their coastal location.

- a. Reserve coastal waters for water-dependent uses and activities.
- b. Accommodate water enhanced uses along the waterfront where they are compatible with surrounding development, do not displace or interfere with water-dependent uses, and reflect the unique qualities of a coastal location through appropriate design and orientation.
- c. Ensure that water-dependent and water enhanced uses and activities minimize effects on un-dredged bottomlands, finfish habitat, or shellfishing areas.
- d. Maintain or expand the number of existing publicly available boat slips in any development of adjacent upland.
- e. Consider allowing other uses that derive benefit from a waterfront location. See policy 1.1(a) for a list of preferred uses in Town.

⁶ Chapter 244 of the Town Code.

- f. Avoid uses on the waterfront which cannot, by their nature, derive economic benefit from a waterfront location.
- g. Maintain or increase accommodations necessary to support the Town's tourist economy. Avoid conversion of hotels and motels located in the Resort and Waterfront Business Zoning District to residential use.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 330, Zoning
- Chapter 330-5, Definitions, water-dependent and water-enhanced uses
- Chapter 330-33, Resort and Waterfront Business
- Chapter 330-33, Motel Business
- Chapter 330-34, University District
- Chapter 292; 35– 42, Subdivision Design Standards
- Chapter 330-182, Objectives of Site Plan

Implementation Through Recommended Changes to Local Law:

Specific recommendations for amendments to local laws to better implement this policy include the following:

1. Chapter 330; 33. Consider revisions to the Resort and Waterfront Business and Motel Business District and consider making other related zoning district revisions as described herein. There are numerous water-dependent uses whose current zoning does not allow these uses, as well as some residential uses that are zoned RWB, in which zone they are not an allowed use. These uses generally exist as legal non-conforming uses. Current water-dependent uses not within an RWB zone should be considered for rezoning in one of the following three ways: 1) rezone to RWB where the range of uses allowed in the RWB is appropriate for the site; 2) rezone to a new marine use zoning district (or districts) that allows a range of marina uses that are appropriate to a given site; 3) in order to maintain existing water-dependent uses which may not be appropriate for rezoning to RWB or to a new marina district and that presently exist as non-conforming uses and to prevent their change in use to other than a conforming residential use amend section 330-10, Residence Districts Table of Use Regulations, to include as a permitted use, any marina or boat yard existing as of January 1, 2015.

Among the several marine uses zoned as residential and which should be considered for rezoning are:

- six (6) properties at the head of Smith Creek,
- three (3) properties on Mill Creek,
- two (2) properties on Old Fort Pond,
- two (2) properties on North Sea Rd., and

- one (1) property each on Bay Rd. in Flanders, Dock Rd. in Remsenburg, and on Sebonack Creek.

There are also several properties in residential use that are currently zoned RWB. The use of these properties is not likely to change and there is no demand for water-dependent or enhanced use. These properties should be considered for re-zoning as residential with an appropriate density.

2. Chapter 330; 155. Consider a revision to prohibit waterfront motel conversions to residential use in RWB zones.
3. Chapter 330-30. Consider a revision by adding C. (1) Within any business district adjacent to a marine waterbody a change in use from one permitted or special exception use to another use may not result in a reduction of the number of existing boat slips or other means of boating access and boating services available to the public as part of the previous use of the site. In determining the number of boat slips available to the public, the number shall be at least 80% of the maximum number available in any of the previous five years.

1.3 Protect established residential areas.

- a. Maintain established residential areas and allow for continued compatible residential and supporting infrastructure in, or adjacent to, such areas consistent with the need to minimize, over time, the risk of loss of development to flooding, erosion, storm surge, or sea level rise.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 330, Zoning
- Chapter 138, Coastal Erosion Hazard Areas
- Chapter 169, Flood Damage Prevention

1.4 Maintain and enhance natural areas, recreation, open space, aquifer recharge areas, and agricultural lands.

- a. Avoid loss of economic, environmental, and aesthetic values associated with these areas.
- b. Avoid expansion of infrastructure and services that are designed to promote other uses of these areas.
- c. Maintain natural, recreational, open space, or public use values including those associated with large institutional properties, golf courses, and beach clubs. Such properties in public ownership shall not be sold or changed in use without a plan that preserves their open space characteristics.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 330, Zoning
- Chapter 330, Article V, Open Space Conservation and Park District

- Chapter 330, Article VIA, University District
- Chapter 330, Article VIII, Tidal Wetland and Ocean Beach Overlay District
- Chapter 330, Article X, Agricultural Protection Overlay District
- Chapter 330, Article XIII, Aquifer Protection Overlay District

1.5 Minimize adverse impacts of new development and redevelopment.

- a. Minimize or avoid potential adverse land use, environmental, and economic impacts that would result from proposed development.
- b. Minimize the potential for adverse impacts from any development that individually may not result in a significant adverse environmental impact, or otherwise substantially hinder the achievement of the policies of this Plan, but when taken together with other existing or likely future similar development, could contribute to or induce subsequent significant adverse impacts by considering the cumulative and secondary effects of the development.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local law:

- Chapter 157, Environmental Quality Review⁷

⁷ The existing Environmental Quality Review and the proposed Local Coastal Consistency Law are relevant to the implementation of all of the Coastal/Waterfront Policies whenever an activity requires these reviews.

HISTORIC AND CULTURAL RESOURCES

The 1999 Comprehensive Plan Update for Southampton Town⁸ generally describes the community's historic and cultural resources as follows:

“The historic and cultural pasts of Southampton are integral to its sense of place, sense of community, economy and attraction as a visitor and second home destination. In order for these resources to be adequately protected, this historic identity must be recognized and interwoven into the overall fabric of the Town.”

The Plan Update goes on to make clear the linkages between the local economy (based on being a resort and destination site, location for second homes, agriculture, and a series of centers for small businesses) and “long-term environmental and growth management strategies.” Maintaining historic values as part of “community character” and a “sense of place” is a major component for the Southampton Water Protection Plan.

The Town of Southampton has a rich cultural history extending over thousands of years from the initial occupation by Native Americans, its current use by the Shinnecock Nation, and early inhabitation by European colonists, through to present times. This history is reflected in archaeological remains, architecture of extant buildings, and the design and nature of the hamlets and other land use patterns. A considerable account of the growth and development of the Town over time may be read in its historic cemeteries and historic sites.

Current Historic and Cultural Resource Designations

Federal and State Designations

The National Historic Preservation Act allows buildings, sites, districts, structures, or objects that are at least 50 years old to be listed on the National Register of Historic Places. A New York State Register of Historic Places has generally similar requirements, and sites listed on one Register are often listed on the other. Listing on the Registers gives the listed site a measure of protection against adverse impacts of activities by the federal and State government respectively. While private property owners using private funds can alter or demolish their properties—even if listed on or eligible for the State or National Registers—without a review process, listing certainly increases local awareness and enhances the potential for protection through acquisition, dedication, avoidance, easements, or other means.

Town of Southampton Designations

The Town of Southampton has established a range of historic and archaeological categories in Town law, code, regulation, and practice. These are generally summarized below.

Historic Landmarks

A Landmark, under Southampton Town Zoning Code, is a designated property or structure subject to additional regulations. More specifically, landmark status requires that alterations and demolitions undergo review by the Town's Landmarks and Historic Districts Board; and projects must receive a Certificate of Appropriateness prior to building permit approval.

Historic Districts

⁸ Town of Southampton, 1999. Southampton Tomorrow: Comprehensive Plan Update, Implementation Strategies.

An Historic District, under Southampton Town Zoning Code, is a designated area where specific regulations apply to properties within its boundaries, and where alterations to properties and demolitions require additional review by the Town's Landmarks and Historic Districts Board. As of November 2014, Southampton Town has not established any Historic Districts, although they exist in some of the villages. In 2011, the Town Board commissioned the Southampton Historic Resources Survey⁹ to identify properties that may be worthy of designation as Town Landmarks. This Survey was finalized and accepted by the Town in 2014. The individual properties included in the survey were also identified as contributing to either a potential Historic District, which has discrete boundaries, or a non-contiguous Multiple Resource District. In some cases, resources may also be considered as part of a non-contiguous Thematic District.

Heritage Areas

A "Hamlet Heritage Resource Area" is "an honorary title bestowed in recognition of the special character of a neighborhood, hamlet, or area." It honors the properties and the community that has cherished its historic heritage. Properties selected as Hamlet Heritage Resources retain the current rights, uses or regulations under Town law—however, they are not automatically designated as Town Landmarks or within Town Historic Districts¹⁰.

Historic Markers

There are at least ten designated markers within the boundary of this Plan, indicating sites of historic importance to the community. These have been erected in rest areas and along roadways to provide a perspective on the history and geography of the Town.

According to the NY State Museum, this program was begun in 1926 to commemorate the Sesquicentennial of the Revolutionary War, and was discontinued in 1966. (The program has now devolved into a database and management program.) The New York State Museum presently maintains the archives even though the historic markers themselves are no longer funded by State appropriations. Private organizations are welcome to submit the necessary paperwork to have a new marker erected at a local historic site and the Museum will act as a clearinghouse for such proposals. Southampton has, in some instances, informally undertaken to maintain existing historic markers when they have been damaged or have shown signs of wear.

Critical Areas (As part of the Environmental Quality Review)

Chapter 157, section 10 (Environmental Quality Review) of the Southampton Town Code identifies and provides an extra level of review for projects identified as being Areas of Particular Concern with respect to locations having social, cultural, historic, archaeological or educational importance. These include:

- Shinnecock Indian Contact Period Village Fort,
- Sugar Loaf Hill Shinnecock Indian Burial Grounds and Archaeological Resources Area,
- Any sites identified in the Town of Southampton Cemetery Study and adopted by the Town Board, and
- Sites where human remains and/or funerary objects are likely to be located as specified on the Town Landmarks and Historic Districts Board's Cultural Resources Subcommittee's Inventory Map.

Other Historic Resources

Historic Vistas

⁹ AKRF and Jaqueline Peu-Duvallon. 2014. Historic Resources Survey: Town of Southampton, Suffolk County, NY.

¹⁰ Section 330-5, "Definitions", Southampton Town Code.

In addition to existing historical resources, there are a number of remembered vistas from years past that have subsequently been developed or which have overgrown. These live on in the memories of residents or visitors, in post cards and old photos, or as documented in the archives of historical societies and libraries. There are sometimes requests to restore these vistas, as they form a part of the heritage of the Town. At present there is no systematic identification or designation process in place for such vistas but some have been protected through community preservation fund (CPF) acquisition or subdivision review activities.

Historic Street and Roadway Design

The roadways and streets of the Town evolved from the earliest land use patterns. Generally the land use was developed and the roads grew to connect them. As such they reflect how the Town grew, and how it is growing. Maintaining both the location and the nature of these roadways is a bow to the history of the Town, its hamlets, and its uses—including those related to the waterfront.

Available Inventories of Historic and Cultural Areas, Sites and Contents

South Shore Estuary Plan

As part of the development of a Management Plan for the South Shore Estuary Reserve, a summary of historic resources within the boundaries of the Reserve was prepared¹¹. (The southern portion of Southampton, between the Brookhaven town line and the eastern margin of Shinnecock Bay, are included within the Reserve Boundary.)

Hamlet Studies

Designation of several Hamlet Heritage Areas within hamlet centers and surrounding areas has been undertaken by the Town following the preparation of Heritage Area Reports, including those for the Water Mill¹², Eastport¹³, Quogue¹⁴, Bridgehampton¹⁵, East Quogue¹⁶, Flanders¹⁷, and Hay Ground and Art Village Heritage Areas¹⁸. These contain detailed information about the historic resources of the designated Heritage Areas and are available on the Southampton Town web site.

Web-based Inventory

An interactive map showing various historic areas and specific sites has been established for the Town¹⁹. This includes locations, photographs and descriptive information for Historic Landmarks, Historic Districts, Heritage Areas, cemeteries, historic markers, and other historic points of interest within the boundaries of the Town of Southampton.

Off-shore, Near-shore and Beach Area Inventory

¹¹ Allee, King, Rosen and Fleming. 1997. South Shore Estuary Reserve; Technical Report Series, Historic, Cultural and Scenic Resources: Part 2: Cultural, Historic and Scenic Resources. Prepared for the South Shore Estuary Reserve Council under contract with the NY Department of State. Online at: www.nyswaterfronts.com/final_draft_html/Tech_Report_HTM/Land_Use/P2_Cultural/First_HSC2.htm.

¹² Haresign, Marlene. 2003. Water Mill Hamlet Heritage Area Report.

¹³ Michne, Ronald A. Jr. 2005. Eastport Hamlet Heritage Resource Area Report.

¹⁴ Michne, Ronald A. Jr., 2008. Quogue Hamlet Heritage Resource Area Report.

¹⁵ Sandford, Ann, 2009. Bridgehampton Hamlet Heritage Resource Area Report.

¹⁶ Davis, Stephanie, Editor. 2014. East Quogue Hamlet Heritage Report.

¹⁷ Spanburgh, Sally, Janice Jay Young, Gary Cobb. 2014. Flanders Hamlet Heritage Area Report.

¹⁸ Spanburgh, Sally. 2012. Art Village Heritage Area Report.

¹⁹ Southampton New York Historic Places. Online at: <http://historic.southamptontownny.gov/>.

This project was designed to survey the near-shore areas along the south coast of Long Island for shipwrecks to be avoided in advance of dredging to stabilize Long Island's southern shoreline²⁰. It includes an intensive historic records search to identify known and potential wrecks in those areas. More than 450 potential locations in the area between Fire Island and Montauk were identified.

2000 Historical Survey

A Cultural Resources Survey was prepared for Southampton in July 2000²¹. The Cultural Resources Survey inventoried 300 historic structures in the 16 unincorporated hamlets of Southampton. The Survey has not been officially adopted by the Town, nor have the resources identified in the survey been officially designated as landmarks.

2014 Historic Resources Survey

As described above, an updated Southampton Historic Resources Survey Report was completed by AKRF & Peu-Duvallon in 2014²². This Survey has been accepted by the Town and includes an inventory of historic resources throughout the Town. It specifically identifies properties that may be worthy of designation as Town Landmarks, as well as properties that may be contributing to possible Historical Districts, Multiple Resource Districts, and/or Thematic Districts.

Archaeological Surveys

There have been some archaeological surveys within the bounds of the Southampton Water Protection Plan designed to assess pre-Colonial (Native American) sites. Included are those associated with specific development projects, *e.g.*, those by Bernstein and Manfra^{23,24} and the Long Island Power Authority²⁵ done in conjunction with the proposed LIPA Southampton to Bridgehampton Transmission Line.

Issues and Analysis

Comprehensive Plan Updates

The broadest existing discussion related to Town-wide management of historic and cultural resources is the 1999 Comprehensive Plan Update²⁶. This document, and its supporting Technical Report, reviewed the historic resources of the Town and provided a number of Action Items to improve their management. A January 2012 Town of Southampton Board work session assessed the current status of the Action Items and indicated that many have been completed or are in progress. Further investigation and discussion seems warranted to assess whether the outstanding recommendations from the 1999 Plan should be addressed.

²⁰ John Milner Associates. No date available. Long Island Beach Reformulation Study. Produced for The Greeley Polhemus Group and the U.S. Army Corps of Engineers, New York District.

²¹ GAI Consultants, Inc. and Fanning, Phillips & Molnar. 2000. Cultural Resources Survey of the Town of Southampton, New York. Prepared for the Department of Land Management of the Town of Southampton.

²² AKRF and Jaqueline Peu-Duvallon. 2014. Historic Resources Survey: Town of Southampton, Suffolk County, NY.

²³ Bernstein, David J. and Allison J. Manfra. 2007. A Stage 1 Archaeological Survey for the KeySpan Substation in Bridgehampton, Town of Southampton, Suffolk County, New York.

²⁴ Bernstein, David J. and Allison J. Manfra. 2007. A Stage 1A Archaeological Survey for the Proposed Southampton to Bridgehampton Transmission Line Upgrade, Town of Southampton, Suffolk County, New York.

²⁵ Long Island Power Authority. 2007. Draft Environmental Impact Statement: Southampton to Bridgehampton Transmission Line and Expansion of Bridgehampton Substation.

²⁶ Town of Southampton. 1999. Southampton Tomorrow: Comprehensive Plan Update, Implementation Strategies.

Pre-Colonial Resources

The Shinnecock Nation's heritage is important to the Town, but the entire suite of sites important to that heritage has not yet been identified. There may be many yet undiscovered sites outside the boundaries of the Reservation that could lead to a better understanding of interactions between Native Americans and European settlers. Location and management of these sites should be emphasized in the process of research for historic artifacts, cultural preservation, and current cultural interactions. The Shinnecock Nation is in the early stages of investigation into preparing a land use and management plan that may address historical and cultural issues on their lands. Coordination between Town agencies and members of the Nation are critical to pre-Colonial resource identification and preservation.

New or Expanded Designations

As of November 2014, no areas have been designated as Historic Districts in the Town. This designation is a tool that provides management options to preserve significant neighborhoods or smaller areas of historic import. The possibility of designating Historic Districts within the Town should be explored further. Similarly, the designation of Historic Landmarks and Hamlet Heritage Areas has been used effectively in the past and offers options for future use in preservation efforts.

Tools available to assist in new designations or management of existing ones include the Southampton Historic Resources Survey—now completed and accepted by the Town.

If the preservation and management of significant historic vistas is important to the Town, a methodology needs to be developed for their identification and protection/restoration. In various areas of Town there are visual barriers to historic resources and vistas. In some instances these are “wall-to-wall” buildings, but in most cases, the barrier is a privet hedge. This issue was described in the 1999 Comprehensive Plan and continues to be a point of concern in some locations.

Improvements in Administration of Existing Programs

Currently several entities are involved in the management of historic and cultural sites and resources within the Town, including the Town Landmarks and Historic Districts Board, the Planning Board, the Public Works Department, and the Trustees. Better coordination between these entities could contribute to improved management of the cultural and historic resources within the Water Protection Plan area.

Within the existing Hamlet Heritage Areas (and potential Historic Districts) preservation or restoration standards presently are somewhat vague. The definition of specific regulatory design controls for these areas would make review processes much more predictable and consistent.

In most communities budgets are limited—including what is spent on the preservation and management of historic and cultural resources. A number of possibilities exist to improve this process with minimal budgetary impacts. These include:

- Increasing the degree of public participation. Due to budget realities, the wide range of historic and cultural resources, and the reality that many of the historic resources are on private property, there is a need to involve the public in historic preservation and management. It is important to create a culture of stewardship for these resources as a means of improving their protection and maintenance. This can be taught in schools, brought to adults through publications, web sites, etc. Volunteers can be used to identify or survey historic resources. Continuing tax abatement and maintenance programs to help manage historic sites and structures on private lands offers an additional valuable management tool.
- The local historical societies, the Rogers Memorial Library, and hamlet organizations, already immensely valuable in compiling information, preserving artifacts and records, and making Town

residents aware of the historic and cultural history of the area, might also be important resources to help coordinate efforts to improve management of historic sites and structures.

- The Town Clerk's Office has been instrumental in preserving and making available historic records via the internet. Encouragement of this process and linking it to other efforts could increase public awareness and stewardship.

Impacts from Sea Level Rise and Coastal Erosion

As with contemporary buildings and properties, there is the potential for impacts to historic and cultural resources from sea level rise—either from the inland movement of surface waters or elevation of groundwater—and coastal erosion. Presently no analyses have been done to assess the potential for such impacts specific to historic or cultural resources, although the tools exist to map historic and cultural resources and overlay them with projected flooding impacts, projected sea level rise, or areas where groundwater levels are near the surface.

Policy 2: Preserve historic resources of the waterfront area.

Just as the pattern of current development helps to define the Town's character, "The historic and cultural pasts of Southampton are integral to its sense of place, sense of community, economy and attraction as a visitor and second home destination. In order for these resources to be adequately protected, this historic identity must be recognized and interwoven into the overall fabric of the Town"²⁷.

Native American sites reflecting thousands of years of habitation within the Town, Colonial era farmsteads and outbuildings, 19th century commercial districts, fishing ports, and a wide variety of traditional architectural styles are important components in defining the distinctive identity and heritage of the waterfront area of the Town—and, as such, continue to shape the culture of the Town.

The intent of this policy is to maintain and restore the historic structures and traditional architectural styles as well as the archaeological resources of the waterfront area. Effective maintenance of historic resources must also include active efforts, where appropriate, to restore or revitalize these resources. Two important aspects of management of historic and cultural resources must be clearly acknowledged; 1) there is considerable historic character to the waterfront area of the Town and 2) many, if not most, of these resources are on private property. It will be the policy of the Town to initially explore incentives for historic and archaeological preservation and restoration prior to implementation of any potential regulatory actions.

Understanding the current and past role(s) of the hamlets within the Town is critical to preserving the historic and cultural resources of the Waterfront area. All of the hamlets have long architectural, maritime and cultural histories as well as recognizable and distinct senses of place. These histories and senses of place are reflected in the hamlets' development patterns, current open spaces, and remnants of past activities and structures. Consequently, there has been a significant effort to protect the nature of the hamlets.

2.1 Maximize preservation and retention of coastal historic resources.

- a. Preserve the historic character of the resource by protecting historic materials and features or by making repairs using appropriate measures.
- b. Protect or re-establish historic vistas that provide context for events of the past.

²⁷Town of Southampton. 1999. Update to the Southampton Comprehensive Plan.

- c. Ensure that new or expanded development proposals recognize and complement the surrounding natural scenic context and the developed aesthetic nature of existing and historic architecture, building arrangements, land use, and infrastructure patterns in order to maintain or restore the traditional sense of place.
- d. Protect established Historic Districts and Hamlet Heritage Areas, as appropriate, as a means of maintaining historic and cultural stability of an area.
- e. Follow established or recognized design standards for Landmarks and Historic Districts and design guidelines/plan books for Hamlet Heritage areas.
- f. Provide for adaptive re-use of historic resources with sensitivity to historic integrity when considering alterations to those resources.
- g. Minimize loss of historic resources or historic character when it is not possible to completely preserve the resource.
- h. Relocate historic structures only when there are no reasonable options to preserve the resource in place.
- i. Avoid potential adverse impacts of development on nearby historic resources.
- j. Protect and maintain historic cemeteries to the maximum extent possible.
- k. Identify and prioritize historic properties facing risk of impacts from coastal erosion, flooding, and sea level rise and utilize appropriate management techniques to protect these properties.
- l. Where preservation of a structure, either through purchase or regulation, solely to maintain its historical essence is not feasible, consider repurposing the structure for contemporary usage while maintaining its historical features.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 330 Zoning; Article XXVIII, Landmarks and Historic Districts and Heritage Resource Areas.
- Chapter 330, Zoning; Article XIX, Architectural Review
- Chapter 330, Zoning; General provisions
- Chapter 330, Zoning; Article XX, Administration and Enforcement
- Chapter 298, Taxation; Article XII, Exemption for landmarks or Properties Within Historic Districts
- Chapter 194, Historic Documents
- Chapter 140, Community Preservation Fund
- Chapter 123, Building Construction
- Chapter 292, Subdivision of Land; Article III General Application Procedures

Implementation Through Recommended Changes to Existing Local Law:

Specific recommendations for amendments to local laws to better implement this policy include the following:

1. Chapter 330-320 F. Consider revision to add emphasis on protection of structures on the State and Federal Historic Registers.
2. Chapter 330-171. Consider revision to Architectural Review Board Criteria to allow the Board to review compatibility of proposed changes with the historic character of the existing building as well as neighboring structures, in the case of Town Landmarks, and buildings on the State and Federal Historic Registers.
3. Chapter 330-248. Consider amending membership of the Landmarks and Historic Districts Board to include a registered landscape architect.
4. Chapter 140-6 (4). Continue to interpret the provisions of the Community Preservation Fund to include historic landscapes and/or areas of historic context.
5. Consider the development of a new section of the subdivision application regulations designed to protect historic landscapes or contexts similar to the language in §292-6.2 which protects existing trails. Such a program would require 1) establishment of a Town procedure to identify and designate historic landscape or context areas; 2) adoption of language in the Town Code to evaluate impacts of subdivisions on such areas; and 3) implementation of protection of such designated areas. Steps 1 and 2 should include both the Landmarks and Historic Districts Board and the Department of Land Management/Planning Board.
6. Chapter 330-322. Presently this Chapter allows the Landmarks and Historic Districts Board to review proposed relocations but only within Historic Districts and Landmarks. Consider revising this section to allow opportunity for review outside of these designations as they may provide context or contribution to the Historic District/Landmark.
7. Consider establishing subdivision and site planning guidelines and standards to protect historic resources when development is planned on or near historic properties. Provide for the preparation of advisory opinions from the Landmarks and Historic Districts Board as discussed above.

Implementation Through Projects:

1. Publicize and disseminate the Southampton Historic Resources Survey²⁸ and any similar material.
2. Develop standards and mechanisms to establish original dates of construction of potential historic structures. This has apparently been difficult in the past due to lack of data on the history of structures and difficulty in assessing the value of structures that have been heavily modified over time.
3. Develop and implement a public signage program intended to locate and identify the various types of historic resources and historic areas of the Town. Extend the current signage program for Heritage Areas, Historic Markers and Town Landmarks to include additional historic resources.
4. Develop and implement a public education and outreach program to make Town residents and visitors aware of the historic and cultural resources existing within the Town and efforts being made to protect them. This would include such efforts as the existing "Southampton, New York Historic Places" (<http://historic.southamptontownny.gov/>). Include information on

²⁸ AKRF and Jaqueline Peu-Duvallon. 2014. Historic Resources Survey: Town of Southampton, Suffolk County, NY.

the economic incentives/benefits to property owners from preservation and maintenance.

5. Devise strategies to recreate and restore the historic character of the Town's hamlets and rural areas within the boundaries of the Water Protection Plan, with an increased emphasis on protecting historic landscapes and settings as well as individual structures. Work with local historic preservation groups to create additional "Hamlet Heritage Areas," as appropriate, that identify and protect locally significant historic districts, buildings and sites. Update Hamlet Plans where necessary to include more specific guidance to be used in decisions by the Planning Board, the Landmarks and Historic Districts Board, and the Architectural Review Commission.
6. Develop and implement specific design standards for Historic Districts and design guidelines/plan books for Hamlet Heritage areas. Develop similar design guidelines and/or pattern books for owners or potential purchasers of historic properties as a means of providing predictability and guidance regarding incentive or regulatory programs.
7. Identify, describe, and map the Maritime Heritage Areas within the Town. Use these descriptions and maps in planning and regulatory decisions.
8. Using maps of known historic and cultural resources, assess the threat of impacts due to sea level rise (either direct impacts from encroachment by surface waters or indirect impacts such as elevations of groundwater), storm surge, or coastal erosion using GIS technology.
9. Using the existing Town law, designate Historic Districts as appropriate.

Implementation Through Proposed Administrative Changes or Actions:

1. Consider developing an administrative structure for historic resource preservation and restoration which relies on and supports hamlet-based historic preservation groups and integrates them into a Town-wide strategy for protecting historic resources.
2. Link historic preservation goals and programs with other community enhancement programs including farmland preservation, open space acquisition, recreation and park development, scenic landscape and scenic roads protection, and hamlet center conservation efforts.
3. Integrate local historic preservation initiatives with State and federal programs and the work of non-profit groups in the community.
4. Continue to ensure that appropriate efforts are made to protect and maintain historic cemeteries.
5. As Historic Districts are designated, coordinate activities between the various Town boards and commissions to ensure construction, renovations, or additions are compatible with the standards of the designated Historic District.

2.2 Protect and preserve archaeological resources.

- a. Consult with members of the Shinnecock Nation to identify sites important to their history and culture.
- b. Minimize potential adverse impacts by redesigning projects, reducing direct impacts on the resource, recovering artifacts prior to construction, and documenting the site when redevelopment is deemed appropriate.
- c. Prohibit appropriation of any object of archaeological or paleontological interest situated on or under either uplands and underwater lands owned by the Town of Southampton or New York

State, except as provided for in Education Law, § 233.

- d. Identify and prioritize archaeological sites facing risk of impacts from coastal erosion, flooding, and sea level rise, and utilize appropriate management techniques to protect these properties.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 330, Zoning; Article XXVIII. Landmarks and Historic Districts and Heritage Resource Areas.
- Chapter 330, Zoning; Article XIX. Architectural Review
- Chapter 330, Zoning. General provisions
- Chapter 330, Zoning; Article XX. Administration and Enforcement
- Chapter 298, Taxation; Article XII. Exemption for landmarks or Properties Within Historic Districts
- Chapter 194, Historic Documents
- Chapter 140, Community Preservation Fund
- Chapter 123, Building Construction
- Chapter 292, Subdivision of Land; Article III General Application Procedures

Implementation Through Proposed Administrative Changes or Actions:

1. Where possible, re-establish closer ties between the Landmarks and Historic Districts Board and representatives of the Shinnecock Nation to develop a clearer sense of the location and nature of archaeological resources of import to Native Americans.
2. Establish a coordinated administrative program to identify, protect, restore, enhance and maintain archaeological, historic, and cultural resources within the Town.
3. Establish a clear focus for the regulatory and incentive processes and coordinate the roles of committees and boards working to conserve the historic resources of the Town.
4. Work with local Historic Societies, museums, and libraries and other non-governmental groups to increase awareness of archaeological, historic and cultural resources.

Implementation Through Projects:

1. Using maps of known historic and cultural resources assess the threat of impacts due to sea level rise (either direct impacts from encroachment by surface waters or indirect impacts such as elevations of groundwater), storm surge, or coastal erosion using GIS technology.

2.3 Protect and enhance resources that are significant to the waterfront culture.

- a. Protect the character of historic maritime areas.
- b. Protect such resources from impacts resulting from erosion, flooding, and sea level rise.
- c. Protect historic shipwrecks, should any be identified in Town or adjacent waters.

- d. Prevent unauthorized collection of artifacts from shipwrecks.
- e. Identify and prioritize sites significant to waterfront culture facing risk of impacts from coastal erosion, flooding, and sea level rise and utilize appropriate management techniques to protect these properties.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 330, Zoning; Article XXVIII. Landmarks and Historic Districts and Heritage Resource Areas
- Chapter 330, Zoning; Article XIX. Architectural Review
- Chapter 330, Zoning. General Provisions
- Chapter 330, Zoning; Article XX. Administration and Enforcement
- Chapter 298, Taxation; Article XII. Exemption for landmarks or Properties Within Historic Districts
- Chapter 194, Historic Documents
- Chapter 140, Community Preservation Fund
- Chapter 123, Building Construction
- Chapter 292, Subdivision of Land; Article III. General Application Procedures
- Southampton Board of Trustees “Blue Book” and related Town Law and regulations

Implementation Through Recommended Changes to Local Law:

Specific recommendations for amendments to local laws to better implement this policy include the following:

1. While it is unlikely that there are undiscovered historic shipwrecks in the waters of the Town, it should be the stated policy of the Trustees and the Town Department of Land Management that any historic shipwrecks in Town or adjacent waters should be protected. A statement to this effect should be considered for incorporation into the Trustee’s Rules and Regulations (Blue Book) and by reference into Town Code.

Implementation Through Projects:

1. Using maps of known historic and cultural resources assess the threat of impacts due to sea level rise (either direct impacts from encroachment by surface waters or indirect impacts such as elevations of groundwater), storm surge, or coastal erosion using GIS technology.

SCENIC RESOURCES

The 1999 Comprehensive Plan Update for Southampton Town²⁹ generally describes the community's scenic resources as follows:

“Southampton’s unique scenic quality and sense of place is derived from the interplay of rural farmland, areas of undeveloped open space, water frontage (bay, ocean) and the hamlet centers. This rural character graces the Town with significant natural and historic resources. It is this quality that maintains the Town’s vitality as a resort, second home and visitor attraction, as well as an attractive place to live and work.”

The Plan Update goes on to make clear the linkages between the local economy (the resort and destination industries, the location for second homes, the agricultural businesses, and the series of centers for small businesses) and “long-term environmental and growth management strategies.” Maintaining the scenic values as part of “community character” and a “sense of place” is a major component for the Water Protection Plan.

Types of Scenic Resources

The human eye sees beauty in a wide variety of landscape settings. Research has shown that the nature of preferred scenic qualities varies predictably among differing portions of the population, *e.g.*, young vs. old; resident vs. tourist; etc. This does not mean, however, that scenic values and visual impact assessment is, as is sometimes charged, entirely subjective. Richard Smardon from State University of New York, Syracuse has done extensive research on scenic values and landscape assessments. His findings of general public opinions include³⁰:

- A preference for open, panoramic views and a dislike of “filtered” (having to look through or around structures) views,
- A preference for “order”; *i.e.*, well-maintained areas and structures as opposed to deteriorating or overgrown sites,
- Development that fits into the “historic” context of an area as opposed to significant changes in shape, size, color or style,
- A preference for diverse, but well-maintained, vegetation,
- A preference for structures that are perceived as marine- or water-related, particularly those that enhance water access, and
- A dislike for “tourist-like” development and development in undeveloped coastal landscapes.

Wohlwill (1983)³¹ and Zube and McLaughlin (1978)³² assessed perceptions of visitors/tourists and residents to coastal and waterfront development. In both studies residents were more tolerant of coastal development if economic income was generated to benefit the community (and the residents who live

²⁹ Town of Southampton, 1999. Southampton Tomorrow: Comprehensive Plan Update, Implementation Strategies.

³⁰ Smardon, Richard. 2003. In Kelty and Bliven, 2003. Environmental and Aesthetic Impacts of Small Docks and Piers; Workshop Report, Status of the Science. Online at: <http://coastalmanagement.noaa.gov/dock.html>.

³¹ Wohlwill, J.F. 1983. Physical and social environment as factors in development. In D. Magnusson & V.L. Allen (Eds.), *Human Development: An interactional perspective*. New York: Academic Press. Pp. 111–129.

³² Zube, E.H., and M. McLaughlin. 1978. Assessing Perceived Values of the Coastal Zone. *Coastal Zone '78*. V. 1, 360–371.

there). Peterson and Neuman (1969)³³ found a divergence in the scenic preferences on beaches and waterfronts. Higher educated, older residents prefer natural beaches with low intensity of uses with attractive vegetation, whereas younger users prefer city beaches with facilities, and do not mind crowds.

Natural Environments

The natural environments of Southampton Town offer a wide variety of scenic vistas that meet the criteria Smardon provides above. Panoramic views of the water—be it ocean, bays, estuaries, or freshwaters—have always drawn people to the shore; and these water views, be they from the water's edge, views from the water to land, or views of the water across a green field or marsh, bring people to the Town. Wetlands along the water's edge provide glimpses of animal life, a wide diversity in species and textures of plant life, and a variety of colors. The uplands within the waterfront area offer views of woodlands and agricultural fields recalling the pastoral nature of earlier days in the Town.

Built Environments

The built environment of the Town includes the hamlet centers, historic architecture, scenic roads and byways and, again, agricultural uses—all vistas that Smardon notes as attractive to inhabitants and visitors.

Historic Vistas

Not all scenic resources currently exist. Up until the late 1800s, much of the waterfront area in Southampton was taken up with farming and fishing activities. As transportation improved with the railroad and the automobile, tourism began in Town, first with rooming houses and eventually with hotels and inns. Southampton also became the site for large second homes. A significant number of these structures, activities, and vistas remain, but many others are remembered images from years past that have subsequently been developed or have been overgrown. Public comments collected during the development of this document suggest an interest in trying to reestablish some of these vistas.

Recognized Areas of High Scenic Quality

The New York Department of State Division of Coastal Resources has established a program to recognize significant areas of high scenic quality. It consists of a scenic assessment program that "identifies the scenic qualities of coastal landscapes, evaluates them against criteria for determining aesthetic significance, and recommends areas for designation by the Department as Scenic Areas of Statewide Significance (SASS). SASS designation protects scenic landscapes through the review of projects requiring State or federal actions, including direct actions, permits, or funding"³⁴. Such designations have been implemented on the East End of Long Island: in 2010, nine areas totaling more than 25,000 acres within the Town and Village of East Hampton were designated as SASS. Currently no areas within the boundaries of Southampton have been so designated.

The Long Island Sound South Shore Estuary Reserve commissioned a Scenic Resources Inventory in 2005³⁵ that identified areas with potential for designation as an SASS, several within the boundaries of the Town of Southampton. To date no action has been taken on these recommendations.

³³ Peterson, G. L. and E. S. Neuman. 1969. Modeling and predicting human response to the visual recreation environment. *Journal of Leisure Research* 1:219–237.

³⁴ NY Department of State Office of Planning and Development. No Date. Scenic Areas of Statewide Significance. Online at: <http://www.dos.ny.gov/opd/programs/consistency/scenicass.html>.

³⁵ Dodson Associates, Ltd. 2005. Long Island South Shore Estuary Reserve Scenic Resources Inventory. Prepared for the Long Island South Shore Estuary Reserve Office.

Local communities can also create designations for areas of high scenic quality through zoning overlay districts or other similar land management mechanisms.

Existing Inventories of Scenic Resources

1999 Comprehensive Plan Update

The Scenic Resources Technical Report section of the 1999 Comprehensive Plan Update identified a number of “scenic resource areas that are integral to the Town.” The process leading up to this identification included a review of hamlet centers; scenic roadways; vistas over the ocean, bays, and ponds; agricultural lands; and upland areas. The Scenic Corridor Technical Report from this effort provided a preliminary analysis of the scenic resources associated with roadways in the Town and a vulnerability analysis that provided a list of which specific corridors were in most need of protection to maintain their qualities and benefits to the Town.

Hamlet Studies

The studies that have been done in most of the hamlets (*e.g.*, Bridgehampton, Noyac, Eastport, Speonk-Remsenburg, Westhampton) all offer recommendations for preservation and improvement of the visual aspects of those geographic areas referring to both built and open space environments. Copies of this material are available on the Town of Southampton web site at <http://www.southamptontownny.gov>.

South Shore Estuary Plan

As a part of the South Shore Estuary Reserve Management Plan, Harry Dodson and Associates³⁶ prepared a scenic landscape protection plan for the areas that fall within the bounds of the Reserve, which includes the waterfront on the southern side of Southampton from its border with Brookhaven to the eastern side of Shinnecock Bay. The Reserve is considering implementation of the Scenic Areas of Statewide Significance program described above to provide a measure of protection to identified scenic resources

Ongoing Programs

Based on recommendations in the Comprehensive Plan Update, Southampton developed a Scenic Roads Ordinance which allowed the designation of certain roadways and developed programs to maintain their scenic beauty.

The Comprehensive Plan Update also recommended preparing a Scenic Resources Inventory for the Town. To this point, a thorough inventory has not been conducted. The Comprehensive Plan Update included a visual preference survey to gauge the interests of residents. This was not specific to the area addressed by the Water Protection Plan but it does offer insights into the desires of the community. There are, however, two preliminary sources of mapped data related to scenic resources within the Town.

The first is a data layer within the Town’s Geographic Information System (GIS) entitled “Scenic Vistas”. This data set was initially defined by the members of the GIS office staff who marked the location of some of the vistas when mapping the 200+ miles of trails in the Town.

As mentioned above, a second data set was compiled for the Long Island South Shore Estuary Reserve by Harry Dodson and Associates. In this instance, the consulting team established locally-based preferences for scenic values and applied these to the areas within the South Shore Estuary Reserve—including bay waters on the southern portions of the Town from the border with Brookhaven to the

³⁶ Dodson Associates, Ltd. 2005. Long Island South Shore Estuary Reserve Scenic Resources Inventory. Prepared for the Long Island South Shore Estuary Reserve Office.

eastern shore of Shinnecock Bay. Specific areas of scenic resources were defined, mapped and recommended for nomination as a State-designated Scenic Area of Statewide Significance (SASS). Thus far no nomination has been made.

The Town indirectly protects scenic resources in a variety of ways, principally through management of lands owned by the Town or lands in which the Town has some ownership interest. These include public parks, Town CPF acquisitions and Suffolk County Purchase of Development Rights (PDR) properties. Other scenic resources may be protected in lands held by non-profit groups such as The Nature Conservancy or the Peconic Land Trust, subdivision preserves, and private preserves.

It should be noted that, while many of these parcels are acquired or protected in some measure based on scenic resources, generally there are few, if any, specific management limitations assigned to these lands to maintain, protect or improve these resources.

Issues and Analysis

The broadest discussion related to Town-wide management of scenic resources is the 1999 Comprehensive Plan Update³⁷. This document, and its supporting Technical Report, reviewed the resources and provided 23 Action Items to better manage and preserve the scenic resources of the Town

Other specific issues evolved from public meetings and interviews with Town staff and interested parties. Specific issues identified include:

Implementation of the Scenic Roadways Program

The 1999 Comprehensive Plan Update recommended the designation of scenic roadways and corridors. As noted above, proposed scenic roadways have been identified in the Water Protection Plan Boundary Area, and draft legislation to create a “Scenic Corridor Overlay District (SCOD)” remains in Long Range Planning without a legislative sponsor. The Town Board must decide whether to move forward with this effort and enact the process for designation.

Identification and Designation of Significant Scenic Areas

As mentioned above, there are various types of designations for areas of high scenic quality. These are typically based on the results of an inventory and prioritization of scenic resources within a community, but may also arise from recognition of (or sometimes a threat to) an area held in high value by the Residents. To date, a series of scenic roadways have been identified (but not yet formally adopted). Further, many environmental, growth management, historic preservation, or land acquisition actions have included an evaluation of scenic resources in their implementation. As of yet, however, there has not been a mechanism established to identify and protect or restore other significant scenic vistas on a Town-wide basis.

Management of Designated Significant Scenic Areas

As noted above, management recommendations already have been provided for Scenic Corridors in the 1999 Comprehensive Plan Update. Within built neighborhoods, better defined architectural review standards would improve protection of significant scenic areas, as would the development of standards for signage, clearing, and landscape maintenance specific to preservation of scenic qualities.

³⁷ Town of Southampton, 1999. Southampton Tomorrow: Comprehensive Plan Update, Implementation Strategies.

Policy 3: Protect and, where possible, enhance the visual quality of the natural and man-made scenic resources throughout the waterfront area of the Town.

Southampton has a distinctive, almost unique, blend of scenic resources including large and small waterbodies, the water's edge, rural agricultural areas, a broad array of architectural forms, and historic hamlet centers. These scenic features are critical to the Town's character as a resort, second home and visitor attraction as well as an attractive place to live and work. This interplay of built and natural environments is a major aspect of the visual quality of the Town.

The Intent of this policy is to ensure that these important visual resources remain, or are improved, both to maintain the "flavor" of the Town but also to pass them on to future residents.

3.1 Protect and improve visual quality throughout the waterfront area.

- a. Preserve those open spaces, vistas, farmlands, water-dependent uses, and scenic areas identified by an inventory that defines the character of the individual hamlets and Southampton as a whole.
- b. Protect identified scenic road corridors.
- c. Coordinate with utility companies to place utility lines underground along scenic road corridors.
- d. Integrate the protection of scenic and historic resources in the hamlets, particularly the Hamlet Heritage Areas.
- e. Preserve existing native vegetation and, where appropriate, establish new vegetation to enhance scenic quality.
- f. Protect against invasive species that might adversely impact scenic vistas. A specific example of this includes the management of tall invasive plants (*e.g., Phragmites sp.*) through wetlands restoration.
- g. Recognize water-dependent uses as significant additions to the visual interest of the waterfront.
- h. Ensure visual access to public waterfront areas.
- i. Protect scenic values associated with public lands, including public trust lands and waters, and natural resources.
- j. Enhance existing scenic characteristics by minimizing introduction of discordant visual features.
- k. Ensure that new or expanded development proposals recognize and complement the surrounding natural scenic context and the developed aesthetic nature of existing and historic architecture, building arrangements, land use, and infrastructure patterns in order to maintain or restore the traditional sense of place.
- l. Group or orient structures to preserve open space and provide visual access to scenic resources.
- m. Manage the size and location of docks and piers to minimize visual impacts. Group

commercial docks and marinas in areas zoned for such activities.

- n. Manage landscaping practices (*e.g.*, tall structures or vegetation) in order to protect views as seen from public areas.
- o. Manage signage to maintain visual quality.
- p. Manage fences and hedges along bulkheads, public rights of way, and agricultural reserves for sensitivity to viewsheds and to protect community character.
- q. Restore deteriorated, and remove degraded visual elements, and screen activities and views which detract from visual quality.
- r. Adhere to the programs defined in Southampton Conservation Plan Update of 1999, Section 3. Develop Standards for Scenic Road Corridors, regarding the management of utility lines.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 330, Zoning; Article XIX. Architectural Review
- Chapter 330, Zoning; General provisions
- Chapter 330, Zoning; Article XX. Administration and Enforcement
- Chapter 140, Community Preservation Fund
- Chapter 123, Building Construction
- Chapter 292, Subdivision of Land; Article III General Application Procedures
- Southampton Board of Trustees “Blue Book” and related Town Law and regulations

Implementation Through Recommended Changes to Local Law:

Specific recommendations for amendments to local laws to better implement this policy include the following:

1. Consider developing a Scenic Roadways Ordinance to provide the framework for designation and protection of designated roadways. Include specific standards for scenic roads—the Transportation Section of the 1999 Update of the Town Comprehensive Plan provides a starting point.
2. Chapter 330-171. Consider amendment to define the Architectural Review Board’s review criteria and jurisdiction to include scenic corridor guidelines and siting and landscape requirements as they relate to scenic corridors.
3. Clarify architectural standards in order to “define compatibility within neighborhoods.” This should include design criteria associated with the Hamlet Heritage Areas and Historic Districts.
4. Consider establishing standards regarding clearing of vegetation on private property for areas identified as important scenic or historic vistas.
5. Consider developing regulatory language or make it a policy for the Architectural Review Board and Planning Board to consider water-dependent uses as positive scenic resources.
6. Ensure visual access to public waterfront areas through preservation and land use

regulations where appropriate. Consider revising existing subdivision regulations to improve scenic resource protection.

Implementation Through Projects:

1. Expand the inventory of scenic resources done for the Long Island South Shore Estuary Reserve to include the entire waterfront area of the Town as suggested in the 1999 Southampton Comprehensive Plan Update. This could include the following considerations:
 - a. Identify scenic vistas from trail heads, roadways, ocean frontage, waterways and hamlet areas. Scenic views from public waters should be identified and protected as well as those from public viewing locations on land.
 - b. Scenic vistas should include views of historic or culturally meaningful structures as well as sufficient geographic and environmental surroundings to provide context to the resource values.
 - c. Vistas that have been important historically should be included along with those of current importance.
 - d. Create a priority list for acquisition, management techniques, or other protective mechanisms, and maintain and update the list on a regular basis.
 - e. Link the identified scenic vistas to a master plan(s) for a hiking/biking trail on Dune Road.
 - f. Make use of the hamlet studies as a source of information about important scenic and cultural areas of importance to inform the priority list; and implement planning and zoning recommendations of Hamlet studies and the Comprehensive Plan Update.

Implementation Through Proposed Administrative Changes or Actions:

1. Define and coordinate the roles of the various boards responsible for designating and protecting scenic resources.
2. Create a culture of stewardship for protecting the public values of coastal scenic vistas. This can be presented in schools, provided to the general public through publications, workshops, web sites, etc. Many of the scenic vistas within the Town will involve private lands. Informing the general public of the values of maintaining the scenic beauty of the Town will encourage both individual actions and community support for regulatory efforts.
3. Coordinate with the Villages and the Shinnecock Nation to ensure that resources common to all political sub-units are protected. Many, if not most, of the scenic assets in the Coastal Resources & Water Protection Plan planning area cross boundaries between the Town, the Villages, and the reservation lands of the Shinnecock Nation. Coordinated efforts between the various political jurisdictions will serve to better preserve these public assets.
4. Identify an entity within Town government to be charged with management and protection of scenic resources. Presently there is no single entity charged with identifying and protecting scenic resources through regulatory actions within the Town. Regulatory responsibility is spread between the Southampton Board of Trustees, the Town Planning Board, the Architectural Review Board and, to a lesser extent, the Landmarks and Historic Districts Board.

5. Utilize appropriate and available mechanisms to address Section 3.4 of the Comprehensive Plan update of 1999 to foster the placement of utility lines underground within scenic road corridors.

3.2 Protect aesthetic values associated with the waterfront that are recognized as areas of high scenic quality.

- a. Protect aesthetic and scenic values associated with the waterfront and any areas designated as Scenic Areas of Statewide Significance (none are presently designated).

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 330, Zoning; Article XIX. Architectural Review
- Chapter 330, Zoning; General Provisions
- Chapter 330, Zoning; Article XX. Administration and Enforcement
- Chapter 140, Community Preservation Fund
- Southampton Board of Trustees “Blue Book” and related Town Law and regulations

Implementation Through Recommended Changes to Local Laws:

Specific recommendations for amendments to local laws to better implement this policy include the following considerations:

1. Conduct assessments of potential sites for the State-administered Scenic Areas of Statewide Significance program.
2. Identify and designate Scenic Resource Protection Overlay Areas to protect the important coastal scenic resources of the Town.
3. Develop landscape standards for specific scenic areas in the Town to be implemented through the Architectural Review process, subdivision reviews, or zoning.
4. Define appropriate architectural review standards for specific scenic areas.
5. Develop a Scenic Viewsheds Ordinance designed to protect identified scenic views.
6. Develop and implement a scenic easement provision to allow for tax abatement for property owners willing to maintain scenic viewshed elements on their properties within identified viewsheds or designated Areas of Scenic Significance.
7. Incorporate clearing standards similar to those in §292-39 and §330-67 in a new scenic viewsheds ordinance.

Implementation Through Projects:

1. Consider implementing a Scenic Road Corridors program by identifying and designating scenic road corridors Town-wide to guide conservation efforts, capital investment and future development as proposed in the 1999 Update of the Town Comprehensive Plan. Steps for consideration in this process could include aspects such as the following:
 - a. Develop a Scenic Roadways Ordinance to provide the framework for designation and protection of designated roadways. Include specific standards for scenic roads as

suggested by the Transportation Section of the 1999 Update of the Town Comprehensive Plan.

- b. Prepare a document which describes the designation process, public benefits, and costs of implementing such a program and disseminate this to Town officials; Town boards, commissions, and committees; staff members; and the general public
 - c. Designate appropriate areas as Scenic Roadways using materials provided in the Town Comprehensive Plan Update and from public input.
 - d. Coordinate the Town program with the New York State Scenic Byways Program.
 - e. Coordinate with utility companies to place utility lines underground along scenic road corridors.
 - f. Coordinate with utility companies for the most appropriate timing for tree trimming or removal in order to maintain vegetated corridors and/or to open scenic vistas from Scenic Roadways.
 - g. Define review criteria and jurisdiction for the Architectural Review Board and/or the Planning Board, as appropriate, to include scenic corridor guidelines and siting and landscape requirements as they relate to coastal scenic corridors.
2. Designate and manage areas of high scenic quality.
- a. Using the inventory of scenic resources described above and the protocols provided for the identification of scenic qualities of coastal landscape by the NY Department of State, assess potential sites for the State-administered Scenic Areas of Statewide Significance (SASS) program. Designation of an area as a SASS protects scenic landscapes through review of projects requiring State or federal actions through the State's consistency program.
 - b. Designate Scenic Resource Protection Overlay Areas to protect the important coastal scenic resources of the Town.
 - c. Develop landscape standards for specific coastal scenic areas in the Town to be implemented through the Architectural Review process or site plan review.

FLOODING, EROSION, AND SEA LEVEL RISE

Flooding, erosion, sea level rise, and storms have had, and will have, significant effects on the resources, economy, and lives of residents and visitors of the Town of Southampton. These phenomena become a problem as people occupy or use the areas where they occur and, consequently, several government programs have been set up to mitigate the effects of flooding, erosion, severe storms, and sea level rise. Numerous technical, policy, and legal studies and reports have been prepared from a general, regional, and Town perspective that address management of flooding, erosion, severe storms, and sea level rise. While additional specific information may be necessary or useful for some projects, current knowledge based on the existing studies and reports, as well as local experience, provide an adequate basis for development of refined policies and new recommendations for improved public management in this area; therefore what follows and introduces the policy is a review of existing studies, programs, and information.

Flooding, Erosion and Severe Storms

The Town's Atlantic Ocean coastline, the mainland shoreline of its coastal ponds and bays, the streams that flow into these ponds and bays, the Peconic Bay shoreline, and fresh water ponds all exhibit different characteristics, based on natural conditions and the manner in which people use these areas, that are important for management.

The barrier beach that extends for most of the Town's Atlantic shoreline, with its wide beach, dune system and wetlands along its bay shoreline, is the mainland's primary defense against the effects of severe coastal storms. This fragile and dynamic landform has been shaped by complex natural processes over centuries, with the accumulation of eroded glacial sediments that are carried westward from Montauk Point in the littoral current and deposited by wave action on the barrier beaches and offshore bars. In addition to the westward growth and movement of the beaches, there is also a landward migration of this system in response to diminishing sediment supply, storm activity, and relative sea level rise³⁸. Erosion is a natural, and generally unavoidable, process that becomes a problem when it threatens man-made structures and places of public recreation, or compromises natural protective features and/or habitat quality. During severe storms, such as nor'easters, tropical storms, and hurricanes, the sea may come completely over the barrier island in specific locations, retreating, as the storm passes, in a process referred to as overwash. In particularly severe storms the sea may create new openings between the ocean and the bay—referred to as breaches. A breach will remain open until it naturally closes or is closed artificially by placing fill or installing a structure. (See the "Proposed Long Island South Shore Hazard Management Program"³⁹ for information on the location of past breaches and areas subject to overwash.) While overwashes and breaches can have significant adverse effects on property, they are also natural processes that are part of the long-term maintenance of the barrier beach system.

The development pattern on the barrier beach and other Atlantic shoreline within the Town consists primarily of open space (particularly a large stretch west of Shinnecock Inlet) and low-density residential areas. There is a small concentration of industrial and commercial use just west of the Inlet. This is the location of the commercial fishing fleet. There are several commercial uses, such as restaurants, scattered along the barrier on both the ocean and bay side, and there are a few areas with higher density residential development. There are limited vacant parcels.

³⁸ US Fish & Wildlife Service. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed.

³⁹ Long Island Regional Planning Board. 1989. Proposed Long Island South Shore Hazard Management Program.

The Atlantic Coast of New York Monitoring Program, a cooperative effort of the US Army Corps of Engineers, the New York Departments of State and Environmental Conservation, and New York Sea Grant, provides beach profiles, aerial photography, and historic shoreline maps from 1830 to 1995. (Maps of these data are not currently available for inclusion in this document.)

The maps show the historic locations of the shoreline over time. From 1830 to 1933 the shoreline was seaward of its present location. The more recent retreat of the shoreline is related to the effects of the presence and maintenance of the Shinnecock Inlet, as well as its jetties, which diminish sand movement to the west. The 1995 line, which is seaward of the 1988 line, reflects beach nourishment with dredged material from the inlet. Maintaining a wide barrier beach west of the Inlet is critical in protecting not just the barrier and the beach, but also the commercial fishing port located on the back of the barrier just west of the inlet.

Until the Shinnecock Inlet's location was stabilized at its present location in the last century, inlets between Shinnecock Bay and the Ocean occurred at various points, generally as the result of storm-created breaches in the barrier beach. Although the Shinnecock Inlet may affect the barrier island, its maintenance is important for providing essential boating access from Shinnecock Bay to the ocean for commercial and recreational purposes. As a result, the manner in which inlets are maintained becomes important.

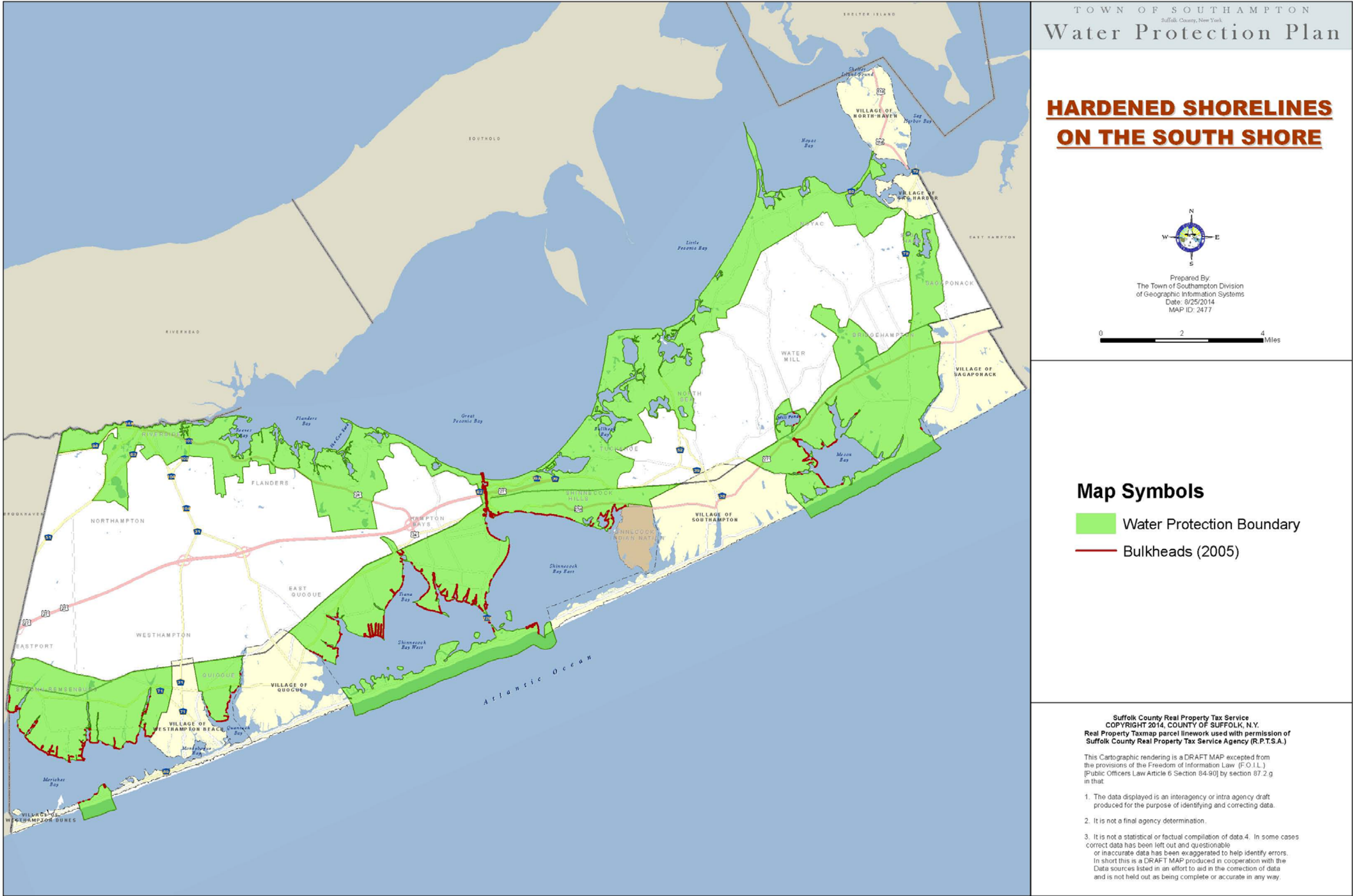
The current dredge inlet is authorized at a depth of 10 feet, a width of 200 feet, and length of 0.46 miles⁴⁰. Dredged material has been used for beach nourishment west of the inlet. Efforts are underway by the Town to develop a joint strategy with the US Army Corps of Engineers (ACOE), NY Department of Environmental Conservation, and Suffolk County Department of Public Works to complete beach and dune re-nourishment following beach and dune loss as a result of Hurricane Irene.

In addition to the effects of the jetties at Shinnecock Inlet, shore parallel structures such as seawalls, revetments, and bulkheads, also have adverse effects on the barrier beach. A report commissioned by the Southampton Board of Trustees stated that, "There is clear, scientific consensus that seawalls (or any shore-perpendicular hard structure designed to halt erosion), when placed on an eroding or retreating beach will cause the beach to narrow and eventually disappear."⁴¹ Seawalls stop the ability of the beach to move landward. Seawalls can also increase beach loss by wave refraction and scour, *i.e.*, as a wave breaks against the seawall it can pull sand away from the beach. Some seawalls can, by temporarily reducing erosion, prevent sand from feeding the beach; and seawalls can increase erosion/scour at their ends. Shore-parallel structures can have similar effects in the other waterbodies of the Town. The locations of existing shoreline protection structures are shown in Figure 23.

⁴⁰ The description of the maintenance plan for the inlet can be found at: www.nan.usace.army.mil/project/newyork/factsh/pdf/ShInOM.pdf.

⁴¹ Young, Robert S. 2011.

Figure 10: Hardened Shorelines on the South Shore



The non-barrier island shoreline of the south shore and the shoreline of the Peconic Bay are primarily developed areas subject to flooding, storm surge, and erosion. The areas of the Town that lie within the Federal Emergency Management Agency (FEMA) designated flood zone are shown in Figure 11. This map shows the extensive development that is within the flood zone. The map also shows, based on past hurricanes, the extent and location of areas that would be subject to a storm surge. This information is from a SLOSH model⁴². The extent of development that is at risk in the Town is substantial.

Recent systematic information about shoreline changes along the Peconic Bay shoreline was not found; but, a 1977 Sea Grant study⁴³ documented changes in shoreline configuration over time.

Sea Level Rise

Sea level is projected to increase substantially over the next century due in part to climate change. Two recent State reports^{44,45} have outlined the extent of likely sea level rise, its anticipated effects, and a general direction for mitigating or adapting to the effects of sea level rise. In addition to sea level rise, anticipated climate change is expected to increase the number and severity of coastal storms and alter rain fall patterns. While sea levels have been rising since the last Ice Age, the Task Force report estimates that the rise will increase over the next several decades. The sea level rise projections from a September 2014 update of the NYSERDA report are as follows:

Baseline (2000- 2004) 0 inches	Low Estimate	Middle Range	High Estimate
2020s	2 in	4 to 8 in	10 in
2050s	8 in	11 to 21 in	30 in
2080s	13 in	18 to 39 in	58 in
2100	15 in	21 to 47 in	72 in

The major findings of the Task Force were that:

- Sea level and severe coastal storms will increasingly affect the New York coast,
- In addition to people and property, natural resources—particularly tidal wetlands—are at risk,
- Development in hazardous areas continues to be encouraged,

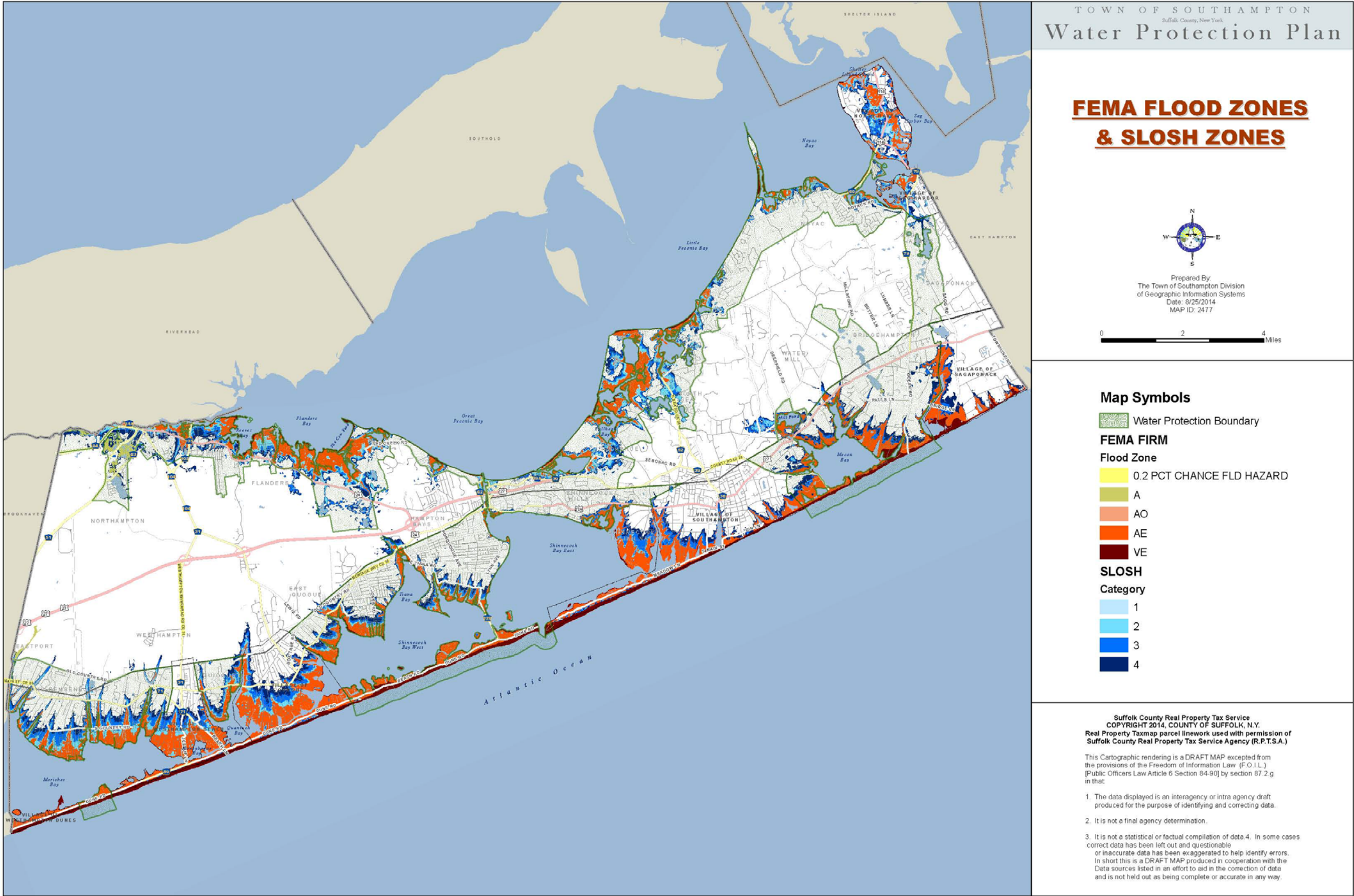
⁴² See www.nhc.noaa.gov/HAW2/english/surge/slosh.shtml for more information on the SLOSH model.

⁴³ Eisel, M.T. 1977. Shoreline Survey: Great Peconic, Little Peconic Gardiners, and Napeague Bays

⁴⁴ NYS Sea Level Rise Task Force. 2010. New York State Sea Level Rise Task Force Report to the Legislature. Online at www.dec.ny.gov/docs/administration_pdf/slrtffinalrep.pdf.

⁴⁵ ClimAID. 2011. Responding to Climate Change in New York State, NYSERDA. Online at: <http://www.nyserda.ny.gov/climaid>.

Figure 11: FEMA Flood Zones & SLOSH Zones



- Structural solutions, except in urban areas, are too costly and have negative effects,
- Better maps of areas affected by sea level rise are needed, and
- Low-cost approaches to reduce vulnerability are available.

The Task force recommended that:

- Official projections of sea level be adopted,
- State agencies factor sea level rise into decisions and prepare maps and regulations to react to projected sea level rise,
- Areas subject to sea level rise and coastal storms be classified as to risk level,
- Reliance on non-structural measures and natural protective features to reduce vulnerability be increased,
- Health risks from sea level rise be assessed,
- Funding for local government, adaptation measures, and research be made available,
- Adaptation strategies be coordinated, and
- Public awareness of sea level rise and climate change be raised.

It is important to note that coastal storms and resulting overwashes and breaches can play a positive role in maintaining the barrier and its resources in the face of sea level rise.

Mapping areas vulnerable to sea level rise projections is important to identifying appropriate adaptation strategies. The Nature Conservancy has developed a methodology for this mapping, developing a Regional Framework for Assessing Coastal Vulnerability to Sea Level Rise in Southern New England⁴⁶. The report includes Long Island in “Southern New England”.

Rising sea levels also are anticipated to impact aquifers, as described in the section on water quality.

Coastal Erosion Hazards Area Act (CEHA)

Recognizing the importance of preserving beaches, dunes, bluffs, and other natural protective features, New York State enacted the Coastal Erosion Hazards Area Act as part of the development of the State’s Coastal Management Program. This Program is administered by the Town under Chapter 138 of the Town Code. The CEHA establishes a regulatory line that encompasses the relevant natural protective feature, such as a primary dune, and subjects all proposed structures seaward of that line to review. The standards are strict, and after undertaking a detailed Generic Environmental Impact Statement, the Town established standards to prohibit seawalls in most instances and to require that development be located landward of the setback. The CEHA program also addresses pre-existing structures located seaward of the setback line, and generally requires compliance with the regulations when structures are substantially modified. Sea walls and similar erosion protection measures which are adversely affecting beaches and dunes, but which existed prior to the regulations, are not required to comply with the regulations unless they are modified or proposed for reconstruction following storm damage.

The legislative findings recognize that Coastal Erosion Hazard Areas are prone to erosion from the action of the Atlantic Ocean. Such erosion may be caused by the action of waves, currents running along the

⁴⁶ The Nature Conservancy. 2010. Developing a Regional Framework for Assessing Coastal Vulnerability to Sea Level Rise in Southern New England. Online at:
http://coast.noaa.gov/digitalcoast/_/pdf/TNC_SNE_case_part1_FINAL.pdf.

shore, and/or wind-driven water and ice. Such areas are also prone to erosion caused by the wind, runoff of rainwater along the surface of the land or groundwater seepage, and/or by human activities such as construction, navigation and certain forms of recreation.

Coastal erosion can cause extensive damage to publicly and privately owned property and to natural resources, and can endanger human lives. When this occurs, individuals and private businesses suffer significant economic losses, as do the Town and the State economies, either directly through property damage or indirectly through loss of economic return. Large public expenditures may also be necessitated for the removal of debris and damaged structures and for the replacement of essential public facilities and services.

Coastal Erosion Hazard Areas also experience erosion-related problems that are often contributed to by man's building without considering the potential for damage to property, by undertaking activities which destroy natural protective features such as dunes or vegetation, by building structures intended for erosion prevention which may exacerbate erosion conditions on adjacent or nearby property, and by water action produced by wakes from boats. These impacts can be mitigated by protecting the natural character of shorelines, beaches, dunes, wetlands and bluffs.

Coastal Erosion outside CEHA

Outside of the designated CEHA, erosion also affects coastal features such as bluffs. Bluff erosion is a natural process whose periodic occurrence is critical to the resupply of sand to the beaches below. The degree of stability of coastal bluffs depends on many different factors including the steepness of the slope; the size, shape and cohesiveness of the soil particles; the amount of moisture in the soils of the slope; actions of humans; and natural forces that tend to disturb the soil. The bluffs of Shinnecock Bay and the Peconics are dynamic natural protective features and are the primary source of sand and sediment for the beaches below. Rock rip-rap and retaining walls can limit the natural interchange of sand between bluffs and beaches and can interfere with beach buildup and, potentially, littoral drift or long-shore transport of sand, thereby affecting beach and bluff stability. The falling trees and natural vegetation, as a consequence of bluff erosion, provide organic material and detritus to the near shore marine food web, including intertidal invertebrates and fish. As such, shore modifications can impact ecological functioning, not only by interfering with wildlife habitat, fish and horseshoe crab spawning, and other activities of marine life, but also by preventing the natural build-up of fallen trees and shrub debris at the toe of the bluff. This debris, along with washed up driftwood, provides for natural stabilization of the beach and, through catchment of sand, seeds, and sediment, natural recovery of bluff vegetation and rebuilding of the bluff face. Incompatible activities of concern related to bluff erosion include clearing of natural vegetation atop the bluff, continued mowing and maintenance of lawn to the edge of a bluff face, and the installation of shore hardening structures. Recognizing the habitat value and significance of both Shinnecock Bay and the Peconic Estuary, restoring and improving natural bluff and beach rebuilding processes is a high priority that will allow these ecosystems to recover and work properly without continued intervention and maintenance.

Coastal Barrier Resources Act

The federal Coastal Barrier Resources Act identifies stretches of generally undeveloped barrier beach and restricts federal support for development in the identified areas. For example, federal flood insurance is not available for property built after the mapping of an area as a coastal barrier beach nor for loans or grants for infrastructure that would serve or facilitate new development of these areas. Four areas on

Southampton's Atlantic coast and some small areas of the mainland bay shoreline have been designated under this program⁴⁷.

The Fire Island to Montauk Reformulation Study

The Fire Island Inlet to Montauk Point Reformulation Study is a US Army Corps of Engineer's project designed, "to identify storm damage reduction risks within the study area and evaluate alternative methods of providing authorized beach erosion and hurricane protection." The study is being undertaken in cooperation with the State of New York and the US Department of the Interior. The study is primarily addressing beach nourishment, breach closing, and mainland flooding. Interim projects provide:

- 1) protection to the area west of the Westhampton groin field through periodic beach nourishment for a period of 30 years (the project also included modification of the groin field),
- 2) a breach contingency plan to provide a mechanism for rapid breach closure, and
- 3) beach nourishment west of the Shinnecock Inlet⁴⁸.

Flood Insurance Program

The National Flood Insurance Program administered by the Federal Emergency Management Agency provides flood insurance for residential and business property owners and renters in participating municipalities⁴⁹—Southampton is a participating municipality. Participating municipalities adopt local laws to reduce the risk of flooding. Chapter 169⁵⁰ of the Town Code provides standards for development in mapped flood risk areas⁵¹. The barrier island is either within the VE zone or the AE zone. Within the VE zone, structures must be elevated above established flood levels, and within the AE zone property must be similarly elevated or flood-proofed. Property owners are generally required to purchase flood insurance if there is a mortgage from a federally-regulated bank. The maximum insurance coverage of \$250,000 for a residential structure is low relative to the typical value of structures on the barrier island. FEMA has established a Community Rating System that enables communities to reduce the cost of flood insurance for residents by adopting management measures that exceed the requirements of the National Flood Insurance Program.

Issues and Analysis

Preventing loss of beach is not just a good idea; it's an obligation of government. The State or the Board of Trustees hold their property interests in the beaches and dunes in trust for the benefit of the public and cannot, except in exceptional circumstance, divest themselves of that obligation. This obligation, the Public Trust Doctrine (PTD), is described more fully in the section on public access. The Board of Trustees has long recognized that they are trustees of the public interest in the property they hold, now almost exclusively lands subject to the PTD.

Shoreline Hardening Restrictions

Shoreline hardening has been shown to have adverse effects on natural resources and coastal processes with consequent reductions in public uses and values, and has been shown to be less than effective in

⁴⁷ Maps are found at <http://www.fws.gov/CBRA/Maps/CBRS/121A.pdf> and <http://www.fws.gov/CBRA/Maps/CBRS/120.pdf>.

⁴⁸ More information on this project can be found at <http://www.nan.usace.army.mil/project/newyork/fimp/index.php>.

⁴⁹ For information on this program see, http://www.floodsmart.gov/floodsmart/pages/about/nfip_overview.jsp.

⁵⁰ See Chapter 169 of the Town Code, available at <http://www.ecode360.com/SO0286>, for specifics.

⁵¹ See Figure 11, *FEMA Flood Zones and SLOSH Zones*, for areas where this applies.

the long term. Recognizing this, the Town has, through the CEH regulations, limited such uses along the Atlantic shoreline. Approaches to strengthening and clarifying the Town's regulations for protecting natural coastal features, for reducing the extent of development at risk, and for avoiding adverse legal decisions should be identified. The negative effects of shoreline hardening are not limited to the Atlantic shoreline, and additional restrictions on shoreline hardening for the mainland of the southern coastal bays and ponds and for the Peconic Bay shoreline should be considered. Additionally, some shoreline structures allowed on a temporary basis along the Atlantic shoreline (*e.g.*, Geotubes) can have similar effects to more traditional shoreline hardening structures and can have other negative effects if they fail and the remnants are disbursed in the environment.

Beach Nourishment, Breach Closure

The specifics of beach nourishment, *i.e.*, when?, where?, who's responsible?, at what cost?, are questions that need to be addressed. Currently it is New York State and federal policy to fill any breach in the barrier island as quickly as possible. The concepts of whether preventive action should be taken to reduce possible breaches and whether this is a responsibility of the Town should be addressed, as any reparation in the future is apt to be extremely expensive.

Inlet Management

The Shinnecock Inlet is necessary for navigational access. Dredging to lower parameters which still meet navigational needs and using disposal to the west, undertaken more frequently, could be less disruptive of the natural process.

Community Rating System Score

The Town should renew its participation and address options to improve its score on the Community Rating System. In 2014 there were 5,055 National Flood Insurance Program (NFIP) policies in force in the Town of Southampton (excluding the villages). The value of the insurance in force was \$1,537,208,500 and the premiums paid by property owners for this insurance totaled \$5,730,737. Under the Community Rating System, if the Town documents efforts that go beyond the requirements of the NFIP to reduce the risk of loss to flooding, the NFIP premiums charged to property owners could be reduced by a range of 5% to 45% annually. The percentage reduction depends on the nature and extent of what the Town does and documents in order to reduce the risks of flood damage. The potential savings to policy holders can be substantial and will increase as premiums rise under recent amendments to the National Flood Insurance Program⁵².

Erosion and Protective Feature Setbacks

Though the issues are similar to the Atlantic shoreline, similar erosion hazard area regulations for the Peconic Bay shoreline bluff, barrier beaches, and other natural protective features or development setbacks based on historical recession rates do not exist.

Sea Level Rise and Climate Change Adaptation

Planning for adaptation to sea level rise for the Town will require 1) an understanding of what areas will be inundated under various sea level rise scenarios, 2) the effects this will have on development currently subject to flooding and storms, 3) how effects of sea level rise may vary given the nature of the shoreline, and 4) what infrastructure and development requires protection rather than relocation. The planning will also need to consider different approaches given different planning horizons.

⁵² Biggert Waters Flood Insurance Reform Act of 2012, and Homeowners Flood Insurance Affordability Act of 2014.

Recent storms such as Hurricane Sandy have increased the understanding that government must be better prepared⁵³ for the effects of coastal flooding, erosion, storms, and sea level rise by undertaking a thorough assessment of the infrastructure that is now or will be affected and by planning for its protection or relocation. Such planning must also consider the need to maintain and strengthen the Town's resort-based economy and the natural character of the shoreline on which it depends.

The currently expected rise in sea level is described above along with maps of the areas expected to be affected by severe storms and sea level rise. The data available on the extent and nature of sea level rise and the geographic areas potentially affected by severe storms will continue to be incorporated into the Town's Geographic Information System (GIS) database and the most recent State or federal information will be consulted in planning efforts. Sea level rise will affect all shoreline land forms—the barrier beach, wetlands, bluffs, and bay shoreline—whether hardened or natural, although its effects will differ among them.

Policy 4: In the interest of public health, safety and welfare, minimize storm damage to principal structures, infrastructure, and natural resources from flooding, erosion, and sea level rise.

The objective of this policy is to continue the practice of establishing, regulating, and implementing standards and procedures for: protecting human life; minimizing and preventing coastal flooding and erosion damage to man-made property and structures; preserving public access and the use of the beaches; and safeguarding natural protective features and coastal processes so that they are not interrupted or compromised by development activities as part of the larger effort to ensure local resilience to the effects of climate change (See Town's Climate Adaptation Plan for supplemental information).

4.1 In the interest of public health, safety and welfare, minimize storm damage to principal structures⁵⁴ and infrastructure from flooding, coastal storms, erosion and sea level rise from present and expected future conditions.

- a. Adhere to the construction standards of Chapter 169 of the Town Code for new, substantially improved structures, or substantially damaged structures.
- b. Consider acquisition, both pre- and post-storm, of existing non-water-dependent (*i.e.*, residential) structures within coastal flood zones when moving or elevating the structure beyond the hazard area is not feasible, septic systems cannot be protected from the effects of flooding or storm surge, provision of necessary public infrastructure is not cost effective in light of the hazards, or other situations where the public costs of maintaining development substantially outweigh the public benefits. Take full advantage of State and federal funding

⁵³ On September 22, 2014 NYS Governor Cuomo signed The Community Risk and Resiliency Act into law that requires State agencies to consider future physical climate risks caused by storm surges, sea level rise or flooding in certain permitting, funding and regulatory decisions (A06558/ S06617-B). In addition, the State Department of Environmental Conservation will adopt official projections for sea level rise by January 1, 2016 and update the projections every five years. The Department of Environmental Conservation and the Department of State will also prepare model local laws to help communities incorporate measures related to physical climate risks into local laws, as well as provide guidance on the implementation of the Act, including the use of resiliency measures that utilize natural resources and natural processes to reduce risk.

⁵⁴ As defined in Chapter 169 of the Town Code.

for this purpose.

- c. Prioritize acquisition in areas of repetitive storm damage and areas prone to flooding, or where natural coastal resources need to be restored in order to buffer developed areas from future storm events.
- d. Adhere to the standards of the Town zoning law (Chapter 330-42 to 46) and the Coastal Erosion Hazard Area law (Chapter 138) with regard to the location of, and nature of, permitted development. Maximize the setback of development from the shoreline by requiring the development be sited in the least hazardous area of the lot regardless of other lot line setback requirement, Chapter 330-46.2(2).
- e. Continue to regulate land use and development activities in coastal adjacent areas subject to coastal flooding and erosion so as to minimize or prevent damage or destruction to man-made property, natural protective features and other natural resources; to preserve public access and use of the beaches; and to protect human life.
- f. Continue to regulate new construction or placement of structures in order to place them such that they will be a safe distance from areas of active erosion and the impact of coastal storms. This is intended to 1) ensure that these structures will not be prematurely destroyed or damaged due to improper siting, 2) prevent damage to natural protective features and other natural resources, and 3) reduce interference with natural processes that affect those features and resources.
- g. Prohibit the construction of new erosion protection structures in coastal hazard areas and regulate the replacement or reconstruction of existing erosion protection structures along with normal maintenance in accordance with Chapter 138 of the Town Code. Structures allowed pursuant to a variance should be conditioned to ensure that their construction and operation will minimize or prevent damage or destruction to man-made property, private and public property, natural protective features and other natural resources.
- h. Within the natural protective features of all marine shorelines of the Town, including nearshore areas, beaches, bluffs, primary and secondary dunes, marshes, and areas of native vegetation, allow only the limited disturbances specifically identified in Town law as permitted. These actions generally include maintenance of navigation channels, beach nourishment, walkways over dunes, and installation of some moveable structures. On other shorelines of the Town, erosion control structures such as bulkheads and seawalls are limited to exceptional circumstances in order to protect fish spawning areas, wetlands, bird habitat, public access, and the contribution of shore erosion to down-drift beach areas, or to promote improved functioning of water-dependent uses. The use of erosion control structures such as bulkheads and seawalls are limited to exceptional circumstances or to allow for the efficient functioning of water-dependent uses. New erosion control structures are prohibited on the barrier beaches and the headland beaches for any type of use. Limit reconstruction of existing non-conforming erosion control structures to exceptional circumstances (Chapter 330-46.7).
- i. Allow for beach re-nourishment and soft solutions to provide a long-term solution for bluff erosion. Prevent further bluff and beach erosion with continued sand replenishment at the bluff toe, while preserving existing recovering natural vegetation.
- j. Restrict development within an area adjacent to a natural protective feature to that allowed by the Town zoning law. Development on shoreline parcels shall, to the extent practicable,

maximize setback from the shore and minimize setbacks from the landward lot line (Chapter 330-46.2(2)).

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 169, Flood Damage Prevention
- Chapter 138, Coastal Erosion Hazard Areas
- Chapter 330 - 42 to 46 Zoning, Coastal Erosion Hazard Adjacent Areas
- Southampton Board of Trustees “Blue Book” and related Town Law and regulations.

Implementation Through Recommended Changes to Local Law:

Specific recommendations for amendments to local laws to better implement this policy include the following:

1. Chapter 330. Consider amending section 330-44 to include within the definitions, bluffs on the Peconic shoreline; and amend 330-46 to establish a setback line from bluff edges on the Peconic shoreline, and establish restrictions on uses and structures shoreward of that line.
2. Consider amending Chapter 330-46.3 to require protection of natural vegetation landward of the bluff edge and on the bluff face.

Implementation Through Projects:

1. Seek State and federal funding for land acquisition to support this policy.
2. Consider further participation in the Federal Emergency Management Act (FEMA) Community Ratings System program. (The program rewards communities that improve their flood plain management by providing discounts of between 5–45% on flood insurance premiums. As flood insurance premiums move toward actuarial rates, this could provide substantial benefits to homeowners. Southampton has qualified for a 10% reduction.)
3. Develop coastal resilience plans.
4. Provide constituents with educational materials to encourage bluff restoration.
5. Develop and analyze data on erosion rates for tops of bluffs.

4.2 Preserve and restore natural protective features and natural resources.

- a. Maximize the capabilities of natural protective features by avoiding alteration or interference with shorelines in a natural condition; enhancing existing natural protective features; restoring impaired natural protective features; and managing activities to minimize interference with, limit damage to, or reverse damage which has diminished the protective capacities of the natural shoreline.
- b. Minimize interference with natural coastal processes by: providing for natural supply and movement of unconsolidated materials, minimizing intrusion of structures into coastal waters and interference with coastal processes, and mitigating any unavoidable intrusion or interference.

- c. Maintain barrier landforms by allowing natural processes to operate as much as practicable in repair and maintenance of bridges, roads, commercial fishing facilities, and navigational infrastructure. Where alteration of natural coastal processes is necessary to protect important public infrastructure, utilize protection methods that mimic natural coastal processes. These protection measures include beach nourishment, dune building, sand fencing, and marsh creation on the back (landward side) of the barrier. Other structural approaches to erosion mitigation and storm protection are limited to the essential needs of water-dependent uses, navigational infrastructure and bridges.
- d. Provide for the migration of wetlands when considering approval of development. (See policy 6.1)

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 138, Coastal Erosion Hazard Areas
- Chapter 330 - 42 to 46 Zoning, Coastal Erosion Hazard Adjacent Areas
- Chapter 229, Protection of Natural Resources
- Chapter 292, Subdivision of Land
- Chapter 330, Zoning
- Chapter 325, Wetlands
- Chapter 330, Zoning
- Chapter 330 – 182 & 183, Site Plan
- Southampton Board of Trustees “Blue Book” and related Town Law and regulations.

Implementation Through Projects:

1. Identify areas that are prone to breach/overwash and develop a monitoring program in order to be proactive.
2. Develop/implement inlet management plans that allow natural processes to continue in order to enhance water quality and minimize/prevent storm damage (*e.g.* Mecox Bay, Sagg Pond, Squires Pond, etc.)
3. Explore creation of additional beach erosion control districts for the purpose of re-nourishing beaches that have been affected by storms.

4.3 Protect public lands and public trust lands and use of these lands when undertaking all erosion or flood control projects.

- a. Retain public or Trustee ownership of public trust lands including rights of way and Trustees’ lands that have become upland areas or former uplands that are now under water due to erosion, fill, or accretion. The Trustees’ easement along the Atlantic shoreline is a rolling easement that moves as the shoreline moves.
- b. Avoid losses or likely losses of public trust lands or Trustee lands, or use of these areas, including public access along the shore, which can be reasonably attributed to erosion control projects.

- c. Mitigate unavoidable impacts from approvable erosion and flood control projects to maintain natural coastal processes and natural resources as well as to maintain public and Trustee lands and their uses.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 157 Environmental Quality Review
- Southampton Board of Trustees “Blue Book” and related Town Law and regulations

4.4 Manage navigation infrastructure to avoid adverse impacts on coastal processes.

- a. Manage navigation channels to limit adverse impacts on coastal processes by designing channel construction and maintenance to protect and enhance natural protective features and prevent destabilization of adjacent areas.
- b. Manage Shinnecock Inlet, either by 1) dredging frequently to the minimum necessary channel depth, width, and length to accommodate the vessels that regularly utilize the channel or inlet, and mitigate all effects on the coastal processes that would otherwise naturally occur at the site, or by 2) instituting ongoing sand by-passing.
- c. Beneficial use of all dredged material is required. All material appropriate for beach nourishment, dune enhancement, or breach closure must be so utilized in the same system or through stockpiling.
- d. Manage Mecox and Sagaponet inlets by allowing or providing for regular breaching to maintain water levels and salinity for oyster habitat and other public purposes. Any dredged material shall be put to beneficial use in the immediate area.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 157 Environmental Quality Review
- Southampton Board of Trustees “Blue Book” and related Town Law and regulations.

4.5 Ensure that expenditure of public funds for flooding and erosion control projects results in a public benefit.

- a. Give priority in expenditure of public funds to actions that protect public health and safety, mitigate flooding and erosion problems caused by previous human intervention, protect areas of water-dependent uses, maintain the resort economy, and protect substantial public investment in infrastructure and facilities.
- b. Limit expenditure of public funds to those circumstances where public benefits exceed public cost.

4.6 Consider sea level rise when siting and designing projects involving substantial public expenditures and when approving other development.

- a. Use the most recent mid-range projection of sea level rise published by New York State or the federal government when considering the effects of sea level rise in planning, designing and siting infrastructure, and in approving development. Use the higher range of those projections for major projects.
- b. Reduce the potential effects of sea level rise by siting development as much as practicable so as to avoid the areas of the site most likely to be inundated based on New York State estimates of sea level rise within the next 20 years.
- c. Consider acquisition, when appropriate, of land areas projected to be inundated or significantly affected as a result of sea level rise and land areas adjacent to natural protective features in order to allow for migration of natural protective features. Acquisition of vegetated tidal wetlands, beaches, and dunes is particularly important in order both to retain their natural resource benefits and to provide continued public uses of those areas and resources.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 157, Environmental Quality Review
- Chapter 330 -46.2B, Zoning Adjacent Areas

Implementation Through Recommended Changes to Local Law:

Specific recommendations for amendments to local laws to better implement this policy include the following:

1. Chapter 330, Zoning. Consider amending various sections to include a standard to avoid areas expected to be inundated by sea level rise as much as is practicable.

WATER QUALITY

Residents and businesses alike rely on clean groundwater and surface waters to support their daily activities, and yet recent research and monitoring efforts show that the short- and long-term health of surface and groundwater in the region is being significantly jeopardized by human activity. The Town and several other entities are actively engaged in identifying and eliminating and/or mitigating existing problems and preventing new ones. Examples of existing efforts include restoring shellfish and eelgrass habitat to help filter water, preserving wetlands and open space, reducing vessel-based waste through the use of pump-out boats, understanding the sources of nitrogen within the many sub-watersheds in the region, and working to identify alternatives to existing cesspools and inadequate septic systems⁵⁵.

Watershed Overview

Southampton has two primary surface watersheds (see Figure 12), one that drains north toward the Peconic Bays and another which drains south toward the Atlantic Ocean. Within the primary watersheds are sub-watersheds (see Figure 13) that discharge into many different types of waterbodies including ponds, streams and/or embayments. Each sub-watershed's land uses (residential, agricultural, commercial, industrial, etc.) may produce different sources and levels of contaminants; and the differing amounts of impervious surface (paved areas, buildings, etc.) can affect the pathway of surface water by increasing runoff and decreasing infiltration to groundwater. It is important to note that watershed boundaries extend well beyond the boundaries of this planning document—and beyond the boundaries of the Town itself—showing a clear need for regional coordination on water quality issues.

In addition to the surface waters in the Town, there is a vast groundwater system as well, which contains the Magothy Aquifer, the Lloyd Aquifer, and the Upper Glacial Aquifer. The general direction of groundwater movement is similar to that of surface water in Town, with some water draining to the Peconic and some draining to the Atlantic. In order to best manage these watersheds, it is important to understand the sources of water as well as the ways in which they move throughout Town.

Sources of Water

The waters of the estuaries and embayments in and around the Town of Southampton are affected by four sources of input: 1) Marine (saline) waters, which are the result of inflow from the Atlantic Ocean to the south and Peconic Bay to the north; 2) Fresh and estuarine water in the Peconic River, which passes through the towns of Brookhaven, Riverhead, and Southampton, on its 12-mile path to Flanders Bay; 3) Precipitation (which may originate from clouds formed miles, or even hundreds of miles away from the Town) which enters the groundwater through the soils or moves across the landscape as runoff, often entering surface waters; and 4) Groundwater, which is recharged by rain and re-used water (*e.g.*, septic effluent, lawn watering), and which may travel from surrounding towns.

Each of these sources has specific impacts on water quality, wildlife habitat, and species of flora and fauna within the embayments.

⁵⁵ Given the importance of water quality in Southampton, the water quality issues and recommendations have been expanded upon in a Water Quality Strategy document included as Appendix B.

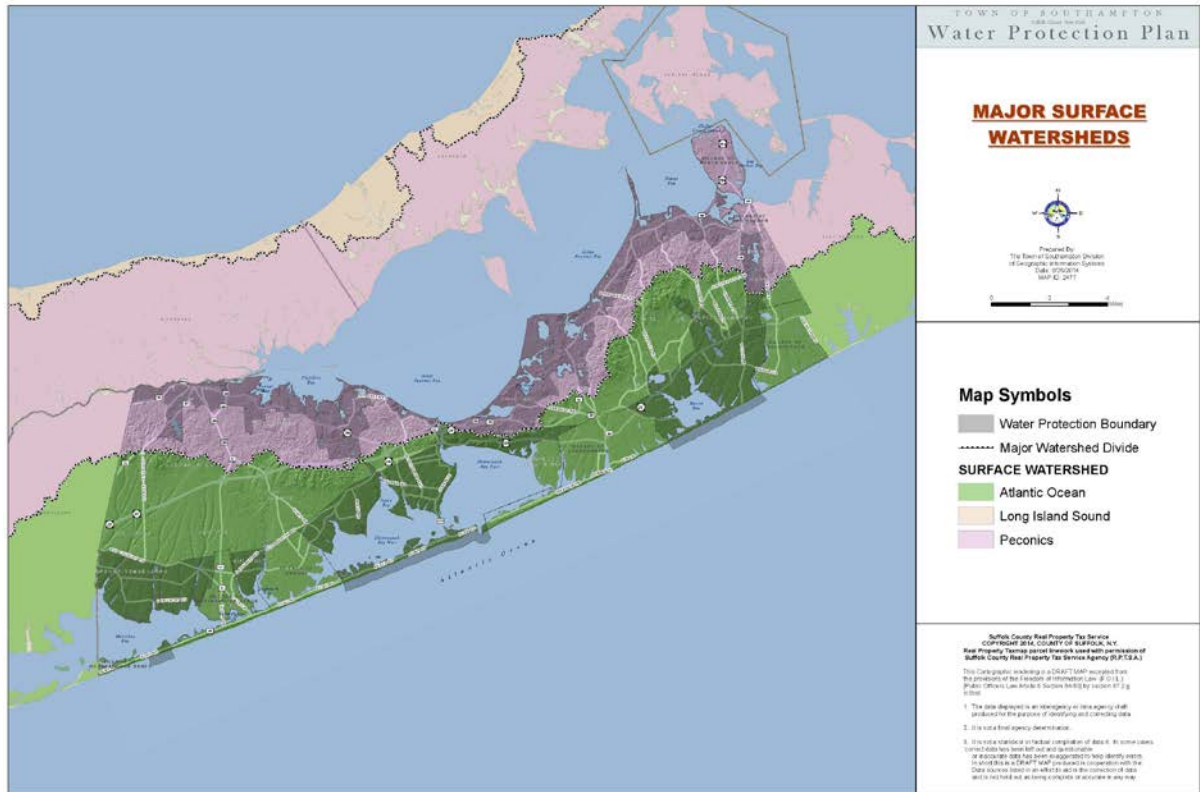


Figure 12: Major Surface Watersheds (A larger version of this map is available in Figure 2.)

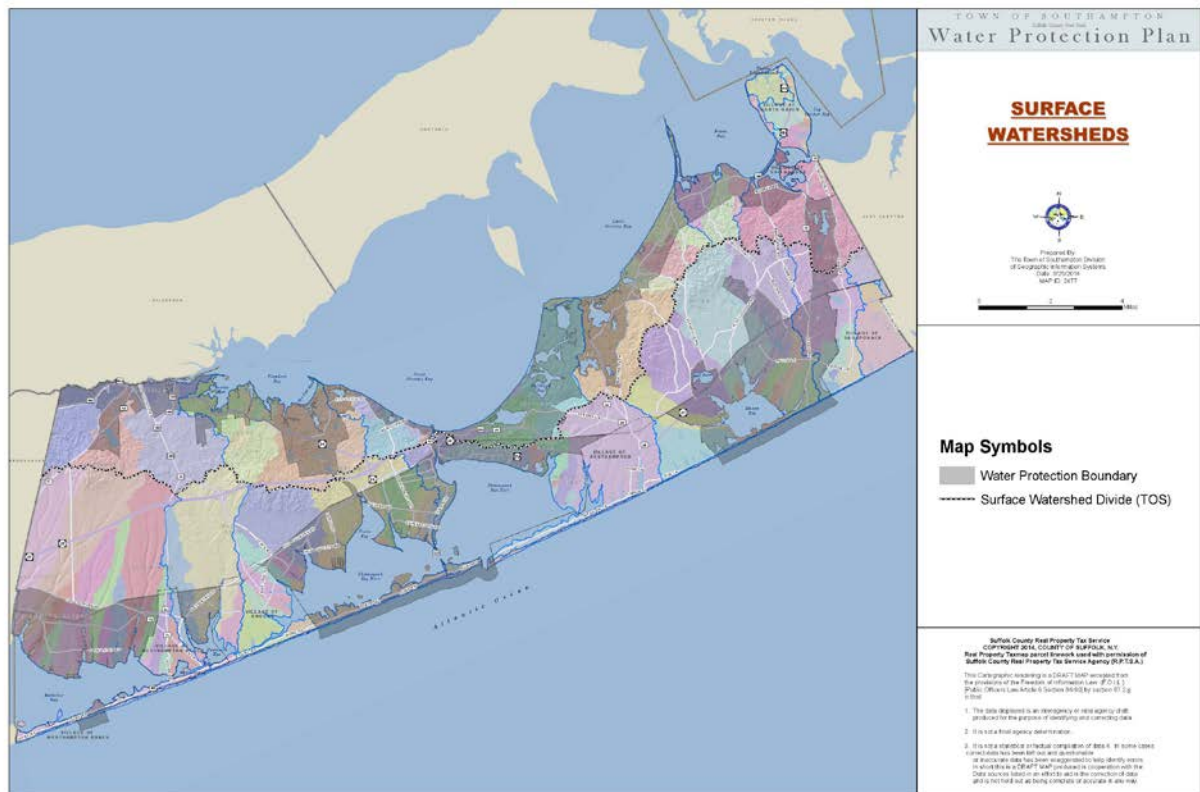


Figure 13: Surface Watersheds (A larger version of this map is available in Figure 3.)

Movement of Water

In the generally loose, sandy soils of Southampton deposited by glaciers thousands of years ago, fresh water moves in three linked, but distinct pathways:

- (1) Surface water flow may be as a defined river or stream or as sheet flow of stormwater. Some of water in this pathway may infiltrate into the groundwater but most will remain on the surface as it moves downhill to the receiving water body;
- (2) Groundwater flow which has infiltrated, or percolated, into the ground following a precipitation event: As it percolates, it eventually reaches the settled level of the water table. Like surface water, groundwater also “flows downhill” from the upper reaches of the watershed towards the receiving waterbody. As it moves, some groundwater may intersect with a fresh water body like a kettle hole pond, wetland or a stream, but much will remain underground until reaching an embayment or the ocean; and
- (3) Water may also move in the subsurface, above the normal ground water level, in a temporary flow related to short-term melting or storm conditions. The volume in this sort of flow is generally much less than the other two pathways.

Water may move from one of these pathways to another. It may also return to the atmosphere through evaporation or transpiration from plants.

Surface water moves much more rapidly than groundwater—surface water flows are often measured in feet/second or feet/minute whereas groundwater movement is more typically measured in feet/day, even in the sandy soils found in Southampton. With groundwater flow at these rates, it may take years—or even decades—for groundwater and any contaminants it may contain to reach a receiving waterbody.⁵⁶

Surface waters, by their nature, tend to pick up and carry contaminants found on the surface, including silt and soil particles, pet waste, fertilizers, fuel spills, bacteria (pathogenic or otherwise), etc. Groundwater or subsurface flows generally carry only dissolved or liquid contaminants from underground sources, *e.g.*, nutrients from underground waste disposal systems (bacteria and other pathogens are typically filtered out by the soils in very short order), light-weight petroleum products (gasoline, home heating oils) leaking from underground storage tanks, or other chemical contaminants. Groundwater volume and flow may be affected by withdrawal—through wells—for domestic, commercial, or industrial uses, although the deeper the well, the less impact on groundwater flow to nearby embayments.

Management of these various contaminant pathways requires vastly differing techniques. For example, upgrading from a leaking cesspool to a standard septic system will generally prevent pathogens from entering the groundwater, but will do little to slow the flow of nutrients through the system. Shifting from a standard septic system to some more advanced treatment, such as a wastewater treatment facility, offers the possibilities of both removal of pathogens and nutrients, and the potential to direct the location of the outflow to increase recharge.

⁵⁶ Maps in Berry, G. 2011. Proposed Methodology for Establishing Need for Decentralized Wastewater Upgrades Based on Environmental Conditions for Suffolk County Towns, Southampton Sample. Online at: <http://studioabarchitects.com/files/Download/11x17methodologyalltext.pdf> show the groundwater to surface water influence zones and notes that nearly half (47%) of all residential development in the Peconic Estuary watersheds is located in the 0-2 year influence zone.

Issues and Analysis

As described more fully in the Inventory and Analysis section of the SWPP, the primary sources of surface and groundwater impairment in Southampton are wastewater, stormwater, fertilizers and pesticides, and atmospheric deposition. Further stressors to water quality and quantity stem from sea level rise.

Wastewater

One of the primary water quality issues in Town is that of nutrient pollution stemming from septic systems and cesspools^{57, 58}. In 1973, Suffolk Department of Health codes were changed to require the use of septic systems instead of cesspools, but existing buildings were not required to upgrade at the time. As such, roughly 23,000 buildings built in Southampton prior to 1973 may still use cesspools, rather than septic systems⁵⁹. Effluent from these cesspools, which are now at least 40-years old, can leak, untreated, into the surrounding environment if they are not cleaned and maintained. If properly maintained, septic systems, by contrast, remove pathogens and offer limited removal of nutrients.

To increase the conversion to septic systems and to encourage the upgrade of failing septic systems, the Town has instituted a rebate program whereby eligible residents can receive a portion (up to 50–60%, depending on project location) of the costs of a septic upgrade. It is important to note, however, that while traditional on-site wastewater treatment systems (septic systems or cesspools)—including those currently approved by the County—protect public health through the removal of pathogens, most are not designed to remove significant amounts of nutrients which move, relatively unimpeded, through groundwater flow into streams, rivers and embayments. To further complicate matters, even if these County-approved septic systems are maintained and meet the federal nitrogen standards for safe drinking water (10 mg/l), the contaminant level for maintaining a healthy natural environment is 0.1-0.2 mg/l—well below the threshold for safe drinking water.

Though not yet on the County's list of approved septic technologies, more advanced systems do exist, and several of these systems can remove nitrogen to meet the contaminant level for a healthy environment. The County is currently exploring these systems and may approve one or several in the near future.

These more advanced systems and additional technologies will be examined by the newly created New York State Center for Clean Water Technology. This Center, which will be located in Southampton, will be created with funding (and planning and logistical support) from the State and from two charities founded by New York City's former Mayor Bloomberg. Developed by the NYS Department of Environmental Conservation, the Town of Southampton, and Stony Brook University, the Center will

⁵⁷ Lloyd, Stephen. 2014. Nitrogen Load Modeling to Forty-three Subwatersheds of the Peconic Estuary. Online at: <https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/Documents/Nitrogen%20load%20modeling%20to%20the%20Peconic%20Estuary%20-%20TNC%20May%202014.pdf>.

⁵⁸ Kinney, E.L. and Valiela, I. 2011. Nitrogen Loading to Great South Bay: Land Use, Sources, Retention, and Transportation from Land to Bay. *Journal of Coastal Research*: Volume 27, Issue 4: pp. 672 – 686.

⁵⁹ Berry, G. 2011. Proposed Method for Establishing Need for Decentralized Wastewater Upgrades based on Environmental Conditions for Suffolk County Towns, Southampton Sample. Online at: <http://studioabarchitects.com/files/Download/11x17methodologyalltext.pdf>.

research septic treatment opportunities designed to lower the cost of treatment and improve the effectiveness of removing nitrogen⁶⁰.

In the natural environment, nutrients from effluent produce an over-enrichment of the waters leading to accelerated growth of plant materials (macroscopic algae and a range of microscopic forms). This accelerated growth can have significant adverse effects on water quality, on marine life, and on human use and enjoyment of the waters. Additionally this over-enrichment of nutrients has been implicated in increased incidents of harmful algal blooms (*e.g.*, brown tides, rust tides, red tides) that affect both natural resources (*e.g.*, fish kills) and human health.

Another water quality consideration is that wastewater effluent also can contain traces of pharmaceuticals and personal care products. These chemicals have been shown to have impacts on the development of aquatic life, and may have impacts on human health as well.

Efforts to increase awareness of water quality impairments associated with wastewater have laid the groundwork to make significant improvements.

Stormwater

As precipitation travels through the watersheds, it picks up and transports debris, chemicals, and sediments that can impact surface water and groundwater quality. Impervious surfaces in the watershed (roofs, roads, parking lots, etc.) exacerbate runoff and the transport of pollution by minimizing areas where water can infiltrate into the ground, at which point some of the chemicals and nutrients are filtered out. Transported materials can include litter; animal waste; sediment and chemicals from farms, yards, and construction projects; and oil and grease.

The nutrients introduced via stormwater runoff have similar effects as those described above (*e.g.*, harmful algal blooms and fish kills). The introduction of chemicals and sediment can alter the development and functions of aquatic life. Litter can detract from recreational uses and create hazards for marine life. Pathogens which wash into the water can result in shellfishing and beach closures.

To address stormwater issues stemming from road runoff, Southampton has had an inter-municipal non-point source pollution control program in place since the 1993 Town of Southampton Clean Water Bond Act. Hundreds of road systems have been addressed, both within the Town and the villages, through installation of road drainage and other non-structural corrective measures. Funding is provided through Town Bond Act funding, NYS Clean Water/Clean Air Bond Act funding, and annual Town drainage appropriations. Work is coordinated with Village mayors and highway superintendents. The Inter-municipal Water Body Management Program is formalized through the Phase II Stormwater Management Plan.

Additionally, the Town has identified and mapped all discharges within the South Shore Estuary Reserve (SSER) and Peconic Estuary. Priority action areas have been identified based on the analysis of water quality data, land use, topography, natural resources, the DEC Priority Waterbody List, DEC Water Quality Classifications, shellfish and fin fisheries, and the likelihood of success priority assigned by the Stormwater Abatement Committee and through public meetings.

Furthermore, the Capital Improvement program for nonpoint source pollution control for towns and Villages has been in place since 1993. Each year, capital improvement programs for nonpoint source

⁶⁰ Wright, Michael. 2014. Bloomberg Pledges \$1 Million to East End Water Quality Research. The Southampton Press. November 5, 2014. Online at: <http://www.27east.com/news/article.cfm/East-End/85908/Bloomberg-Pledges-1-million-To-East-End-Water-Quality-Research>.

pollution continue to be identified, including potential projects and opportunities for instituting Best Management Practices.

Fertilizers, Herbicides, and Pesticides

The application of fertilizers, herbicides, and pesticides—both residentially and commercially—introduces chemicals and nutrients into the surface and groundwaters of Southampton. These chemicals can contribute to the development of harmful algal blooms, the loss of eelgrass, and the mortality or compromised function of some marine species (*e.g.*, lobster⁶¹). Recent sampling of groundwater by the Suffolk County Department of Health Services detected traces of pesticides including Metalaxyl (a fungicide), Atrazine (an herbicide), and Imidacloprid (an insecticide) at testing sites throughout the county, including in sites in Southampton. Approximately half of the 117 pesticide-related chemicals detected in the County since 1977 are believed to be legacy compounds which persist despite the fact that they have not been used in many years⁶². Efforts to minimize pesticide use should be taken now, but even so, pesticides will persist in the water for some time.

Testing of nitrate levels in groundwater in some agricultural areas produced results exceeding 20 mg/l (the maximum safe drinking water standard is 10 mg/l)⁶³.

The nitrogen in fertilizers can contribute to the algal blooms and fish kills mentioned previously; while pesticides can contaminate drinking water and can be toxic or disruptive to the development of non-targeted species, including domestic animals.

The County has already taken steps to reduce the impacts of fertilizers by banning their application between November 1st and April 1st. The County has also developed a document entitled the “Long Island Pesticide Pollution Prevention Strategy.” This document creates a blueprint for the DEC to “to evaluate pesticide usage on Long Island, identify pesticides that have the greatest potential to cause adverse impacts and work with partners to reduce or eliminate such usage or find alternatives that do not present such impacts”⁶⁴. In particular, this report focuses on strategies that prevent the introduction of harmful pesticides by altering pest management processes, encouraging the use of alternate pest management strategies, and using less-toxic products when available. These County efforts, along with Town and regional educational programs pertaining to fertilizer, pesticide, and herbicide application⁶⁵ pave the way for additional programs and policies aimed at reducing the improper use and related impacts of these chemicals.

Atmospheric Deposition

Atmospheric nitrogen is a source of contamination for the Town of Southampton, and was identified as a major source of nitrogen to the Peconic Estuary during the development of the Peconic Estuary TMDL. It is anticipated that the Federal Clean Air Act will result in a 31.3% reduction from the baseline atmospheric

⁶¹ Spiegel, J.E., 2012. Pesticides found in LI lobsters for the first time: More study planned. The CT Mirror. July 10, 2012.

⁶² New York State Department of Environmental Conservation. 2014. Long Island Pesticide Pollution Prevention Strategy. Online at: http://www.dec.ny.gov/docs/materials_minerals_pdf/fullstrategy.pdf.

⁶³ Berry, G. 2011. Proposed Methodology for Establishing Need for Decentralized Wastewater Upgrades Based on Environmental Conditions for Suffolk County Towns, Southampton Sample. Online at: <http://studioabarchitects.com/files/Download/11x17methodologyalltext.pdf>.

⁶⁴ New York State Department of Environmental Conservation. 2014. Long Island Pesticide Pollution Prevention Strategy. Online at: http://www.dec.ny.gov/docs/materials_minerals_pdf/fullstrategy.pdf.

⁶⁵ See the flyer mailed to residents as an example of the Town’s outreach and education efforts: <http://www.southamptontownny.gov/DocumentCenter/Home/View/1875>),

load by 2017 and beyond⁶⁶. As addressed more fully in the Air Quality section below, recent models of nitrogen deposition in and around Southampton estimate that atmospheric deposition of nitrogen contributes 15-24% of all land-based sources of nitrogen, depending on the particular sub-watershed^{67,68,69}.

Sea Level Rise

In addition to threats from contamination, sea level rise will also have an impact on groundwater and surface water resources. Groundwater models used to estimate the impacts of a one-foot and two-foot increase above mean sea level indicate that, as more saltwater enters the groundwater system (essentially pushing up on the fresh water layer), the freshwater aquifer system of the South Fork will become thinner⁷⁰ and may be pushed upward. These changes to the water system may have direct effects on water quality, including:

1. The intrusion of salt water into fresh groundwater—which will reduce access to fresh water for such uses as irrigation and drinking water.
2. The rise of the groundwater table, which 1) will reduce the depth between septic systems/cesspools and groundwater—this could lead to the possible inundation of existing septic systems and cesspools by groundwater, compromising treatment capabilities and allowing for the input of poorly treated or untreated waste into the groundwater system; and 2) may result in the increased discharge of groundwater into surface waters such as streams and ponds, which could flood nearby infrastructure and bring additional contaminants into contact with the groundwater system.

Additionally, sea level rise and predicted increases in storm intensity will likely lead to the introduction of contaminants and marine debris stemming from storm damage⁷¹.

Policy 5: Protect and improve water quality and supply.

The purpose of this policy is to protect the quality and quantity of water in the Town of Southampton. Many entities, both public and private, will need to be involved if meaningful improvements in water quality are to be made.

Both water quality and water quantity are central to the Town's economy, culture, natural resources, and human health. Water quality considerations include contamination from uses of the land (*e.g.*, on-site waste disposal, fertilizer application, pharmaceuticals, pesticides, and road runoff) as well as salt water

⁶⁶ US EPA. 2013. Peconic Estuary TMDL Review.

⁶⁷ Erin Kinney and Ivan Valiela. 2011. Nitrogen Loading to Great South Bay: Land Use, Sources, Retention, and Transport from Land to Bay. *J. Coastal Research*, V. 27, Issue 4, pp 672–686.

⁶⁸ Stinnette, Isabelle. 2014. Nitrogen Loading to the South Shore, Eastern Bays, NY: Sources, Impacts, and Management Options. Masters Thesis, SUNY at Stony Brook.

⁶⁹ Lloyd, Stephen. 2014. Nitrogen Load Modeling to Forty-Three Subwatersheds of the Peconic Estuary. Online at: <https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/Documents/Nitrogen%20load%20modeling%20to%20the%20Peconic%20Estuary%20-%20TNC%20May%202014.pdf>.

⁷⁰ Suffolk County Comprehensive Water Resources Management Plan, August 2010 draft. <http://www.suffolkcountyny.gov/Departments/HealthServices/EnvironmentalQuality/WaterResources/ComprehensiveWaterResourcesManagementPlan.aspx>.

⁷¹ NOAA. 2013. Global Warming and Hurricanes. Online at <http://www.gfdl.noaa.gov/global-warming-and-hurricanes>.

intrusion from sea level rise. Consequences of water quality impairments in Southampton are significant and include (but are not limited to) harmful algal blooms; hypoxia; reduced populations of fish and shellfish; degraded habitats, including submerged aquatic vegetation such as eelgrass; closure days for beaches; the potential for reduced enjoyment of the shoreline; and groundwater contamination.

The primary quantity consideration is the maintenance of an adequate supply of potable water in the region. Sea level rise is anticipated to pose additional quality and quantity problems such as salt water intrusion into the aquifer, impairment of septic system functioning, and shifting of the saline line in fresh and estuarine bodies.

5.1 Reduce nutrients to levels necessary to support a healthy ecosystem; one that allows for harvestable, sustainable fish and shellfish populations, healthy submerged aquatic vegetation, and traditional human uses in the Town's waters.

- a. Reduce the input of nutrients from all sources including human waste, pet waste, storm water, and fertilizers.
- b. Employ effective means to reduce nutrients, such as, composting toilets, urine diverting toilets, denitrifying septic systems, permeable reactive barriers, sewage collection and treatment, decentralized/clustered wastewater treatment systems, storm water control, aquaculture, increased flushing of embayments, open space protection, and limits on fertilizer use as these technologies become permissible under applicable regulatory agencies
- c. Utilize the most efficient and cost-effective combination of methods to reduce nutrients at their source, in the ground water, and in the waters of the embayments.
- d. Support the establishment of Total Maximum Daily Loads (TMDLs) for nitrogen discharges to the major estuaries within the Town. In their absence, utilize best available science, including the various sub-watershed models available, to estimate the level of nutrient reduction required and the relative contribution of nutrients from the various sources in the watershed and manage accordingly.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 75, Water Quality Protection Fund
- Chapter 111-12, Beaches, Parks, and Waterways; Article II, Use of Waterways, Sanitation
- Chapter 138, Coastal Erosion Hazard Areas
- Chapter 140, Community Preservation Fund
- Chapter 150-5.1, Dogs and Other Animals
- Chapter 158, Environmental Savings Fund
- Chapter 177, Septic System Rebate and Incentive Program
- Chapter 220-9, Manufactured Home Communities; Public health, safety and welfare requirements
- Chapter 231, Nature Preserve

- Chapter 243, Old Filed Maps
- Chapter 247, Open Space
- Chapter 285, Stormwater Management and Erosion and Sediment Control
- Chapter 285A, Storm Sewers
- Chapter 292-6, Subdivision of Land; Article III, General Application Procedures, Minor review procedures
- Chapter 292-21, Subdivision of Land; Final Plat for Major Review, Drainage plan and street profiles
- Chapter 292, Subdivision of Land; Article X Design standards, Preservation and protection of natural environment
- Chapter 324, Western General Environmental Impact Statement
- Chapter 325, Wetlands
- Chapter 330, Zoning. In particular:
 - ◆ Chapter 330, Zoning; Article II, Residential Districts
 - ◆ Chapter 330, Zoning; Article III, Senior Citizen Zone
 - ◆ Chapter 330, Zoning; Article IV, Multifamily Planned Residential Development District
 - ◆ Chapter 330, Zoning; Article X, Agricultural Overlay District
 - ◆ Chapter 330, Zoning; Article XII, Aquifer Protection Overlay District
 - ◆ Chapter 330-79, Zoning; Article XV, Supplemental Use and Dimensional Regulations, Agriculture, gardening, and animal husbandry
 - ◆ Chapter 330, Zoning; Article XVII, Special Exception Uses
 - ◆ Chapter 330, Zoning; Article XXVI, Planned Development District
 - ◆ Chapter 330, Zoning; Article XXIV, Central Pine Barrens Overlay District
 - ◆ Chapter 330, Zoning; Article XXV, Residential Receiving Area District

Implementation Through Recommended Changes to Local Law:

Specific recommendations for amendments to local laws to better implement this policy include the following:

1. Chapter 177. Consider amending Chapter 177 to allow upgrades that, at a minimum, meet the current Suffolk County Department of Health Services requirements. As feasible, upgrades qualifying for these funds should be encouraged to go above and beyond the standards required by the County in order to further reduce nitrogen input to ground and surface water from septic systems.
2. Consider developing and implementing a Cesspool Removal Act, similar to that enacted in Rhode Island in 2007⁷². Such an Act would remove (anywhere in Town, or in certain

⁷² See language at: <http://www.dem.ri.gov/programs/benviron/water/permits/isds/pdfs/cessfags.pdf>, <http://www.nbnerr.org/cesspools.htm>.

prioritized areas such as those in the 0-2 year groundwater influence zone) failed cesspools and those cesspools serving a non-residential facility or multi-family dwelling. Additionally, this Act should call for the removal of all other cesspools within a certain distance (in RI, that distance was 200 feet) of the inland edge of all shoreline features bordering tidal water areas; within 200 feet of all public wells; and within 200 feet of a water body with an intake for a drinking water supply. This Act could also stipulate an inspection and replacement timetable.

3. Consider requiring that a septic system or cesspool be inspected when the title of the property served by the system/cesspool is transferred. As an example, in Massachusetts, State law requires that an inspection be conducted no more than three years prior to the transfer of title⁷³. An inspection would include the evacuation and removal of septage and the subsequent reporting by a septage collector that is licensed by the Suffolk County Department of Health Services. Funds from the Water Quality Protection Fund could be used to help defray costs to parcel owners. As part of this, develop and maintain an inventory of the type of system at each dwelling, along with the date of last inspection. This inventory may be useful in helping to prioritize locations for future upgrades.
4. Consider increasing the distance required from the base of onsite septic systems to groundwater (add two feet to the county minimum). Allow exemptions due to hardship or enhanced treatment.
5. Consider developing a Town-wide wastewater treatment district.
6. Consider creating a Town-wide water quality district, focusing on areas of highest need (*e.g.*, sub-watersheds identified as having among the highest nitrogen contribution; and/or areas with small lots in older communities with more limited resources). Within the district, levy an annual fee to use toward rebates for enhanced nitrogen systems.
7. Consider current subdivision regulations and how they may be amended to progress toward the goal of creating clustered denitrification systems for new neighborhoods or require the use of the most feasible approved technologies and strategies to reduce the input of nutrients. Consider the model provided by the Town of Falmouth, MA, where the subdivision review includes limiting total nitrogen concentrations from wastewater discharge⁷⁴.

Implementation Through Projects:

1. Building on the State's existing list of impaired waterbodies, work with the Town's GIS Department to conduct additional studies to better understand the contribution of nutrients to each embayment (by watershed/sub-watershed, and by source(s) of nutrients). Work has already been done in the Peconic Estuary⁷⁵, the Great South Bay⁷⁶; and Shinnecock and

⁷³ See 310 CMR 15.310.

⁷⁴ See regulation at:

<http://ecode360.com/9075609?highlight=coastal%20pond%20overlay,coastal%20ponds,coastal%20pond,overlay,pond#9075609>.

⁷⁵ Lloyd, Stephen. 2014. Nitrogen Load Modeling to Forty-three Subwatersheds of the Peconic Estuary. Online at: <https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/Documents/Nitrogen%20load%20modeling%20to%20the%20Peconic%20Estuary%20-%20TNC%20May%202014.pdf>.

⁷⁶ Kinney, E.L., Valiela, I. 2011. Nitrogen Loading to Great South Bay: Land Use, Sources, Retention, and Transport from Land to Bay. *Journal of Coastal Research* Volume 27, Issue 4: pp. 672 – 686.

Moriches Bays⁷⁷. Update the model every five years to track changes. Use the results of these studies to seek funding and address impacts.

2. Prioritize areas to target for nitrogen reduction. As part of this, advance the approach proposed by Peconic Green Growth for developing and implementing a strategy to reduce nitrogen through upgrading septic systems and/or installing clustered decentralized systems in the areas with the greatest influence on water quality, such as Flanders, Noyac, and North Sea. Also as part of this, use the results of sub-watershed models of nitrogen sources and concentrations to target areas most appropriate for nitrogen removal through septic upgrades, clustered systems, and other innovative technologies.
3. Explore opportunities to use a clustered community wastewater treatment system for each of the Town's business districts.
4. Explore opportunities to increase flushing within embayments and coastal ponds as appropriate. As part of this effort, understand potential impacts (positive and negative) of increasing flushing, and work to reinstate the line item for dredging in the Town budget.
5. Support Suffolk County's efforts to approve the use of alternative denitrification systems by collaborating on research projects, assisting with setting water quality goals, helping to identify grants and low-interest loan options to offset the cost of advanced systems, and providing opportunities to pilot technologies and train installers.
6. Develop a Southampton Comprehensive Wastewater Management Plan⁷⁸.
7. Pursue sewerage where feasible (*e.g.*, in the Flanders/Riverside Corridor (within scope of the SWPP planning area). Consider alternatives in target areas with non-conforming systems that affect groundwater (*e.g.* Flanders/Riverside or Village of Southampton).
8. Collaborate with the Cornell Extension Service to conduct a pilot project exploring the feasibility and impacts of installing permeable reactive barriers to treat groundwater with high nutrient concentrations before it reaches Southampton coastal waters.
9. Continue to work with the State and County to establish and implement pollution prevention Total Maximum Daily Loads (TMDLs) for waterways identified as impaired⁷⁹.
10. Work with the Trustees and Stony Brook School of Marine and Atmospheric Sciences (SOMAS) to develop a shellfish cultivation, eelgrass restoration, and nitrogen reduction program in order to improve water quality in coastal embayments (see: Falmouth Comprehensive Wastewater Management Plan; Incorporating Shellfish Bed Restoration into a Nitrogen TMDL Implementation Plan, available at http://www.coonamessettfarm.com/sitebuildercontent/sitebuilderfiles/Incorporating_Shellfish_Bed_Restoration_into_Nitrogen_TMDL_Implementation_Plan.pdf).

⁷⁷ Stinnette, Isabelle. 2014. Nitrogen Loading to the South Shore, Eastern Bays, NY: Sources, Impacts, and Management Options. Masters Thesis, SUNY at Stony Brook.

⁷⁸ Potential models are the Cape Cod Draft 208 Update, available at:

http://www.capecodcommission.org/resources/initiatives/208_Draft/CCC_208_Plan_Update-Full_Draft_sm.pdf; Falmouth, MA CWMP, available at:

<http://www.falmouthmass.us/deppage.php?number=521>; and the Brewster Water Resources Management Plan, available at:

http://www.horsleywitten.com/brewsterlWRMP/reports/130128_Final%20lWRMP%20Report_Brewster.pdf

⁷⁹ A potential model for this work may be seen in the efforts of the MA South Coastal Watershed (see:

<http://www.mass.gov/dep/water/resources/scoastl1.pdf>).

11. Establish comprehensive nutrient management plans and/or implement best management practices to protect water quality while maintaining the economic viability of the Town's farms.
12. Continue efforts to promote STOP day for the collection of pharmaceuticals, and other efforts to encourage the proper disposal of personal care products.
13. Assess existing stormwater and wastewater infrastructure to understand the potential impacts from increased storm activity and sea level rise (*e.g.*, inundation in coastal areas, increased runoff).
14. Support the existing efforts of groups such as the Town Trustees, Cornell Cooperative Extension, the Sea Scouts, the Shinnecock Bay Restoration Program, the Shinnecock Nation, The Nature Conservancy, and Stony Brook School of Marine and Atmospheric Sciences (SOMAS) and others who are engaged in programs to improve water quality and habitat through the restoration of shellfish and eelgrass.
15. Work with the Nassau Suffolk Landscape Gardeners Association, the Cornell Cooperative Extension, and lawn-care businesses to promote environmentally-friendly landscaping practices.
16. Work with Suffolk County and Peconic Green Growth to identify those septic systems whose capabilities might be impaired with sea level rise and increased storm activity. Work to ensure that these systems do not impair water quality as a result of storm events and sea level rise. Current research in Rhode Island may yield important information on types of technologies best suited for at-risk systems⁸⁰.
17. Support efforts to develop the Conscience Point Maritime Center at the site of the former Conscience Point Inn. The Maritime Center is in the early planning stages, and is likely to include a hatchery, a learning center, and historical information about the Shinnecock Nation and the baymen. This would be an excellent venue to also highlight the water-quality-related threats to shellfish, eelgrass, and the Town's maritime culture and economy. As part of this, the Center should provide visitors with suggested actions they can take to improve water quality (*e.g.*, get involved in shellfish gardening programs, participate in coastal cleanups, have septic tanks inspected, maintain native vegetation, use fertilizers responsibly, etc.).
18. Develop watershed maps that artistically portray the significance of watersheds and convey information about human impacts to water quality within the watersheds. Use the East Hampton Trails Maps as an example.
19. Identify the sources and amounts of nutrients being discharged into the waterbodies of the Town. Define the amounts of nutrients being discharged from specific watersheds/sub-watersheds.
20. Define the nutrient target loads of the coastal waterbodies.
21. Define the flushing rates of the waterbodies.
22. Define and quantify the impacts (environmental and economic) of nutrient enrichment and the impacts of emerging pollutants in the coastal waterbodies.
23. Identify the routes taken for the nutrient input (*e.g.*, ground water, stormwater runoff).

⁸⁰ See <http://www.ecori.org/climate-change/2013/8/29/is-your-septic-system-climate-change-ready.html> for more information.

24. Prepare new, and implement existing, watershed management plans to address the needs and mechanisms to reduce nutrient input.
25. Identify watersheds/sub-watersheds that, through future development, may cause elevated nutrient levels in excess of the TMDLs, and consider options to either limit future development or to take action to reduce nutrient discharge.
26. Prepare a build-out plan for the areas of the town subject to future development to assess the potential for future nutrient inputs.
27. Consider all options for treatment of wastewater to remove nutrients prior to discharge to either coastal waters or groundwater. Address both existing “permissible” technologies and those potentially “permissible” in the future.
28. Continue to identify impacts to water quality and living marine resources due to stormwater, *e.g.*, nutrients, other pollutants, sedimentation, etc.

Implementation Through Proposed Administrative Changes or Actions:

1. Explore opportunities to offer low-interest loans to homeowners with non-conforming septic systems for septic improvements. Some options might include working with the County to develop a program to provide low-interest loans, identifying banks that would offer low-interest loans for the specific purpose of upgrading systems, and working with the State to provide a tax credit for septic upgrades. For an example of such a program, see: <http://www.mass.gov/eea/agencies/massdep/water/grants/title-5-septic-systems.html>).
2. Continue to support efforts to educate residents about the importance of septic system maintenance. Education about septic systems is already conducted through outreach related to the rebate program and through public forums such as those hosted by the Green Committee. Additional outreach and education may be achieved through partnerships with groups such as the Peconic Bay Keeper, Defend H2O, the Peconic Estuary Program, the South Shore Estuary Reserve, the Long Island Clean Water Partnership, the Shinnecock Bay Restoration Program, Suffolk County, Peconic Green Growth, TNC, and neighboring towns and villages.
3. Continue to enforce occupancy limits, pursuant to Town Code §330-108, “Limitations on occupancy of dwellings and dwelling units,” in order to prevent septic system failures from residences that exceed the occupancy limit.
4. Ensure adherence with SPDES permits.
5. Review final Suffolk County Comprehensive Water Resources Management Plan, when complete,⁸¹ and implement relevant recommendations.
6. Support ongoing water quality monitoring efforts and explore opportunities to expand monitoring. Expansion would include increasing the number of monitoring sites as well as looking for traces of pharmaceuticals and personal care products.
7. Implement the wastewater recommendations of the Town’s Climate Action Plan, when complete.

⁸¹ Suffolk County. 2010. Suffolk County Comprehensive Water Resources Management Plan, August 2010 draft. Online at: <http://www.suffolkcountyny.gov/Departments/HealthServices/EnvironmentalQuality/WaterResources/ComprehensiveWaterResourcesManagementPlan.aspx>.

8. Encourage the Suffolk County Department of Health Services to create and implement new local laws/regulations pertaining to septic system standards that remove nitrogen (more stringent than current County standards) in order to protect natural resources. One approach would be to adopt more stringent standards that would apply to the entire County. An alternative strategy might be to adopt more strict nitrogen standards in areas identified to be especially “nitrogen sensitive” such as areas surrounding important drinking water resources (*e.g.*, the Aquifer Protection Overlay District), and areas within the 25-year influence zone for contributing groundwater to surface water (see Berry, 2011). Work with the New York State Clean Water Coalition at Stonybrook to identify possible technologies to achieve the new standards. (The Citizens Campaign for the Environment (<http://www.citizenscampaign.org/campaigns/nitrogen-pollution.asp>) and the Long Island Clean Water Partnership (http://www.citizenscampaign.org/special_features/long-island-water-partnership.asp) advocate for a change in nitrogen standards from 10 mg/l to 2 mg/l.)
9. Continue to fund the Septic System Rebate and Incentive Program through the Water Quality Protection Fund. To increase the efficacy of this program, give priority to incentivizing the installation of advanced systems in priority locations once the advanced systems are approved by Suffolk County.
10. In areas where seasonal variation in the water table reduce depth to groundwater to below ten feet, ensure that test hole data be taken during those shallow depth-to-groundwater conditions.
11. Consider establishing a Wastewater Management and Water Quality Advisory Committee to provide oversight and recommendations to the Town Supervisor/Town Board.
12. Establish limitations or require BMPs for irrigation infrastructure, especially in areas using fertilizers.
13. Work with the County to ensure that high-volume coastal businesses (*e.g.*, restaurants) have septic systems in place to meet the actual needs of the facility. Require inspections of the septic systems, and enforce occupancy limits to ensure that the systems can adequately meet the demands. Explore opportunities to offer low-interest loans and rebate programs to help offset costs.

5.2 Manage stormwater to improve water quality for habitat, ecosystem, and recreation purposes and for drinking purposes.

- a. Meet the requirements of minimum Measures 4 and 5 of the New York SPDES General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s).
- b. Require land development activities to conform to the substantive requirements of the New York SPDES General Permit for Stormwater Discharges from Construction Activity.
- c. Control, restrict or prohibit activities that alter natural drainage systems, floodplains, and other natural protective features—including wetlands, which contribute to the accommodation of floodwaters and retention of sediment.
- d. Control, restrict, or prohibit land use activities which increase non-point source pollution due to stormwater runoff that result in discharge onto public lands, neighboring properties, or natural protective features which would degrade local water quality.
- e. Assure that land and water uses in the Town are designed and conducted using best

management practices to control flooding, stormwater runoff and discharge onto public lands, neighboring properties, or natural protective features.

- f. Promote the recharge of stormwater into the fresh water aquifer to protect the drinking water supply and minimize salt water intrusion.
- g. Minimize the total annual volume of stormwater runoff that flows from any specific site during and following development and redevelopment to the maximum extent practicable.
- h. Protect the biological, ecological, and other beneficial functions of water bodies from the adverse impacts of stormwater runoff.
- i. Establish provisions to ensure that there are adequate funding mechanisms, including financial security or surety, for the proper review, inspection and long-term maintenance of stormwater facilities and practices implemented in adherence to this policy.
- j. Require preparation of a stormwater pollution prevention plan (SWPPP) for land development or redevelopment as required by Chapter 285.
- k. Promote public awareness of the hazards involved in the improper discharge of trash, yard waste, lawn chemicals, pet waste, wastewater, grease, oil, petroleum products, hazardous waste, sediment, and other contaminants into local watersheds and water bodies.
- l. Retrofit or upgrade priority stormwater drainage systems to allow for the removal of contaminants prior to their discharge into coastal waters.
- m. Utilize alternative stormwater management techniques (*i.e.*, low impact site design).

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 157, Environmental Quality Review
- Chapter 158, Environmental Savings Fund
- Chapter 243, Old Filed Maps
- Chapter 285, Stormwater Management and Erosion and Sediment Control
- Chapter 285A, Storm Sewers
- Chapter 292, Subdivision of Land; Article X, Design Standards
- Chapter 324, Western General Environmental Impact Statement
- Chapter 325, Wetlands
- (Chapter 325A, Wetlands, Freshwater)
- Chapter 330, Zoning; Article IV, Multifamily Planned Residential District (MFPRD)
- Chapter 330, Zoning; Article X, Agricultural Overlay District
- Chapter 330, Zoning; Article XVII, Special Exception Uses
- Chapter 330, Zoning; Article XXIV, Central Pine Barrens Overlay District
- Chapter 330, Zoning; Article XXVI, Planned Development District

- Chapter 330-308, Zoning; Article XXVII, Wireless Communications Transmission Support Structures and Antennas, Site design standards
- Chapter 111, Beaches, Parks, and Waterways; Article II Use of Waterways

Implementation Through Recommended Changes to Local Law:

Specific recommendations for amendments to local laws to better implement this policy include the following:

1. Chapter 285. Amend the Stormwater Pollution Prevention Plan (SWPPP) to require runoff control practices that would result in no net increase of nutrient and sediment pollution from new development (see: policies of the Philadelphia Water Department) and reduce the threshold for a SWPPP from one acre to [number to be determined].

Implementation Through Projects:

1. Conduct educational activities to minimize the impacts of stormwater, including:
 - a. The funding and implementation of demonstration projects to educate residents about opportunities to capture stormwater on their own property (*e.g.*, rain gardens, etc.).
 - b. The establishment of an education program to inform residents about the importance of reducing litter and keeping streets and sidewalks free of debris.
 - c. The implementation of training programs for homeowners and landscapers on the latest information regarding proper fertilization techniques.
2. Retrofit or upgrade priority stormwater drainage systems to allow for the removal of contaminants prior to their discharge into coastal waters. Bittersweet Land/Beach has been cited as a particular example.
3. Assess existing stormwater and wastewater infrastructure to understand the potential impacts from increased storm activity (*e.g.*, inundation in coastal areas, increased runoff).
4. Work with the State and County to establish pollution prevention Total Maximum Daily Loads (TMDLs) for waterways identified as impaired.
5. Work with relevant agencies, such as the Suffolk County Department of Health Services, US EPA, etc., to enhance the bathing beach monitoring program. This could include the development of predictive water quality models (see: <http://cesn.org/projects/charles.php>) and laboratory analyses with faster results.
6. Develop watershed maps that artistically portray the significance of watersheds and convey information about human impacts to water quality within the watersheds. Use the East Hampton Trails Maps as an example.
7. Calculate the current percentage of impervious surfaces in Town and set a target percentage to achieve. Develop new regulations, policies and programs to achieve that target percentage. Consider lower target percentages in particularly sensitive areas (*e.g.*, aquifer recharge zones, coastal and riparian areas).
8. Consider ways to address water quality issues related to pool chemicals, residential fertilizer use in close proximity to wetlands, highway salts and pharmaceuticals waste.

In 2001, calculations by the USGS estimated Southampton's percent impervious surface cover as 7.6%⁸². Research suggests that stream quality declines when impervious cover reaches 10%, and severe degradation occurs above 25%^{83,84}. Water quality in larger waterbodies may be able to tolerate higher percentages of impervious surface before experiencing degradation.

Impervious surface calculations can be made using GIS data or by interpreting satellite imagery or aerial photographs⁸⁵.

Implementation Through Proposed Administrative Changes or Actions:

1. Consider maintaining existing storm drains with a regular cleaning schedule and conduct street cleaning as recommended by the EPA⁸⁶. Create a stormwater drainage management program that identifies priority areas, cleaning schedule, etc. and consider dedicated funding source.
2. Ensure adherence with SPDES permits.
3. Review final Suffolk County Comprehensive Water Resources Management Plan, when complete,⁸⁷ and implement relevant recommendations.
4. Work with relevant agencies, such as the Suffolk County Department of Health Services, US EPA, etc., to enhance bathing beach monitoring program. This could include the development of predictive water quality models (see: <http://cesn.org/projects/charles.php>) and laboratory analyses with faster results.
5. Support ongoing water quality monitoring efforts and explore opportunities to expand monitoring. Expansion would include increasing the number of monitoring sites as well as looking for traces of pharmaceuticals and personal care products.
6. Continue to implement best management practices to protect water quality while maintaining the economic viability of the Town's farms. Recognize adaptation as the key component for continuance of agriculture so that any consideration that affects agricultural production maintains flexibility for changing circumstances and practices. Work with the New York Agricultural Environmental Management Program, as they help farmers develop, implement, and evaluate conservation plans that protect natural resources while allowing farms to meet business objectives.
7. Implement the stormwater recommendations of the Town's adopted Sustainability Plan. .

⁸² Peconic Estuary Program. 2005. PEP Talk. Volume 2, Issue 4. Online at: <http://www.peconicestuary.org/newsletters/October-2005.pdf>.

⁸³ Peconic Estuary Program. 2005. PEP Talk. Volume 2, Issue 4. Online at: <http://www.peconicestuary.org/newsletters/October-2005.pdf>.

⁸⁴ Kaplan, M., Ayers, M. 2000. Impervious Surface Cover Concepts and Thresholds.

⁸⁵ For more information, see: http://nemo.uconn.edu/tools/impervious_surfaces/pdfs/NEMO_tech_3.pdf.

⁸⁶ For more information, see: <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=99>.

⁸⁷ Suffolk County. 2010. Suffolk County Comprehensive Water Resources Management Plan, August 2010 draft. Online at: <http://www.suffolkcountyny.gov/Departments/HealthServices/EnvironmentalQuality/WaterResources/ComprehensiveWaterResourcesManagementPlan.aspx>.

8. Consider establishing a Wastewater Management and Water Quality Advisory Committee to provide oversight and recommendations to the Town Supervisor/Town Board.
9. Utilize stormwater best management practices (*e.g.*, vegetated infiltration swales and pervious pavement) to reduce direct stormwater input to water bodies, both for new projects and for modifications to existing developments.

5.3 Limit the adverse impacts of watershed development on water quality and quantity.

- a. Ensure that watershed development does not impair natural characteristics of drainage systems, floodplains, areas that are particularly susceptible to erosion and sediment loss, and wetland extent and function.
- b. Limit the impacts of individual development projects (*e.g.*, impervious surface coverage, sediment loss, changes to stream velocity and temperature) to prevent both site-specific and cumulative water quality impacts upon the watershed which would result in the significant impairment of surface or groundwater resources.
- c. Utilize agricultural best management practices, where applicable, including technical assistance, financial assistance, education, training, technology transfer, and demonstration projects.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 75, Water Quality Protection Fund
- Chapter 140, Community Preservation Fund
- Chapter 157, Environmental Quality Review
- Chapter 158, Environmental Savings Fund
- Chapter 231, Nature Preserve
- Chapter 243, Old Filed Maps
- Chapter 247, Open Space
- Chapter 285, Stormwater Management and Erosion and Sediment Control
- Chapter 285A, Storm Sewers
- Chapter 285A, Appendix A, Required SWPPP Components by Project Type
- Chapter 292, Subdivision of Land
- Chapter 308, Vegetation, Protection of
- Chapter 324, Western General Environmental Impact Statement
- Chapter 325, Wetlands
- Chapter 330-30, Zoning; Business Districts, General regulations
- Chapter 330, Zoning; Article XVII, Special Exception Uses
- Chapter 330-184, Zoning; Administration and Enforcement, Site plan application procedure

- Chapter 330, Zoning; Article XXIV, Central Pine Barrens Overlay District
- Chapter 330, Zoning; Article XI, Old Filed Map Overlay District
- Chapter 330, Zoning; Article XXV, Residential Receiving Area District
- Chapter 330-308, Zoning; Article XXVII, Wireless Communications Transmission Support Structures and Antennas, Site design standards

Implementation Through Recommended Changes to Local Law:

Specific recommendations for amendments to local laws to better implement this policy include the following:

1. Chapter 330, Zoning; Article XII, Aquifer Protection Overlay District. Consider adding language to prohibit residential underground fuel storage tanks.
2. Chapter 330, Zoning; Article XII, Aquifer Protection Overlay District. Consider adding language to limit the amount of impervious surface allowed within a development project, similar to the HO-HC Districts.
3. In Chapter 330, Zoning; Article XII ("Aquifer Protection Overlay District"), consider expanding the Overlay District to protect aquifer recharge areas in the eastern and western portions of the Town. Areas for particular consideration include Tuckahoe Woods and Shinnecock Hills, as well as additional locations identified as Critical Environmental Areas (see list at: <http://www.dec.ny.gov/permits/25153.html>), and locations identified as Critical Natural Resource Areas for the Peconic Estuary.
4. Consider developing an overlay district to require vegetation preservation for water quality purposes⁸⁸.
5. Consider expanding the use of Community Preservation Funds to include projects addressing water quality.

Implementation Through Projects:

1. Explore opportunities to reuse purified wastewater . As part of this, identify incentives to encourage re-use and ensure that recharge does not impact the effectiveness of nearby wastewater treatment systems.

Implementation Through Proposed Administrative Changes or Actions:

1. Work with the Suffolk County Soil and Water Conservation District to apply for funding opportunities through the New York State Agricultural Nonpoint Source Abatement and Control Program.
2. Continue to monitor contaminated groundwater plumes.
3. Establish a TMDL workgroup for local waterways, regardless of their status with respect to the New York State 2012 Section 303(d) List. A TMDL workgroup could include elected

⁸⁸ For examples of possible code language, see East Hampton Town Code for their Harbor Protection Overlay District Language, §255 3-75(D)). Language for a sample code is also available in the Nature Conservancy report entitled: Native Vegetation Protection in the Peconics: A simple and effective approach. The Nature Conservancy, 2012. Native Vegetation Protection in the Peconics: A simple and effective approach.

representatives from the Town, planning department staff, conservation staff, waste water treatment representatives, local watershed groups, citizens, water authorities, farmers, and other stakeholders working together to identify priority waterways and determine how to improve water quality in these waterways (see: work done by York County, PA TMDL workgroup).

4. Continue to work to acquire and protect available open space independently and in coordination with not-for-profit organizations, the State, the County, and others as appropriate.
5. Consider establishing a Wastewater Management and Water Quality Advisory Committee to provide oversight and recommendations to the Town Supervisor/Town Board.

5.4 Limit the adverse impacts of pesticide use on water quality.

- a. Employ strategies to ensure minimal impairment to water quality stemming from pesticide use⁸⁹ (e.g., application buffers, overlay districts, etc.).

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 292-39, Subdivision of Land; Preservation and protection of the natural environment
- Chapter 325, Wetlands
- Chapter 330-68, Zoning; Restriction of fertilized vegetation
- Chapter 330-248, Zoning; Specific planned development

Implementation Through Projects:

1. Encourage homeowners to reduce their use of pesticides and fertilizers through targeted education on lawn and garden maintenance and care. Examples of strategies include encouraging the use of native plants and grasses, the use of Integrated Pest Management (IMP), and the use of slow-release fertilizers, if any. Coordinate this effort with nurseries and with the work being done by the Town's Sustainable Southampton Green Advisory Committee, the Office of Energy and Sustainability, and other non-profit organizations.
2. Work with the Nassau Suffolk Landscape Gardeners Association, the Cornell Cooperative Extension, and lawn-care businesses to promote environmentally-friendly landscaping practices.

Implementation Through Proposed Administrative Changes or Actions:

1. Consider implementing the recommendations of the Long Island Pesticide Pollution Prevention Strategy, which presents multiple strategies to address pollution from pesticides⁹⁰.
2. Strongly encourage agricultural operators to partner with Suffolk County Agricultural Stewardship Program in order to obtain guidance on ways to reduce impacts from fertilizer and pesticide use.

⁸⁹ Strategies may differ for agricultural and non-agricultural lands.

⁹⁰ The Plan is available at: http://www.dec.ny.gov/docs/materials_minerals_pdf/fullstrategy.pdf.

3. Review the final Suffolk County Comprehensive Water Resources Management Plan, when complete,⁹¹ and consider ways to implement relevant recommendations.
4. Consider establishing a Wastewater Management and Water Quality Advisory Committee to provide oversight and recommendations to the Town Supervisor/Town Board.

5.5 Protect and conserve the quality and quantity of potable water.

- a. Limit discharges of pollutants which are likely to contribute to contravention of surface and groundwater quality standards for potable water supplies.
- b. Prevent depletion of existing potable water supplies by limiting saltwater intrusion in the aquifer and estuaries through conservation methods or restrictions on water supply use and withdrawals and allowing for recharge of the aquifer.
- c. Limit cumulative impacts of development on groundwater recharge areas to ensure replenishment of potable groundwater supplies. Strategies include: allowing low-density residential development in the aquifer protection overlay zone, using transferrable development rights in key locations, minimizing the clearing of vegetation, limiting the addition of impervious surfaces, restricting or eliminating intensive quasi-public uses in the Aquifer Overlay Zone, and prohibiting residential underground fuel storage tanks in the Aquifer Protection Overlay Zone.
- d. Safeguard groundwater resources by protecting aquifer recharge areas in the eastern and western portions of the Town.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 75, Water Quality Protection Fund
- Chapter 140, Community Preservation Fund
- Chapter 158, Environmental Savings Fund
- Chapter 157, Environmental Quality Review
- Chapter 177, Septic System Rebate and Incentive Program
- Chapter 205-13, Landfills, Transfer Stations, and Scavenger Waste; Inspections
- Chapter 231, Nature Preserve
- Chapter 243, Old Filed Maps
- Chapter 244, Transfer of Development Rights Certificate Program
- Chapter 247-8, Open Space; Farmland and Watershed Protection
- Chapter 285, Stormwater Management and Erosion and Sediment Control

⁹¹ Suffolk County. 2010. Suffolk County Comprehensive Water Resources Management Plan, August 2010 draft. Online at:

<http://www.suffolkcountyny.gov/Departments/HealthServices/EnvironmentalQuality/WaterResources/ComprehensiveWaterResourcesManagementPlan.aspx>.

- Chapter 285A, Storm Sewers
- Chapter 292-11, Subdivision of Land; Planned residential development
- Chapter 292-37, Subdivision of Land; Drainage
- Chapter 292-39, Subdivision of Land; Preservation and protection of natural environment
- Chapter 308, Vegetation, Protection of
- Chapter 317-8, Moratorium on Conversions to Residential Condominiums or Cooperatives; Applications that may be exempted
- Chapter 324, Western General Environmental Impact Statement
- Chapter 325, Wetlands
- Chapter 330-7, Zoning. Transfer of permitted residential development rights
- Chapter 330-36, Zoning. Industrial District, Planned industrial park
- Chapter 330, Zoning; Article X, Agricultural Overlay District
- Chapter 330-61, Zoning. Special permit for reduction of lot area requirement
- Chapter 330, Zoning; Article XIII, Aquifer Protection Overlay District
- Chapter 330, Zoning; Article XVII, Special Exception Uses
- Chapter 330, Zoning; Article XXIV, Central Pine Barrens Overlay District
- Chapter 330-248, Zoning. Specific planned development districts
- Chapter 325 Wetlands

Implementation Through Projects:

1. Support efforts to study the impacts of sea level rise to the aquifers in Southampton⁹².

Implementation Through Proposed Administrative Changes or Actions:

1. Attend the open meetings of the Long Island Commission for Aquifer Protection.
2. Review final Suffolk County Comprehensive Water Resources Management Plan, when complete,⁹³ and consider ways to implement relevant recommendations.
3. Consider establishing a Wastewater Management and Water Quality Advisory Committee to provide oversight and recommendations to the Town Supervisor/Town Board.
4. Identify all (above-ground and buried) fuel storage tanks that might be prone to storm damage or corrosion from salt water. Develop a strategy to help homeowners remove/repair/replace systems as appropriate.

⁹² A similar study is underway on Cape Cod: <http://www.apcc.org/sealevelrise/index.html>.

⁹³ Suffolk County. 2010. Suffolk County Comprehensive Water Resources Management Plan, August 2010 draft. Online at: <http://www.suffolkcountyny.gov/Departments/HealthServices/EnvironmentalQuality/WaterResources/ComprehensiveWaterResourcesManagementPlan.aspx>.

5.6 Limit the adverse impacts of marine debris.

- a. Ensure that litter is properly handled to reduce the occurrence of marine debris.
- b. Consider the potential of storm generated debris in the review of proposed development.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 111-34, Beaches, Parks, and Waterways; Use of Beach Area, Littering
- Chapter 211, Littering and Handbills
- Chapter 261, Property Maintenance
- Chapter 330, Zoning; Article XVII, Special Exception Uses
- Chapter 330-119, Zoning. Nonconforming uses, buildings, and structures – Compulsory termination of nonconforming uses, bars, taverns, and nightclubs
- Chapter A340-24, Derelicts
- Chapter 169, Flood Damage Prevention
- Chapter 330, Zoning; Article VIII, Tidal Wetlands and Ocean Beach Overlay District
- Chapter 330, Zoning; Article IX, Coastal Erosion Hazard Adjacent Areas

Implementation Through Projects:

1. Continue to organize and support volunteer-based trash and marine debris removal projects such as the existing annual Great East End Cleanup. Reach out to Ocean Conservancy's International Coastal Cleanup (<http://www.oceanconservancy.org/our-work/international-coastal-cleanup/>) for supplies and educational materials.

5.7 Implement adopted watershed management plans.

- a. Implement the TMDL for the Peconic Estuary and the Comprehensive Conservation Management Plan for the Peconic Estuary.
- b. Implement the relevant recommendations of the Long Island South Shore Estuary Comprehensive Management Plan.
- c. Implement recommendations within the water quality strategy document developed as part of the Southampton Water Protection Plan (See Part 2).

ECOSYSTEM AND NATURAL RESOURCES

The Town's wildlife and habitat resources have changed over time in response to natural and man-made pressures, yet they remain an invaluable part of the Town's identity. The following section details some of the key natural resources within Town, identifies issues related to those natural resources, and provides policies and recommendations to understand, protect, and enhance the resources as appropriate.

Wildlife Resources

The wildlife resources within the Planning Boundary of the SWPP are abundant, and support both recreational and commercial activities. Shellfish in Southampton waters include hard and soft clams (*Mercenaria mercenaria*, *Mya arenaria*), American oysters (*Crassostrea virginica*), blue mussels (*Mytilus edulis*), razor clams (*Ensis directus*), and bay scallops (*Argopecten irradians*)—though populations of bay scallops and hard clams have drastically declined over the past several years, as detailed in the issues below⁹⁴. Crustaceans of commercial significance include blue crabs and lady crabs.

Southampton's fresh and salt waters are also habitat for a variety of finfish at multiple life stages, including alewife, largemouth bass, chain pickerel, banded killifish, pumpkinseed, yellow perch, white perch, brown bullhead, summer flounder, striped bass, bluefish, weakfish, black sea bass, blackfish and others. While the significance of Town waters to finfish is well-understood, parts of the Town have been more formally recognized by the National Oceanic and Atmospheric Administration (NOAA) as important (*i.e.*, Essential Fish Habitat (EFH))⁹⁵ to approximately 25 managed species.

Marine Mammals include harbor seals (*Phoca vitulina*), gray seals (*Halichoerus grypus*), and other Arctic seals are also present in the areas of Shinnecock Bay and Moriches Bay from December–early May. Minke whales (*Balaenoptera acutorostrata*), bottlenose dolphin (*Tursiops truncatus*), and finback whales all use the waters around the Town of Southampton as feeding grounds. Northern right whales (*Eubalaena glacialis*) are occasionally seen as they migrate through the New York Bight⁹⁶.

Shinnecock and Moriches Bays support juvenile loggerhead sea turtles and juvenile green sea turtles during summer months. Juvenile and adult loggerheads, green, and Atlantic (Kemps) Ridley sea turtles are also found in the Town's nearshore waters. Marshes around Shinnecock Bay provide habitat for Northern diamondback terrapins which breed on the nearby barrier beaches⁹⁷.

A variety of bird species rely on the Town's natural resources which provide nesting and feeding opportunities. Many waterfowl (*e.g.*, greater and lesser scaup (*Aythya marila* and *A. affinis*), American black duck (*Anas rubripes*), red-breasted merganser (*Mergus serrator*), brant (*Branta bernicla*), common goldeneye (*Bucephala clangula*) and, to a lesser degree, mallard (*Anas platyrhynchos*), Canada goose

⁹⁴ Board of Trustees. 2001. Marine Resources Protection and Management Plan; Moriches Bay, Shinnecock Bay and Mecox Bay. Prepared by the Town of Southampton Trustees. Online at www.southamptontownny.gov/FTP/SEQRA/mrmp.pdf.

⁹⁵ EFH Maps can be viewed at: <http://www.habitat.noaa.gov/protection/efh/habitatmapper.html>.

⁹⁶ US Fish and Wildlife Service. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed. Southern New England-New York Bight Coastal Ecosystems Program, Charlestown, RI. Online at: http://library.fws.gov/pubs5/web_link/text/.

⁹⁷ US Fish and Wildlife Service. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed. Southern New England-New York Bight Coastal Ecosystems Program, Charlestown, RI. Online at: http://library.fws.gov/pubs5/web_link/text/.

(*Branta canadensis*), oldsquaw (*Clangula hyemalis*), canvasback (*Aythya valisineria*), and bufflehead (*Bucephala albeola*) winter along the Town's shore between November and March. The Town's marshes support nesting colonies of terns (including colonies of roseate terns, which are fairly uncommon on the East Coast of the U.S.), gulls, and wading birds. During the months of March, April, October, and November, the Town's coasts are important to migrating birds, including several different species of raptors⁹⁸.

Habitat Resources

The habitat features in Town support the wildlife resources mentioned above, and also provide important services to the Town in the form of storm buffering, erosion prevention, water filtration, sediment supply, and passive and active recreation opportunities.

Some of the key habitat features in Town are:

- Tidal wetlands (more than 1,180 acres);
- Freshwater wetlands, which include ponds, streams, swamps, marshlands, bogs, and wet meadows (1,750 acres);
- Submerged aquatic vegetation (SAV), specifically eelgrass, widgeon grass, sea lettuce, sea wrack, rockweed, bladder wrack, red algae (including Irish moss), *Agardhiella*, and *Gracilaria*, and *Codium fragile* (an invasive species);
- Barrier islands, beaches, and dunes; and
- Migratory fish runs, primarily for alewife and American eel, though Atlantic tomcod, three spine stickleback, and white perch spawn to a lesser extent in Southampton waters.

Many of these resources receive some form of protection by the Trustees, the Town, the State, and/or the federal government. For example, protection of the Town's wetlands is addressed in Chapter 325 of the Town Code, which gives the Town Conservation Board or the Town Planning Board (in cases where an application requires site plan, subdivision or special exception approval) the ability to review applications for development projects on land with wetlands; freshwater wetlands receive protection under the federal Clean Water Act, and those greater than 12.4 acres (or smaller if considered of unusual local importance) are protected at the State level under the Freshwater Wetlands Act, which the Town of Southampton has the authority to implement under Town Code Ch 325A, Wetlands, Freshwater; SAV is also protected under the federal Clean Water Act and the Southampton Trustees' Rules and Regulations.

Because of their State-wide importance, the NY Department of State/Division of Coastal Resources (DOS) has designated twenty areas in Southampton as Significant Coastal Fish and Wildlife Habitats. This designation is based on an evaluation and recommendation from the Department of Environmental Conservation (DEC). For each designated site, the DOS prepares a habitat map and narrative that provides specifics about the habitat area and resources. Regulatory reviews by both the DEC and DOS take into account any potential impacts to Significant Coastal Fish and Wildlife Habitats, and a "habitat impairment test" is part of the impact assessment portion of the DOS federal consistency review and State consistency review.

The Significant Coastal Fish and Wildlife Habitats in Southampton include the following (and are appended to this Plan):

⁹⁸ US Fish and Wildlife Service. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed. Southern New England-New York Bight Coastal Ecosystems Program, Charlestown, RI. Online at: http://library.fws.gov/pubs5/web_link/text/.

- Alewife Creek and Big and Little Fresh Ponds
- Cow Neck
- Cranberry Bog County Park
- Cupsogue County Park
- Dune Road Marsh
- Far Pond and Middle Pond Inlets
- Flanders Bay Wetlands
- Long Pond Greenbelt
- Mecox Bay and Beach
- Moriches Bay
- Noyack Bay Beaches
- Peconic River
- Sag Harbor and Northwest Harbor
- Sagaponack Inlet
- Sebonac Neck
- Shinnecock Bay
- Southampton Beach
- Tiana Beach
- Towd Point
- Westhampton Beach and Dune

Issues and Analysis

Loss of Shellfish

Prior to 1986, Long Island waters supported an abundant bay scallop population. However brown tide (which appeared from 1985–1987, and again in 1995, and which is caused by *Aureococcus anophagefferens*) decimated the bay scallop population by 1) shading and killing the eelgrass which scallops rely on for predator protection and settling substrate during the early stages of development, 2) out-competing the algae that bay scallops consume, thereby depriving them of their food source⁹⁹, and 3) reducing the overall population to such low densities that spawning events did not result in widespread fertilization¹⁰⁰. It is believed that bay scallop populations have continued to suffer because there continues to be too few adults to spawn successfully¹⁰¹, and because the habitat which supported them is compromised—both in terms of loss of SAV and impaired water quality in some locations. The latter is especially true in western Shinnecock Bay, where researchers note that shellfish are not successfully producing offspring due to poor water quality¹⁰².

Efforts are also underway to monitor bay scallop populations and help increase their spawning capacity by growing juveniles in protected areas and releasing them into “spawning sanctuaries” when they reach a size that makes them less susceptible to predation. Monitoring of restoration efforts in Peconic Bay from 2007–2010 has shown an increase in the abundance of juvenile and adult scallops.

Hard clam populations have also declined in the waters surrounding Southampton over the past several decades. Population loss in Shinnecock Bay since the 1970s is estimated at 95%¹⁰³. Causes of the decline include brown tide, overfishing, and habitat degradation; and, similar to bay scallops, the low densities of spawning adults make it difficult for the stocks to rebound naturally.

Oyster populations have similarly declined over the past several years, and several efforts are underway to increase populations through aquaculture activities.

To combat the issue of low density, The Nature Conservancy is working with fishermen and towns to develop spawning sanctuaries for shellfish. Additionally, the Peconic Estuary Program has focused efforts on identifying the causes and minimizing the impacts of brown tides¹⁰⁴ in the hopes of minimizing their impact to shellfish. The Shinnecock Bay Restoration Program and the SPAT program through the Cornell Cooperative Extension (and in partnership with the Town Trustees) are working to reintroduce shellfish into the marine environment to improve habitat through increased water filtration by shellfish. Through this process, they will also likely increase the population of spawning adults.

Loss of SAV

⁹⁹ Peconic Estuary Program. 2005. Environmental Indicators Report. Riverhead, NY..

¹⁰⁰ Tettelbach, S. No date. Bay Scallop Restoration. Online at: <http://sites.google.com/site/stephentettelbach/bay-scallop-restoration>.

¹⁰¹ Tettelbach, S. No date. Bay Scallop Restoration. Online at: <http://sites.google.com/site/stephentettelbach/bay-scallop-restoration>.

¹⁰² Wright, M. 2012. Western Shinnecock bay is Sterile, Thanks to Human Proximity, Scientists Say. Southampton Press. Online at: <http://www.groupfortheeastend.org/wp/wp-content/uploads/2012/04/Southampton-News-Western-Shinnecock-Bay-Is-Sterile-Thanks-To-Human-Proximity-Scientists-Say-27east.pdf>.

¹⁰³ Hamptons.com. 2011. Shellfish Restoration Project Complete. Online at: <http://www.hamptons.com/Community/Main-Articles/15209/Shellfish-Restoration-Project-Completed.html#.VM9xUyygvh4>.

¹⁰⁴ Peconic Estuary Program. 2001. Comprehensive Conservation and Management Plan.

Not only did brown tide impact shellfish populations, over the years it—along with pollution and nutrient inputs, disruption from boating, fishing, and dredging activities—also decimated eelgrass beds. Estimates place the loss of SAV as high as 90%, but information about the true historic and current extent is not sufficient to quantify loss.

Some strategies identified to reduce impacts from fishing pressure include setting aside “no harvest zones” and buffer zones to prevent the use of certain disruptive harvesting techniques (such as “easing” for razor clams) in the vicinity of established and recovering eelgrass beds.

Other strategies, aimed at general boating activity, include improved marking of shallow areas and navigational channels, conducting public education about the importance of channel markers, increasing enforcement in areas of frequent disturbances¹⁰⁵, and using “conservation moorings” designed to keep mooring chains from disrupting SAV.

Impacts to SAV from shore-side and upland activities can also be minimized. Stormwater abatement and septic maintenance efforts can reduce the input of nutrients and sediments. Coastal development can be conducted in a manner that minimizes the introduction of sediment; and docks and piers can be constructed in a way that minimizes shading and impacts to bottomland.

While measures to prevent loss of existing SAV are important, restoration activities are also needed to help rebuild SAV resources. Eelgrass restoration research in Shinnecock Bay shows mixed success when shoots harvested from an adjacent area were transplanted to a bare area and monitored, with average percent survivability between fall 2006 to fall 2007 ranging from as high as 557.11% to as low as 19.96%¹⁰⁶. The difference between survivability rates at each of the test sites is unknown, but researchers speculate that bioturbation, shellfishing activities, and high water temperatures might have influenced survivability.

Sea Level Rise and Climate Change

As explained in greater detail in the section about Flooding, Erosion, and Sea Level Rise, the increase in sea level in Southampton will likely impact the extent of habitat and the range of natural resources. Marshes, seagrass beds, tidal flats, and beaches may not be able to migrate due to coastal development resulting in the loss of critical habitats and ecosystem services such as storm attenuation.

Marshes will particularly be at risk where they are backed by steep slopes or development. The more immediate losses, however, may be losses of barrier beaches where sea level rise might accelerate shoreline erosion¹⁰⁷.

Additionally, wetland boundaries will be subject to change as sea level rises, with potential enforcement implications.

Climate change also presents challenges for the Town’s ecosystem and natural resources. As water temperatures change globally, some species will migrate, posing new issues (*e.g.*, new predators or new species to compete for existing resources) in Town waters. Related to climate change, ocean acidification may also impact animals in Town waters, such as shellfish, whose shell thickness may be affected by the change in water chemistry.

¹⁰⁵ Pickerell, C., Rivara, G., Petersen Manzo, K., Schott, S. 2009. Town of Southampton Eelgrass and Bay Scallop Restoration Planning Project: Final Report.

¹⁰⁶ Pickerell, C., Rivara, G., Petersen Manzo, K., Schott, S. 2009. Town of Southampton Eelgrass and Bay Scallop Restoration Planning Project: Final Report.

¹⁰⁷ Strange, E.M. No Date. North Shore, Long Island Sound and Peconic Estuary.

Invasive Species

Some of the Town's native natural resources are affected by invasive species, including:

- The Asian shore crab, *Hemigrapsus sanguineus*
- The common reed (*Phragmites australis*), and
- Green fleece (*Codium fragile*)

Each of these invasives presents problems such as out-competing local species and/or disrupting their life biological processes.

One additional issue related to invasive species is the introduction of non-native animals through the stocking of Wildwood Lake, Alcotts, Beaverdam, Big Fresh Pond, Trout Pond, and Phillips Pond. This issue of stocking non-native species, rather than native species, was brought up during the 1999 Comprehensive Plan Update¹⁰⁸, and still remains an issue of concern for the Town.

Coastal development/alteration (water quality, shoreline, wetlands)

Coastal development and alteration has a significant impact on the area's natural resource, resulting in the loss of important habitat, the disruption of sediment transport, increases in impervious surfaces, introduction of new sources of pollutants such as nitrogen from septic systems; and the disruption of fish spawning areas.

In addition to establishing several regulatory measures to minimize impacts from coastal development, the Town is engaged in several non-regulatory initiatives intended to address the impacts of coastal development and alteration, including work to acquire open space, efforts to prevent shoreline hardening; studies to identify sources of non-source pollutants; public education to teach residents about water quality issues that impact human health and the ecosystem; and modeling to understand sources of nitrogen in surface and ground waters.

Policy 6 Protect and restore the quality, diversity, and function of the ecosystem.

The ecosystem consists of physical (non-living) components, biological (living) components, and their interactions. Its physical components include environmental factors, such as, water, soils, geology, sunlight, temperature, etc. The biological components include assemblages of plants, animals, and other living organisms.

Certain natural resources that are important for their contribution to the quality and biological diversity of the coastal ecosystem have been specifically identified by the State for protection. These natural resources include regulated tidal and freshwater wetlands; designated Significant Coastal Fish and Wildlife Habitats; and rare, threatened, and endangered species. In addition to specifically identified discrete natural resources, the quality of the ecosystem also depends on more common, broadly distributed natural resources, such as the extent of forest cover, the population of finfish and shellfish (which, in turn, are dependent on the abundance of algae and other microscopic organisms and particles in the water column, as well as dissolved oxygen, pH, temperature, etc.), the presence of native vegetation, and the health of dune systems. These more common natural resources collectively affect the quality and biological diversity of the ecosystem. Both the natural resources and the quality of the ecosystem will likely be affected by climate change and sea level as conditions in the water (*e.g.*,

¹⁰⁸ Town of Southampton. 1999. "Southampton Tomorrow: Comprehensive Plan Update, Implementation Strategies", Town of Southampton, New York.

temperature and circulation changes, species migration, etc.) and along the coast (*e.g.*, more frequent storm inundation, migration of the shoreline and its features, etc.) change. Predicted climate change and sea level rise impacts will also be addressed in this policy as they pertain to natural resources.

6.1 Protect and restore the quality and diversity of ecological communities.

- a. Avoid significant physical and functional loss or degradation of the ecosystem stemming from new and existing land and water uses (*e.g.*, shading from docks and piers, water quality impairments from failing septic systems, loss of sediment due to shoreline hardening, damage to eelgrass from boater activity). Design new and existing land and water uses to avoid/minimize potential adverse impacts or changes to ecological processes. Mitigate unavoidable loss.
- b. Employ design/construction methods to reduce the impacts of docks on natural resources. In particular, encourage techniques that reduce impacts from shading.
- c. Reduce the impacts of boat moorings to the benthic habitat.
- d. Restore damaged ecological communities where feasible.
- e. Prepare for climate change so as to minimize physical and functional loss or degradation of the ecosystem.
- f. Maintain values associated with natural ecological communities.
- g. Maintain corridors as well as structural and functional relationships between ecological communities to provide for self-sustaining systems.
- h. Retain and add indigenous plants (*e.g.*, eel grass) and animals (*e.g.*, bay scallops) as appropriate while avoiding the introduction of non-native species.
- i. Protect land (*e.g.*, through acquisition, easements, and transferrable development rights) to preserve ecosystem functions. Look to the Community Preservation Fund (CPF) Priority List as a guide.
- j. Encourage the use of Planned Development Districts, where appropriate, when they are found to achieve the preservation and conservation of open spaces, natural resources, diverse ecological communities, species diversity, and groundwater quality and quantity.
- k. Preserve existing diadromous fish runs and restore populations in tributaries where appropriate conditions exist or can reasonably be created.
- l. Minimize ecological consequences due to artificial night lighting.
- m. Dredging should be considered as one option for improving water circulation in strategic areas.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 75, Water Quality Protection Fund
- Chapter 140, Community Preservation Fund
- Chapter 157, Environmental Quality Review

- Chapter 158, Environmental Savings Fund
- Chapter 229, Natural Resources, Protection of
- Chapter 231, Nature Preserve
- Chapter 244, Transfer of Development Rights Certificate Program
- Chapter 247, Open Space; Article I Planned Residential Development
- Chapter 247, Open Space; Article III Conservation Easements
- Chapter 278, Shellfish
- Chapter 285, Stormwater Management and Erosion and Sediment Control
- Chapter 285A, Storm Sewers
- Chapter 292-6.1, Subdivision of Land; Conservation opportunities subdivision review procedures
- Chapter 292-11, Subdivision of Land; Planned residential development
- Chapter 292-39, Subdivision of Land; Preservation and protection of natural environment
- Chapter 292-41, Subdivision of Land; Bulkheading and waterways
- Chapter 308, Vegetation, Protection of
- Chapter 325, Wetlands
- Chapter 325A, Wetlands, Freshwater
- Chapter 330-7, Zoning; Transfer of permitted residential development rights
- Chapter 330, Zoning; Article VIII Tidal Wetlands and Ocean Beach Overlay District
- Chapter 330, Zoning; Article XXIV Central Pine Barrens Overlay District
- Chapter 330, Zoning; Article XXVI Planned Development District
- Chapter 330, Zoning; Article XXIX Outdoor Lighting
- Chapter A340, Management of Town Waters

Implementation Through Recommended Changes to Local Law:

Specific recommendations for amendments to local laws to better implement this policy include the following:

1. Chapter 111. Consider developing and adding standards for boat moorings (conservation moorings) that reduce impacts to benthic habitat in non-Trustee waters.
2. Chapters 138 and A340. Consider updating to include more specific design requirements for docks and piers in non-Trustee waters..
3. Chapter 138-10. Consider updating to include language that would not allow the placement of moorings in eelgrass in order to prevent plant loss and its function of securing sediment in non-Trustee waters.
4. Chapter 151-8C(5). Modify wording from “habitat restoration” to “habitat and ecological community restoration” as one of the specific potential uses of the Environmental Fund.

5. Chapter 330. Consider adopting measures to allow for the landward migration of coastal resources.
6. Chapter 325. Consider an update to acknowledge sea level rise impacts (*e.g.*, in purpose section) and to accommodate for wetland migration, perhaps increasing the 100 ft buffer and/or adding an elevation element to the buffer.
7. Chapter 330-46.2. Consider modifying language regarding “Adjacent Areas” to reflect sea level rise and to accommodate migration of natural resources such as dunes, wetlands, and beaches.
8. Chapter A340. Consider update to allow for dredging to improve water circulation.

Implementation Through Projects:

1. Identify sensitive benthic habitat areas (*e.g.*, eelgrass beds). Use these areas to develop standards for moorings and floating docks, and consider requiring all existing moorings and floating docks in those sensitive benthic habitat areas to be converted to conservation moorings. Conduct pre- and post-installation monitoring of sites to determine impacts of new moorings and docks on benthic habitat.
2. Survey and identify damaged ecological communities. Develop and implement restoration plans where feasible.
3. Require light-penetrating deck material on bluff stairs.
4. Conduct a study on the impacts of sea level rise to the aquifers in Southampton, similar to the studies conducted on Cape Cod: <http://www.apcc.org/sealevelrise/index.html>.
5. Update the Community Preservation Project Plan to include lands needed for natural resource migration due to sea level rise. Refer to <http://coastalresilience.org/> for maps on marsh migration areas.
6. Consider conducting an inventory of:
 - a. coastal resources at risk of inundation under various sea level rise scenarios,
 - b. areas that might accommodate inland migration, and
 - c. barriers to resource migration. Using this inventory, the Town could:
7. Consider developing an overlay district to protect key adjacent lands (*i.e.*, those that would allow for resource migration) from development and alteration.
 - a. Identify and integrate rolling easements by overlay district or as otherwise addressed.
 - b. Use this inventory to acquire important land or easements in the overlay district. Include the identified land in the next update of the Town's CPF Project Plan.
 - c. Designate this area as a coastal retreat zone and use Transfers of Development Rights (TDRs) to encourage development in lands not suitable for coastal resource retreat.
8. Consider amending the existing Tidal and Wetlands Ocean Beach Overlay District.
9. Update the Community Preservation Project Plan to include lands needed for natural resource migration due to sea level rise, similar to work being conducted for Tiana Bay.

10. Educate boat ramp users about the threats of invasive species, including actions boaters can take to minimize the spread of such species, through the distribution of literature when ramp permits are issued.
11. Develop and distribute educational material for boaters regarding invasive species and Best Management Practices to minimize their introduction (*e.g.*, signs at the boat ramps, flyers, etc.).
12. Continue to work with the Trustees to identify those locations in need of dredging for water circulation purposes. As part of this, identify potential impacts (positive and negative) of dredging in those areas and prioritize and implement the projects.
13. Assess buffers on Town-owned property to ensure that they are adequate.
14. Work with fishermen, Trustees, researchers, and other stakeholders to develop a comprehensive and coordinated shellfish management plan (building on work done for the Shinnecock Bay Shellfish Management Plan) that defines and works to achieve “sustainable use” of shellfish resources, including such topics as habitat protection, spawning sanctuaries/no harvest zones, shellfish planting, aquaculture, eelgrass planting, etc.
15. Develop an oral history/documentary of the shellfish and habitat resources by talking with experienced Baymen resource managers.
16. Encourage the Trustees to conduct an inventory of navigation aids to ensure that they are adequate in terms of protecting natural resources. Mark additional areas known to be good shellfish habitat.
17. Work to reinstate funding for shellfish protection.
18. Continue to identify fish runs and barriers to fish migration. Conduct restoration activities as appropriate.
19. Organize and host a waterfront festival/ maritime heritage festival showcasing the Town’s present and historical waterfront resources and livelihoods (*e.g.*, lifeguarding skills, fishing, boating, seafood preparation, etc.) to promote interest in and awareness of coastal and waterfront issues.
20. Following an engineering inspection of the Old Ponquogue Bridge, address safety concerns to allow for safe enjoyment of this important habitat and recreational resource.

Implementation Through Proposed Administrative Changes or Actions:

1. Use the DEC’s list of ecological communities¹⁰⁹ to inventory ecological communities in Town. Consult this inventory when making decisions regarding development and land acquisition to ensure that activities do not negatively impact the values identified, including relationships and corridors between communities.
2. Conduct public meetings to educate residents about the Town’s plans to address climate change impacts (existing and anticipated).
3. Identify new sending areas for migration of coastal resources due to sea level rise through TDRs.

¹⁰⁹ The list is available at: <http://www.dec.ny.gov/animals/29392.html>.

4. Continue to support Trustee activities that set aside and monitor the impacts of “no harvest zones” and buffer zones to prevent the use of certain disruptive harvesting techniques (such as “easing” for razor clams) in the vicinity of established and recovering eelgrass beds.
5. Conduct public education about the importance of minding navigational aids both for personal safety and for protection of habitat, and increase enforcement in areas of frequent disturbances.
6. Continue to look to the Community Preservation Fund Priority List as a guide for land protection projects. Add to that list as appropriate.
7. Encourage the State to assess the environmental and economic impacts to fishing and shellfishing stemming from water quality impairments.
8. Continue to enforce Chapter 330, Article XXIX: Outdoor Lighting for the protection of the Town’s natural resources.

6.2 Protect and restore Significant Coastal Fish and Wildlife Habitats.

- a. Protect designated Significant Coastal Fish and Wildlife Habitats within Southampton from uses or activities that would destroy habitat values or significantly impair the viability of the habitat beyond its tolerance range—the ecological range of conditions that supports the species population or that has the potential to support a restored population where practical. The Narrative for each of the designated habitats describes the habitat, its value, and the activities that may impact it.
- b. Employ appropriate mitigation techniques such as timing activities to avoid vulnerable periods in life cycles to minimize potential development impacts to critical habitats.
- c. Wherever practical, enhance or restore designated habitats so as to foster their continued existence as natural systems.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 75, Water Quality Protection Fund
- Chapter 111, Beaches, Parks, and Recreation Centers
- Chapter 140, Community Preservation Fund
- Chapter 150, Dogs and Other Animals
- Chapter 157, Environmental Quality Review
- Chapter 158, Environmental Savings Fund
- Chapter 229, Natural Resources, Protection of
- Chapter 231, Nature Preserve
- Chapter 244, Transfer of Development Rights Certificate Program
- Chapter 247, Open Space; Article I Planned Residential Development
- Chapter 247, Open Space; Article III Conservation Easements

- Chapter 278, Shellfish
- Chapter 285, Stormwater Management and Erosion and Sediment Control
- Chapter 285A, Storm Sewers
- Chapter 292-6.1, Subdivision of Land; Conservation opportunities subdivision review procedures
- Chapter 292-11, Subdivision of Land; Planned residential development
- Chapter 292-39, Subdivision of Land; Preservation and protection of natural environment
- Chapter 292-41, Subdivision of Land; Bulkheading and waterways
- Chapter 308, Vegetation, Protection of
- Chapter 325, Wetlands
- Chapter 325A, Wetlands, Freshwater
- Chapter 330-7, Zoning; Transfer of permitted residential development rights
- Chapter 330, Zoning; Article VIII Tidal Wetlands and Ocean Beach Overlay District
- Chapter 330 ,Zoning; Article XXIV Central Pine Barrens Overlay District
- Chapter 330, Zoning; Article XXVI Planned Development District
- Chapter A340, Management of Town Waters

6.3 Protect and restore tidal and freshwater wetlands.

- Restore and create wetlands, where prudent and necessary, to increase the quantity and quality of the Town's wetland resource base. Provide for achievement of a net increase in wetlands when practical opportunities exist to create new or restore former tidal wetlands.
- Comply with statutory and regulatory requirements of existing wetland laws, focusing on the prevention of a net loss of vegetated wetlands by avoiding fill or excavation; minimizing adverse impacts resulting from unavoidable fill, excavation, destruction of natural vegetation, or other activities; and providing for compensatory mitigation for unavoidable adverse impacts.
- Provide and maintain naturally vegetated buffers between wetlands and adjacent or nearby uses and activities to protect wetland values such as habitat, water retention, and pollution abatement. Consider wetland migration in delineating the wetland buffer.
- Promote the use of best management practices for land uses and development activities that will minimize impacts on wetlands, such as requiring on-site stormwater detention for all developments.
- Advance integration of wetland protection with other programs and local laws.
- Consider potential impacts from climate change and sea level rise (*e.g.*, wetland migration, wetland delineation) when considering action affecting wetlands.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 75, Water Quality Protection Fund

- Chapter 111-12, Beaches, Parks and Waterways
- Chapter 138, Coastal Erosion Hazard Areas
- Chapter 140, Community Preservation Fund
- Chapter 157, Environmental Quality Review
- Chapter 229, Natural Resources, Protection of
- Chapter 231, Nature Preserve
- Chapter 247-9, Open Space
- Chapter 285, Stormwater Management and Erosion and Sediment Control
- Chapter 292, Subdivision of Land
- Chapter 308, Vegetation, Protection of
- Chapter 325, Wetlands
- Chapter 325A, Wetlands, Freshwater
- Chapter 330, Zoning; Article II Residence Districts
- Chapter 330, Zoning; Article VII Tidal Wetlands and Ocean Beach Overlay District
- Chapter 330, Zoning; Article XVI Planned Development District
- Chapter 330, Zoning; Article XVII Special Exception Uses
- Chapter 330, Zoning; Article XXIV Central Pine Barrens Overlay District

Implementation Through Recommended Changes to Local Law:

Specific recommendations for amendments to local laws to better implement this policy include the following:

1. Chapter 325A. Consider the feasibility of assuming administration of the NYS Freshwater Wetlands Program.
2. Chapter 330-46.2. Consider adjusting language regarding “adjacent areas” to reflect sea level rise and to accommodate migration of natural resources such as wetlands.
3. Chapter 123-24. Consider including a representative of the Land Management Department on the Road Review Committee.
4. Chapter 123 Building Construction; Article VI: Swimming Pools. Consider adding new requirements for the construction and installation of swimming pools to minimize impact on wetlands and water quality¹¹⁰.
5. Chapter 325 (Wetlands). Update the “Findings” section to acknowledge the impacts of mosquito ditching in Chapter 325-2(B); and consider a moratorium on new mosquito ditching.

¹¹⁰ See

<http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&ved=0CEMQFjAC&url=http%3A%2F%2Flanduse.law.pace.edu%2Flanduse%2Fdocuments%2Fflaws%2Freg2%2FNY-ORD-Easthampton-Harbor.doc&ei=omgzUsiyPOLh4AO5s4CQDA&usg=AFQjCNHHjKM7Vq6SUufthzc2RKo5IssbQA&bvm=bv.52164340,d.dmg> for example content.

Implementation Through Projects:

1. Identify impaired wetlands and evaluate their needs. Conduct restoration activities as appropriate—including projects such as re-planting, invasive species removal, water flow/circulation improvement projects, monitoring, etc.

Implementation Through Proposed Administrative Changes or Actions:

1. Develop an inventory of wetland restoration and creation opportunities. Consult this inventory when using Town funds to purchase or protect land, when issuing permits requiring mitigation, and when grant opportunities arise.
2. Explore techniques in Open Water Marsh Management.
3. Develop a protocol for reviewing and establishing wetland boundaries (CH 325), taking into consideration the changes in wetlands due to more frequent flooding and wetland migration.

6.4 Protect vulnerable fish, wildlife, and plant species, as well as rare ecological communities.

- a. Ensure that measures are taken to protect rare, threatened, and endangered species.
- b. Prevent harm to vulnerable fish, wildlife, plant species, and rare ecological communities stemming from the impacts of land use.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 75, Water Quality Protection Fund
- Chapter 111, Beaches, Parks, and Waterways; Article I Beaches, Parks, and Recreation Centers
- Chapter 111, Beaches, Parks, and Waterways; Article VI Construction in and Adjacent to Town Waters and Beach Areas
- Chapter 138-11, Coastal Erosion Hazard Areas; Article II Restrictions on Regulated Activities, Beach Areas
- Chapter 140, Community Preservation Fund
- Chapter 150, Dogs and Other Animals
- Chapter 229, Natural Resources
- Chapter 231, Nature Preserve
- Chapter 278, Shellfish
- Chapter 285, Stormwater Management and Erosion and Sediment Control
- Chapter 325, Wetlands
- Chapter 330-46.3, Zoning; Native vegetation and natural vegetation protection standards

AIR QUALITY

Issues and Analysis

There are two major issues related to air quality and its impacts on the Southampton waterfront area:

- So-called greenhouse gasses
- Atmospheric deposition of Nitrogen

Greenhouse Gasses

The Town Sustainability Plan¹¹¹ states:

“Vehicle use accounts for approximately 20% of U.S. greenhouse gas emissions, making transportation an important focus of any sustainability plan. At the local level, increasing vehicle use is having a harmful effect on local air quality—although the Town’s rating on the EPA Air Quality Index is generally good, its ranking with respect to ozone levels are on the decline and now fall below the national average... To address these issues, this section of the Plan focuses on strategies to promote alternative modes of transportation, particularly during the peak summer travel season¹¹²”.

Many, if not most, of the sources of greenhouse gases affecting the Town come from areas well removed from local jurisdiction. Consequently most of the management of this issue will be done at the federal and State level. However, both the Sustainability Plan and the in-progress Climate Action Plan include an extended series of recommendations for the implementation of limits on greenhouse gas impacts within the Town.

Atmospheric Deposition of Nitrogen

As mentioned in the Water Quality section, excessive levels of nitrogen in coastal waters can lead to eutrophication and Harmful Algal Blooms (HABs). Kinney and Valiela, in reviewing nitrogen input to Great South Bay¹¹³, note that direct atmospheric deposition of nitrogen onto the surface of the Great South Bay can be as much as 44% of the annual nitrogen load from the watershed to the Great South Bay. Stinnette¹¹⁴ modeled nitrogen loadings and sources to Moriches, Quantuck and Shinnecock Bays related to adjacent sub-watersheds as part of her Master’s thesis work and found that, generally, atmospheric deposition contributed about 15% of the total nitrogen loads from land-based sources. A similar modeling effort by The Nature Conservancy found that 24% of nitrogen from land-based sources in the Peconic Estuary was from atmospheric deposition¹¹⁵. Together, these studies show that atmospheric deposition can be a significant source of nitrogen to the waterbodies in and around the Town

¹¹¹ Perkins + Will. 2013. Southampton 400+ Sustainability Element, Addendum to the Town of Southampton Comprehensive Plan, 2013”. Online at:
<http://www.southamptontownny.gov/DocumentCenter/Home/View/2260>.

¹¹² Perkins + Will. 2013. Southampton 400+ Sustainability Element, Addendum to the Town of Southampton Comprehensive Plan, 2013”. Online at:
<http://www.southamptontownny.gov/DocumentCenter/Home/View/2260>.

¹¹³ Erin Kinney and Ivan Valiela. 2011. Nitrogen Loading to Great South Bay: Land Use, Sources, Retention, and Transport from Land to Bay. J. Coastal Research, V. 27, Issue 4, pp 672–686.

¹¹⁴ Stinnette, Isabelle. 2014. Nitrogen Loading to the South Shore, Eastern Bays, NY: Sources, Impacts, and Management Options. Masters Thesis, SUNY at Stony Brook.

¹¹⁵ Lloyd, Stephen. 2014. Nitrogen Load Modeling to Forty-Three Subwatersheds of the Peconic Estuary. Online at:
<https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/Documents/Nitrogen%20load%20modeling%20to%20the%20Peconic%20Estuary%20-%20TNC%20May%202014.pdf>.

of Southampton..

A review of proposed Total Maximum Daily Loadings (TMDLs) to the Peconic Estuary by the US EPA¹¹⁶ confirms this, reporting that

“Atmospheric Deposition is the largest contributor of nitrogen to the Peconic Estuary...Human activities have increased the amount of nitrogen in our atmosphere. Emissions from motor vehicles, electric utilities and industrial boilers are the largest contributors of atmospheric nitrogen oxides in our country. The nitrogen fertilizers that farmers apply to their land are a large contributor of ammonia into the atmosphere.”

The report goes on to note that implementation of the TMDL “is likely” to reach the goal of reduction of nitrogen to goal levels by 2022. As of November 2014, assessments of impacts of atmospheric deposition of nitrogen, or TMDLs to manage these inputs, for the smaller embayments or other water bodies within the Town of Southampton have not been developed.

The sources of much of the atmospheric deposition of nitrogen that reaches Southampton are located well away from the Town (although vehicle use within the Town clearly can be a factor), so the US EPA report duly notes that the TMDL for the Peconic Estuary is based on full implementation of the Federal Clean Air Act and its associated programs and State of New York programs including;

- Adoption of low-emission-vehicle standards for NO_x and CO₂,
- Adoption of the Regional Greenhouse Gas Initiative, and
- Initiation of the collaborative Renewable Energy Portfolio.

Policy 7: Protect and improve air quality in the Southampton waterfront area.

This policy provides for protection of the Southampton waterfront area from air pollution generated within the coastal area or from outside the coastal area which adversely affects coastal air quality.

It is assumed, as part of the following sub-policies, that the implementation of the Federal Clean Air Act will be the principal means of implementation related to both greenhouse gas impacts and atmospheric deposition of nitrogen within the Town—buttressed by recommendations from the Sustainability Element Addendum to the Town Comprehensive Plan and from the in-progress Town of Southampton Climate Action Plan.

7.1 Control or abate existing and prevent new air pollution.

- a. Limit pollution resulting from new or existing stationary air contamination sources consistent with applicable standards, plans, and requirements.
- b. Wherever possible recycle or salvage air contaminants using best available air cleaning technologies.
- c. Where possible, limit pollution resulting from vehicle or vessel movement or operation, including promotion of alternative fuel (electric, hybrid or propane/liquefied petroleum gas) where economically or practicably feasible.
- d. Limit actions which directly or indirectly change transportation uses or operation resulting in increased pollution.

¹¹⁶ US EPA. 2013. Peconic Estuary TMDL Review. Online at: www.peconicestuary.org.

- e. Restrict emissions or air contaminants to the outdoor atmosphere which are potentially injurious or unreasonably interfere with enjoyment of life or property.
- f. Limit new facility or stationary source emissions of acid deposition precursors consistent with achieving final control target levels for wet sulfur deposition in sensitive receptor areas, and meeting New Source Performance Standards for the emissions of oxides of nitrogen.

Implementation Through Proposed Administrative Changes or Actions:

- 1. Incorporate the recommended tactics/actions of the Sustainability Plan and the Climate Action Plan (when completed and accepted) when reviewing activities with the potential of introducing additional contaminants to the atmosphere.

7.2 Limit discharges of atmospheric radioactive material to a level that is as low as practicable.

7.3 Limit sources of atmospheric deposition of pollutants to the waterfront area, particularly from nitrogen sources.

7.4 Reduce transportation impacts on green house gas emissions through promotion of alternative modes including walking, biking, transit, higher vehicle occupancies, and low-emission/alternate fuel vehicles.

- a. Develop off-road bike routes as a means of decreasing motorized vehicle traffic (as well as providing access to scenic and cultural resources).
- b. Encourage public transportation and pedestrian infrastructure development and use; especially as related to activity within and between hamlet and institutional destinations.

Implementation Through Proposed Administrative Changes or Actions:

- 1. Consider the recommended tactics/actions of the Sustainability Plan when reviewing activities with a transportation component or which will affect transportation choices.

SOLID WASTE AND HAZARDOUS SUBSTANCES AND WASTE

Most Long Island towns have solid waste management plans approved by the NY Department of Environmental Conservation. In addition, all significant Long Island landfills have been assigned monitors employed by the NY Department of Environmental Conservation to ensure that adverse impacts, such as leachates to groundwater, are mitigated. The NY Department of Health implements a gas monitoring system. Smaller and more incremental solid waste problems arise from littering.

Policy 8: Minimize environmental degradation in the coastal area from solid waste and hazardous substances and wastes.

The intent of this policy is to protect people from sources of contamination and to protect coastal resources from degradation through proper control and management of wastes and hazardous materials. In addition, this policy is intended to promote the expeditious remediation and reclamation of hazardous waste sites to permit redevelopment. Attention is also required to identify and address sources of soil and water contamination resulting from landfill and hazardous waste sites and in-place sediment contamination. As the Town Sustainability Plan states:

“Southampton no longer has an active landfill in the Town, and solid waste is carted off Long Island for disposal upstate or further west. While this practice puts municipal waste out of sight and can put it out of mind, it is costly and has a large carbon footprint. Methane emanating from landfills is twenty-one times more potent than carbon dioxide in contributing to greenhouses gases, and the long-distance hauling contributes as well. The Town of Southampton adopted a Municipal Solid Waste Management Plan (SWMP) in 2011 to improve waste collection and encourage waste reduction, reuse and recycling. This section of the Plan reflects the approved SWMP, while proposing zero waste production as an aspirational goal addressing both the fiscal and environmental impacts of waste management in the Town¹¹⁷.”

Both the Sustainability Plan and the in-progress Town Climate Action Plan address aspects of solid and hazardous waste management.

8.1 Manage solid waste to protect public health and control pollution.

- a. Require plans for proper and effective solid waste disposal as part of major development or activities.
- b. Manage solid waste by: reducing the amount of solid waste generated, reusing or recycling material, and using land burial or other approved methods to dispose of solid waste that is not otherwise being reused or recycled.
- c. Prevent the discharge of solid wastes into the environment by using proper handling, management, and transportation practices.
- d. Operate solid waste management facilities to prevent or reduce water, air, and noise pollution and other conditions harmful to the public health.
- e. Strictly enforce anti-litter laws and enact education programs to minimize littering.

¹¹⁷ Perkins + Will. 2013. Southampton 400+ Sustainability Element, Addendum to the Town of Southampton Comprehensive Plan. Online at: <http://www.southamptontownny.gov/DocumentCenter/Home/View/2260>.

Implementation Through Proposed Administrative Changes or Actions:

1. Incorporate the recommended tactics/actions of the Sustainability Plan and the Climate Action Plan (when completed and accepted) when reviewing activities with the potential of impacts to public health and pollution control.

Implementation Through Projects:

1. Develop a plan for a Town or East End reuse facility for deconstructions.
2. Study the feasibility of developing mandatory Town-wide recycling.

8.2 Manage hazardous wastes to protect public health and control pollution.

- a. Manage hazardous waste in accordance with the following priorities:
 - (1) eliminate or reduce generation of hazardous wastes to the maximum extent practical;
 - (2) recover, reuse, or recycle remaining hazardous wastes to the maximum extent practical;
 - (3) use detoxification, treatment, or destruction technologies to dispose of hazardous wastes that cannot be reduced, recovered, reused, or recycled;
 - (4) use land disposal as a last resort.
- b. Phase out land disposal of industrial hazardous wastes.
- c. Ensure maximum public safety through proper management of industrial hazardous waste treatment, storage, and disposal.
- d. Remediate inactive hazardous waste disposal sites.

8.3 Protect the environment from degradation due to toxic pollutants and substances hazardous to the environment and public health.

- a. Ensure the prevention of new releases of toxic pollutants or substances hazardous to the environment that would have a deleterious effect on fish and wildlife resources as part of the environmental review process.
- b. Prevent environmental degradation due to persistent toxic pollutants by: limiting discharge of bioaccumulative substances, avoiding resuspension of toxic pollutants and hazardous substances and wastes, and avoiding reentry of bioaccumulative substances into the food chain from existing sources.
- c. Prevent environmental pollution due to radioactive materials.
- d. Protect public health, public and private property, and fish and wildlife from inappropriate use of pesticides. Provide educational/informational resources to homeowners, agricultural users, and other users of pesticides to develop more informed decisions related to pesticide use.
- e. Take appropriate action to correct all unregulated releases of substances hazardous to the environment.

8.4 Prevent and remediate discharge of petroleum products.

- a. Minimize adverse impacts from potential oil spills by appropriate siting of petroleum offshore loading facilities and dock-side fueling facilities.
- b. Have adequate plans for prevention and control of petroleum discharges in place at any waterfront area petroleum-related facility. Have signs at fueling stations advising against the “topping-off” of fuel tanks.
- c. Prevent discharges of petroleum products by following approved handling and storage, and facility design and maintenance principles.
- d. Clean up and remove any petroleum discharge, giving first priority to minimizing environmental damage.

Implementation Through Proposed Administrative Changes or Actions:

1. Review NY DEC survey(s) of gas station underground tank leakage for any necessary remedial action.

8.5 Transport solid waste and hazardous substances and waste in a manner which protects the safety, well-being, and general welfare of the public; the environmental resources of the State; and the continued use of transportation facilities.

8.6 Site and future solid and hazardous waste facilities to avoid potential degradation of coastal resources.

8.7 Achieve net zero waste production by minimizing waste production and treating waste as a resource rather than a by-product.

Implementation Through Proposed Administrative Changes or Actions:

- a. Consider the recommended tactics/actions of the Sustainability Plan and the Climate Action Plan (when completed and accepted) when reviewing activities with a transportation component or which will affect transportation choices.

PUBLIC ACCESS AND RECREATION

There are a wide variety of uses for water-related access and recreational activities along the extended shoreline and waterfront area within the Town of Southampton. Likewise, there are a number of jurisdictions involved. The following provides a brief overview of public access and recreation resources and related jurisdictions.

The Public Trust Doctrine in the Town of Southampton

Trustee Lands

The public ownership of underwater lands, rights of ways to the water, marshland, and common areas within what is now the Town of Southampton was established by the Dongan Patent of 1686. In that year, King James II of England, through his General Governor, Thomas Dongan, granted over 25,000 acres of land, instituting the first official government in the Town of Southampton. Local and State courts, and even the Supreme Court of the United States, have repeatedly ruled that the Dongan Patent is as valid today as it was in 1686. The Dongan Patent guarantees every Town Freeholder's right to access and use this land and its resources, and establishes the Board of Trustees of the Freeholders which holds these lands in trust and manages them. Over the intervening centuries, the Trustees have been faithful in upholding the public rights to these lands.

The "Blue Book", produced and regularly updated by the Trustees, describes lands and waters under their jurisdiction along the Atlantic shoreline in the following terms, "The easement along the Atlantic Ocean is bounded on the north by the crest of the primary dune, on the east by the easterly Town line, on the south by the high water mark of the Atlantic Ocean and on the west by the westerly Town line. This area is a right of way granted by the Dongan Patent and upheld by subsequent court cases." The Blue Book also describes a "Passing Way" between high and low water on the Atlantic shore.

Additionally, the Trustees hold title to lands below the mean high tide in the South Shore Bays as well as in the North Shore coves, creeks and embayments. They also hold title to various upland parcels that are important to public access to waterways.

Public Trust in areas where Trustees do not "hold lands"

Lands below the low water mark on the Atlantic coast and within Peconic Bay are under the jurisdiction of the State of New York, also held in trust for the citizens. Unless otherwise stipulated for reasons of public health, safety, or welfare, the public has unfettered use of these areas.

Public Beaches

While the public has access to all lands below the crest of the dunes on the Atlantic shore, the Town of Southampton Parks and Recreation Department operates beaches which are Health-Department approved, and offers supervision during the summer months. These include pavilions equipped with toilet facilities and food concessions. Seasonal parking permits are required and are available for purchase at the individual beaches. These include:

- Ponquogue Beach (Hampton Bays)
- Tiana Beach (Hampton Bays)
- Flying Point Beach (Southampton)
- Long Beach and Foster Memorial Park (Noyac)
- Emma Rose Elliston Park (Sag Harbor)

- Sagg Main Beach (Sagaponack)
- W. Scott Cameron and Mecox Beach (Bridgehampton)
- Pike's Beach (West Hampton Dunes)

Additionally, the Suffolk County Parks Department manages the following beaches (supervised during summer months):

- Sears Bellows , Bellows Terrace Road, Hampton Bays—Offers Bellows Pond swimming (fresh water pond) and campground sites for trailers, tents, and organized camping clubs.
- Shinnecock East , Meadow Lane, Southampton—Offers Atlantic Ocean swimming, off-road vehicle access, surf casting at Shinnecock Inlet, and outer beach camping for self-contained trailers or motor homes (no tents).
- Cupsogue Beach, Dune Road, Westhampton—Offers Atlantic Ocean swimming, off-road vehicle access, and outer beach camping for self-contained trailers or motor homes (no tents).
- Meschutt Beach County Park, Hampton Bays (near Shinnecock Canal)—Offers Peconic Bay swimming (Still Water Bay) and camping for self-contained trailers or motor homes (no tents).

Existing Inventories of Public Access and Recreation Resources

Town of Southampton Recreation Plan (2003)

The 2003 Town Recreation Plan¹¹⁸ lists water-related recreation opportunities and facilities by type and by hamlet.

Bathing/Swimming Beaches

The 2003 Town Recreation Inventory and Needs Assessment identifies 20 Town beaches and 4 County beaches (along with 9 Village beaches) along the waterfront. (As noted above, currently only a limited number of the Town beaches are Health Department approved and have facilities.)

Marinas, Boathouses and Piers

A total of 15 Town and 1 County public Marinas, Boathouses, and Piers are identified in the 2003 Town Recreation Inventory (Sector Management Ltd., 2003) along with a note that there are “at least 32” private marinas within the borders of Southampton Town. (It is not clear how many of these may be in the Villages.)

Other water-recreation

Several other forms of water-based recreation are listed, along with specific sites, in the 2003 Town Recreation Inventory including charter fishing boats, fishing piers, paddle sports, SCUBA, and Surfing/Windsurfing facilities.

Town of Southampton Trustees Blue Book

The Trustees’ “Blue Book”¹¹⁹ provides a listing of public access points to beaches over which they have management authority—as well as rules and regulations over use of Trustee-operated boat ramps and for driving on beaches.

¹¹⁸ Sector Management Ltd. 2003. Draft Town of Southampton Recreation Plan.

¹¹⁹ Board of Trustees of the Freeholders and Commonality of the Town of Southampton, 2012. Rules and Regulations for the Management and Products of the Waters of the Town of Southampton.

Boat Ramps

A NY DEC survey¹²⁰ lists 38 boat ramps providing access to the various embayments within Southampton. Five of these are in Villages (two in Sag Harbor and one each in Westhampton, Quogue and Southampton Village) and four are private with Day-Use fees. The rest are public.

Other Water-related Recreation

Recreational hunting of waterfowl, fishing and shellfishing are done in the waters in and adjacent to Southampton Town. (The latter two are discussed more thoroughly in the Water-Dependent Uses section.) Management of these resources within the south shore bays is under the jurisdiction of the Southampton Trustees. In Peconic and Gardiners Bays and the Atlantic Ocean, the NY Department of Environmental Conservation has jurisdiction.

Visual Public Access

For many residents and visitors, being able to see waterfront resources may be as important as being able to physically reach them. Visual Access is described in greater detail in the section on Scenic Resources, but should also be considered here. Construction of buildings or plantings along roadsides or in private yards may have significant impacts on the ability of visual access to public resources.

Issues and Analysis

Beaches

It is clear that residents and visitors to Southampton Town have access to an extensive number of beaches. Some residents and visitors are unclear about how to reach the beaches and where to park once they get there. Several of the roads leading to the beaches are under the management of the Trustees, but there have been misunderstandings about which ones they are and where appropriate parking exists along these roads. Better signage might help resolve this issue by directing visitors to appropriate parking and alleviating use of private areas for access.

Regular flooding on Dune road between East Quogue and the Shinnecock Inlet and on the access to Tiana Beach, can make it difficult for people to get to beach parking and for staff to get to work. The Town has completed an engineering plan to elevate Dune Road and has filed an application for a NY Department of Environmental Conservation Tidal Wetlands Permit for the project.

Jurisdictions

The Town Trustees operate under the mandate of the Dongan Patent which originally established ownership of lands in Southampton Town. Because of the importance of the legal rights guaranteed by this document, it would be useful to the public to have a better understanding of the Patent and how it is applied in current times. This could be done via brochures, a web page, and/or part of in-school education programs. Another possible option would be the development of an oral history of how the waters and associated resources have been important to the community in the past and how they are currently being used and managed (or if such an oral history already exists, make it better known).

Over the years, as the primary activities in Town have changed from fishing and farming to recreation and tourism, there seems to have been a shift in landowner perception and attitudes from water as a public resource to water as a visual and private amenity for adjacent property-owners. This may reflect a shift in cultural perspective from water as a community-owned resource to a commodity that can be

¹²⁰ NY DEC, NY Sea Grant. No Date. Boating the Marine Waters of Long Island.

bought and sold. It is important to emphasize that living adjacent to the water does not extend ownership into those waters. As an extension of these attitudes, public access conflicts can, in some cases, lead to legal actions with well-funded groups challenging either the Town or non-profit groups. Better understanding of public rights and jurisdictions might help alleviate these costly suits.

A second aspect of this issue is that some private landowners reportedly encroach on, or even block, legal public access ways, either purposefully or accidentally over time. Better understanding of public rights, as well as better signage, might help preclude such actions.

Boating

Public access should not focus solely on beach-goers but should also emphasize the abilities of boaters to reach and enjoy the waters of the Town. This includes maintenance of existing boat ramps, and encouragement for boating facilities—both public and private. Continuation of pump-out boats and facilities helps both boaters and environmental quality.

Policy 9: Provide for public access to, and recreational use of, the waterway, public lands, and public resources of the waterfront area.

Tidal waters, including open-ocean and a myriad of embayments and creeks, make up both the northern and southern borders of the Town of Southampton. All of these tidal waters are “public”¹²¹; managed in trust for the citizenry by the Town, Trustees or the State of New York.

Southampton's unique scenic quality and sense of place are derived from the interrelationship between land and water and the Town has worked hard to maintain coastal access and resources for the use of its citizens. Although there have been cases where development has diminished the potential for public access in certain areas, the remaining opportunities are important to realize.

Public access implies not only access to beaches but also to the public waters for boating, recreational shellfishing and fishing, and other uses on the water. It further includes visual access to such public amenities as the waters, beaches, and natural resources held by the public or in the public trust.

The purpose of this policy is to establish measures needed to maintain and, where appropriate, increase public access throughout the waterfront area. The need to maintain and improve existing public access and facilities is among these measures, and is necessary to ensure that use of existing access sites and facilities is optimized in order to accommodate existing and future demands.

9.1 Promote appropriate and adequate physical public access and recreation throughout the waterfront area.

- a. Provide convenient, well-defined, physical public access to and along the shoreline for water-related recreation.
- b. Maintain parking on public roadways that provide public access to beaches.

¹²¹ The public's right to access and free passage along the foreshore areas of the Town of Southampton are primarily derived from what is known as the Public Trust Doctrine. The origins of the Public Trust Doctrine stem from Roman times, when it was recognized that there are three things common to all mankind: air, running water, and the sea (including the shores of the sea). Under the public trust, certain public rights such as navigation and fishing are reserved or held “in trust” for the common use and benefit of the public.

- c. Continue to maintain Town-owned and -operated beaches, beach parking facilities and other Town-managed public access points.
- d. Clearly mark acceptable parking areas, both in beach lots and along Town- and Trustee-managed roadways to beach areas.
- e. Maintain Dune Road in a manner that protects natural resources while allowing access to the beaches by the general public as well as emergency vehicles.
- f. Maintain, and where possible expand, public access for boating by managing existing boat ramps and encouraging the development of new boating facilities, including transient boat moorings, in appropriate areas.
- g. Incentivize private waterfront development to provide public access and/or water-related recreation facilities.
- h. Require public access as part of new development whenever such development is likely to limit public use and enjoyment of public coastal lands and waters.
- i. Restrict public access and water-related recreation on public lands only where incompatible with public safety and protection of natural resources. Continue the program to protect and manage shorebird nesting areas on the public beaches.
- j. Ensure access for the general public at locations where State or federal funds are used to acquire, develop, or improve parkland or beachfront resources.
- k. Improve public understanding of rights and responsibilities of access to public waters by making the citizenry aware of the provisions of the Dongan Patent, existence of public access ways, and possible infringement on those rights.
- l. Publicize and provide appropriate signage for public access and visual access.
- m. Provide information on responsible behavior in these areas in order to maximize long-term usage.
- n. Continue to make the public aware of the impacts on access and recreational usage due to modifications in public waters, including dredging, sand-mining and beach nourishment, public and private construction activities in and adjacent to public waters, and other such activities.
- o. Through outreach materials, workshops, etc., make the public aware of the concepts of the Public Trust and their rights in coastal waters, on public shorelines, and access-ways. Provide sufficient information, including signage, to minimize public intrusion onto private properties.
- p. Employ design criteria for structures along the water's edge (*e.g.*, docks, walkways, bulkheads, etc.) to ensure that longshore public access is maintained.
- q. Maintain and improve public access to and along the Shinnecock Canal.
- r. Encourage the establishment of a water taxi system to provide access to and among waterfront businesses.

Implementation Through Existing Local Law:

This Policy is presently being implemented through the following local laws:

- Chapter 330, Zoning; General provisions

- Chapter 330, Zoning; Article XX Administration and Enforcement
- Chapter 140, Community Preservation Fund
- Chapter 123, Building Construction
- Chapter 292, Subdivision of Land; Article III General Application Procedures
- Southampton Board of Trustees “Blue Book” and related Town Law and regulations.

Implementation Through Projects:

1. Work with the Trustees, Highway Department, and other agencies and departments within the Town and State to maintain, improve, and create suitable public access areas. These should include, where appropriate, peeling back roadways and creating walkways, maintaining existing public parking that supports access to beaches, benches and rest areas with appropriate plantings (to include beach grass, etc.).
2. Prepare a comprehensive plan for Dune Road, the Town beaches, and road endings at the beaches to provide suitable parking, environmental protection, restrooms, and access for all members of the public with rights to the beach areas.
3. Develop and implement plans for a pedestrian bridge from the County-owned park parcels in Riverside to the Downtown Riverhead Park area as a means to improve economic revitalization in the area, foster an appreciation of nature and the Peconic River, and provide for public exercise.
4. Upgrade and enhance the Town marina facility located at 22 Joshua Fosters Path, East Quogue to meet current environmental standards and established usage requirements.
5. Encourage the Town Trustees to remove damaged fencing and improve public access to Cook’s Pond.
6. Evaluate options to improve pedestrian access in the Cooks Pond area.
7. Improve signage and enhance waterfront infrastructure at various Town Trustee public access points including:
 - a) South Bay Avenue: Install benches and improve parking capabilities
 - b) Speonk Shore Road: Improve beach area with additional sand, improve stormwater drainage in the area to protect water quality, add signage noting public access area under Town Trustee management, consider moving the guardrail to create additional usable space
 - c) Tuthill Lane: Trim vegetation to create a sense of public access and/or relocate signage out of hedges
 - d) Rodgers Lane: Improve access via the walkway to the water. Remove excess vegetation, clear dead vegetation and better manage the trail
 - e) Laila Lane: Install and maintain signage for the Laila Lane Walking Trail. Consider removing the fire cistern to enhance access

Implementation Through Proposed Administrative Changes or Actions:

1. Consider re-design of access ways through the dunes on ocean beaches as they should not be perpendicular to the shore, straight, flat openings; rather they should be diagonal to the

shore, curved and/or mounded to minimize erosive impacts during storms or high water events.

9.2 Provide public visual access from public lands to waterfront lands and waters or open space at all sites where physically practical.

- a. Wherever possible, minimize loss of existing visual access and visual quality by limiting visual disruption from development, landscaping, or other activities on public lands.
- b. Increase visual access wherever practical.
- c. Use preservation tools where practicable to assist in the siting or designing of new structures in a manner that would avoid significant degradation of existing visual access from public lands.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 330, Zoning; Article XIX, Architectural Review
- Chapter 330, Zoning; General provisions
- Chapter 330, Zoning; Article XX, Administration and Enforcement
- Chapter 325, Wetlands
- Chapter 140, Community Preservation Fund
- Chapter 123, Building Construction
- Chapter 292, Subdivision of Land; Article III, General Application Procedures
- Southampton Board of Trustees “Blue Book” and related Town Law and regulations.

Implementation Through Recommended Changes to Local Law:

Specific recommendations for amendments to local laws to better implement this policy include the following:

1. Consider enacting a Scenic Roadways Ordinance with emphasis on visual access to waterfront areas.
2. Make appropriate modifications to Chapter 325 of the Town Code to protect visual access.

9.3 Preserve the public interest in and use of lands and waters held in public trust by the State, and other public entities.

- a. Determine land ownership, riparian or littoral interests, and other legal rights prior to approving private use of current public trust lands and those formerly underwater.
- b. Support the limitation of grants of State-owned lands, now or formerly underwater, to exceptional circumstances.
- c. Reserve such interests or attach such conditions to preserve the public interest in use of underwater lands and waterways which will be adequate to preserve public access, recreation opportunities, and other public trust purposes.

- d. Regulate the construction or renovation of docks, bulkheads and other structures in public (non-Trustee) waters to preserve public rights to fishing, navigation, and other public trust purposes.
- e. Where possible, expand public use of the waters when reconstruction of in-water structures is proposed.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 330, Zoning; General provisions
- Chapter 330, Zoning; Article XX Administration and Enforcement
- Chapter 325, Wetlands
- Chapter 140, Community Preservation Fund
- Chapter 123, Building Construction
- Chapter 292, Subdivision of Land; Article III, General Application Procedures
- Southampton Board of Trustees “Blue Book” and related Town Law and regulations.

9.4 Assure public access to public trust lands and navigable waters.

- a. Ensure that the public interest in access below mean high water, along public ways and historic access-ways, along the oceanfront right of way held and managed by the Trustees, and to navigable waters is maintained.
- b. Allow, but mitigate, obstructions to public access when necessary for the operation of water-dependent uses.
- c. Permit interference with public access to and along the shore to the minimum degree necessary to allow riparian or littoral property access to navigable waters. Require mitigation for interference with public access. Include the following factors in determining the minimum access necessary: the size and nature of the water body, the types and intensities of uses of the water body by the public, the traditional means of access used by surrounding similar uses, and whether alternative means of access to navigable waters are available.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Southampton Board of Trustees “Blue Book” and related Town Law and regulations.
- Chapter 330, Zoning; General provisions
- Chapter 330, Zoning; Article XX, Administration and Enforcement
- Chapter 140, Community Preservation Fund
- Chapter 123, Building Construction
- Chapter 292, Subdivision of Land; Article III General Application Procedures

WATER-DEPENDENT USES AND THE SUSTAINABLE USE OF LIVING MARINE RESOURCES

The water-dependent commercial and recreational uses along Southampton's waterfront (see Figure 30), are integral to the Town's identity and fundamental to its economic vitality. These maritime activities harvest food from the sea, provide livelihoods for hundreds of people, and recreational opportunities for thousands of residents and visitors.

There are two concentrations of water-dependent businesses and facilities. The first is at the Shinnecock Canal area east of the Hamlet of Hampton Bays, which supports the largest concentration of water-dependent uses in Southampton and is the most suitable area for future expansion of such businesses and facilities. The second is at the Shinnecock Inlet, on the bay side of the east end of Westhampton Beach Island, which serves the second largest commercial fishing fleet in the South Shore Estuary.

There are about 42 marinas in the Town of Southampton, and an additional 14 in the incorporated villages. Most are concentrated in two areas: Hampton Bays and the Shinnecock Hills/Shinnecock Canal area. The marinas vary in size and type of boating services provided and are said to cater primarily to medium-size and larger pleasure craft. Most marinas and boatyards in Southampton are located in the Resort and Waterfront Business (RWB) zone, although a significant number are non-conforming uses located in residential areas. Almost 70 percent of all RWB land is in the northeast end of Shinnecock Bay near the Ponquogue Bridge and immediately west and east of the Shinnecock Canal. These two areas support a total of 34 marinas and boatyards with a combined total of 1,447 rental slips.

The commercial deepwater finfishing industry is centered around the Shinnecock Commercial Fishing Dock located inside and to the west of Shinnecock Inlet. Trawlers are the most common type of vessel, but there are also clam dredge vessels, long-line fishing boats, lobster boats, and gill-net boats.

The underwater lands of Southampton have supported a major commercial and recreational shellfishery, which remains a critical part of the economy of the Town. Shinnecock Bay, certified for commercial and recreational shellfishing, has significant populations of hard clams, soft clams, bay scallops, mussels, and crustacean blue crabs.

A shellfish aquaculture lease program is administered by the Suffolk County (Department of Planning) in Peconic Bay. The program is designed to increase investment in aquaculture; avoid conflicts with commercial fishing and other uses of the bay; and augment the natural harvestable populations of oysters, hard clams and bay scallops. The County controls both the location of shellfish farms through issuance of leases on underwater land within a 29,969 acre Shellfish Cultivation Zone (See Figures 32 and 33) and the extent and intensity of aquaculture use through limits on lease size and number.

Navigational Infrastructure

Water-dependent uses rely on direct vessel access to navigable water for their operations. The two most important navigational features in the planning area are the Shinnecock Inlet and Shinnecock Canal, the first a federally-authorized navigation channel connecting Shinnecock Bay and the Atlantic Ocean, which requires regular maintenance dredging. The second is a nearly one-mile long navigable connection between Peconic Bay and Shinnecock Bay, which also directly serves a number of recreational boating facilities. Except for federal and privately maintained channels responsibility for dredging all channels is with the Suffolk County Department of Public Works. The County has performed 62 dredging projects in Southampton over the most recent decade. There are four upland and nine beach nourishment areas in Southampton where dredged material has been disposed in the past.

Issues and Analysis

Decline of the working waterfront

Displacement of traditional water-dependent uses by residential and non-water-dependent commercial uses diminishes an important economic base, source of employment, and community character. Stressors on environmental quality impact the productivity of marine resources relied upon by the harvesting industries. Planning, regulatory and programmatic tools to protect and expand working waterfront uses need to be strengthened.

Water Use and Access Issues

There is competition among different user groups and different types and sizes of vessels for use of embayment waters, navigation channels, and boating support and access facilities, including competition among commercial and recreational fishermen, pleasure boaters, personal watercraft users, swimmers and SCUBA divers, waterfowl hunters, charter fishing and excursion vessels, hand-propelled craft, and passenger ferries. Some of this competition is due to inadequate infrastructure such as docking and loading facilities, limited parking, and need for maintenance dredging. Loss of existing boat support facilities (for resident and transient boaters) exacerbates the problem. There are occasionally conflicts between public rights to use navigable water and the rights of littoral owners. Visual access to scenic views of the estuaries, bays and ocean is another quality of the community that can be diminished by private coastal development.

Recreational Boating

It is increasingly challenging for the marine industry, including marinas, to survive and locate in the Town because of economic pressures from competing land uses and the costs of maintaining waterfront infrastructure and navigational channels and fairways. In some instances, family-owned boatyards are in danger of being converted to another use because of the lack of family interested in continuing the business. Code amendments to better address marina site selection, a comprehensive assessment of dredging needs, water quality issues and pollution management is needed¹²².

Fisheries

As with other waterfront uses, fisheries enterprises are negatively impacted by rising property values and property taxes which make it increasingly difficult to find affordable waterfront property for access and support services (*e.g.*, affordable dock space, upland storage areas, unloading and transfer areas, and repair facilities). The desirability for waterfront property has driven up real estate prices to a point that fishermen are finding it difficult or impossible to afford waterfront property. Hence, access to the water and related fishing industry related facilities is becoming increasingly difficult. Commercial fisheries are also affected by proximity to residential development, increasing the likelihood of interference with business practices and nuisance suits.

There is a need for additional support facilities for commercial fishermen, including affordable dock space, upland storage areas, unloading and transfer areas, and repair facilities. Displacement of commercial fishermen from private marinas is another increasing problem for fishermen.

A suitably-trained labor force will be required for the industry to remain competitive over time.

Mariculture offers the potential to revitalize commercial and recreational shellfishing.

¹²² Town of Southampton, 1999. Southampton Tomorrow: Comprehensive Plan Update, Implementation Strategies.

Maintaining safe access to the port and its dockside facilities through the Shinnecock Inlet is an ongoing issue for the Shinnecock marine center. The condition of the access road to the port's commercial facilities, threatened by erosion and flooding, is an additional issue of concern.

Like many fishing communities in the northeast, the Southampton commercial fishing industry also faces the challenge of maintaining a suitably-trained labor force. Development of a local/regional market with direct sales to local consumers in addition to the wholesale market will add stability to the industry.

In addition to challenges related to access and maintaining a skilled labor force, the primary issue facing the Town's marine living resources is that of water quality. As described in greater detail in the Water Quality Strategy document chapter and in the Water Quality section of this Inventory and Analysis, the primary concern with regard to water quality is that of an overabundance of nutrients, largely stemming from inadequate wastewater treatment (*e.g.*, failing septic systems and inadequate nitrogen removal from existing systems).

Excessive nutrients have been linked to harmful algal blooms (HABs). Since the mid 1980s, several types of harmful algal blooms have been observed within the County's marine waters (*Aureococcus anophagefferens*, *Alexandrium fundyense*, *Cochlodinium polykrikoides*, and *Dinophysis acuminata*). These HABs can cause hypoxic (low dissolved oxygen) conditions, leading to fish kills, and can impair the functioning of marine life, such as the bay scallop, which was greatly affected by the brown tides of the mid 1980s. As filter feeders, the scallops expended a great deal of energy filtering the brown tide. Unable to digest the algae, the population declined to the point of near extinction. Efforts to restore the bay scallop population have had positive results, but the population remains vulnerable due to water quality issues.

Some of these algal blooms can also produce toxic compounds with human health impacts, such as saxitoxin (produced by *Alexandrium fundyense*) which causes Paralytic Shellfish Poisoning (PSP). This can lead to the closure of shellfish beds and loss of important fishing days.

HABs can also shade out important types of submerged vegetation. Eelgrass all along the Atlantic coasts of North America and Europe was already all but decimated in the 1930s by wasting disease, but the brown tide events of 1985–1987 and 1991 have been identified as the cause of the more recent decline in eelgrass abundance in the Peconic Estuary (Gobler, 2011¹²³; Stephenson, 2009¹²⁴). Loss of habitats such as eelgrass are linked to declines in important species of fish and shellfish, who rely on eelgrass beds as nursery grounds, foraging grounds, and refuges from predators.

Dredging

There is an ongoing need for maintenance dredging to help ensure navigation safety and the continued viability of water-dependent activities and facilities, including dredging of federal, State, County, Town, and privately maintained channels and boat basins¹²⁵. Dredging is also needed in some areas for environmental, *e.g.*, water quality purposes. However, dredging is expensive and funding is becoming increasingly scarce; permitting can be time-consuming and complicated, and upland and in-water disposal options (for material not suitable for beach nourishment) are limited. Enhanced coordination is needed among federal, State, County, Town and private dredging projects. Maintaining a strong economic base of water-dependent businesses is important for supporting the public benefit assessment in support of funding for dredging.

¹²³ Gobler, C. October 27, 2011. Personal Communication.

¹²⁴ Stephenson, L.B. 2009. Eelgrass Management Plan for the Peconic Estuary.

¹²⁵ NY Department of State. 1997. Dredging and Dredged Material Management. Technical Report Series prepared for the South Shore Estuary Reserve.

Policy 10: Protect water-dependent uses and promote siting of new water-dependent uses in suitable locations, especially the maritime centers at Shinnecock Canal and at the Shinnecock Inlet.

Boating, fishing, and other water-dependent uses are vital to the economy of the Town of Southampton, generating employment and tax revenues, preserving the community's historic maritime identity, enhancing waterfront views, and providing sustenance and recreation. These water-dependent uses, and the facilities that support them, can only be conducted on and located in, over, or adjacent to a water body because such activity requires direct access to that water body as an integral part of its operations.

Maritime centers are identified in the Long Island South Shore Estuary Reserve (SSER) Comprehensive Management Plan. A "maritime center," for purposes of the SSER plan, has one or more of the following characteristics: a concentration of waterfront land uses establishing a center of maritime activity, including water-dependent businesses supporting recreational boating, commercial fishing, or waterborne commerce; a history of traditional maritime uses; a maritime character or sense of place that is unique to the culture of the community; and/or a destination point for persons from outside of the local community. These areas contribute to the community's economy, maritime heritage, and character. The SSER Plan designated Shinnecock Canal as a major Maritime Center and Seatuck Cove and the Shinnecock Inlet as minor centers. Other concentrations of water-dependent uses, such as the area at the northern terminus of the Ponquogue Bridge and some of the Resort and Waterfront Business (RWB) districts, as well as locations that retain and exhibit historical and cultural elements of the community's maritime heritage, such as Conscience Point, should be designated as commercial or historical maritime centers and should be treated consistently with policies for maritime centers and historic and cultural resources.

This policy's purpose is to protect and promote water-dependent uses in those locations physically suited for such uses, which are unique and limited assets in coastal communities.

10.1 Protect existing water-dependent uses.

- a. Adhere to zoning to protect marinas and other water-dependent activities from conversion to other land uses.
- b. Avoid conversion of existing water dependent uses to non-water-dependent uses which would displace, adversely impact, or interfere with existing water-dependent uses.
- c. Recognize the right of customary activities associated with water-dependent uses to continue at existing locations¹²⁶.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local law:

- Chapter 330, Zoning

Implementation Through Recommended Changes to Local Laws:

Specific recommendations for amendments to local laws to better implement this policy include the following:

¹²⁶ New York State law protects pre-existing water-dependent uses from nuisance suits. (New York Executive Law § 915-b. Water dependent uses.)

1. Consider rezoning most areas where existing water-dependent uses are in districts that do not permit water-dependent uses (*e.g.*, at least a dozen marinas and a half-dozen yacht or boating clubs are in areas zoned residential)¹²⁷.
2. Consider amending the zoning code to provide that existing water-dependent uses located in zones where they are an allowed use may not be replaced by a non-water-dependent use except as part of a redevelopment plan that maintains a similar amount and mix of water-dependent uses.

10.2 Promote the Town's Maritime Centers as the most suitable locations for water-dependent uses.

- a. Marinas and other water-dependent uses should be located where infrastructure already exists and where the least new disturbance of natural waters and wetlands will be needed, as well as where the least amount of new and maintenance dredging will be necessary.
- b. Ensure that regulations, programmatic activities, and funding priorities support the continuation of maritime centers as centers for water-dependent and water enhanced uses.
- c. Enhance the Resort-Waterfront Business area along the Shinnecock Canal with additional marina facilities and other water-based recreation, including passive recreation such as waterfront pedestrian access-ways along the water's edge, dock fishing, and visitor-oriented activities.
- d. Encourage the use of Waterfront Business Complexes, where appropriate, which promote water-dependent/water-enhanced uses and public access to the waterfront.
- e. Protect and enhance the economic, physical, cultural, and environmental attributes which support each maritime center.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local law:

- Chapter 330, Zoning

Implementation Through Recommended Changes to Local Law:

Specific recommendations for amendments to local laws to better implement this policy include the following for Town Board consideration:

1. Chapter 330-246. Consider measures to strengthen the Resort and Waterfront Business (RWB) district and the Maritime Planned Development District regulations to more explicitly incorporate a requirement for public access to and along the waterfront. The Waterfront Business Complex (WBC) provisions are supportive of this, but development may occur in the RWB outside the WBC provisions.
2. Chapter 330-5. Consider adding to the definition of water-dependent use the following uses (which are used in the code): boatyard, ship and boat building and repairing, commercial fishing facilities; and consider adding: aquaculture facility and waterborne passenger

¹²⁷ Smith Creek has 6 parcels totaling more than four acres with water-dependent uses.

North Sea has two parcels, totaling more than 4 acres. Mill Creek has three parcels. Old Fort Pond has two parcels. There is one parcel in each of the following areas: Flanders, Remensenburg, Sebonac Creek, and on Nautilus Drive.

transportation facilities. (The existing definition states that a water-dependent use “shall be construed to include the following activities, facilities and establishments: marinas, yacht basins and all similar facilities which provide short-term and/or long-term dockage/berthing for recreational and commercial watercraft; fishing piers; party/charter/excursion boat services; boat and canoe rental; and public swimming beach, but not water-enhanced uses....”)

Implementation Through Projects:

1. Prepare a map showing the parts of the Town’s coastline that are suitable for water-dependent uses in accordance with this policy. Identify sites that are physically suited for water-dependent uses and where adverse impacts on natural resources and the surrounding neighborhood would be minimal.

10.3 Allow for development of new or expanded water-dependent uses outside of Maritime Centers.

- a. New or expanded water-dependent uses may be appropriate outside Maritime Centers if the site is physically suited for the water-dependent use, and if adverse impacts on natural resources and the surrounding neighborhood are minimal.
- b. For new or expanded water-dependent uses, avoid areas that are environmentally sensitive; waterbodies with no history of dredging or major disturbance; shallow estuarine creeks, bays, or coves with poor flushing; rare species habitats; critical wildlife nesting and feeding areas; and productive shellfish areas.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local law:

- Chapter 330, Zoning

Implementation Through Projects:

1. Depict the Maritime Centers (both those identified in the SSER and those identified as part of this planning process) on the Southampton Water Protection Plan maps.
2. Complete the project to raise and restore the Tupper Boathouse at Conscience Point in North Sea. The area was the town’s earliest port, providing access to the Peconic Bay and its shellfish and fish resources. The Boathouse was damaged when 30 inches of water flooded the structure’s first floor during Hurricane Sandy. In summer 2014, the town was awarded \$456,000 by the National Park Service to raise the building above the FEMA base flood elevation and carry out a restoration. The Colonial Revival style structure, built in 1929 served as a boat building/repair facility and a showroom from 1930 to 1959. The building’s future uses include public access, maritime education and interpretation of the area’s maritime heritage and environmental significance.

Implementation Through Proposed Administrative Changes or Actions:

1. Seek a balance in the regulatory review process between resource protection and water-dependent uses. The map of suitable locations should address the threshold question of suitability.

10.4 Minimize adverse impacts of new and expanding water-dependent uses.

- a. Site new, and expand existing, water-dependent uses where the following criteria apply:
 1. adequate upland exists for support facilities and services;
 2. sufficient waterside and landside access is available;
 3. appropriate nearshore depth is sufficient to minimize dredging;
 4. there is a suitable water quality classification;
 5. there will be minimal effects on wetlands, shellfish beds, or fish spawning grounds;
and
 6. adequate water circulation exists.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 330, Zoning
- Chapter 325, Wetlands
- Southampton Board of Trustees “Blue Book” and related Town Law and regulations; Article VII, Dredging, Docks, Bulkheading and Channels.

Implementation Through Recommended Changes to Local Laws:

Specific recommendations for amendments to local laws to better implement this policy include the following:

1. Consider Including water-dependent uses as special exception uses in locations outside of RWB districts that meet the criteria for siting as mapped under 10.2 above.

10.5 Strengthen the ability of the marine industry, including marinas, to survive and locate in the Town.

- a. Allow non-water-dependent accessory and secondary uses on sites where necessary to provide financial or operational support to enhance the economic viability of the principal water-dependent use.
- b. Utilize tax incentives, such as partial exemption, use value assessment¹²⁸, public/private partnerships and other techniques as necessary to retain water-dependent businesses.
- c. Provide technical assistance with permits and regulatory review procedures to support existing water-dependent uses.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 330, Zoning
- Chapter 298, Taxation

¹²⁸ New York State law provides for use value assessment of water-dependent uses.

10.6 Provide sufficient infrastructure for water-dependent uses.

- a. Preserve existing public and private navigation lanes and channels by preventing interference from structures and maintaining depths consistent with the needs of water-dependent uses. To the extent that public funds are available for channel maintenance, channels serving water-dependent uses shall be given priority.
- b. Use suitable dredged material for beach nourishment, dune reconstruction, or other publicly beneficial uses.
- c. Provide for adequate services and facilities to support commercial, industrial, and recreational navigation.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Southampton Board of Trustees “Blue Book” and related Town Law and regulations; Article VII, Dredging, Docks, Bulkheading and Channels.
- Chapter 325, Wetlands
- Chapter 330, Zoning

Implementation Through Recommended Changes to Local Law:

Specific recommendations for amendments to local laws and other actions to better implement this policy include the following:

1. Section VII of the Rules and Regulations for the Management and Products of the Waters of the Town of Southampton: Establish setback distances to provide a buffer between in-water structures and the boundaries of designated channels and fairways.

10.7 Promote efficient harbor operation.

See also the Harbor Plans section of this Water Protection Plan.

- a. Manage coastal and harbor waters to limit conflict between uses, foster navigational safety, and reduce potential hazards to navigation.
- b. Prohibit intrusions or encroachments upon navigation channels and other identified vessel use areas.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Southampton Board of Trustees “Blue Book” and related Town Law and regulations; Article VII, Dredging, Docks, Bulkheading and Channels.
- Chapter 325, Wetlands
- Chapter 330, Zoning

Implementation Through Recommended Changes to Local Law:

1. Define a numerical standard for separation between pier heads and channels and other navigation lanes.

2. To accommodate year-to-year reconfigurations of marina or yacht club docks, when issuing permits for private projects that include in-water structures, consider the approval to apply to an area within a defined “perimeter” rather than to a specific layout of docks and finger piers.

Implementation Through Projects:

1. Identify, designate and chart/map navigation fairways (between facilities and navigation channels) that will be kept free of obstructions to facilitate ease and safety of navigation.
2. Work with the Trustees and Town, State and federal agencies/departments to create a comprehensive plan for dredging, including the identification of priority areas for dredging and suitable dredged material sites disposal sites. There should be an emphasis on beneficial uses of dredged material . As part of this process, prepare a working map overlay of the southerly bays and creeks within the Shinnecock and Moriches Bay complexes to include aerial photographs overlain on a composite tax parcel map, identifying Town-owned CPF and non-CPF lands.

Policy 11: Protect and promote sustainable use of living marine resources.

Living marine resources play an important role in the social and economic well-being of the Town of Southampton. Commercial and recreational harvesting of fish and shellfish provides high-protein food sources and contributes to the Town’s economic base. Fishing and shellfishing also provide high quality outdoor recreational experiences for residents and visitors.

Sustaining living marine resources in coastal waters depends on protection, conservation, and restoration of habitat, as well as maintenance and improvement of water quality. The Trustees have ownership of the land under the waters of the Town and have authority to manage the Town’s shellfish resources. As such, the Trustees play an integral role in the status of the resource as well as the habitat and the fisheries.

11.1 Ensure the long-term maintenance and health of living marine resources.

- a. Promote sustainability of the Town’s finfish and shellfish resources and their habitats as well as the resources and habitats on which the Town’s commercial and recreational fisheries depend.
- b. Manage commercial and recreational uses of living marine resources to ensure sustained usable abundance and diversity. Continue to develop and implement marine resource management strategies (*e.g.*, management plans, stocking and seeding activities, restoration of migratory fish passages, seeding to improve spawning, etc.) for both finfish and shellfish resources in the Town. These strategies should be based upon the best available science, should be adaptive, and should strive to maintain the long-term sustainability of the resources.
- c. Foster abundance of marine resources by protecting spawning grounds, habitats, and water quality; and enhancing and restoring fish and shellfish habitat, particularly for diadromous fish, oysters, and hard clams.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 138, Coastal Erosion Hazard Areas, Article II: Restrictions on Regulated Activities, §138-16 Erosion protection structures and artificial beach nourishment, Subsection C
- Chapter 138, Coastal Erosion Hazard Areas, Article IV: Variances and Appeals, §138-22 Criteria for variances, Subsection B
- Chapter 158, Environmental Savings Fund, §158-1 Environmental Savings Fund
- Chapter 229, Protection of Natural Resources
- Chapter 231, Nature Preserve, Article I: General Provisions, §231-2 Purpose and public policy
- Chapter 285, Stormwater Management and Erosion and Sediment Control
- Chapter 292, Subdivision of Land, Article X: Design Standards, §292-39 Preservation and protection of natural environment
- Chapter 315, Moratorium: Hampton Bays, §315-1 Legislative intent, Subsection Q
- Chapter 325, Wetlands, §325-2 Findings, Subsection B, §325-9 Standards for issuing a permit
- Chapter 330, Zoning, Article VIII: Tidal Wetlands and Ocean Beach Overlay District
- Chapter 330, Zoning, Article IX: Coastal Erosion Hazard Adjacent Areas, §330-46.1 General standards for issuance of permit
- Chapter 330, Zoning, Article IX: Coastal Erosion Hazard Adjacent Areas, §330-46.4 Erosion protection structures and artificial beach nourishment
- See Section 3, policy 5 (Water Quality) for laws implementing water quality protection and monitoring

Implementation Through Recommended Changes to Local Law:

Specific recommendations for amendments to local laws to better implement this policy include the following:

1. Chapter a340, Management of Town Waters: Amend to reference and define sustainability.

Implementation Through Projects:

1. Continue to monitor and mitigate water quality in areas which affect shellfish resources, including upland activities that impact water quality.
2. Continue to increase the public's awareness of the role of finfish and shellfish resources in the economy and the local ecosystem, including the water-filtering benefits of shellfish.

Implementation Through Proposed Administrative Changes or Actions:

1. Continue to implement zone management strategies and spawning sanctuaries.
2. Continue to conduct seed clam planting programs to enhance commercial and recreational fisheries in selected areas where economically feasible and where a high survival rate is expected.
3. Use only shellfish from DEC permitted facilities.

11.2 Provide for commercial and recreational use of marine resources.

- a. Maximize the benefits of marine resource use so as to provide a valuable recreational resource experience and viable business opportunities for commercial and recreational fisheries.
- b. Where fishery conservation and management plans require actions that would result in resource allocation impacts, ensure equitable distribution of impacts among user groups, giving priority to existing fisheries.
- c. Protect the public health and the marketability of marine and fishery resources by monitoring, maintaining and improving water quality.
- d. Promote ecotourism as a way to increase the public's exposure to and appreciation of the natural marine resources of the Town.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 111, Beaches, Parks and Waterways, Article 1: Beaches, Parks, and Recreation Centers, Article 2: Use of Waterways,
- Chapter 138, Coastal Erosion Hazard Areas
- Chapter 229, Protection of Natural Resources
- Chapter 231, Nature Preserve
- Chapter 325, Wetlands
- Chapter 330, Zoning, Article VIII: Tidal Wetlands and Ocean Beach Overlay District, Article IX: Coastal Erosion Hazard Adjacent Areas, Article XVII: Special Exception Uses
- See Section 3, policy 5 (Water Quality) for laws implementing water quality protection and monitoring

11.3 Maintain and strengthen a stable commercial fishing fleet.

- a. Protect commercial fishing from interference or displacement by competing land and water uses.
- b. Protect and strengthen commercial fishing harvest operations, facilities, and waterfront infrastructure (*e.g.*, increased pack-out facilities and local fuel options for fishing vessels) to support a stable commercial fishing industry.
- c. Ensure safe navigation for fishermen, including dredging where necessary.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 111, Beaches, Parks and Waterways, Article II: Use of Waterways
- Chapter 111, Beaches, Parks and Waterways, Article VI: Construction in and Adjacent to Town Waters and Beach Areas
- Chapter 317, Moratorium on Conversions to Residential Condominiums or Cooperatives

§317-1 Legislative intent, Subsection E

- Chapter 330, Zoning, Article VIII: Tidal Wetlands and Ocean Beach Overlay District, §330-40 Tidal wetlands regulations
- Chapter 330, Zoning, Article XVII: Special Exception Uses

Implementation Through Recommended Changes to Local Law:

Specific recommendations for amendments to local laws to better implement this policy include the following:

1. See proposed regulatory changes under policy 10 regarding prohibition of displacement of water-dependent uses.

Implementation Through Projects:

1. Improve existing, and support expansion of, fishing operations and facilities for offshore commercial fishing accessible to Shinnecock Inlet.
2. Support marketing of local seafood.
3. Elevate Dune Road to enable commercial trucks carrying seafood to access the road during high tide.

11.4 Promote recreational use of marine resources.

- a. Provide adequate infrastructure to meet recreational needs, including appropriate fishing piers, dockage, ramps, small boat launching areas, and parking.
- b. Improve understanding of recreational opportunities for the use of the marine resources, including recreational fishing regulations, guides on access points, best management practices, etc.
- c. Ensure safe conditions for recreational uses of marine resources.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 60, Parks and Recreation Advisory Committee, §60-5 Duties; responsibilities
- Chapter 111, Beaches, Parks and Waterways, Articles III Beaches, Parks and Recreation Centers
- Chapter 150, Dogs and Other Animals, §150-5.1 Dogs or domestic animals at beaches, parks, trails and recreation centers Chapter 312
- Chapter 229, Protection of Natural Resources
- Chapter 312, Vehicles and Traffic, Article V: Parking Prohibited in Designated Locations, Article VI: Parking Time Limited in Designated Locations, Article VII: Seasonal Parking Restrictions in Designated Locations, Article X: Parking-by-Permit-Only Areas, Article XII: Parking Lots, Article XXIV: Commercial Vehicle Exclusions

Implementation Through Recommended Changes to Local Law:

Specific recommendations for amendments to local laws to better implement this policy include the following:

1. See proposed regulatory changes under policy 10 regarding waterfront infrastructure.

11.5 Promote managed harvest of shellfish.

- a. Restrict shellfishing to Town waters certified for the taking of shellfish by the Trustees and by the Department of Environmental Conservation of the State of New York.
- b. Maintain or restore populations of shellfish stocks at levels that can produce the maximum sustainable yield.
- c. Maintain sufficient shellfish spawning stock in harvest areas to sustain the resource while reducing the likelihood of illegal harvesting. Modify the amount of shellfish that can be taken or the method or equipment that can be used in taking shellfish, as necessary, to protect shellfish propagation efforts and/or an endangered shellfish supply.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 111, Beaches, Parks and Waterways, Article II: Use of Waterways
- Chapter 229, Protection of Natural Resources
- Chapter 278, Shellfish
- Chapter A340, Management of Town Waters

Implementation Through Projects:

1. Continue to develop and implement shellfish management plans to promote the sustainability of the resource, and identify areas for specific enhancement.
2. Work with the Cornell Cooperative Extension (CCE) and the Shinnecock Bay Restoration Program to perform regular population sampling studies of shellfish in Shinnecock Bay to provide information on the abundance, health, and dispersal of the resource.

11.6 Promote aquaculture.

- a. Protect native stocks from potential adverse biological impacts due to aquaculture.
- b. Restore shellfish populations through seeding programs with emphasis on rehabilitating low productivity areas based on scientific investigations.
- c. Provide for the removal of damaged aquaculture gear to reduce impacts to the habitat and to other users of the water.
- d. Support small-scale aquaculture in Shinnecock and Moriches bays and in the embayments of the Peconic Estuary, such as Cold Spring Pond, North Sea Harbor and Sag Harbor.

Implementation through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 111, Beaches, Parks and Waterways, Article II: Use of Waterways
- Chapter 229, Protection of Natural Resources
- Chapter 278, Shellfish
- Chapter A340, Management of Town Waters

Implementation Through Recommended Changes to Local Law:

Specific recommendations for amendments to local laws to better implement this policy include the following:

1. Chapter 111, Beaches, Parks and Waterways, Article II: Use of Waterways, §111-15 Navigational Hazards: Consider Amending to include the removal of fishing gear, including aquaculture gear, if it becomes a navigational hazard.
2. Chapter A340, Management of Town Waters: Consider Amending to formalize aquaculture licensing procedure and requirements, including a provision that conditions license renewal on the removal of derelict gear.

Implementation Through Projects:

1. Work with the County and Trustees to improve and streamline the permitting and leasing of shellfish aquaculture plots.

AGRICULTURE

Agriculture has been, and remains, an important part of the Town's economy and character and the lands dedicated to this use are a resource to be preserved to assure a long term, sustainable human environment for the Town. Protecting the remaining agricultural land in Southampton is necessary to ensure preservation of the Town's and the East End's agricultural economy, 300+ year farming heritage, open space, scenic quality, and sustainable economy.

As stated in Southampton's 1999 Comprehensive Plan Update, agriculture is central to the character and economy of the Town. Agriculture supports not only its own industry, but the tourism and second home industries as well, for without the scenic qualities of farmland and the sense that Southampton is a rural, agricultural community, the Town would lose some of its appeal as a tourism and second home destination.

The preservation of the Town's agricultural economy and tradition should be viewed within the context of the agricultural economy of the east end of Suffolk County. Suffolk County's agricultural land, of which the Town's is a significant part, is among the most productive in the State. Protecting these agricultural lands is critical for four major reasons:

- Suffolk County soils are the richest and most productive soils in the State. If these agricultural lands are not further protected, development, particularly residential, is expected to continue to encroach upon agricultural lands impairing the viability of the agriculture industry.
- The county's agricultural products are diverse and unmatched by any other of the State's regions. The insulating coastal climate, extended growing season, fertile soils, and moderately sloping topography, provide ideal growing conditions for tree and shrub nurseries, fruits, vegetables, and vineyards.
- Suffolk County's agricultural economy is highly productive, leading all other counties in the State in wholesale value of agricultural products sold, and is a major part of region's economy.
- Suffolk County's agriculture also provides scenic and open space values that contribute to and define much of the special regional character and sense of place that attracts visitors to eastern Long Island including the Town of Southampton.

Historically, most of the Town's agricultural activity has been in the eastern half of Town, which has also become the focus of agricultural land preservation efforts. Agriculture in the western portion of Southampton has been limited by sandier, less productive soils, the Pine Barrens, and relatively dense settlement patterns. However, clusters of farmland still remain, primarily north of Montauk Highway in East Quogue north of Lewis Road, and in the Speonk/Remsenburg area.

An inventory of farmland completed in 1997–1998 by the Department of Land Management, in conjunction with the Peconic Land Trust and the Farmland Committee, revealed that the amount of farmland remaining in Southampton was approximately 8,527 acres (8.5 percent of the Town's land area). Thirty-one percent of this agricultural land is protected from development. According to the 1999 Southampton Comprehensive Plan Update, between 1970 and 1995, approximately 3,273 acres, or 27.7 percent of the Town's farmland, were developed or removed from active production—an annual loss of 121.2 acres.

Important sectors of agriculture in Southampton are family farms, horse farms, vineyards, and nurseries.

The Town and its partners have created, and are implementing, a range of regulatory and programmatic approaches to preserving and increasing agriculture.

These include the purchase of development rights by the State, County, Town and private land trusts; the Town's Agricultural Overlay District; and the New York State Agricultural District Program have been employed to preserve agricultural lands and production in the Town—with the loss of these lands primarily due to residential development.

In 1972 Southampton established an Agricultural Overlay District in its Zoning Law, covering 13,550 acres of the most productive agricultural soils. An inventory of farmland completed in 1998 revealed that 8,474 acres of agricultural land remained in the overlay district, and currently 4,763 acres remain. The district serves as the target area for the Town's Community Preservation Project Plan, which currently identifies 4,252 acres of farmland among its highest priorities for protection. A significant amount of this is in the coastal area covered by this Water Protection Plan.

Another regulatory tool is the Planned Residential Development provisions of the Southampton Zoning Law which requires clustering of subdivision lots and preservation of the remaining land.

As of 1999, the Town and County "purchase of development rights" programs had preserved roughly 17.46 percent of the existing agricultural land base, with subdivision reserves and private land trusts preserving another 12.17 percent.

The Town's agricultural reserve program, implemented and managed by the Town Planning Board, Farmland Committee, and Town Board had preserved 893 acres of agricultural land in new subdivisions as of 1999.

Issues and Analysis

Farmland retention and preservation requires attention to the needs and concerns of the agricultural industry in Southampton. These issues, identified in the Comprehensive Plan include:

- Rising property values; taxes, both property and inheritance
- Conflicts with adjacent uses, especially residential
- Environmental concerns and a supportive regulatory regime
- Development of strong local and regional markets
- Transportation planning that accommodates needs of farming

While substantial lands have been protected for agricultural use, not all lands so protected are being used for agricultural purposes or for the most productive traditional crops. The agricultural land is protected but the local agricultural industry is not supported. When agricultural land or its development rights are being acquired, consideration could be given to including incentives to keep the agricultural land in production for crops that have traditionally characterized Southampton agriculture. In terms of water quality, it is important for farming practices to minimize runoff, reduce pesticide and fertilizer waste, and utilize best practices and organic methods wherever practicable. In addition it is also recognized that any regulatory regime must remain flexible in order to allow for farms to adapt to changing circumstances.

Policy 12: Protect agricultural lands in the Southampton coastal area.

The intent of this policy is to conserve and protect agricultural land and production in the Town of Southampton by preventing the conversion of farmland to other uses and by encouraging existing and potential agricultural production and its necessary support services.

Agriculture has been, and remains, an important part of the Town's economy and character and the lands dedicated to this use are a resource to be preserved to assure a long term, sustainable human environment for the Town. Various public programs, such as the purchase of development rights by the State, County, Town and private land trusts; the Town's Agricultural Overlay District; and the New York State Agricultural District Program have been employed to preserve agricultural lands and production in the Town—with the loss of these lands primarily due to residential development. Protecting the remaining agricultural land in Southampton is necessary to ensure preservation of the Town's and the East End's agricultural economy, 300+ year farming heritage, open space, scenic quality, and sustainable economy. In the local law protecting agricultural practices, the Town's policy is stated, "It has long been the policy of the Town Board of the Town of Southampton to conserve, protect and encourage the use of its agricultural land for the production of food and other agricultural products" (Chapter 161 of the Town Code).

The preservation of the Town's agricultural economy and tradition should be viewed within the context of the agricultural economy of the east end of Suffolk County. Suffolk County's agricultural land, of which the Town's is a significant part, is among the most productive in the State. Protecting these agricultural lands is critical for four major reasons:

- Suffolk County soils are the richest and most productive soils in the State. If these agricultural lands are not further protected, development, particularly residential, is expected to continue to encroach upon agricultural lands impairing the viability of the agriculture industry.
- The County's agricultural products are diverse and unmatched by any other of the State's regions. The insulating coastal climate, extended growing season, fertile soils, and moderately sloping topography, provide ideal growing conditions for tree and shrub nurseries, fruits, vegetables, and vineyards.
- Suffolk County's agricultural economy is highly productive, leading all other counties in the State in wholesale value of agricultural products sold, and is a major part of region's economy.
- Suffolk County's agriculture also provides scenic and open space values that contribute to and define much of the special regional character and sense of place that attracts visitors to eastern Long Island including the Town of Southampton.

12.1 Protect existing agriculture and agricultural lands from conversion to other land uses.

- a. Protect existing agricultural use and production from adverse impacts due to: public infrastructure and facility development; creation of other conditions which are likely to lead to conversion of agricultural lands; and environmental changes which are likely to reduce agricultural productivity or quality, including, but not limited to, quantitative and qualitative changes to groundwater resources.
- b. Provide sufficient buffers as part of new development when it is located near agricultural land.
- c. Maintain programs for the purchase of development rights by the State, County and Town. Encourage and provide incentives that favor crop production.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 247; 23–25, Agricultural Use Agreements
- Chapter 140, Community Preservation Fund
- Chapter 330; 47–51, Agricultural Overlay District
- Chapter 247; 26–28, Agricultural Advisory Committee
- Chapter 161; 3, Protection of Agricultural Activities
- Chapter 247; 7, D, Planned Residential Development, Agricultural Open Space
- Chapter 247; 8, Farmland and Watershed Protection
- Chapter 292; 39, Subdivision, Preservation and Protection of the Natural Environment

Implementation Through Projects:

1. Continue to use Community Preservation Funds to acquire agricultural land development rights.

12.2 Establish and maintain favorable conditions which support existing or promote new coastal agricultural production.

- a. Promote new, and maintain existing, local services and commercial enterprises necessary to support agricultural operations.
- b. Provide economic support of existing agriculture by allowing mixed uses which would assist in retention of the agricultural use.
- c. Limit the sales from farm stands to primarily local produce and products.
- d. Promote activities and market conditions that would likely prevent conversion of farmlands to other land uses.
- e. Protect agricultural practices of pre-existing agriculture from nuisance suits.
- f. Utilize enhanced easements to lower the cost and allow farmland to be put back into crop production.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 330; 79.1, Accessory Farmstand
- Chapter 247; 23–25, Agricultural Use Agreements
- Chapter 140, Community Preservation Fund
- Chapter 330; 47–51, Agricultural Overlay District
- Chapter 247; 26–28, Agricultural Advisory Committee
- Chapter 161; 3, Protection of Agricultural Activities
- Chapter 247; 7, D, Planned Residential Development, Agricultural Open Space
- Chapter 247; 8, Farmland and Watershed Protection

- Chapter 292; 39, Subdivision, Preservation and Protection of the Natural Environment

12.3 Minimize adverse impacts on agriculture from conversion of agricultural land.

- Minimize encroachment of commercial, industrial, institutional, or residential development on agricultural lands.
- Retain or incorporate opportunities for continuing agricultural use.
- Locate and arrange development to maximize protection of the quality agricultural land in large contiguous tracts for efficient farming.
- Adhere to the substantive provisions of the Agricultural Overlay District.
- Allow farms to operate using appropriate modern techniques and structures.
- Require prime agricultural soils that are excavated to be redistributed on the site.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 330; 79.1, Accessory Farmstand
- Chapter 247; 23–25, Agricultural Use Agreements
- Chapter 140, Community Preservation Fund
- Chapter 330; 47–51, Agricultural Overlay District
- Chapter 247; 26–28, Agricultural Advisory Committee
- Chapter 161; 3, Protection of Agricultural Activities
- Chapter 247; 7, D, Planned Residential Development, Agricultural Open Space
- Chapter 247; 8, Farmland and Watershed Protection
- Chapter 292; 39, Subdivision, Preservation and Protection of the Natural Environment

12.4 Preserve scenic and open space values associated with the Town's agricultural lands.

- Locate and arrange development to maximize protection of agricultural land in large contiguous tracts in order to protect associated scenic and open space values.
- Avoid obstructions such as hedges, planted treelines, and fences that unnecessarily block views of agricultural lands or adjacent shoreline from public roads.

Implementation Through Existing Local Law:

This policy is presently being implemented through the following local laws:

- Chapter 330; 79.1, Accessory Farmstand
- Chapter 247; 23–25, Agricultural Use Agreements
- Chapter 140, Community Preservation Fund
- Chapter 330; 47–51, Agricultural Overlay District

- Chapter 247; 26–28, Agricultural Advisory Committee
- Chapter 161; 3, Protection of Agricultural Activities
- Chapter 247; 7, D, Planned Residential Development, Agricultural Open Space
- Chapter 247; 8, Farmland and Watershed Protection
- Chapter 292; 39, Subdivision, Preservation and Protection of the Natural Environment

Implementation Through Recommended Changes to Local Law

Specific recommendations for amendments to local laws to better implement this policy include the following:

1. Chapter 261; 1 B: Consider Modifying standards to prohibit unnecessary blocking of views by hedges and fences.

ENERGY AND MINERAL RESOURCES

Policy 13: Promote appropriate use and development of energy and mineral resources.

The Town of Southampton is a signatory to the US Conference of Mayors Climate Action agreement, which commits participating municipalities to strive to meet or beat the Kyoto Protocol targets in their own communities. The Town Sustainability Plan¹²⁹ was prepared with these standards in mind and provides a series of strategies to meet them. As of November 2014, the Town is in the process of developing a Climate Action Plan which is expected to contain additional strategies related to energy use and development.

13.1 Conserve energy resources.

- a. Incorporate the recommended tactics/actions of the Sustainability Plan and the Climate Action Plan (when completed and accepted) when reviewing activities involving energy resources.
- b. Promote and maintain energy-efficient modes of transportation, including waterborne transportation, rail and intermodal facilities, mass transit, and alternative forms of transportation.
- c. Plan and construct sites and buildings in the waterfront area using energy efficient design.
- d. Achieve carbon neutrality through a combination of conservation, efficiency, and alternative energy sources.

13.2 Promote alternative energy sources that are self-sustaining, including solar and wind-powered energy generation.

13.3 Ensure maximum efficiency and minimum adverse environmental impact when siting energy generating facilities.

- a. Site energy generating facilities in a coastal location where a clear public benefit is established.
- b. Site and construct new energy generating and transmission facilities so they do not adversely affect natural and economic coastal resources.
- c. In siting alternative energy facilities, avoid adverse impacts from interference with coastal resources, including migratory birds and coastal processes.
- d. Where possible, limit the use of pesticides used with ground-mounted solar arrays.

13.4 Minimize adverse impacts from fuel storage facilities.

- a. The production, storage, or retention of petroleum products in earthen reservoirs should be prohibited during the environmental review process.
- b. Protect natural resources by preparing and complying with an approved oil spill contingency plan.

¹²⁹ Perkins + Will. 2013. Southampton 400+ Sustainability Element, Addendum to the Town of Southampton Comprehensive Plan.

13.5 Minimize adverse impacts associated with mineral extraction.

- a. Commercial sand and aggregate mining is generally presumed to be an inappropriate use in the Town of Southampton waterfront area for the purposes of regulatory review and planning activities.
- b. Preserve topsoil and overburden using appropriate site preparation techniques and subsequent site reclamation plans.

13.6 Consider the energy and carbon recommended tactics and actions incorporated into accepted Town Planning documents

- a. Incorporate the recommended tactics/actions of the Sustainability Plan, Climate Action Plan (when completed and accepted), and any other Town-accepted Plans when reviewing activities involving energy re



SOUTHAMPTON N COASTAL RESOURCES & WATER PROTECTION PLAN PART TWO: BACKGROUND

D & SUPPORTING MATERIAL

INVENTORY OF RESOURCES AND ANALYSIS OF ISSUES

INVENTORY AND ANALYSIS: A SUMMARY

The Southampton Water Protection Plan is a comprehensive approach to Town management of the public and private activities that can affect what the community values most about the uses and resources of the waterfront and adjacent waters. The Plan recognizes that the waters and waterfront of the Town must be viewed as whole, they are more than the particular uses and resources that are the focus of specific activities. These uses—residential and commercial development; fishing, boating and bathing; and farming, and the resources—clean water, productive fish and wildlife habitat, open space, and scenic vistas—are valued in themselves but are interconnected and cannot be sustained or protected without consideration of all these interconnections. Nevertheless, it is necessary to organize this Plan along the lines that issues and decisions present. The Plan is therefore organized around 13 topical areas as follows:

1. Development and Land Use
2. Historic and Cultural Resources
3. Scenic Resources
4. Flooding, Erosion, and Sea Level Rise
5. Water Quality and Supply
6. Ecosystem and Natural Resources
7. Air Quality
8. Solid and Hazardous Waste
9. Public Access and Recreation

10. Water-Dependent Uses

11. Sustainable Use of Living Marine Resources

12. Agriculture

13. Energy and Mineral Resources

The following discussions of the uses and resources, and the issues confronted in their management, while considered individually, are not compartmentalized. Rather all attempts have been made to recognize the interconnections among them.

A few brief points, which will be expanded upon in the following Inventory and Analysis, illustrate the degree of interconnection among the topics. The development and land use that characterize the Town contribute to a positive sense of place to the extent that they integrate and protect the historic and scenic elements valued by the community. Protection of these resources often occurs in the development approval and decision-making process. Flooding, erosion and sea level rise are natural processes that do not create hazards except in the presence of development. It is the where and how of development that determines the extent of the hazard. Furthermore, the density, design, and siting of development is a major determinant of water quality. Water quality improvement is sought not as an end in itself but for the health of habitats, such as those upon which the Town's shellfishery industries depend, for the security of clean drinking water, and for the quality of water-related recreational experiences. The water-dependent uses and agriculture that contribute so much to the Town's character and economy face competition for the waterfront and sometimes conflict with residential uses, the most extensive use of the Town's waterfront.

Presenting an understanding of the complex interrelations among all the uses and resources of the waterfront is the purpose of this section, and that understanding is the basis for the policies and management structure that constitute the Southampton Water Protection Plan.

DEVELOPMENT AND LAND USE

Inventory

General Current Pattern of Development and Land Use

The pattern of land use that characterizes those portions of the Town of Southampton within the proposed waterfront area boundary consists of a diverse range of uses. Residential uses, primarily medium density¹³⁰, are the dominant uses. Commercial uses are concentrated in the several hamlets of the Town, most of which are within the Plan boundary area, or in its incorporated villages, outside of the Plan boundary area. Agricultural uses are found throughout the southern waterfront area but are concentrated near and east of Mecox Bay. The majority of the Town's agricultural lands lie outside the Plan boundary area in the more easterly central part of the Town. Marine-related uses are found along all portions of the Town shoreline. Although there are few vacant parcels within the Plan boundary area, some land is available for development. Institutional uses and golf courses, occupying large parcels of land, also characterize portions of the area encompassed by the Plan boundary, particularly to the east of the Shinnecock Canal and in the northeast part of the Town. Large areas of other open space also exist, particularly near the head of the Peconic Bay and along stretches of the barrier island west of the Shinnecock inlet. These areas of open space are primarily park land. Smaller areas of public open space are found throughout the Plan boundary area. Low density development, vacant land, open space, and agricultural lands (other than those in the southeast portion of the Town) are mainly found in the interior portions of the Town, and not within the waterfront area. Figure 7 shows these areas and the land use distribution.

The land use maps provide one view of the pattern of development. They are, however, based on parcel information with only one use assigned to each unit. For larger parcels, this often does not convey how the entire land area is used or how it is seen, particularly with regard to open space and vegetation. Maps depicting land cover derived from satellite imagery (available from NOAA's Coastal Services Center) provide a different picture of the pattern of development by displaying the extent and various intensities of developed land and the extent and type of vegetative cover. Figure 8 shows Land Cover for 2006 for the Town.

The 2006 Land Cover map reflects the general patterns of development shown on the Land Use map but shows a more refined pattern of developed land. Land Cover maps are also available for 1996 and will be available for future dates so that the change in land cover over time can be identified and analyzed. The maps may also be used in monitoring measurable objectives for managing the pattern of development and its associated impacts, such as increases in impervious surfaces.

Population

Southampton is a resort community and, given the seasonal changes, the population cannot be meaningfully expressed as a static number. In addition, past dramatic changes in populations do not appear to be a continuing trend. According to the 2010 federal census, the permanent resident population of Southampton was more than 57,000—a figure that includes the population of the incorporated villages within the overall boundary of the Town. During the summer months the population can swell to approximately 168,000. This occurs when seasonal homes are fully occupied, lodgings and camp sites are

¹³⁰ As defined on the appended map prepared by the Town of Southampton entitled *Land Use*.

Figure 14: Land Use

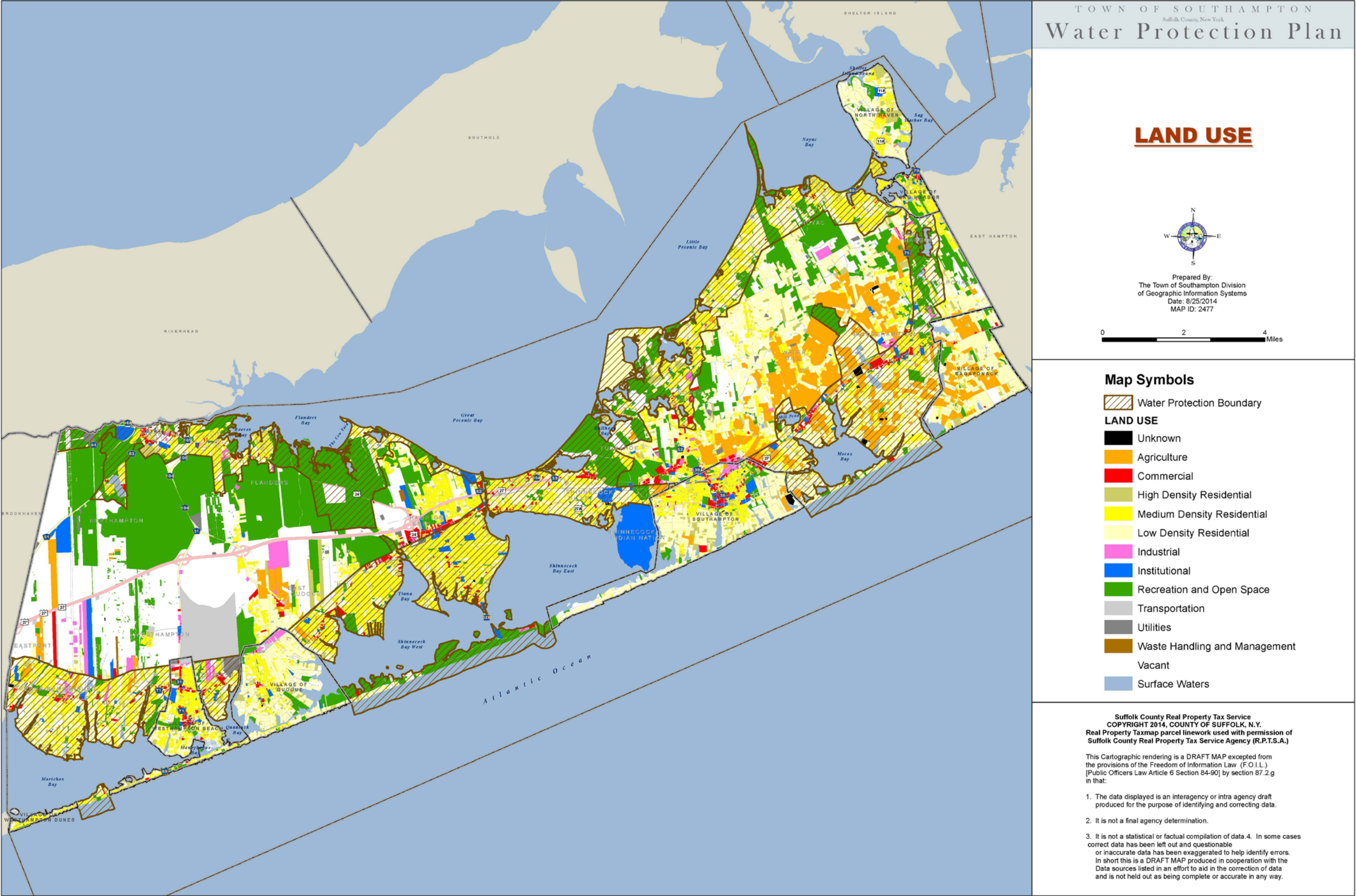
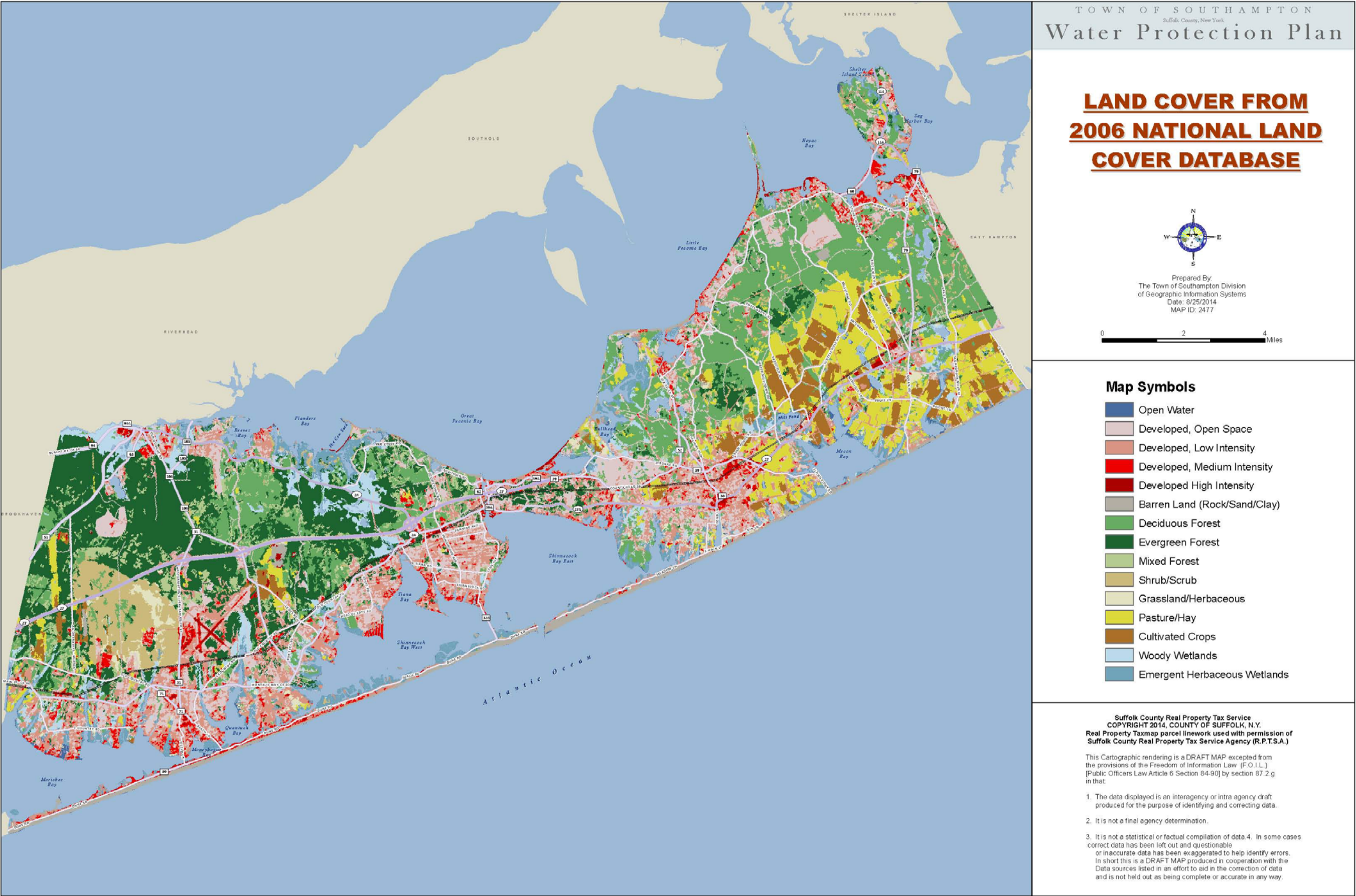


Figure 15: Land Cover from 2006 National Land Cover Database



full, and permanent residents have guests¹³¹. (This estimate of summertime population is based on 17,416 seasonal homes, 1,378 rooms for lodging with an estimated peak number of guests of 5,382; 195 camp sites for estimated peak number of campers of 780; plus additional guests at the homes of permanent residents.)

The 1999 Southampton Master Plan Update provided an estimated summertime peak population of 130,000, based on 13,000 seasonal homes and 6,300 guests in lodgings and camp sites. The current estimates reflect that the growth in summertime population is coming more from an increased number or use of seasonal homes by owners or renters while use of lodgings or camp sites is declining. The pattern of use of seasonal homes is also changing with more homes being used on weekends throughout the year. As such use increases, some seasonal residents become permanent residents while continuing to maintain a home elsewhere. This is particularly common for people who are approaching retirement and plan on spending more than summers in Southampton. Conversely former permanent residents may continue to live in Southampton for a substantial portion of the year but make warm-weather winter homes their permanent residences.

The increase in summer population, while apparent Town-wide, is not evenly distributed. Most of the increase occurs nearer the shore, in the villages and certain hamlets. Suffolk County estimates seasonal population by Villages and communities within the Town. Excluding the Incorporated Villages, Hampton Bays sees the largest seasonal population increase, with a peak summer estimate of some 13,600 followed by North Sea and East Quogue at more than 11,000 each¹³².

Population Trends

In 1790, Southampton was a rural agriculture and fishing community with a population of 3,400. By the end of the Nineteenth Century, the Town was still primarily a rural agricultural and fishing community with a population of about 10,000. By this time it was also becoming an important resort community. The growth in seasonal homes and population continued in the first half of the Twentieth Century with a growth in permanent population, often driven by growth in services for the seasonal population. From 1900 to 1950 the population increased from about 10,000 to almost 17,000. After 1950, the growth in both seasonal and permanent population increased substantially and the Town reached a permanent population of over 43,000 in 1980—a growth of 156 %. From 1980–2010 growth in the permanent population continued, but at a slower rate. The 2010 population was more than 57,000, a growth of 33% from 1980.

Population projections for 2040 reflect a significant slowing of growth in permanent population. The projected 2040 population is 59,800, a growth rate from 2010 of only four percent.

The number of permanent households is projected to decline slightly. Since 2000, the growth in seasonal homes has far outpaced year-round households in number. Permanent households actually declined from 2000–2010 by 270, while seasonal homes increased by 4,800. Past decades do not show a consistent trend, with seasonal homes exceeding growth of permanent houses between 1980–1990, but increases in permanent households exceeding seasonal home increases between 1970–1980 and again between 1990–2000¹³³.

¹³¹ Unless otherwise noted the population figures and projections are taken from Suffolk County Department of Planning reports.

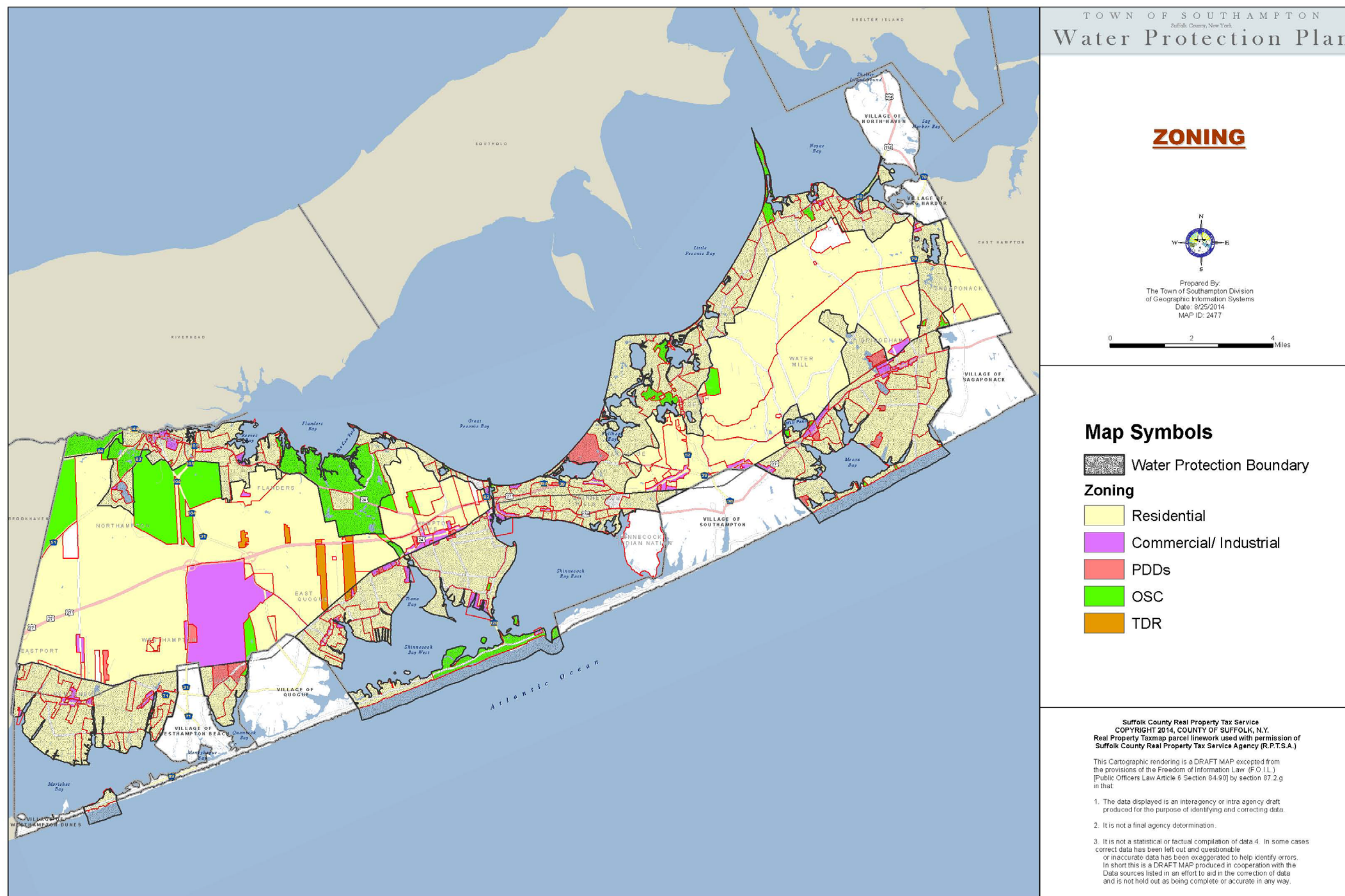
¹³² Detailed tables for these data may be found in the Appendices to this document.

¹³³ Detailed tables for these data may be found in the Appendices to this document.

Regulatory and Other Public Programs Affecting Development and Land Use

The major regulatory programs that guide the pattern of development include: the various zoning districts (the Resort and Waterfront Business district is an important determinant of the character of the pattern of water-related development along the waterfront—for more information see Figure 9); the Pine Barrens Program and its transfer of development rights; Agricultural Districts; County regulation of septic systems; wetland regulations; and flood plain and coastal hazards area regulations. Other public programs that influence the pattern of development are those associated with the provision of infrastructure, including flood and storm damage prevention programs, land purchases for open space and other purposes such as agricultural development rights, the Town's Hamlet studies, the Town's Master Plan and other planning studies. The Town's Hamlet studies are an important means for managing the character of those portions of the Town and their role in the Town's overall development pattern.

Figure 16: Zoning



Issues and Analysis

Land use and development issues that are integral to addressing water quality, visual quality, habitat protection, management of coastal processes, sea level rise and flooding, water-dependent uses, and agriculture are discussed in the sections of this document specific to those topics.

The following factors delineate how the Town will manage the general pattern of development to accommodate the projected increases in permanent population, new seasonal residences, commercial development and redevelopment:

- continual implementation of Comprehensive Plan recommendations and zoning code updates;
- transferring development away from sensitive areas such as within the Central Pine Barrens Core for drinking water protection and limiting clearing on specific parcels to allow for greater recharge into aquifers (the Aquifer Protection Overlay District (APOD) and the Pine Barrens program),
- preservation of prime agricultural soils and the farming heritage of the Town, (Agricultural Overlay Districts, cluster subdivision requirements and purchase of development rights programs),
- regulation of new construction or placement of structures in order to maintain a safe distance from areas of active erosion and the impact of coastal storms/sea level rise. (existing programs include the Coastal Erosion Hazards Act and the Fire Island to Montauk Point Study);

Existing zoning at saturation would accommodate substantially more growth than projected population increases would require but not necessarily in a manner likely to protect or improve the character of the development pattern as broadly indicated by the New York coastal policies. Within the above constraints on, or determinants of, the location and intensity of development, development requires management and regulatory approaches that achieve the following:

- maintaining the rural and small-town character of Southampton and the extensive natural areas within the Town,
- maintaining the recreational uses that characterize large tracts of private land (zoning incentives that retain the existing recreational uses (*e.g.* golf courses) should be considered,
- keeping the open space character of institutional uses,
- avoiding conversion of economically valuable uses such as water-dependent/enhanced uses to those that privatize the waterfront (including revisions to zoning regulations that allow for conversions of hotels/motels to condominium uses in Resort Waterfront Business (RWB) districts., and
- maintaining the traditional and unique character of each hamlet.

HISTORIC AND CULTURAL RESOURCES

The 1999 Comprehensive Plan Update for Southampton Town¹³⁴ generally describes the community's historic and cultural resources as follows:

“The historic and cultural pasts of Southampton are integral to its sense of place, sense of community, economy and attraction as a visitor and second home destination. In order for these resources to be adequately protected, this historic identity must be recognized and interwoven into the overall fabric of the Town.”

The Plan Update goes on to make clear the linkages between the local economy (based on being a resort and destination site, location for second homes, agriculture, and a series of centers for small businesses) and “long-term environmental and growth management strategies.” Maintaining the historic values as part of “community character” and a “sense of place” is a major component for the Water Protection Plan. The Town of Southampton has a rich cultural history extending over thousands of years from the initial occupation by Native Americans to its use by the Shinnecock Nation, and early inhabitation by European colonists through to present times. This history is reflected in archaeological remains, architecture of extant buildings, and the design and nature of the hamlets and other land use patterns. A considerable account of the growth and development of the Town over time may be read in its historic cemeteries and historic sites.

Inventory

Types of Historic and Cultural Resource Designations

Federal and State Designations

The National Historic Preservation Act allows buildings, sites, districts, structures, or objects that are at least 50 years old to be listed on the National Register of Historic Places. A New York State Register of Historic Places has generally similar requirements and sites listed on one Register are often listed on the other. Listing on the Registers gives the listed site a measure of protection against adverse impacts of activities by the federal and State government respectively. While private property owners using private funds can alter or demolish their properties—even if listed or eligible for the State or National Registers—without a review process, listing certainly increases local awareness and enhances the potential for protection through acquisition, dedication, avoidance, easements, or other means.

Town of Southampton Designations

The Town of Southampton has established a range of historic and archaeological categories in Town law, code, regulation and practice. These are generally summarized below.

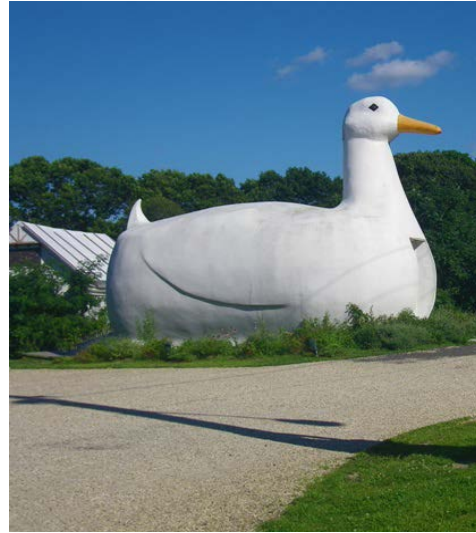
Historic Landmarks

A Landmark, under Southampton Town Zoning Code, is a designated property or structure subject to additional regulations. More specifically, landmark status requires that alterations and demolitions undergo review by the Town's Landmarks Board; and projects must receive a Certificate of Appropriateness prior to building permit approval.

¹³⁴ Town of Southampton, 1999. Southampton Tomorrow: Comprehensive Plan Update, Implementation Strategies.

The Big Duck

Duck farming became an integral part of the Town in the late 1800s. The Big Duck was designed by Broadway set designers for a local farmer. It ultimately became a farm stand selling the duck-related products produced by the farm—a role in which it became a significant tourist attraction. In the early years of this century the duck was acquired by Southampton Town and placed in its current location. The Big Duck is listed on both National and State Historic Registers and has been designated as a Town Landmark.



Historic Districts

An Historic District, under Southampton Town Zoning Code, is a designated area where specific regulations apply to properties within its boundaries, and where alterations to properties and demolitions require additional review by the Town's Landmarks and Historic Districts Board. In an Historic District, a building permit cannot be issued until a Certificate of Appropriateness is approved by the Landmarks Board concerning the proposed construction activity.

To date, Southampton Town has not established any Historic Districts, although they exist in some of the Villages. In 2011 the Town Board commissioned a Historic Resources Survey to identify properties that may be worthy of designation as Town Landmarks. The individual properties included in the survey were also identified as contributing to either a potential Historic District, which has discrete boundaries, or a non-contiguous Multiple Resource District. In some cases, resources may also be considered as part of a non-contiguous Thematic District. The Town Board also put a nomination process in place to facilitate community support in the creation of Historic Districts.

Heritage Areas

A "Hamlet Heritage Resource Area" is "an honorary title bestowed in recognition of the special character of a neighborhood, hamlet, or area." It honors the properties and the community that has cherished its historic heritage. Properties selected as Hamlet Heritage Resources retain the current rights, uses or regulations under Town law. Properties selected as part of Hamlet Heritage Resource Areas are not automatically designated as Town Landmarks or within Town Historic Districts¹³⁵.

¹³⁵ Southampton Town Code. Section 330-5, "Definitions".

English Colonists from Lynn, Massachusetts first came to what is now Southampton Town in 1640. Critical to every new European colony in the New World were grass to feed cattle and water power to drive mills. Within a few years of settlement, a water-powered mill was constructed at what is now Mill Pond, followed shortly thereafter by wind-powered mills. Eventually this gave rise to what is now the Hamlet of Water Mill. Over time the land was used principally for farming. Currently the Hamlet retains its historic identity with a community center that mixes shops with preservation of historic architecture.



Image from: Southampton, NY Historic Places <http://historic.southamptontownny.gov/>

Historic Cemeteries

The website <http://historic.southamptontownny.gov/> lists over 60 historic grave markers and cemeteries within the bounds of the Town of Southampton, a significant number of which appear to fall within the Water Protection Plan boundary. Some of these are unprotected individual grave sites but most fall within some form of Town or other organizational management.



The East Quogue Cemetery contains more than 150 gravestones dating as far back as 1812. While most of the stones are carved marble, one was cast in zinc. The zinc, marketed as "white bronze," has lasted as well as its marble neighbors, but the concept never caught the public's fancy. However, the cemetery reflects the history of the area and its means of memorializing the departed and provides insights into the culture of the past.

Image from: Southampton, NY Historic Places
<http://historic.southamptontownny.gov/>

Historic Markers

There are at least ten designated markers within the boundary of this Plan, indicating sites of historic importance to the community. These have been erected in rest areas and along roadways to provide a perspective on the history and geography of the Town.

According to the NY State Museum, this program was begun in 1926 to commemorate the Sesquicentennial of the Revolutionary War, and was discontinued in 1966. (The program has now devolved into a database and management program.) The New York State Museum presently maintains the archives even though the historic markers themselves are no longer funded by State appropriations. Private organizations are welcome to submit the necessary paperwork to have a new marker erected at a local historic site and the Museum will act as a clearinghouse for such proposals.

Critical Areas (As part of the Environmental Quality Review)

Chapter 157, section 10 (Environmental Quality Review) of the Southampton Town Code identifies and provides an extra level of review for projects identified as being Areas of Particular Concern with respect to locations having social, cultural, historic, archaeological or educational importance. These include:

- Shinnecock Indian Contact Period Village Fort,
- Sugar Loaf Hill Shinnecock Indian Burial Grounds and Archaeological Resources Area,
- Any sites identified in the Town of Southampton Cemetery Study and adopted by the Town Board, and
- Sites where human remains and/or funerary objects are likely to be located as specified on Town Landmarks and the Historic Districts Board's Cultural Resources Subcommittee's Inventory Map.

Other Historic Resources

Historic Vistas

In addition to existing historical resources, there are a number of remembered vistas from years past that have subsequently been developed or which have overgrown. These live on in the memories of residents or visitors, in post cards and old photos, and in photos in the archives of historical societies and libraries. There are sometimes requests to restore these vistas, as they form a part of the heritage of the Town. At present there is no systematic identification or designation process in place for such vistas but some have been protected through community preservation fund (CPF) acquisition or subdivision review activities.

The Shinnecock Canal

The Canal, opened in 1892 after eight years of work, connects Peconic Bay and Shinnecock Bay. The location, according to Native tradition, is the site of a natural waterway/portage used into Colonial times. Locks were added in 1919 as the difference in tidal elevations between the two bays produced significant currents in the waterway.



Image from: Goddard Earth Sciences Data and Information Services Center

http://disc.sci.gsfc.nasa.gov/education-and-outreach/additional/science-focus/ocean-color/turbid_2.shtml

Historic Street and Roadway Design

The roadways and streets of the Town evolved from the earliest land use patterns. Generally the land use was developed and the roads grew to connect them. As such they reflect how the Town grew, and how it is growing. Maintaining both the location and the nature of these roadways is a bow to the history of the Town, its hamlets, and its uses, including those related to the waterfront.

Available Inventories of Historic and Cultural Areas, Sites and Contents

South Shore Estuary Plan

As part of the development of a Management Plan for the South Shore Estuary Reserve, a summary of historic resources within the boundaries of the Reserve was prepared¹³⁶ (the southern portion of Southampton Town between the Brookhaven Town line and the eastern margin of Shinnecock Bay are included within the Reserve Boundary).

Hamlet Studies

Designation of several Hamlet Heritage Areas within hamlet centers and surrounding areas have fostered the preparation of Heritage Area Reports including those for Water Mill Heritage Area¹³⁷, Eastport¹³⁸, Quogue¹³⁹, Bridgehampton¹⁴⁰, East Quogue¹⁴¹, Flanders¹⁴², and the Hay Ground and Art Village Heritage Area¹⁴³. These contain detailed information about the historic resources of the designated Heritage Areas and are available on the Southampton Town web site.

Web-based Inventory

An interactive map showing various historic areas and specific sites has been established for the Town¹⁴⁴. This includes locations, photographs and descriptive information for Historic Landmarks, Historic Districts, Heritage Areas, cemeteries, historic markers, and other historic points of interest within the boundaries of the Town of Southampton.

Off-shore, Near-shore and Beach Area Inventory

This project was designed to survey the nearshore areas along the south coast of Long Island for shipwrecks to be avoided in advance of dredging to stabilize Long Island's southern shoreline¹⁴⁵. It includes an intensive historic records search to identify known and potential wrecks in those areas. More than 450 potential locations in the area between Fire Island and Montauk were identified. Further review of the document will be necessary to identify data specific to Southampton Town.

¹³⁶ Allee, King, Rosen and Fleming. 1997. "South Shore Estuary Reserve; Technical Report Series, Historic, Cultural and Scenic Resources: Part 2: Cultural, Historic and Scenic Resources". Prepared for the South Shore Estuary Reserve Council under contract with the NY Department of State. Available at www.nyswaterfronts.com/final_draft_html/Tech_Report_HTM/Land_Use/P2_Cultural/First_HSC2.htm.

¹³⁷ Haresign, Marlene. 2003. Water Mill Hamlet Heritage Area Report.

¹³⁸ Michne, Ronald A. Jr. 2005. Eastport Hamlet Heritage Resource Area Report.

¹³⁹ Michne, Ronald A. Jr. 2008. Quogue Hamlet Heritage Resource Area Report.

¹⁴⁰ Sanford, Ann. 2009. Bridgehampton Hamlet Heritage Resource Area Report. Online at <http://www.southamptontownny.gov/filestorage/596/598/1946/bhhamletheritage-revision-05.pdf>.

¹⁴¹ Davis, Stephanie, Editor. 2014. East Quogue Hamlet Heritage Report.

¹⁴² Spanburgh, Sally, Janice Jay Young, Gary Cobb. 2014. Flanders Hamlet Heritage Area Report.

¹⁴³ Spanburgh, Sally. 2012. Art Village Heritage Area Report.

¹⁴⁴ Town of Southampton. No Date. Southampton New York Historic Places website. Online at: <http://historic.southamptontownny.gov/>.

¹⁴⁵ John Milner Associates. No Date. Long Island Beach Reformulation Study.

2000 Historical Survey

A Cultural Resources Survey was prepared for Southampton Town in July 2000¹⁴⁶. The Cultural Resources Survey inventoried 300 historic structures in the 16 unincorporated hamlets of the Town of Southampton. The Survey has not been officially adopted by the Town of Southampton nor have the resources identified in the survey been officially designated by the Town of Southampton.

2014 Survey

As described above, an updated Historic Resources survey was completed by AKRF & Peu-Duvallon in 2014¹⁴⁷.

Archaeological Surveys

There have been some archaeological surveys within the bounds of the Water Protection Plan designed to assess pre-Colonial (Native American) sites. Included are those associated with specific development projects, *e.g.*, those by Bernstein and Manfra^{148,149} and the Long Island Power Authority¹⁵⁰ done in conjunction with the proposed LIPA Southampton to Bridgehampton Transmission Line.

Issues and Analysis

The broadest existing discussion related to Town-wide management of historic and cultural resources is the 1999 Comprehensive Plan Update¹⁵¹. This document, and its supporting Technical Report, reviewed the scenic resources of the Town and provided 27 Action Items to improve their management. A January 2012 Town of Southampton Board work session assessed the current status of the Action Items and indicated that many have been completed or are in progress. Further investigation and discussion seems warranted to assess whether the outstanding recommendations from the 1999 Plan should be addressed. A number of additional issues were raised during the collection of information for this document, either in public meetings, via internet feedback, or in interviews with local officials, interest groups or stakeholders. The validity and level of interest to the Town have been assessed as part of the analysis process and are addressed in the Policy and Implementation sections of this document.

Specific issues include:

- The importance of the Shinnecock Nation's heritage should be emphasized in research for historic artifacts, cultural preservation, and current cultural interactions. There may be many yet undiscovered sites outside the boundaries of the Reservation that could lead to a better understanding of interactions between Native Americans and European settlers. The Shinnecock Nation is in the early stages of investigation into preparing a land use and management plan that may address similar issues on their lands. Effort should be put into developing a cultural resource listing or more specific map of pre-Colonial resources, *i.e.*, areas of importance to the Shinnecock Nation. Coordination between Town agencies and members of the Nation are critical to this effort.

¹⁴⁶ GAI Consultants, Inc. and Fanning, Phillips & Molnar. 2000. Cultural Resources Survey of the Town of Southampton, New York.

¹⁴⁷ AKRF and Jaqueline Peu-Duvallon. 2014. Historic Resources Survey: Town of Southampton, Suffolk County, NY. Prepared for the Town of Southampton.

¹⁴⁸ Bernstein, David J. and Allison J. Manfra., 2007. A Stage 1 Archaeological Survey for the KeySpan Substation in Bridgehampton, Town of Southampton, Suffolk County, New York.

¹⁴⁹ Bernstein, David J. and Allison J. Manfra. 2007. A Stage 1A Archaeological Survey for the Proposed Southampton to Bridgehampton Transmission Line Upgrade, Town of Southampton, Suffolk County, New York.

¹⁵⁰ Long Island Power Authority. 2007. Draft Environmental Impact Statement: Southampton to Bridgehampton Transmission Line and Expansion of Bridgehampton Substation.

¹⁵¹ Town of Southampton, 1999. Southampton Tomorrow: Comprehensive Plan Update, Implementation Strategies.

- The possibility of designating Historic Districts within the Town should be explored further.
- The designation of Historic Landmarks and Hamlet Heritage Areas should be continued.
- The development decisions between the Town Landmarks and Historic Districts Board and the Planning Board should be coordinated to better manage historic resources within the Water Protection Plan area.
- The incorporation of volunteer efforts into the identification, monitoring and management of historic and cultural resources should be improved. This would include development and implementation of training programs.
- The production of a comprehensive brochure of historic attractions for the Town should be conducted by Chambers of Commerce, the business community and other South Fork communities.
- The definition of specific regulatory design controls for the Heritage Areas on a hamlet-by-hamlet basis should be developed.
- The development of a Maritime Museum and Cultural Center at the Town-owned Parks Department site at the Shinnecock Canal should be considered as a means of linking current and past waterfront and maritime interests.
- The local historical societies, the Rogers Memorial Library, and hamlet organizations which have been important in compiling information, preserving artifacts and records, and making Town residents aware of the historic and cultural history of the area, should coordinate efforts in order to improve management of historic resources. Additionally, coordination might include the Town government, through the Town Clerk's Office, which has been instrumental in preserving and making available historic records via the internet.
- The degree of public participation should be increased. Due to budget realities, the wide range of historic and cultural resources, and the reality that many of the historic resources are on private property, there is a need to involve the public in the process. It was suggested that it is important to create a culture of stewardship for these resources. This can be taught in schools, brought to adults through publications, web sites, etc.. Volunteers can be used to identify or survey historic resources. It was noted that there are tax abatement and maintenance programs to help manage historic sites and structures on private lands.
- The process to identify significant historic vistas should be developed and implemented. In various areas of Town there are visual barriers to historic resources and vistas. In some instances these are "wall-to-wall" buildings but in most the barrier is privet hedges. This issue was pointed out in the 1999 Comprehensive Plan and continues to be a point of concern in some locations. Presently there is no mechanism to identify significant historic vistas nor any specific mechanism to maintain or protect them.

SCENIC RESOURCES

The 1999 Comprehensive Plan Update for Southampton Town¹⁵² generally describes the community's scenic resources as follows:

“Southampton’s unique scenic quality and sense of place is derived from the interplay of rural farmland, areas of undeveloped open space, water frontage (bay, ocean) and the hamlet centers. This rural character graces the Town with significant natural and historic resources. It is this quality that maintains the Town’s vitality as a resort, second home and visitor attraction, as well as an attractive place to live and work.”

The Plan Update goes on to make clear the linkages between the local economy (the resort and destination industries, the location for second homes, the agricultural businesses, and the series of centers for small businesses) and “long-term environmental and growth management strategies”. Maintaining the scenic values as part of “community character” and a “sense of place” is a major component for the Water Protection Plan.

Types of Scenic Resources

The human eye sees beauty in a wide variety of landscape settings. Research has shown that the nature of preferred scenic qualities varies predictably among differing portions of the population, *e.g.*, young vs. old; resident vs. tourist; etc. This does not mean, however, that scenic values and visual impact assessment is, as is sometimes charged, entirely subjective. Richard Smardon from State University of New York, Syracuse has done extensive research on scenic values and landscape assessments. His findings of general public opinions include¹⁵³

- A preference for open, panoramic views and a dislike of “filtered” (having to look through or around structures) views,
- A preference for well-maintained areas and structures as opposed to deteriorating or overgrown sites,
- Development that fits into the “historic” context of an area as opposed to significant changes in shape, size, color or style,
- A preference for diverse, but well-maintained, vegetation,
- A preference for structures that are perceived as marine- or water-related, particularly those that enhance water access, and
- A dislike for “tourist-like” development and development in undeveloped coastal landscapes.

Wohlwill (1983)¹⁵⁴ and Zube and McLaughlin (1978)¹⁵⁵ assessed perceptions of visitors/tourists and residents to coastal and waterfront development. In both studies residents were more tolerant of coastal development if economic income was generated to benefit the community (and the residents who live

¹⁵² Town of Southampton, 1999. Southampton Tomorrow: Comprehensive Plan Update, Implementation Strategies.

¹⁵³ Smardon, Richard. 2003. In Kelty and Bliven, 2003. Environmental and Aesthetic Impacts of Small Docks and Piers; Workshop Report, Status of the Science. Online at <http://coastalmanagement.noaa.gov/dock.html>.

¹⁵⁴ Wohlwill, J.F. 1983. Physical and social environment as factors in development. In D. Magnusson & V.L. Allen (Eds.), Human Development: An interactional perspective. New York: Academic Press. Pp. 111–129.

¹⁵⁵ Zube, E.H., and M. McLaughlin. 1978. Assessing Perceived Values of the Coastal Zone. *Coastal Zone '78*. V. 1, 360–371.

there). Peterson and Neuman (1969)¹⁵⁶ found a divergence in the scenic preferences on beaches and waterfronts. Higher educated, older residents prefer natural beaches with low intensity of uses with attractive vegetation, whereas younger users prefer city beaches with facilities, and do not mind crowds.

Natural Environments

The natural environments of Southampton Town offer a wide variety of scenic vistas that meet the criteria Smardon provides above. Panoramic views of the water—be it ocean, bays, estuaries, or freshwaters—have always drawn people to the shore; and these water views, be they from the water's edge, views from the water to land, or views of the water across a green field or marsh, bring people to the Town. Wetlands along the water's edge provide glimpses of animal life, a wide diversity in species and textures of plant life and a variety of colors. The uplands within the waterfront area offer views of woodlands and agricultural fields recalling the pastoral nature of earlier days in the Town.

Built Environments

The built environment of the Town includes the hamlet centers, historic architecture, scenic roads and byways and, again, agricultural uses—all vistas that Smardon notes as attractive to inhabitants and visitors.



James Breese House

Image from: Southampton, NY Historic Places <http://historic.southamptontownny.gov/>

Historic Vistas

Not all scenic resources currently exist. Up until the late 1800s, much of the waterfront area in Southampton Town was taken up with farming and fishing activities. As transportation improved with the railroad and the automobile, tourism began in Town, first with rooming houses and eventually with hotels and inns. Southampton also became the site for large, second homes. A significant number of these

¹⁵⁶ Peterson, G. L. and E. S. Neuman. 1969. Modeling and predicting human response to the visual recreation environment. *Journal of Leisure Research* 1:219–237.

structures, activities, and vistas remain but many are remembered images from years past that have subsequently been developed or have been overgrown. The historic structures, uses, and vistas live on in the memories of residents or visitors, in post cards and old photos in the archives of historical societies and libraries. Public comments collected during the development of this document suggest an interest in trying to reestablish some of these vistas.



An old post card shows a cat boat on Shinnecock Bay.

Recognized Areas of High Scenic Quality

The New York Department of State Division of Coastal Resources has established a program to recognize significant areas of high scenic quality. It consists of a scenic assessment program that “identifies the scenic qualities of coastal landscapes, evaluates them against criteria for determining aesthetic significance, and recommends areas for designation by the Department as Scenic Areas of Statewide Significance (SASS). SASS designation protects scenic landscapes through review of projects requiring State or federal actions, including direct actions, permits, or funding”¹⁵⁷. This process and designation have been utilized on the East End of Long Island: in 2010, nine areas totaling more than 25,000 acres within the Town and Village of East Hampton were designated as SASS. Currently no areas within the boundaries of Southampton Town have been so designated. The Long Island Sound South Shore Estuary Reserve commissioned a Scenic Resources Inventory in 2005¹⁵⁸ that identified areas with potential for designation as an SASS, several within the boundaries of the Town of Southampton. To date no action has been taken on these recommendations. Local communities can also create designations for areas of high scenic quality through zoning overlay districts or other similar land management mechanisms.

Existing Inventories of Scenic Resources

1999 Comprehensive Plan Update

The Scenic Resources Technical Report section of the 1999 Comprehensive Plan Update identified a number of “scenic resource areas that are integral to the Town.” The process leading up to this identification included a review of hamlet centers; scenic roadways; vistas over the ocean, bays, and ponds; agricultural lands; and upland areas. The Scenic Corridor Technical Report from this effort provided a preliminary analysis of roadways in the Town and a vulnerability analysis that provided a list of

¹⁵⁷ New York State Office of Planning and Development. No Date. Scenic Areas of Statewide Significance. Online at: <http://www.dos.ny.gov/opd/programs/consistency/scenicass.html>.

¹⁵⁸ Dodson Associates, Ltd. 2005. Long Island South Shore Estuary Reserve Scenic Resources Inventory.

which specific corridors were in most need of protection to maintain their qualities and benefits to the Town.

Hamlet Studies

The studies that have been done in most of the hamlets (*e.g.*, Bridgehampton, Noyac, Eastport/Speonk-Remsenburg/Westhampton) all offer recommendations for preservation and improvement of the visual aspects of those geographic areas referring to both built and open space environments. Copies of this material are available on the Town of Southampton web site at <http://www.southamptontownny.gov>.

South Shore Estuary Plan

As a part of the South Shore Estuary Reserve Management Plan, Harry Dodson and Associates¹⁵⁹ prepared a scenic landscape protection plan for the areas that fall within the bounds of the Reserve, which includes the waterfront on the southern side of Southampton from its border with Brookhaven to the eastern side of Shinnecock Bay. The Reserve is considering implementation of the Scenic Areas of Statewide Significance program described above to provide a measure of protection to identified scenic resources.

¹⁵⁹ Dodson Associates, Ltd. 2005. Long Island South Shore Estuary Reserve Scenic Resources Inventory.

Figure 17: Scenic Routes/Vistas & Protected Lands

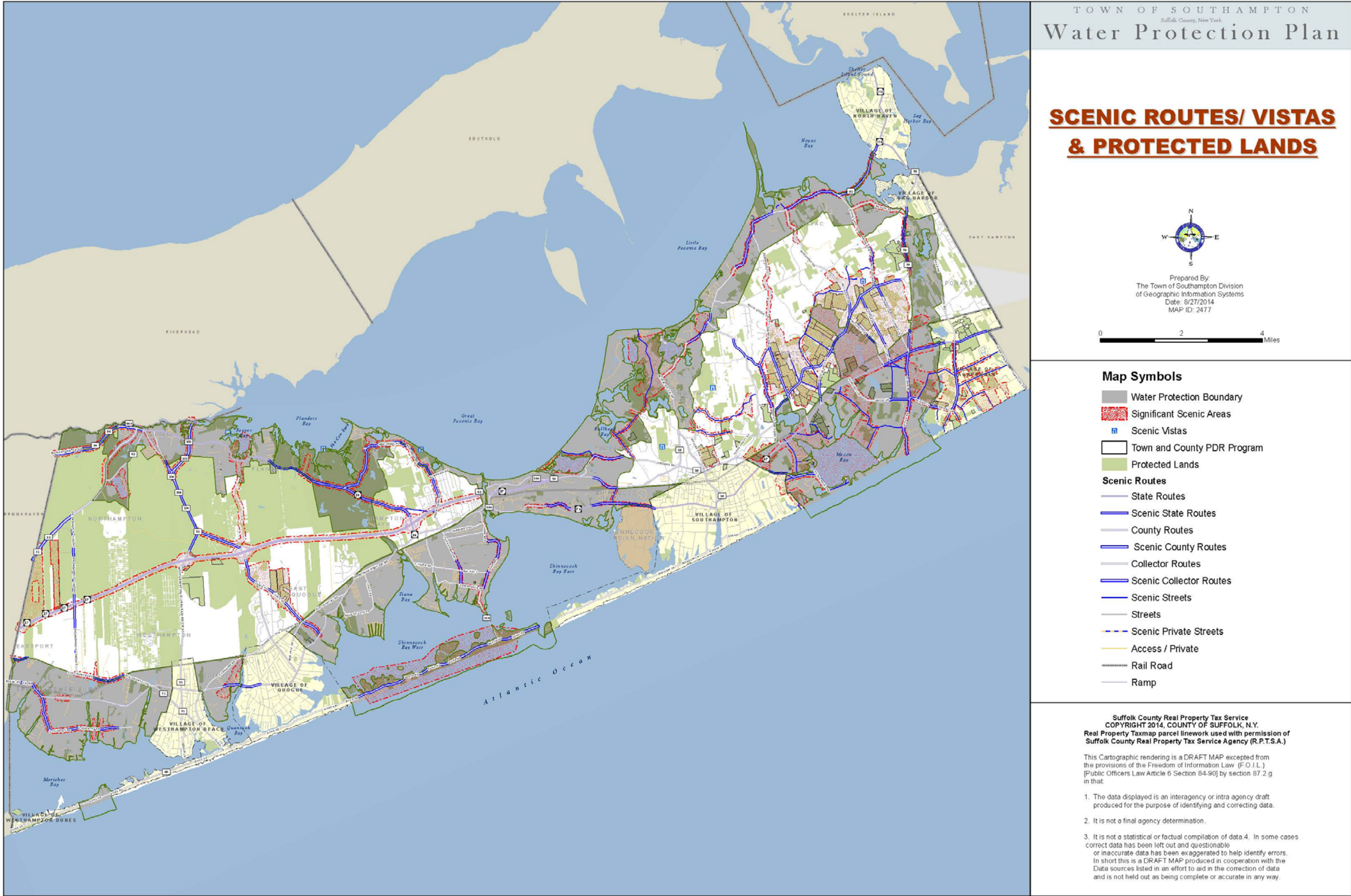


Figure 18: Scenic Roads East

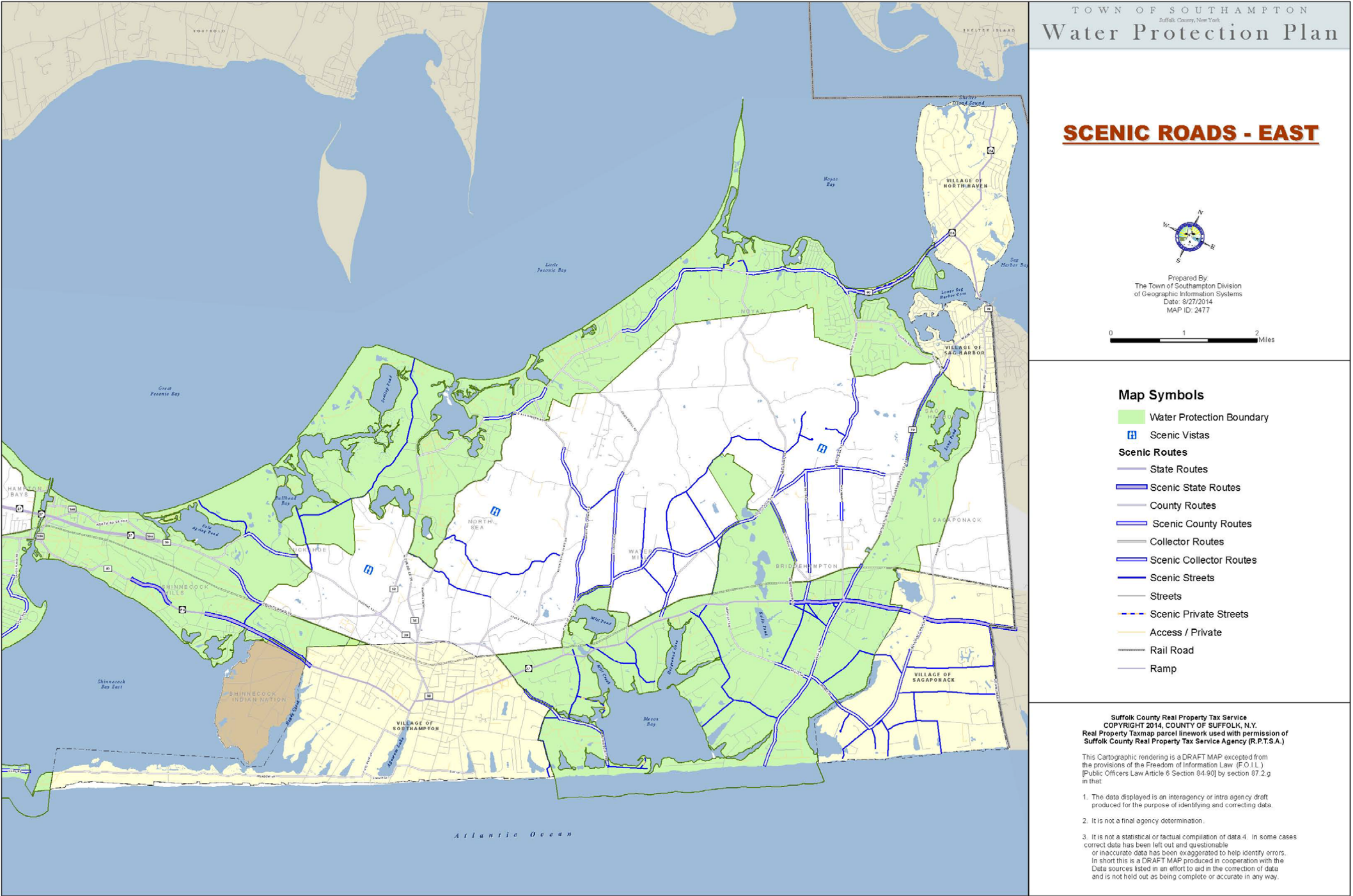
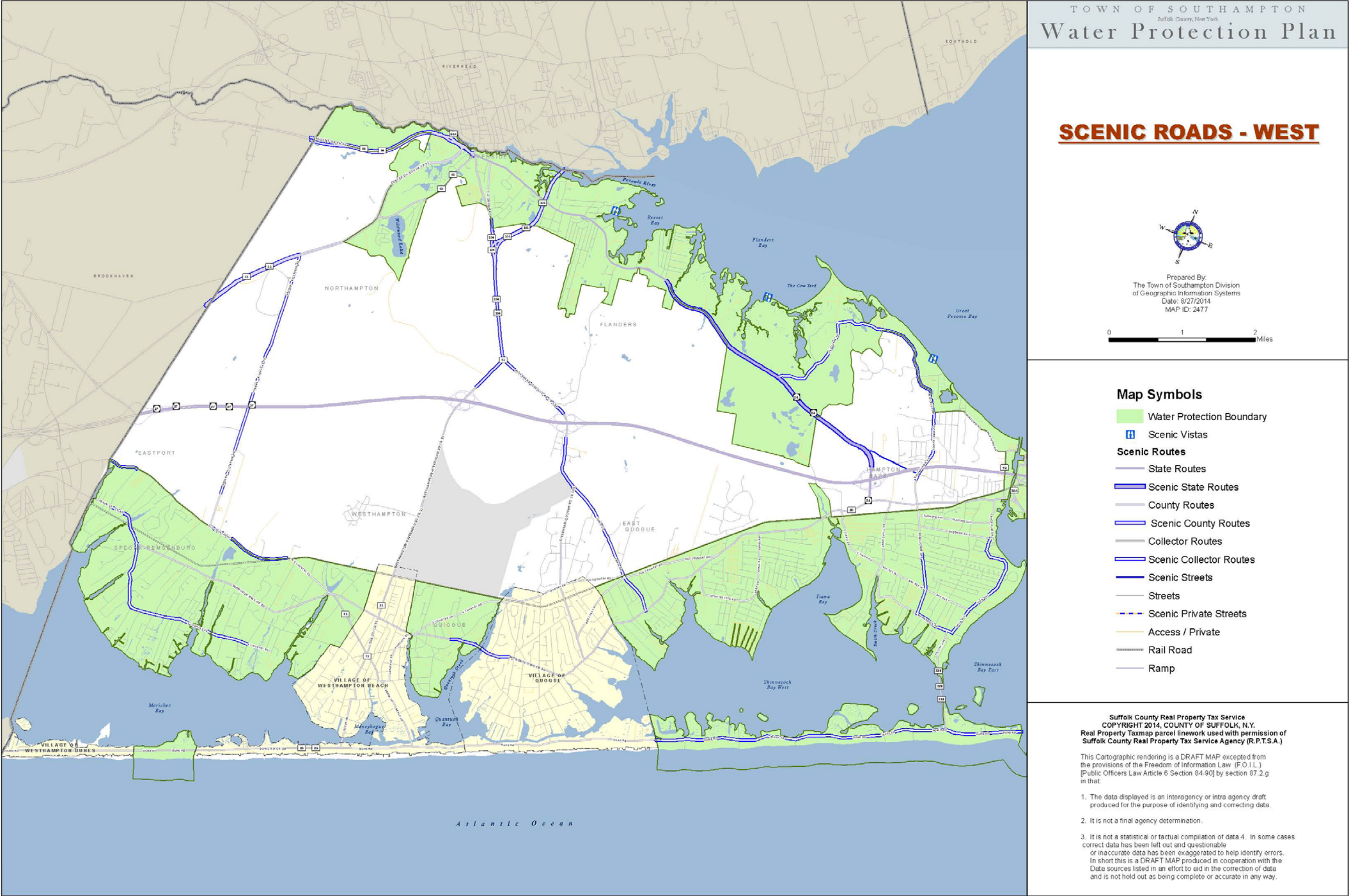


Figure 19: Scenic Roads West



Ongoing Programs

Based on recommendations in the Comprehensive Plan Update, Southampton Town developed a Scenic Roads Ordinance which has allowed the designation of certain roadways and developed programs to maintain their scenic beauty. For further information on this topic, including designated Scenic Roads, see Figures 18 and 19.

The Comprehensive Plan Update also recommended preparing a Scenic Resources Inventory for the Town. To this point, a thorough inventory has not been conducted. The Comprehensive Plan Update included a visual preference survey to gauge the interests of residents. This was not specific to the area addressed by the Water Protection Plan but it does offer insights into the desires of the community. There are, however, two preliminary sources of mapped data related to scenic resources within the Town.

The first is a data layer within the Town's Geographic Information System (GIS) entitled "Scenic Vistas". This data set was initially defined by the members of the GIS office staff who marked the location of some of the vistas when mapping the 200+ miles of trails in the Town. Although considered incomplete, the data is included Figure 17, above.

As mentioned above, the second data set was compiled for the Long Island South Shore Estuary Reserve by Dodson Associates. In this instance, the consulting team established locally-based preferences for scenic values and applied these to the areas within the South Shore Estuary Reserve—including bay waters on the southern portions of the Town from the border with Brookhaven to the eastern shore of Shinnecock Bay. Specific areas of scenic resources were defined, mapped and recommended for nomination as a State-designated Scenic Area of Statewide Significance (SASS). Thus far no nomination has been made. These mapping data have been incorporated into the Town of Southampton's GIS database and are presented in Figures 20-22.

The Town indirectly protects scenic resources in a variety of ways, principally through management of lands owned by the Town or in which the Town has some ownership interest. These include public parks, Town CPF acquisitions and Suffolk County Purchase of Development Rights (PDR) properties. Other scenic resources may be protected in lands held by non-profit groups such as The Nature Conservancy or the Peconic Land Trust, subdivision preserves, and private preserves. These areas are also shown Figure 17.

It should be noted that, while many of these parcels are acquired or protected in some measure based on scenic resources, generally there are few, if any, specific management limitations based on the properties to maintain, protect or improve these resources.

Figure 20: Significance Eastern Boundary

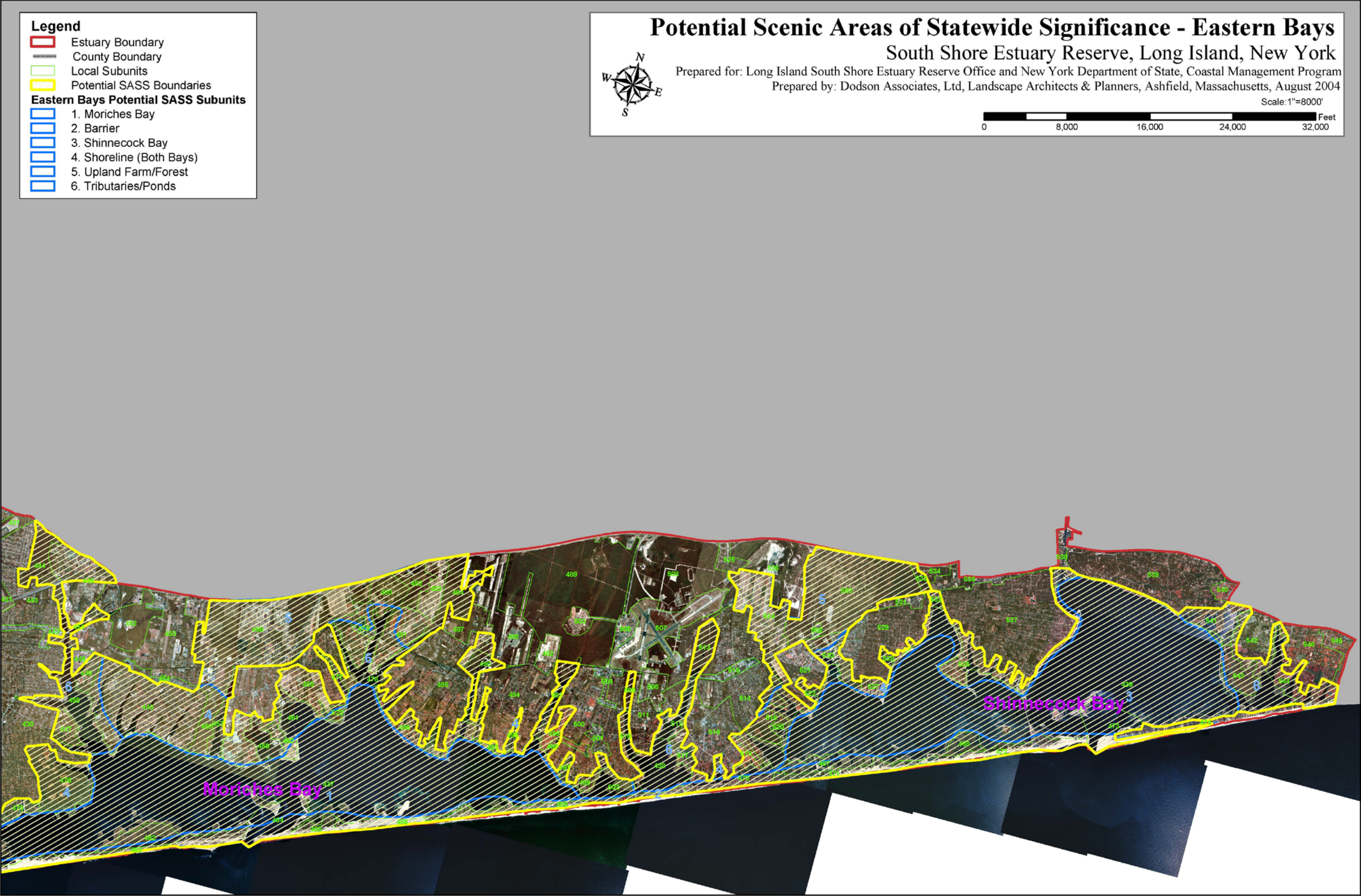


Figure 21: Scenic Rankings - Eastern Bays

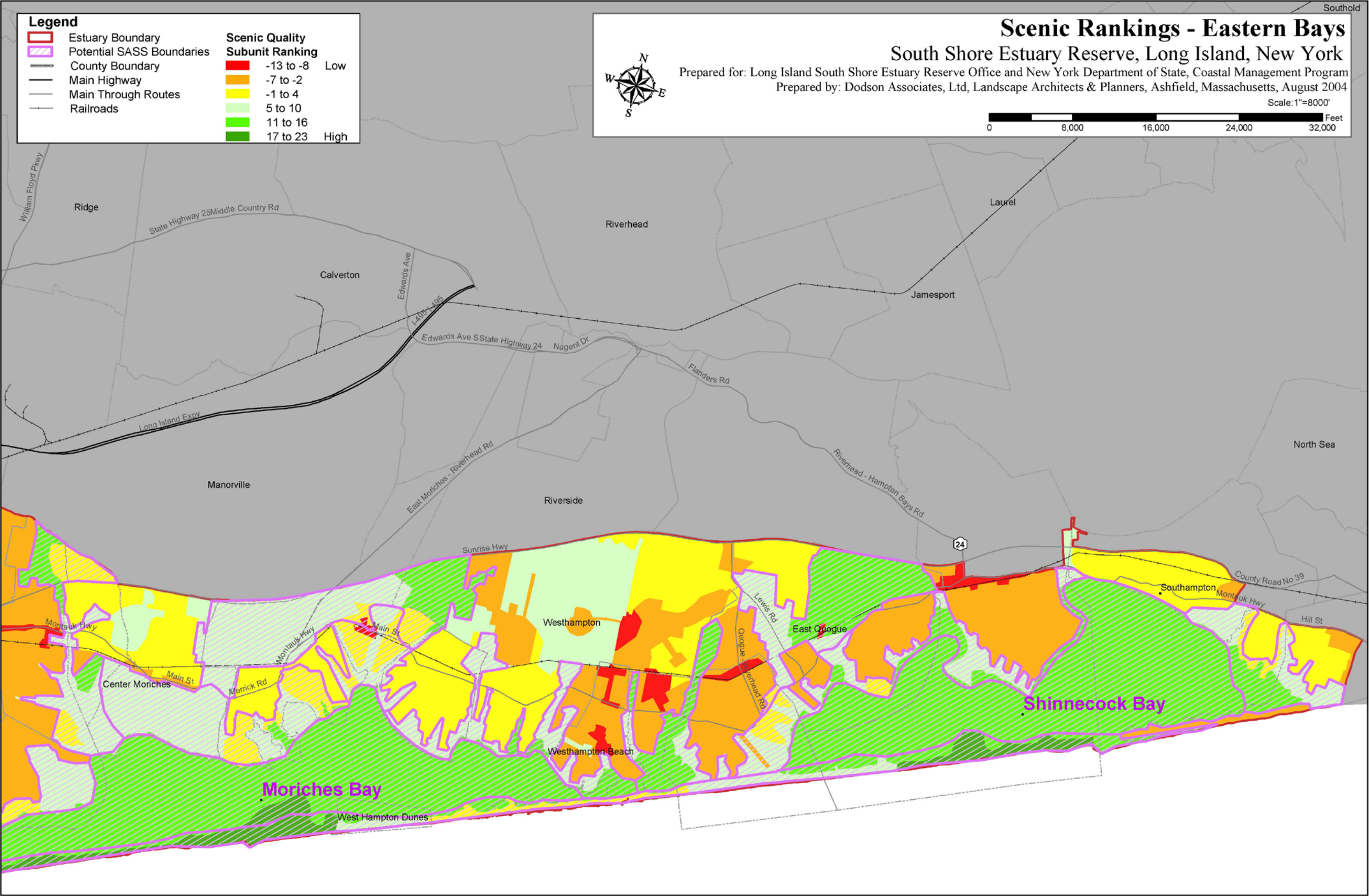
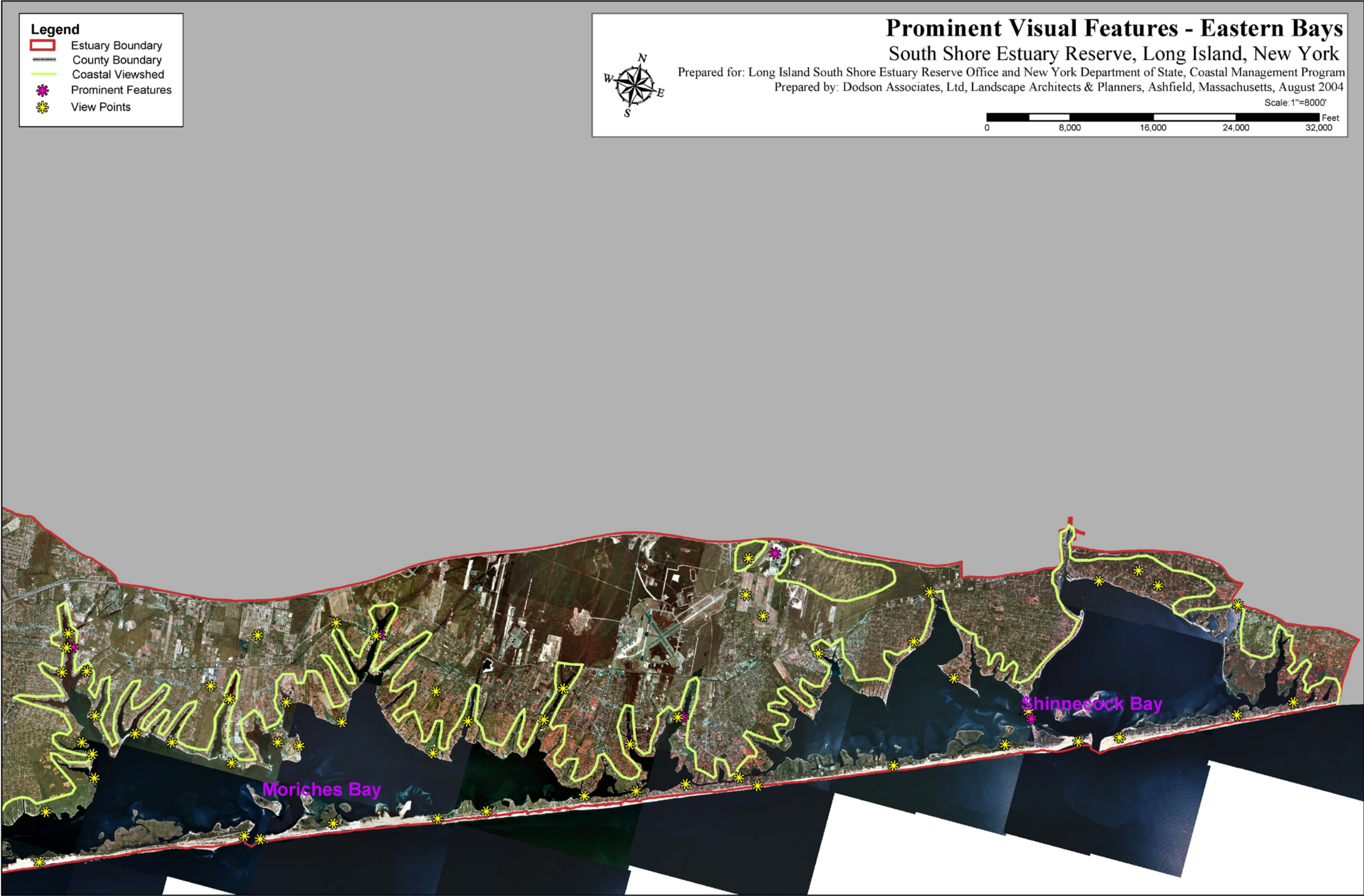


Figure 22: Prominent Visual Features – Eastern Bays



Issues and Analysis

The broadest discussion related to Town-wide management of scenic resources is the 1999 Comprehensive Plan Update¹⁶⁰. This document, and its supporting Technical Report, reviewed the resources and provided some 23 Action Items to better manage and preserve the scenic resources of Southampton Town. A 27 January 2012 Town of Southampton Board work session reviewed the current status Action Items. Other input was developed from public meetings and interviews. Specific issues identified include:

- The 1999 Comprehensive Plan Update recommended the designation of scenic roadways and corridors. As noted above, proposed scenic roadways have been identified in the Water Protection Plan Boundary Area (for details see Figures 18 and 19) and draft legislation to create a “Scenic Corridor Overlay District (SCOD)” remains in Long Range Planning without a legislative sponsor. Currently the Town Board must decide whether to move forward with this effort and enact the process for designation.
- As mentioned above, there are various types of designations for areas of high scenic quality. These are typically based on the results of an inventory and prioritization of scenic resources within a community, but may also arise from recognition of (or sometimes a threat to) an area held in high value by the Residents. To date, a series of scenic roadways have been identified (but not yet formally adopted). Further, many environmental, growth management, historic preservation, or land acquisition actions have included an evaluation of scenic resources in their implementation. As yet, however, there has not been a mechanism established to identify and protect or restore other significant scenic vistas.
- It would benefit protection of scenic resources to better define architectural review standards for important resource areas
- Similarly, it would benefit protection of scenic resources to develop signage, clearing, and landscape standards for important resource areas.

¹⁶⁰ Town of Southampton, 1999. Southampton Tomorrow: Comprehensive Plan Update, Implementation Strategies.

FLOODING, EROSION, AND SEA LEVEL RISE

Flooding, erosion, sea level rise, and storms have had, and will have, significant effects on the resources, economy, and lives of residents and visitors of the Town of Southampton. These phenomena become a problem as people occupy or use the areas where they occur and, consequently, several government programs have been set up to mitigate the effects of flooding, erosion, severe storms, and sea level rise. Numerous technical, policy, and legal studies and reports have been prepared from a general, regional, and Town perspective that address management of flooding, erosion, severe storms, and sea level rise. While additional specific information may be necessary or useful, current knowledge based on the existing studies and reports, as well as local experience, provide an adequate basis for development of refined policies and new recommendations for improved public management in this area; therefore what follows is a review of existing studies, programs, and information.

Flooding, Erosion and Severe Storms

The Town's Atlantic Ocean coastline, the mainland shoreline of its coastal ponds and bays, the streams that flow into these, the Peconic Bay shoreline, and fresh water ponds exhibit different characteristics, based on natural conditions and the manner in which people use these areas, that are important for management.

The barrier beach that extends for most of the Town's Atlantic shoreline, with its wide beach, dune system and wetlands along its bay shoreline, is a natural, recreational, economic, scenic and cultural resource. It is the mainland's primary defense against the effects of severe coastal storms. It is a fragile and dynamic landform that has been shaped by complex natural processes over centuries with the accumulation of eroded glacial sediments that are carried westward from Montauk Point in the littoral current and deposited by wave action on the barrier beaches and offshore bars. In addition to the westward growth and movement of the beaches, there is also a landward migration of this system in response to diminishing sediment supply and relative sea level rise¹⁶¹. Erosion is a natural, and generally unavoidable, process that becomes a problem when it threatens man-made structures and places of public recreation or compromises natural protective features and/or habitat quality. During severe storms, such as nor'easters, tropical storms, and hurricanes, the sea may come completely over the barrier island in specific locations, retreating, as the storm passes, in a process referred to as overwash. In particularly severe storms the sea may create new openings between the ocean and the bay—referred to as breaches. A breach will remain open until it naturally closes or is closed artificially by placing fill or installing a structure. See the "Proposed Long Island South Shore Hazard Management Program"¹⁶² for information on the location of past breaches and areas subject to overwash. While overwashes and breaches can have significant adverse effects on property, they are also natural processes that are part of the long-term maintenance of the barrier beach system.

The development pattern on the barrier beach and other Atlantic shoreline within the Town consists primarily of open space (particularly a large stretch west of Shinnecock Inlet) and low-density residential areas. There is a small concentration of industrial and commercial use just west of the Inlet. This is the location of the commercial fishing fleet. There are several commercial uses, such as restaurants, scattered along the barrier on both the ocean and bay side, and there are a few areas with higher density residential development. There are limited vacant parcels.

The Atlantic Coast of New York Monitoring Program, a cooperative effort of the US Army Corps of Engineers, the New York Departments of State and Environmental Conservation, and New York Sea

¹⁶¹ US Fish & Wildlife Service. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed;

¹⁶² Long Island Regional Planning Board. 1989. Proposed Long Island South Shore Hazard Management Program.

Grant, provides beach profiles, aerial photography, and historic shoreline maps from 1830 to 1995. (Maps of these data are not currently available for inclusion in this document.)

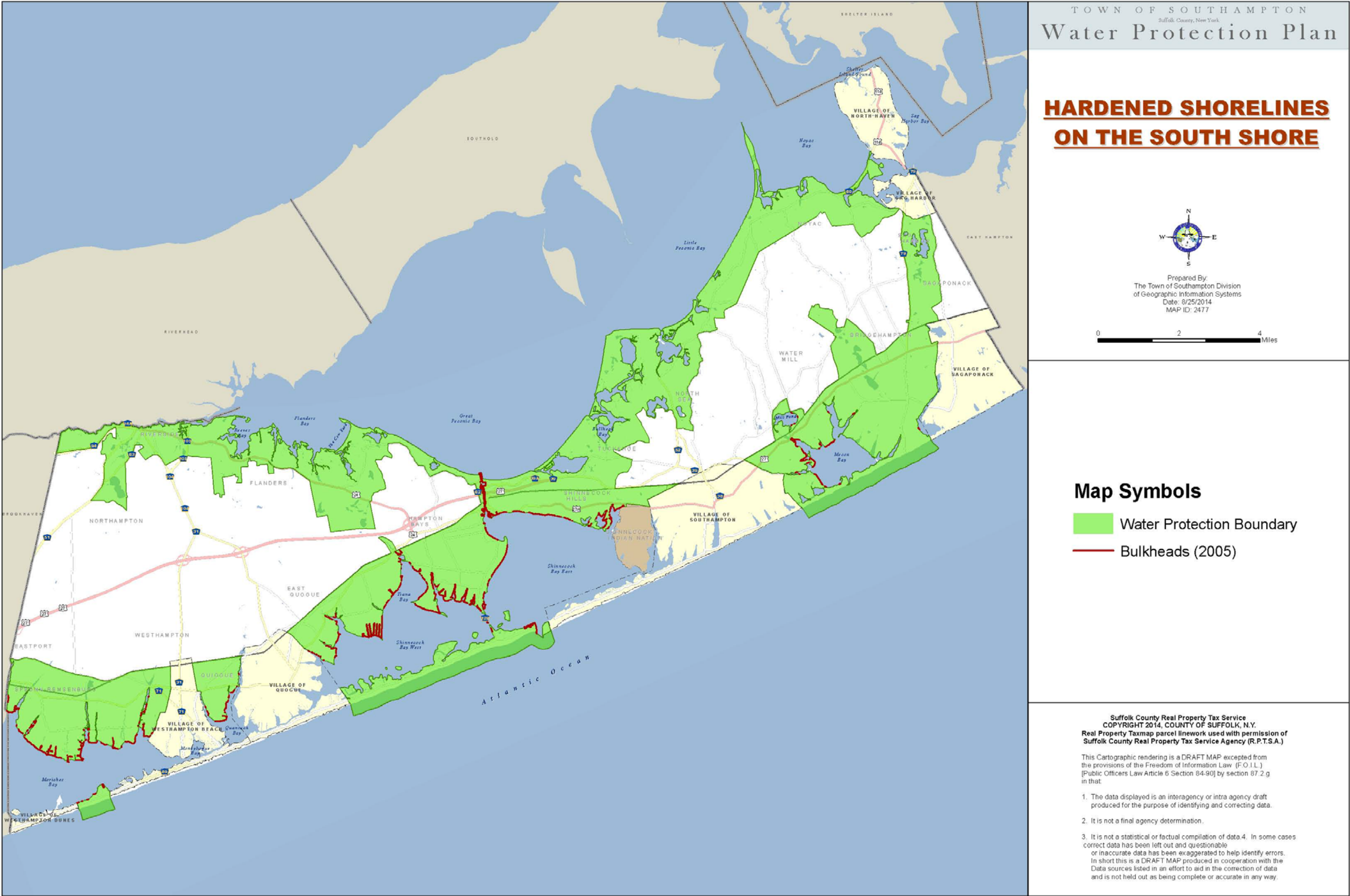
The map shows the historic locations of the shoreline over time. From 1830 to 1933 the shoreline is seaward of its present location. The more recent retreat of the shoreline is related to the effects of the presence and maintenance of the Shinnecock Inlet, as well as its jetties, which diminish sand movement to the west. The 1995 line, which is seaward of the 1988 line, reflects beach nourishment with dredged material from the inlet. Maintaining a wide barrier beach west of the Inlet is critical in protecting not just the barrier and the beach, but also the commercial fishing port located on the back of the barrier just west of the inlet.

Until the Shinnecock Inlet's location was stabilized at its present location in the last century, inlets between Shinnecock Bay and the Ocean occurred at various points, generally as the result of storm-created breaches in the barrier beach. Although the Shinnecock Inlet may affect the barrier island, its maintenance is important for providing essential boating access from Shinnecock Bay to the ocean for commercial and recreational purposes. As a result, the manner in which inlets are maintained becomes important. The description of the maintenance plan for the inlet can be found at: www.nan.usace.army.mil/project/newyork/factsh/pdf/ShInOM.pdf.

The project is authorized at a depth of 10 feet, a width of 200 feet, and length of 0.46 miles. Dredged material has been used for beach nourishment west of the inlet. Efforts are underway by the Town to develop a joint strategy with the US Army Corps of Engineers (ACOE), NY Department of Environmental Conservation, and Suffolk County Department of Public Works to complete beach and dune re-nourishment following beach and dune loss as a result of Hurricane Irene.

In addition to the effects of the jetties at Shinnecock Inlet, shore parallel structures, such as seawalls, revetments, and bulkheads, also have adverse effects on the barrier beach. A report (July 2011, by Robert S. Young, commissioned by the Southampton Board of Trustees stated that, "There is clear, scientific consensus that seawalls (or any shore-perpendicular hard structure designed to halt erosion), when placed on an eroding or retreating beach will cause the beach to narrow and eventually disappear." Seawalls stop the ability of the beach to move landward. Seawalls can also increase beach loss by wave refraction and scour, *i.e.*, as a wave breaks against the seawall it can pull sand away from the beach. Some seawalls can, by temporarily reducing erosion, prevent sand from feeding the beach; and seawalls can increase erosion/scour at their ends. Shore-parallel structures can have similar effects in the other waterbodies of the Town. The locations of existing shoreline protection structures are shown in Figure 23.

Figure 23: Hardened Shorelines on the South Shore



The non-barrier island shoreline of the south shore and the shoreline of the Peconic Bay are primarily developed areas subject to flooding, storm surge, and erosion. The areas of the Town that lie within the Federal Emergency Management Agency (FEMA) designated flood zone are shown in Figure 24. This map shows the extensive development that is within the flood zone and the portion of that development that has occurred since 1974. The map also shows, based on past hurricanes, the extent and location of areas that would be subject to a storm surge. This information is from a SLOSH model¹⁶³. The extent of development that is at risk in the Town is substantial.

Recent systematic information about shoreline changes along the Peconic Bay shoreline was not found; but, a 1977 Sea Grant study, *Shoreline Survey: Great Peconic, Little Peconic Gardiners, and Napeague Bays* (M.T. Eisel) documented changes in shoreline configuration over time.

Sea Level Rise

Sea level rise is projected to increase substantially over the next century due in part to climate change. Two recent State reports¹⁶⁴ have outlined the extent of likely sea level rise, its anticipated effects, and a general direction for mitigating or adapting to the effects of sea level rise. In addition to sea level rise anticipated climate change is expected to increase the number and severity of coastal storms and alter rain fall patterns. While sea levels have been rising since the last Ice Age, the report estimates that the rise will increase over the next several decades. The sea level rise projections from a September 2014 update of the NYSERDA report are as follows:

Baseline (2000- 2004) 0 inches	Low Estimate	Middle Range	High Estimate
2020s	2 in	4 to 8 in	10 in
2050s	8 in	11 to 21 in	30 in
2080s	13 in	18 to 39 in	58 in
2100	15 in	21 to 47 in	72 in

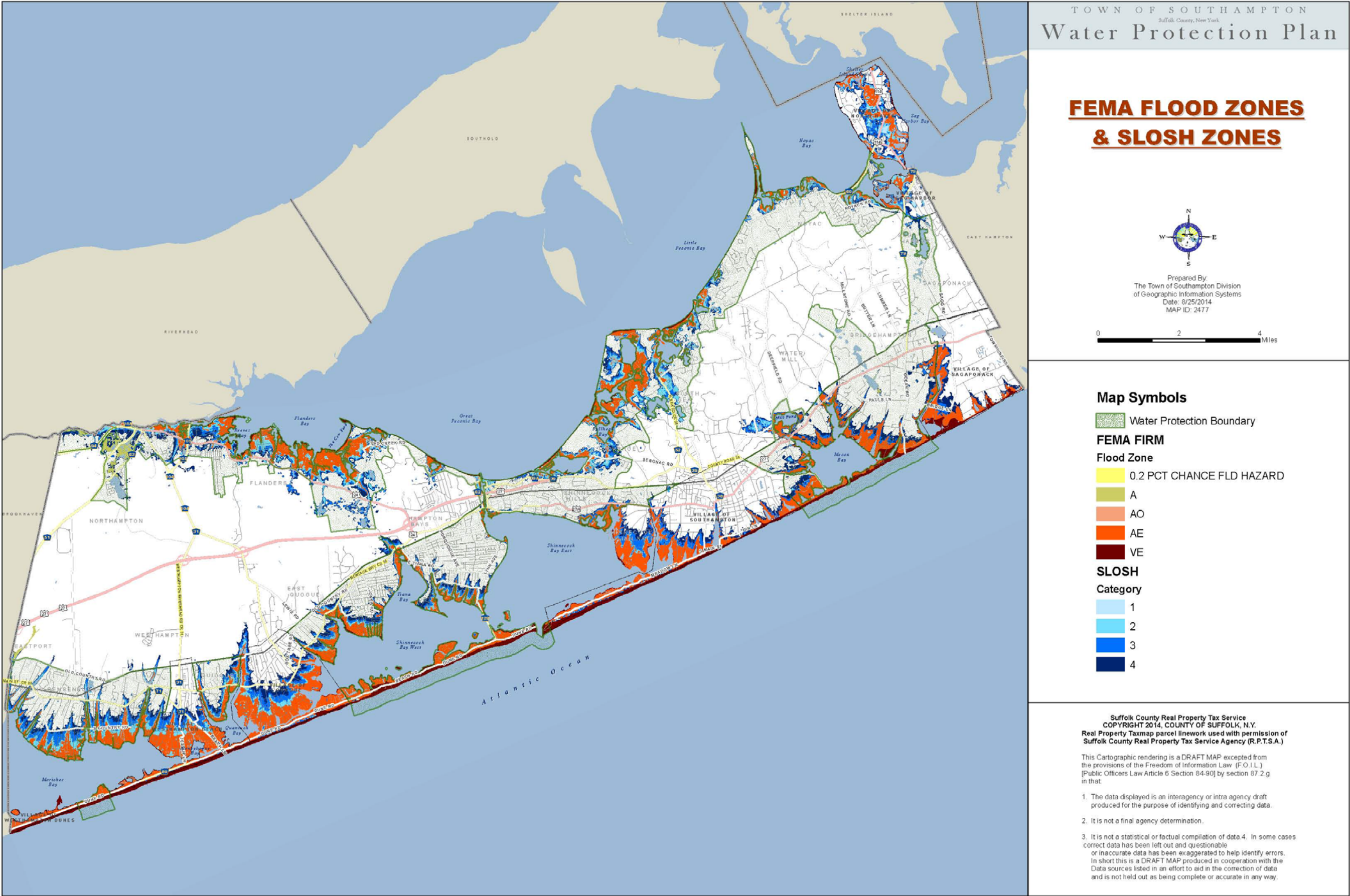
The major findings of the Task Force were that,

- Sea level and severe coastal storms will increasingly affect the New York coast,
- In addition to people and property, natural resources—particularly tidal wetlands—are at risk,
- Development in hazardous areas continues to be encouraged,

¹⁶³ See www.nhc.noaa.gov/HAW2/english/surge/slosh.shtml for more information on the Slosh model.

¹⁶⁴ New York State Sea Level Rise Task Force. 2010. New York State Sea Level Rise Task Force Report to the Legislature. Online at: www.dec.ny.gov/docs/administration_pdf/slrtrfinalrep.pdf.

Figure 24: FEMA Flood Zones & SLOSH Zones



- Structural solutions, except in urban areas, are too costly and have negative effects,
- Better maps of areas affected by sea level rise are needed, and
- Low-cost approaches to reduce vulnerability are available.

The Task force recommended that¹⁶⁵,

- Official projections of sea level be adopted,
- State agencies factor sea level rise into decisions and prepare maps and regulations to react to projected sea level rise,
- Areas subject to sea level rise and coastal storms be classified as to risk level,
- Reliance on non-structural measures and natural protective features to reduce vulnerability be increased,
- Health risks from sea level rise be assessed,
- Funding for local government, adaptation measures, and research be made available,
- Adaptation strategies be coordinated; and
- Public awareness of sea level rise and climate change be raised.

It is important to note that coastal storms and resulting overwashes and breaches can play a positive role in maintaining the barrier and its resources in the face of sea level rise.

Mapping areas vulnerable to sea level rise projections is important to identifying appropriate adaptation strategies. The Nature Conservancy has developed a methodology for this mapping, developing a Regional Framework for Assessing Coastal Vulnerability to Sea Level Rise in Southern New England¹⁶⁶. The report includes Long Island in “Southern New England”.

Rising sea levels also are anticipated to impact aquifers, as described in the section on water quality.

Coastal Erosion Hazards Area Act (CEHA)

Recognizing the importance of preserving beaches, dunes, bluffs, and other natural protective features, New York State enacted the Coastal Erosion Hazards Act as part of the development of the State’s Coastal Management Program. This Program is administered by the Town under Chapter 138 of the Town Code. The CEHA establishes a regulatory line that encompasses the relevant natural protective feature, such as a primary dune, and subjects all proposed structures seaward of that line to review. The standards are strict, and after undertaking a detailed Generic Environmental Impact Statement, the Town established standards to prohibit seawalls in most instances and to require that development be located landward of the setback. The CEHA program also addresses pre-existing structures located seaward of the setback line, and the program generally requires compliance with the regulations when structures are substantially modified. Sea walls and similar erosion protection measures which are adversely affecting

¹⁶⁵ New York State Energy Research and Development Authority. 2011. Responding to Climate Change in New York State. Online at: <http://nyserda.ny.gov/en/Publications/Research-and-Development/Environmental/EMEP-Publications/~media/Files/Publications/Research/Environmental/EMEP/climaid/responding-to-climate-change-synthesis.ashx>. This source is a more detailed report on adaptation to climate change including sea level rise.

¹⁶⁶ The Nature Conservancy. 2010. Developing a Regional Framework for Assessing Coastal Vulnerability to Sea Level Rise in Southern New England. Online at: http://coast.noaa.gov/digitalcoast/_pdf/TNC_SNE_case_part1_FINAL.pdf.

beaches and dunes, but which existed prior to the regulations, are not required to comply with the regulations unless they are modified or proposed for reconstruction following storm damage.

Coastal Barrier Resources Act

The federal Coastal Barrier Resources Act identifies stretches of generally undeveloped barrier beach and restricts federal support for development in the identified areas. For example, federal flood insurance is not available for property built after the mapping of an area as a coastal barrier beach nor for loans or grants for infrastructure that would serve or facilitate new development of these areas. Four areas on Southampton's Atlantic coast have been designated under this program¹⁶⁷. These maps show that some small areas of the mainland bay shoreline are also included in the designation

The Fire Island to Montauk Reformulation Study

The Fire Island Inlet to Montauk Point Reformulation Study is a US Army Corps of Engineer's project, "to identify storm damage reduction risks within the study area and evaluate alternative methods of providing authorized beach erosion and hurricane protection." The study is being undertaken in cooperation with the State of New York and the US Department of the Interior. The study is primarily addressing beach nourishment, breach closing, and mainland flooding. Interim projects provide:

- 4) protection to the area west of the Westhampton groin field through periodic beach nourishment for a period of 30 years (the project also included modification of the groin field);
- 5) a breach contingency plan to provide a mechanism for rapid breach closure; and
- 6) beach nourishment west of the Shinnecock Inlet¹⁶⁸.

Flood Insurance Program

The National Flood Insurance Program administered by the Federal Emergency Management Agency provides flood insurance for residential and business property owners and renters in participating municipalities¹⁶⁹—Southampton is a participating municipality. Participating municipalities adopt local laws to reduce the risk of flooding. Chapter 169¹⁷⁰ of the Town Code provides standards for development in mapped flood risk areas. The barrier island is either within the VE zone or the AE zone. Within the VE zone, structures must be elevated above established flood levels, and within the AE zone property must be similarly elevated or flood-proofed. Property owners are generally required to purchase flood insurance if there is a mortgage from a federally-regulated bank. The maximum insurance coverage of \$250,000 for a residential structure is low relative to the typical value of structures on the barrier island. FEMA has established a Community Rating System that enables communities to reduce the cost of flood insurance for residents by adopting management measures that exceed the requirements of the National Flood Insurance Program. Southampton has qualified for a 10% reduction, but further measures would allow for greater reductions¹⁷¹.

¹⁶⁷ Maps are found at <http://www.fws.gov/CBRA/Maps/CBRS/121A.pdf> and <http://www.fws.gov/CBRA/Maps/CBRS/120.pdf>.

¹⁶⁸ More information on this project can be found at <http://www.nan.usace.army.mil/project/newyork/fimp/index.php>.

¹⁶⁹ For information on this program see, http://www.floodsmart.gov/floodsmart/pages/about/nfip_overview.jsp.

¹⁷⁰ See <http://www.ecode360.com/SO0286> for specifics.

¹⁷¹ See www.fema.gov/business/nfip/crs.shtm for more information

Issues and Analysis

Preventing loss of beach is not just a good idea; it's an obligation of government. The State or the Board of Trustees hold their property interests in the beaches and dunes in trust for the benefit of the public and cannot, except in exceptional circumstance, divest themselves of that obligation. This obligation, The Public Trust Doctrine (PTD), is described more fully in the section on public access. The Board of Trustees has long recognized that they are trustees of the public interest in the property they hold, now almost exclusively lands subject to the PTD.

Shoreline Hardening Restrictions

Shoreline hardening has been shown to have adverse effects on natural resources and coastal processes with consequent reductions in public uses and values, and has been shown to be less than effective in the long term. Recognizing this, the Town has, through the CEH regulations, limited such uses along the Atlantic shoreline. Approaches to strengthening and clarifying the Town's regulations for protecting natural coastal features, for reducing the extent of development at risk, and for avoiding adverse legal decisions should be identified. The negative effects of shoreline hardening are not limited to the Atlantic shoreline, and additional restrictions on shoreline hardening for the mainland of the southern coastal bays and ponds and for the Peconic Bay shoreline should be considered. Additionally, some shoreline structures allowed on a temporary basis along the Atlantic shoreline (*e.g.*, Geotubes) can have similar effects to more traditional shoreline hardening structures and can have other negative effects if they fail and the remnants are disbursed in the environment.

Beach Nourishment, Breach Closure

The specifics of beach nourishment, *i.e.*, when?, where?, who's responsible?, at what cost?, are questions that need to be addressed. Currently it is New York State and federal policy to fill any breach in the barrier island as quickly as possible. The concepts of whether preventive action should be taken to reduce possible breaches and whether this is a responsibility of the Town should be addressed, as any reparation in the future is apt to be extremely expensive.

Inlet Management

The Shinnecock Inlet is necessary for navigational access. Dredging to lower parameters, which still meet navigational needs and with disposal to the west, undertaken more frequently could be less disruptive of the natural process.,

Community Rating System Score

The Town should address options to improve its score on the Community Rating System.

Erosion and Protective Feature Setbacks

Though the issues are similar to the Atlantic shoreline there are not similar erosion hazard area regulations for the Peconic Bay shoreline bluff, barrier beaches, and other natural protective features or development setbacks based on historical recession rates.

Sea Level Rise and Climate Change Adaptation

Planning for adaptation to sea level rise for the Town will require an understanding of what areas will be inundated under various sea level rise scenarios, the effects this will have on development currently subject to flooding and storms, how effects of sea level rise may vary given the nature of the shoreline,

and what infrastructure and development requires protection rather than relocation. The planning will also need to consider different approaches given different planning horizons.

WATER QUALITY AND QUANTITY

Water quality is an issue of great regional concern on Long Island. Similar to many of its neighboring towns and villages, the Town of Southampton relies on its fresh and saline water resources to provide clean drinking water, to accommodate recreational and commercial opportunities central to the Town's economy and character (*e.g.*, fishing, boating, swimming, and wildlife viewing), and to support the variety of plants and animals that rely on water resources.. Recognizing the significance of the vast water resources in Town, many residents are expressing deepening concerns that human impacts are jeopardizing the short- and-long term health of surface and ground waters. The concerns are validated by a growing body of scientific research and monitoring efforts^{172, 173, 174}.

The following sections briefly describe the extent and value of surface waters (both fresh and saline) and groundwater in and around the Town of Southampton. Ultimately, management recommendations will focus on the area within the planning boundary of this plan; however, given that water resources and the related issues do not adhere to political boundaries, the description includes water resources and impacts beyond the boundaries of the SWPP planning area. The issues and strategies to address the water quality needs of Southampton are also synthesized in the Water Quality Strategy section of this document.

Water Resources

Groundwater

Long Island's glacial history has allowed for the creation of vast groundwater resources. The Town of Southampton lies above three of the aquifers on Long Island: The Magothy Aquifer, the Lloyd Aquifer, and the Upper Glacial Aquifer. The Town has worked to protect the aquifers through various open space planning efforts, the State's Special Groundwater Protection Area, and the local Aquifer Protection Overlay District.

Throughout Suffolk County, the aquifers provide almost 90% of baseflow to streams¹⁷⁵. Precipitation is the only major source of recharge to the aquifers, and recharge has been impacted, over time, by the increase of impervious surfaces related to development activities.

Saline waters

The Town of Southampton is surrounded by saline waters to the north (Reeves Bay, Flanders Bay, Great Peconic Bay, Little Peconic Bay, Noyac Bay, and Sag Harbor) as well as to the south (Moriches Bay, Moneybogue Bay, Quantuck Bay, Shinnecock Bay, Tiana Bay, and Mecox Bay, and the Atlantic Ocean). The four coves, 11 bays, 11 ponds, and 28 creeks which make up the complex system of saline and tidal surface waters, in the Town of Southampton encompass approximately 19,310 acres^{176, 177}.

¹⁷² Horsley Witten Group, Inc. 2006. Reeves Bay Watershed Management Plan.

¹⁷³ Kinney, E. and Valiela, I. 2011. Nitrogen Loading to Great South Bay: Land Use, Sources, Retention, and Transport from Land to Bay. *Journal of Coastal Research*. 27(4).

¹⁷⁴ Suffolk County. 2008. SSER Marine Monitoring Data 1985-2008.

¹⁷⁵ Suffolk County. 2010. Comprehensive Water Resources Management Plan.

¹⁷⁶ Department of Land Management, Town of Southampton, and Land Ethics, Inc. 1999. Southampton Tomorrow: Comprehensive Plan Update Implementation Strategies Southampton, NY.

¹⁷⁷ Board of Trustees of the Town of Southampton. 2001. Marine Resources Protection and Management Plan: Moriches Bay, Shinnecock Bay, and Mecox Bay.

Each of the bays, along with their sub-embayments, adjacent wetland resources, and tributaries, serve as key habitat for diverse marine and bird life. For example, the Peconic Estuary was designated as an “Estuary of National Significance” by the U.S. Environmental Protection Agency (US EPA) in 1992, and Moriches Bay (part of the South Shore Estuary Reserve) is considered one of the most important areas on Long Island in terms of providing habitat for migratory shorebirds¹⁷⁸.

The Town’s saline waters also support a variety of human uses—both commercial (*e.g.*, fishing, charter boats, aquaculture) and recreational (*e.g.*, swimming, fishing, surfing, wildlife viewing). Additionally, the ocean significantly influences the real estate and tourism economies in Southampton.

Fresh surface waters

Several fresh surface waters exist in the Town of Southampton, most of which lie within the planning boundary for this Water Protection Plan. Many of the freshwater lakes and ponds throughout the Town of Southampton are thought to be the result of glacial activity.

Much like the saline waters, the freshwater resources are an important part of the Town’s culture, with several residential communities established near lakes and ponds. Also similar to the Town’s saline surface waters, the fresh waters are subject to contamination, largely stemming from non-point sources (*e.g.*, inadequate or failing cesspools or septic systems, agriculture, and road runoff).

Watersheds

A surface watershed divide cuts from east to west through the Town, separating watersheds into:

1. those directly contributing to the Atlantic Ocean, Mecox Bay, Shinnecock Bay, Tiana Bay, Quantuck Bay, Moneybogue Bay, and/or Moriches Bay, and
2. those directly contributing to Reeves Bay, Flanders Bay, Great Peconic Bay, Little Peconic Bay, Noyac Bay, and Sag Harbor Bay.

(For further information see Figure 25.)

The Town has additionally identified more than 60 surface runoff watersheds, shown in Figure 26.

¹⁷⁸ Board of Trustees of the Town of Southampton. 2001. Marine Resources Protection and Management Plan: Moriches Bay, Shinnecock Bay, and Mecox Bay.

Figure 25: Major Surface Watersheds

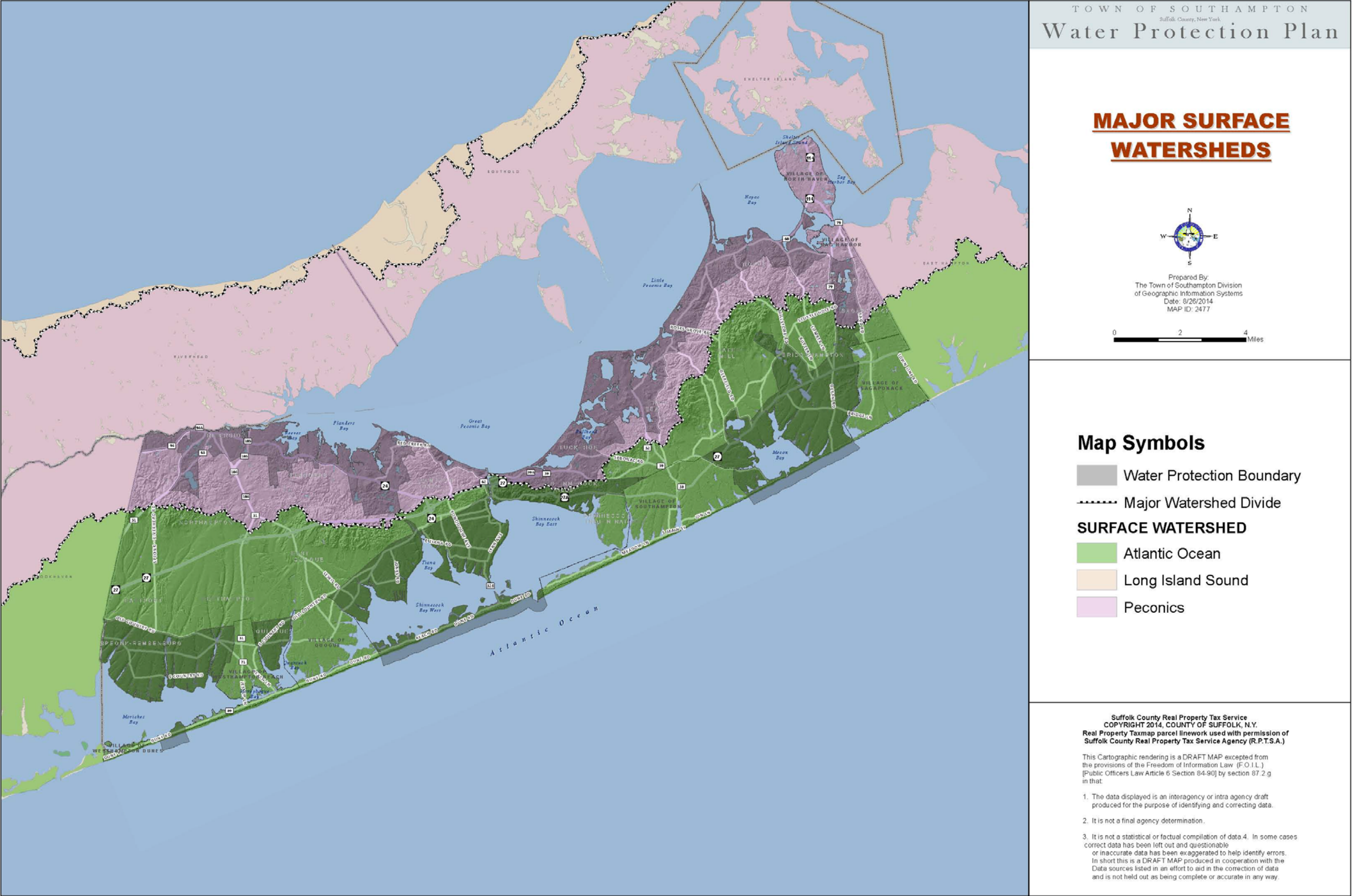
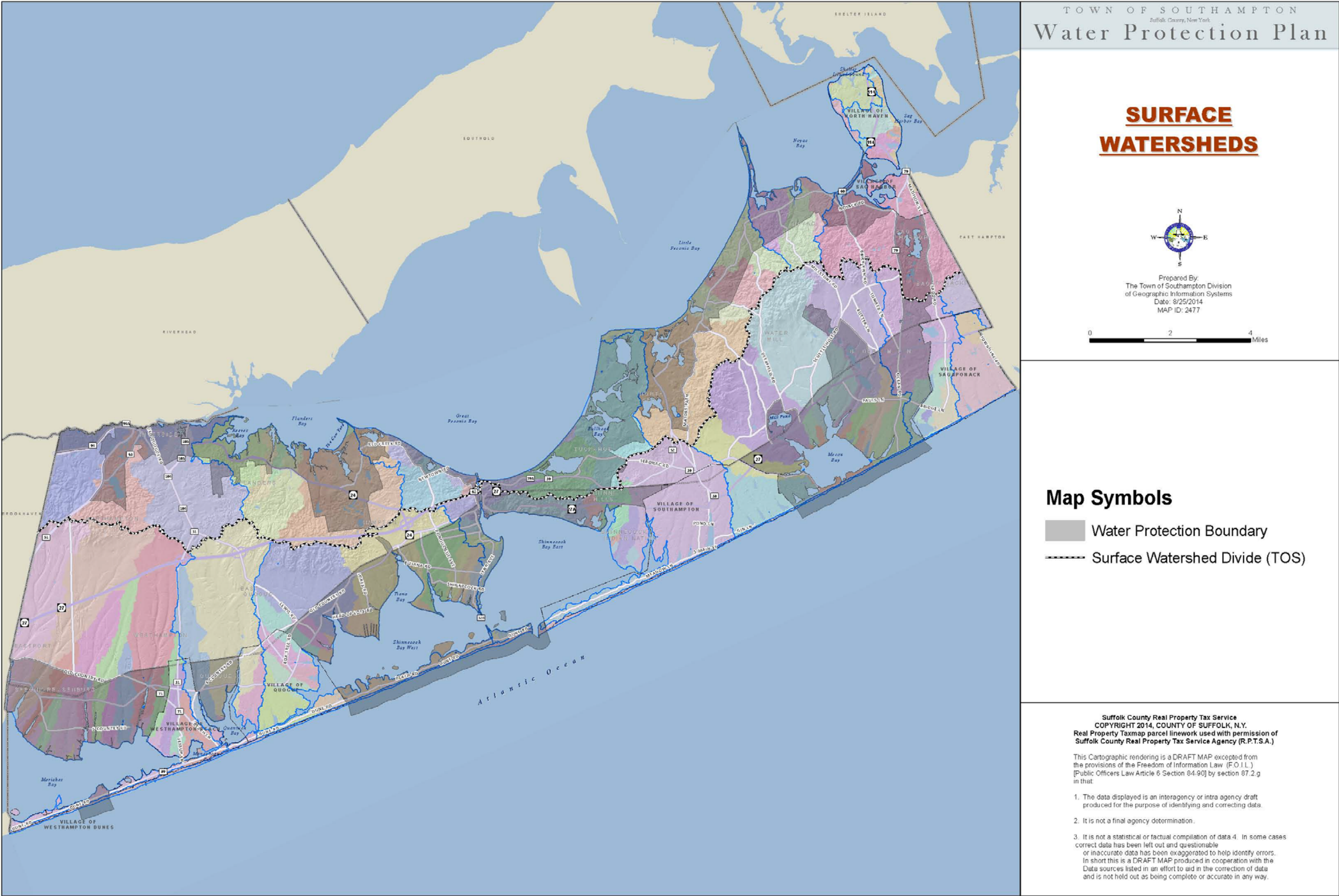


Figure 26: Surface Watersheds



Issues and Analysis

Sources of Impairment

Water quality issues in the Town of Southampton have been, and continue to be at the forefront of research, planning, and public education activities¹⁷⁹.

Permitted Point-Sources

Point source pollution refers to a single identifiable source of pollution. The New York Department of Environmental Conservation (DEC) lists 16 facilities in Southampton as having permits for 2012–2013, under the State Pollutant Discharge Elimination System (SPDES). They include:

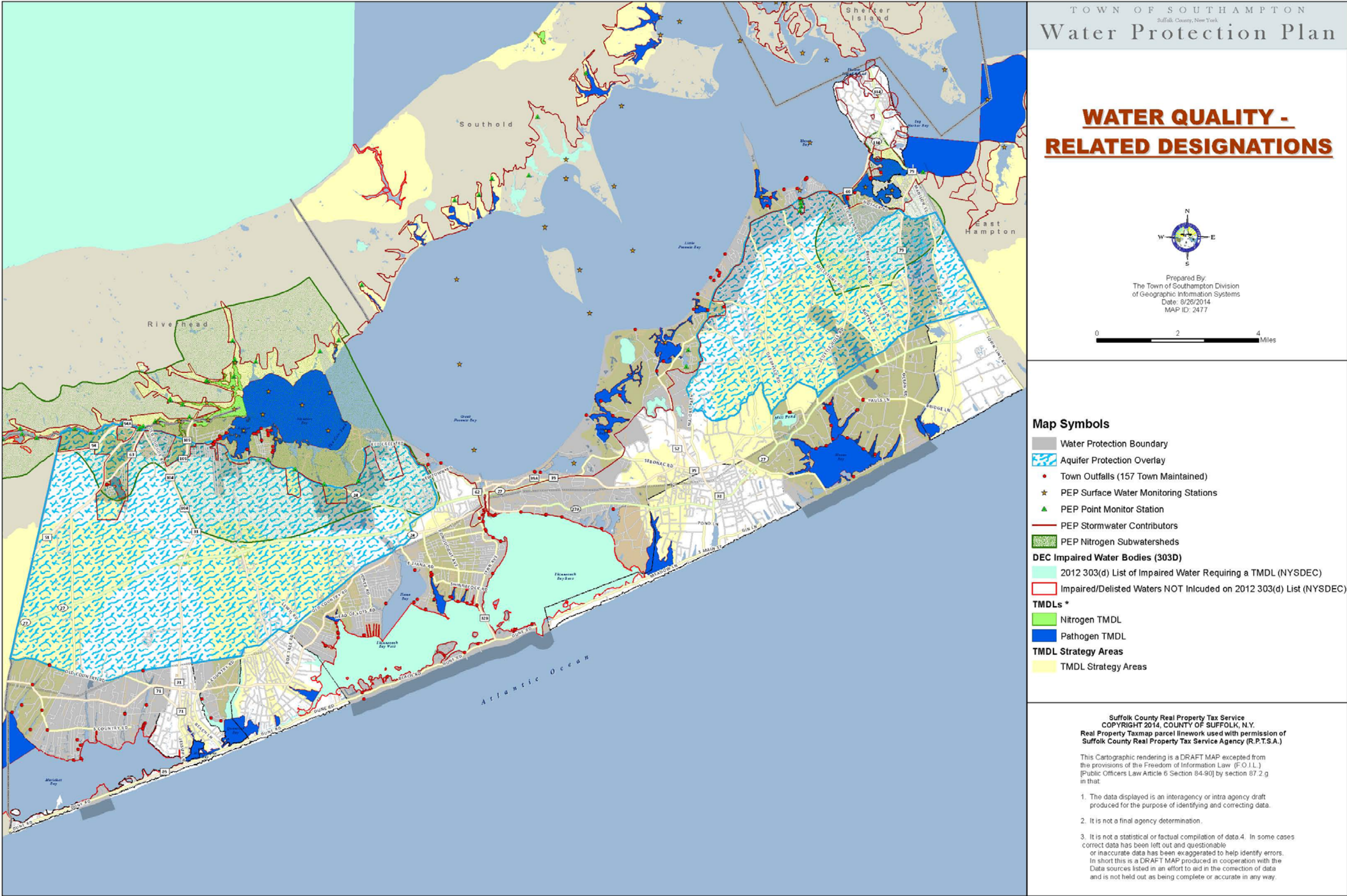
- Quogue Sinclair;
- Southampton Car Wash;
- RCF Fuel Oil Corp.;
- Suffolk Community College Waste Water Treatment Plant;
- Hamptons Center for Rehabilitation and Nursing;
- Sag Harbor Sewage Treatment Plant;
- Eagles Walk;
- Suffolk Laundry Services;
- Yardarm Beach Condominium;
- Woodbridge at Hamptons Bays;
- Southampton Coal and Produce Company;
- LI Railroad Speonk Diesel Yard;
- Suffolk County (Gabreski) Airport;
- Southampton Hospital;
- SOU Strebels Laundry; and
- Southampton GT Facility.

These facilities are regulated because they are 1) “constructing or using an outlet or discharge pipe...that discharges wastewater into the surface waters or ground waters of the State”, and/or 2) are “constructing or operating a disposal system such as a sewage treatment plant”¹⁸⁰.

¹⁷⁹ It is worth noting that atmospheric nitrogen is a significant source of contamination for waterbodies in the Town of Southampton and surrounding communities. This plan does not address the problem in significant detail given the fact that the Town has little control over the many non-local sources of atmospheric nitrogen deposited in the Town.

¹⁸⁰ New York Department of Environmental Conservation. 2012. State Pollutant Discharge Elimination System (SPDES) Priority Ranking List: 2012/2013. Online at: http://www.dec.ny.gov/docs/water_pdf/ebpsfinal2012.pdf.

Figure 27: Water Quality-Related Designations



While no major issues have been identified related to these permitted sources, efforts should continue to be made to monitor compliance with permits.

Stormwater

As precipitation travels through the watersheds, it picks up and transports debris, chemicals, and sediments that can impact surface water and groundwater quality. Impervious surfaces in the watershed (roofs, roads, parking lots, etc.) exacerbate runoff and the transport of pollution by minimizing areas where water can infiltrate into the ground and facilitate the filtering of some of the chemicals and nutrients. Transported materials can include litter; animal waste; sediment and chemicals from farms, yards, and construction projects; and oil and grease. Most stormwater discharges (*i.e.*, outfalls) are considered point-source discharges and, as such, are regulated under the National Pollutant Discharge Elimination System (NPDES).

While stormwater is a significant issue for the Town's estuarine and marine waters, stormwater is also an issue in lined ponds where the contaminants from stormwater can accumulate at the pond bottom and may necessitate the cleaning or chemical treatment of the entire water body. Stormwater in man-made ponds can impair the well-being of any wildlife living in there, create unappealing aesthetic conditions, and may create a need to clean and dispose of contaminated sediment in a responsible way. In un-lined ponds, stormwater and any contaminants can directly enter the groundwater supply, depending on the hydraulics of the system.

In order to address the stormwater issues in Town, efforts have been made to identify potential sites for stormwater remediation and the Town is in the process of inventorying and mapping all outfalls. As of June, 2012, the Town had identified approximately 95% of the outfalls. This inventory should be completed and should be used in conjunction with other existing efforts, to identify areas appropriate for remediation.

The Town is also regulated through the New York State Department of Environmental Conservation as a Municipal Separate Storm Sewer System (MS4), through the Clean Water Act. Accordingly, the Town has developed a plan to progress the requirements of the regulation through public action and involvement, illicit detection and elimination, construction site stormwater controls, post-construction management, and progressing watershed management plans (*e.g.*, for Sebonac Creek, the Reeves Bay watershed, and the North Sea Harbor) and retrofit plans in impaired waterbodies and sub-watersheds.

Wastewater

The most broadly significant water quality issue in the Town of Southampton is related to the quantity and quality of wastewater discharged into the environment. Analyses of many sub-watersheds in Southampton (and the surrounding areas) show that cesspools and septic systems contribute roughly half of the nitrogen entering many of the sub-watersheds modeled^{181, 182}. Existing developments constructed prior to 1973 (roughly 24,000 buildings) use cesspools to contain solid and liquid wastes in a retention system. Effluent from these cesspools can leak into the surrounding environment. Developments constructed after the Statewide implementation of building codes in 1973 are required to install a septic

¹⁸¹ Lloyd, Stephen. 2014. Nitrogen Load Modeling to Forty-three Subwatersheds of the Peconic Estuary. Online at: <https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/Documents/Nitrogen%20load%20modeling%20to%20the%20Peconic%20Estuary%20-%20TNC%20May%202014.pdf>.

¹⁸² Kinney, E.L. and Valiela, I. 2011. Nitrogen Loading to Great South Bay: Land Use, Sources, Retention, and Transportation from Land to Bay. *Journal of Coastal Research*: Volume 27, Issue 4: pp. 672 – 686.

tank to provide some treatment to the wastewater; but without required regular maintenance of septic systems, there is no way to guarantee that technologies are functioning appropriately. Moreover, there is no system in place to ensure that the onsite waste water treatment system is adequate for the actual number of people in a dwelling.

Additionally, while the systems approved by the County obtain better nutrient reducing results than cesspools, they still do not provide nitrogen removal to the extent needed to minimize impacts on the marine environment. New denitrification technologies can provide even greater levels of treatment, and the County is evaluating these technologies to determine whether or not they are appropriate for approval.

Vessel-based waste discharge can also impact water quality. The waters of the Peconic Bay and South Shore Estuary Reserve, however, have been identified as no discharge zones (NDZs) by the U.S. Environmental Protection Agency¹⁸³; ¹⁸⁴. The Southampton Trustees operate a fleet of pump-out boats, and vessels are prohibited from disposing of either treated or untreated sewage while in these NDZ-designated waters. The Trustees' work has been used as a model for pump-out programs, and opportunities exist to expand the program to include shore-based access to pump-outs.

While nutrients are the primary wastewater-related concern for Southampton, there is a growing body of research showing that trace amounts of pharmaceuticals, personal care products, and endocrine disruptors (known collectively as “emerging contaminants”) from wastewater are ending up in fresh and saline waters—including drinking water.

Fertilizers and Pesticides

Though nitrogen contributions from fertilizer are not uniform throughout watersheds, a model run for the sub-watersheds of the Peconic estuary showed that fertilizers contributed, on average, 26.4% of the nitrogen in the sub-watersheds¹⁸⁵. In watersheds in and around the Town of Southampton, the percentages were lower (on average, less than 16%). It is worth noting that the relative contribution of nitrogen from fertilizers and septic systems changes based on land uses, lot sizes, and site-conditions. Given the potentially significant impacts of fertilizers on water quality, their application is widely prohibited in Suffolk County from November 1–April 1 (when the ground is often too hard to absorb nutrients) as a way to protect Long Island's water resources—with the specific intent to reduce residential applications by 10–25%¹⁸⁶.

Pesticides have also been found in surface water and groundwater. The New York DEC, working with local stakeholders, has developed a Long Island Pesticide Pollution Prevention Strategy¹⁸⁷ which sheds light on the impacts of pesticides and presents strategies to address pollution from pesticides.

Toxic Plumes

Toxic plumes occur when contaminants seep into the soil and surrounding surface and groundwater. Plumes are often associated with industrial sites; and one of the most serious outcomes of a toxic plume is the potential contamination of drinking water. Toxic plumes have been a source of concern in the Town

¹⁸³ Lloyd, Stephen. 2014. Nitrogen Load Modeling to Forty-three subwatersheds of the Peconic Estuary.

¹⁸⁴ Environmental Protection Agency. 2009. New York State Prohibition of Marine Discharges of Vessel Sewage; Receipt of Petition and Final Affirmation Determination. Federal Register. 74 (220).

¹⁸⁵ Resolution No. 1369 – 2007, Adopting Local Law No. 41-2007, a Local Law to Reduce Nitrogen Pollution by Reducing Use of Fertilizer in Suffolk County.

¹⁸⁶ Suffolk County Department of Environment and Energy. 2011. Suffolk County Fertilizer Reduction Initiative. Online at: <http://www.co.suffolk.ny.us/Home/departments/EnvironmentandEnergy/FRI.aspx>.

¹⁸⁷ Online at: http://www.dec.ny.gov/docs/materials_minerals_pdf/fullstrategy.pdf.

for the past several decades. In the 1980s, a plume from a lumber yard was detected. The plume of arsenic and chromium is several hundred feet wide and more than 100 feet deep¹⁸⁸. Monitoring has been conducted and affected households have been offered alternative water sources. Another plume was discovered in 2002. This plume was shown to be from leakage at a retail gas provider in Hampton Bays. The groundwater was treated to remove the Methyl tertiary butyl ether (MTBE) (which was banned in NY State in 2004)¹⁸⁹. A third plume was identified in Sag Harbor at Rowe Industries, a small electronics motors and transformers manufacturing company¹⁹⁰. At this site, solvents leaked into the groundwater, creating a 500 foot wide plume. Samples of the soil and groundwater showed high levels of volatile organic contaminants (VOCs). In 1985, the public water supply was extended to 25 homes in the vicinity of the plume. Soil cleanup was completed at the site in 2003, and contaminated groundwater continues to be pumped from the plume. All samples now meet the State's discharge standards. A fourth plume (of heavy metals) was detected at the North Sea Municipal Landfill in the late 1970s¹⁹¹. Emergency water was provided to affected residents until they were connected to the public water supply, and the unlined sludge lagoons were decommissioned, emptied, and excavated. One of the contaminated cells was also capped. The site is being monitored every five years.

Sea Level Rise

In addition to threats from contamination, sea level rise will also have an impact on groundwater resources. Groundwater models used to estimate the impacts of a one-foot and two-foot increase above mean sea level indicate that, as more saltwater enters the groundwater system (essentially pushing up on the fresh water layer), the freshwater aquifer system of the South Fork will become thinner¹⁹². As the freshwater system thins, salt water increases in the groundwater, and development continues, the issue of adequate access to drinking water will be important to long-term planning efforts.

Additionally, as sea levels rise and the groundwater table is pushed up, septic systems may become saturated, impairing their ability to effectively treat waste water. If saturation does not occur, the decreased distance between the septic system and the ground water resource may also reduce the amount of filtration that effluent receives before it enters the groundwater.

Impacts of Impairments

The following describes some of the more common impacts related to water quality impairments.

Impacts to surface waters

Impairment levels are related to the amount, source(s), and timing of nutrients and other pollutants entering the waterbodies, as well as to certain features of the waterbodies, such as flushing rates; thus the level of impairment can vary from resource to resource. The Peconic estuary, for example, is most nutrient-impaired near the mouth of the Peconic River, and the majority of this nitrogen loading (61%) is attributed to groundwater inputs having 4–7 mg/L¹⁹³. Groundwater with high nitrogen levels (2–4 mg/L) is

¹⁸⁸ DiNaploi, J. 2009. DEC changes its plans for cleaning up the Speonk plume. 27east.com.

¹⁸⁹ Draft Generic Environmental Impact Statement (DGEIS): Hampton Bays Corridor Strategic Plan and Cumulative Impact of Build Out Study. 2010. Town of Southampton. Online at: <http://www.southamptontownny.gov/DocumentCenter/Home/View/932>.

¹⁹⁰ US EPA. No Date. Rowe Industries Groundwater Contamination. Online at: <http://www.epa.gov/region2/superfund/npl/roweindustries/>.

¹⁹¹ US EPA Region 2. 2013. North Sea Municipal Landfill. Online at: <http://www.epa.gov/region2/superfund/npl/0202198c.pdf>.

¹⁹² Suffolk County. 2010. Comprehensive Water Resources Management Plan.

¹⁹³ Berry, G. 2011. Draft EPA Clean Watershed Needs Survey.

also identified as the leading cause of impairment in the eastern portion of the Peconics. In the South Shore Estuary Reserve, non-point pollution is of great concern, with polluted stormwater runoff identified as the main source of pollution for 48 out of 51 impaired waterbody segments¹⁹⁴. A nutrient budget for Mill Pond determined that groundwater (largely from septic discharges and agriculture) is the primary source of nitrogen (68%), and that bottom sediment flux contributed almost 60% of the phosphorus¹⁹⁵.

The primary problem associated with nutrients in terms of impacts to surface water quality is that an overabundance of nitrogen (marine) and phosphorus (fresh water) feeds algal blooms. The algal blooms increase turbidity and shading of the bottom, depriving plants of the light required to photosynthesize, leading to the loss of important plants such as eelgrass and marsh grasses, whose root structures can be compromised. Furthermore, the decomposition of algae removes oxygen from the waters, creating hypoxic conditions (low dissolved oxygen) that cause organisms to die. Excess nitrogen has also been linked to the loss of marsh¹⁹⁶.

Excessive nutrients have also been linked to the occurrence of harmful algal blooms (HABs). Up until the 1980s, no reports of HABs had been made in Suffolk County; however, since the mid 1980s, several types of harmful algal blooms have been observed within the County's marine waters (*i.e.*, brown tides from *Aureococcus anophagefferens*, red tides from *Alexandrium fundyense*, *Cochlodinium polykrikoides*, and *Dinophysis acuminata*). In addition to causing hypoxic conditions and shading marine plants (the brown tide events of 1985–1987 and 1991 have been identified as the leading cause of the decline in eelgrass abundance in the Peconic Estuary^{197,198}), some of these algal blooms can produce toxic compounds with human health impacts, such as saxitoxin (produced by *Alexandrium fundyense*) which causes Paralytic Shellfish Poisoning (PSP). That specific red tide has led to the closure of shellfish beds around the Town of Southampton¹⁹⁹.

In addition to the issues pertaining to nutrient contamination, the transport of sediments can increase turbidity in the water 1) shading plants from the sunlight needed to photosynthesize, and 2) interfering with biological processes of marine and freshwater organisms.

Waters around Southampton face varying degrees of degradation largely from non-point source pollution, as is evident from the number of waterbodies listed on the State's 303(d) list. (For further information see Figure 27.) The State is required to assess and report on surface water quality within New York waters, per the Federal Clean Water Act (CWA). Waters identified as "impaired" for a series of specific uses typically require the development of a Total Maximum Daily Load (TMDL) under Section 303(d) of the CWA. The TMDL is intended to address the specific contamination problem(s), with the goal of restoring the waterbody to a point where the impaired use can be restored. TMDLs have been developed for pathogens in Peconic Bay, nitrogen in the Peconic Estuary Program study area, and shellfish pathogens

¹⁹⁴ Long Island South Shore Estuary Reserve Council. Improve and Maintain Water Quality. Online at: <http://www.estuary.cog.ny.us/council-priorities/water-quality/wg-home.htm>.

¹⁹⁵ Harke, Matthew, Davis, Timothy, Wallace, Ryan, Merlo, Lucas, Goleski, Jennifer, Koch, Florian, Gobler, Christopher. No Date. Lakes on Long Island: Environmental Problems and Solutions. Online at: http://mysbfiles.stonybrook.edu/~rbwallac/For%20Ryan/Mill_Pond_2011_poster-r3.pdf.

¹⁹⁶ NYS DEC. 2014. Nitrogen Pollution and Adverse Impacts on Resilient Tidal Marshlands: NYS DEC Technical Briefing Summary.

¹⁹⁷ Gobler, C. October 27, 2011. Personal Communication.

¹⁹⁸ Stephenson, L.B. 2009. Eelgrass Management Plan for the Peconic Estuary.

¹⁹⁹ Berry, G. 2011. Draft EPA Clean Watershed Needs Survey.

for 27 303(d) listed waters. See Department of Environmental Conservation, 2010²⁰⁰ for more information on waterbodies on the State's 303(d) list.

Water Quality Impacts in Groundwater

Contaminants (such as nitrates, Volatile Organic Compounds (VOCs—specifically tetrachloroethylene, trichloroethylene, and 1,1,1-trichloroethane), MBTE, Perchlorate, Pesticides, and “emerging contaminants”) can be introduced into the underlying aquifer(s) through runoff and direct discharge²⁰¹, affecting drinking water and surface waters.

Generally speaking, most of the County's groundwater resources are considered to be of very high quality; however, monitoring shows increasing concentrations of contaminants having to do with human activities. Only 2% of all raw water samples taken from community wells throughout the County exceeded the Maximum Contaminant Level for drinking water (which is 10 mg/L). More than 10 % of private wells, however, exceeded the 10 mg/L threshold in Suffolk County²⁰². Water quality data and groundwater simulations suggest that, in un-sewered areas, lots of a 1/4 acre or less significantly increase the likelihood that nitrogen concentrations will exceed the 10 mg/L threshold²⁰³.

Impacts to the Town's Economy

Effects of poor water quality on fishing and shellfishing resources/activities as well as beach attendance can have significant direct and indirect impacts on the Town's economy. For example, when beaches are closed, the money from parking fees and concession stand sales suffer. Additionally, businesses that make money off of beach-going activities (*e.g.*, off-site food vendors, hotels, etc.) may suffer as well. A study estimated the Town's economic loss in 2007 due to beach closures (*not* limited to water quality closures) to be approximately \$160,000. The estimates are based on 2006 data, estimating the direct economic impacts of the roughly 30 beach closure days between Memorial Day and August 3rd 2007²⁰⁴. While these data do not speak directly to closures stemming from water quality issues, they do provide a sense of the scale of economic impact that might be possible from beach closures. Additional useful information for planning purposes would be an assessment of environmental and economic impacts to fishing and shellfishing from water quality impairment, however such studies are not currently available.

Efforts to Restore and Protect Water Quality

Southampton and its partners have taken many steps to address the Town's water quality issues, and continue to do so. Some recent programs are highlighted below.

Pump-Out Boat Program

The Town Trustees' pump-out program began in 1995 and has pumped out 1,376,250 gallons of waste between the beginning of the program and the end of the 2013 boating season (Memorial Day until October 31st). The program has grown to include seven boats, and conversations are underway to expand the program to include shoreside facilities. Funded largely by the State (pump-outs are free for boaters), the success of the Town's pump-out program was key to the development of the No Discharge

²⁰⁰ Department of Environmental Conservation. 2010. The Final New York State 2010 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy. Online at:
http://www.dec.ny.gov/docs/water_pdf/303dlistfinal10.pdf.

²⁰¹ Suffolk County. 2010. Comprehensive Water Resources Management Plan.

²⁰² Suffolk County. 2010. Comprehensive Water Resources Management Plan.

²⁰³ Suffolk County. 2010. Comprehensive Water Resources Management Plan.

²⁰⁴ Cantor, M.R. 2007. Economic Impact of Regional Beach Closings on the Long Island Community. Online at:
<http://martincantor.com/files/BeachClosings.pdf>.

Zones in the Peconic and South Shore Estuaries, and has served as a model program for other towns. In 2013, the program pumped out more than 101,670 gallons of waste.

Southold Project in Aquaculture Training (SPAT) Program

The Cornell Cooperative Extension recruits and trains volunteers to grow small shellfish (“seed”) until they are large enough to be released into local waters. The Town Trustees have recently partnered with the SPAT program to recruit local volunteers and to release seed into Tiana Bay, Shinnecock Bay, and Sag Harbor.

Shinnecock Bay Restoration Program

Created in 2012 by Stony Brook University’s School of Marine and Atmospheric Sciences (SoMAS) and its Institute for Ocean Conservation Science (IOCS), the Shinnecock bay Restoration Program conducts research on the state of the bay, with a specific focus on water quality. The program includes shellfish restoration through seeding and the use of spawning sanctuaries, and has been working to restore eelgrass beds which provide critical fish and shellfish habitat. The Program also includes a public education component to increase visibility of the Bay’s water quality issues and to engage the public in programs to help restore shellfish and eelgrass.

Sub-watershed Management Plans

The Peconic Estuary Program has been working to develop watershed plans at the sub-watershed level for Reeves Bay, Sebonnac Creek, and North Sea Harbor. These management plans include stormwater conceptual designs, and the Peconic Estuary Program is working to help secure funding to implement the management plans.

Nitrogen TMDL for the Peconic Estuary

Approved in 2007, the Total Maximum Daily Load (TMDL) for the Peconic Estuary includes nitrogen discharge loads for municipal stormwater facilities and sets target loads for groundwater and tributary sources of nitrogen. The Peconic Estuary Program is working to achieve full implementation of the TMDL by 2022.

Septic Rebate Program

Chapter 177 of the Town’s Code of Regulations details the specifics for the Septic System Rebate and Incentive Program, which allows qualified applicants to receive a rebate for the upgrade of an “existing substandard sanitary system on residential or nonresidential property with a system that meets current Suffolk County Department of Health Services Requirements”, as long as the upgrade results in reduction of nitrogen levels discharged to groundwater. Most applicants can receive up to 50% of the cost of the upgrade (capped at \$5,000 for an alternate sewage disposal system and at \$2,500 for a typical clustered disposal system), while upgrades of systems in Critical Watershed Management Areas within 200 feet of a waterbody can receive up to 60% of the cost of the upgrade (capped at \$6,000 for an alternate sewage disposal system and at \$3,000 for a typical clustered disposal system). Initiated in 2013, the fund originally totaled \$50,000, but was increased to \$150,960 by Town Resolution after the initial funds were exhausted within three weeks. As of July, 2014, the septic rebate program has helped facilitate the upgrade of 40 systems (with an average rebate of just under \$3,000/system) and has spent nearly \$120,000.

Discharge Mapping

The Town has identified and mapped all discharges within the South Shore Estuary Reserve (SSER) and Peconic Estuary. Priority action areas have been identified based on analysis of water quality data, land

use, topography, natural resources, DEC Priority Waterbody List, DEC Water Quality Classifications, Shellfish & fin fisheries, and likelihood of success priority assigned by Stormwater Abatement committee & public meetings.

Capital Improvements

The Capital Improvement program for nonpoint source pollution control for towns & villages has been in place since 1993. Each year, capital improvement programs for nonpoint source pollution continue to be identified, including potential projects and instituting Best Management Practices.

Climate Action Plan

The Town is in the process of developing a Climate Action Plan that addresses multiple issues, including wastewater and stormwater.

ECOSYSTEM AND NATURAL RESOURCES

As stated in the 1999 Comprehensive Plan Update, *Southampton's natural resources are one of the Town's most precious commodities. Natural resources are critical to the economic health and vitality of the community. Along with all of the other components of the Comprehensive Plan, they are integral to the "fabric" of the Town.* In addition to being economically and culturally significant, the Town's natural resources are also ecologically significant. In 1997 the US Fish and Wildlife Service completed a document entitled *Significant Habitats and Habitat Complexes of the New York Bight Watershed*²⁰⁵ which focuses on the regional geographic distribution and population status of over 1,000 key marine, coastal, and terrestrial species inhabiting the New York Bight watershed. Specific habitat complexes found within the Town of Southampton and detailed in the report are:

Long Island Atlantic Coastal Watershed

- Long Island Pine Barrens- Peconic River Complex
- Long Island Grasslands
- Long Pond Greenbelt

Long Island Barrier Beach/Backbarrier Lagoon System

- South Fork Atlantic Beaches
- Shinnecock Bay
- Moriches Bay

The study assessed the status of habitats, including threats to the integrity of these habitats as well as threats to species populations dependent upon them, and determined those habitats and fish, wildlife, and plant populations requiring both immediate and long-term protection, conservation, enhancement, and/or restoration. Recognizing the importance of these significant habitats and habitat complexes, the Town of Southampton has been a leader in preservation and restoration efforts and remains committed to retain and enhance the integrity of all ecosystems present within the Township. While this section focuses on areas within Southampton Town, it is important to recognize that many of the natural resources may be part of a larger ecosystem that extends far beyond the planning boundary of this Plan.

Wildlife Resources

Rare, Threatened and Endangered Species

US Fish and Wildlife estimates 25 federally listed species occurring in the New York Bight study area, including 15 endangered species and 10 threatened species²⁰⁶. In New York, there are 70 State-listed endangered plants and animals, 61 State-listed threatened species, 28 special concern animal species, and 96 rare plant species within the Bight watershed. The specific species inhabiting the habitat complexes within Southampton and corresponding status (rare, threatened, etc.) are identified in the report. New York animal species are listed and protected under Environmental Conservation Law section 11-0535 and plant species are listed and protected under Environmental Conservation Law section 9-1503. These State endangered species laws generally prohibit the taking, importation, transportation, possession, or sale of any listed animal species. Listed plants in New York may not be removed or

²⁰⁵ US Fish and Wildlife Service. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed. Online at <http://www.fws.gov/r5snep/publications/reports.html>.

²⁰⁶ US Fish and Wildlife Service. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed. Online at <http://www.fws.gov/r5snep/publications/reports.html>.

damaged without the consent of the landowner. Both of these acts, however, do not directly protect the habitat of these species, although the State Environmental Quality Review Act (SEQRA 6 NYCRR 617) requires the consideration of listed species and habitat in environmental analysis and reviews.

The New York Natural Heritage Program within the NYS Department of Environmental Conservation maintains records of rare, threatened, and endangered species and significant natural communities. Generalized maps of these areas may be found through the agency's web site²⁰⁷. Almost all of the waterfront area of the Town is listed as potential sites for "Rare Plants and Rare Animals", "Significant Natural Communities" and/or "Natural Communities Vicinity."

Probably the most visible of the Rare, Threatened and Endangered Species and habitats in the Town are the nesting areas for various species of terns and/or Piping Plovers. These include Far Pond and Middle Pond Inlets off Shinnecock Bay; Cow Neck; Cupsogue County Park; Dune Road Marsh; Goose Creek Point, Red Cedar Point, and Red Creek Pond in the Flanders Bay Wetlands; Mecox Bay Beach; Moriches Bay Beach; Noyak Bay Beaches; Sagaponack Inlet; Sebonac Neck; Southampton Beach; Tiana Beach; Towd Point; and Westhampton Beach and Dunes. Chapter 150 of Town Code protects Piping Plovers and other endangered species from disruption by dogs and other animals, and Chapter 111 allows for restrictions in "special management concern areas" established for the protection of piping plovers.

Shellfish and Crustaceans

Shellfish in Southampton waters include hard and soft clams (*Mercenaria mercenaria*, *Mya arenaria*), American oysters (*Crassostrea virginica*), blue mussels (*Mytilus edulis*), razor clams (*Ensis directus*), and bay scallops (*Argopecten irradians*)—though populations of bay scallops and hard clams have drastically declined over the past several years, as detailed in the Issues section below²⁰⁸. Crustaceans of commercial significance include blue crabs and lady crabs.

The NYS Department of Environmental Conservation (NYSDEC) tests shellfish and water quality samples to ensure that the waters are free of biotoxins such as saxitoxin, which can cause paralytic shellfish poisoning (PSP) in humans who consume the affected shellfish. The NYSDEC also uses water quality testing for total coliform bacteria to designate waterbodies as 1) Certified (open year-round), 2) Seasonally Certified (open to harvesting only during the winter months), 3) Conditionally Certified (open to winter harvesting with the exception of when temporarily closed due to a locally significant "trigger" amount of rainfall (*e.g.*, 0.2 inches in Flanders Bay and 0.25 inches in Fish Cove/North Sea Harbor), or 4) Uncertified (closed)²⁰⁹. For further information on these topics see the maps entitled Water Quality-Related Designations (Figure 27) and Shellfish Closure Areas (Figure 31).

In the 1949, the Town enacted limits on the amount of shellfish that could be harvested and the manner in which it was harvested. Additionally, size limits were set for various commercially significant shellfish species. Despite the limits on catch, shellfish stocks have been declining since the 1960s due to causes that might include "poor natural recruitment, over-harvesting, increased predation, long-term climatic changes in temperature and salinity, and toxic algal blooms" (Trustees of the Town of Southampton,

²⁰⁷ New York State Department of Environmental Protection. No Date. New York Natural Heritage Protection Program. Online at: www.nynhp.org.

²⁰⁸ Board of Trustees. 2001. Marine Resources Protection and Management Plan; Moriches Bay, Shinnecock Bay and Mecox Bay. Online at www.southamptontownny.gov/FTP/SEQRA/mrmp.pdf.

²⁰⁹ Board of Trustees. 2001. Marine Resources Protection and Management Plan; Moriches Bay, Shinnecock Bay and Mecox Bay. Online at www.southamptontownny.gov/FTP/SEQRA/mrmp.pdf.

2001)²¹⁰. (See TH the section on marine living resources for more information on commercial and recreational fisheries.)

The Town, through the Trustees, works closely with the Cornell Cooperative Extension Service to conduct shellfish propagation and seed transplanting activities, with a focus on bay scallops and oysters. The Trustees have also established nine shellfish spawning sanctuaries located at Tiana, Shinnecock, Heady, North Sea Harbor, Noyac Creek, Mill Pond, Sag Harbor Cove, Cold Spring Pond, and Scallop Pond.

While the shellfishing is important to the Town's history, economy, and culture, shellfish also help to improve water quality. For example, one oyster can filter 15 gallons of water per day²¹¹.

Finfish

Like shellfish, finfish are an important part of the Town and region's culture and economy, supporting both commercial and recreational fishing industries. Southampton's fresh and salt waters are habitat for a variety of finfish at multiple life stages, including alewife, largemouth bass, chain pickerel, banded killifish, pumpkinseed, yellow perch, white perch, brown bullhead, summer flounder, striped bass, bluefish, weakfish, black sea bass, blackfish and others.

The National Oceanic and Atmospheric Administration (NOAA) has identified parts of Southampton waters as important to managed species (*i.e.*, Essential Fish Habitat (EFH)) for Haddock, Little Skate, Monkfish, Ocean Pout, Pollock, Red Hake, Silver Hake, Window Pane Flounder, Winter Flounder, Witch Flounder, Winter Skate, Yellowtail Flounder, Bluefin Tuna, Skipjack Tuna, Common Thresher Shark, Dusky Shark, Sand Tiger Shark, Sandbar Shark, Smooth Dogfish, Tiger Shark, and White Shark²¹².

Marine Mammals

Harbor seals (*Phoca vitulina*), gray seals (*Halichoerus grypus*), and other Arctic seals are present in the areas of Shinnecock Bay and Moriches Bay from December–early May. Minke whales (*Balaenoptera acutorostrata*), bottlenose dolphin (*Tursiops truncatus*), and finback whales all use the waters around the Town of Southampton as feeding grounds. Northern right whales (*Eubalaena glacialis*) are occasionally seen as they migrate through the New York Bight²¹³.

Sea Turtles

Shinnecock and Moriches Bays support juvenile loggerhead sea turtles and juvenile green sea turtles during summer months. Juvenile and adult loggerheads, green, and Atlantic (Kemps) Ridley sea turtles are also found in the Town's nearshore waters. Marshes around Shinnecock Bay provide habitat for Northern diamondback terrapins which breed on the nearby barrier beaches²¹⁴.

Birds

²¹⁰ Board of Trustees. 2001. Marine Resources Protection and Management Plan; Moriches Bay, Shinnecock Bay and Mecox Bay. Online at www.southamptontownny.gov/FTP/SEQRA/mrmp.pdf.

²¹¹ East Coast Shellfish Growers Association. No Date.
<http://www.ecsga.org/Pages/Sustainability/BenefitsBrochure.pdf>.

²¹² EFH Maps can be viewed at: <http://www.habitat.noaa.gov/protection/efh/habitatmapper.html>.

²¹³ US Fish and Wildlife Service. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed. Southern New England-New York Bight Coastal Ecosystems Program, Charlestown, RI. Online at: http://library.fws.gov/pubs5/web_link/text/.

²¹⁴ US Fish and Wildlife Service. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed. Southern New England-New York Bight Coastal Ecosystems Program, Charlestown, RI. Online at: http://library.fws.gov/pubs5/web_link/text/.

A variety of bird species rely on the Town's natural resources which provide nesting and feeding opportunities. Many waterfowl (*e.g.*, greater and lesser scaup (*Aythya marila* and *A. affinis*), American black duck (*Anas rubripes*), red-breasted merganser (*Mergus serrator*), brant (*Branta bernicla*), common goldeneye (*Bucephala clangula*) and, to a lesser degree, mallard (*Anas platyrhynchos*), Canada goose (*Branta canadensis*), oldsquaw (*Clangula hyemalis*), canvasback (*Aythya valisineria*), and bufflehead (*Bucephala albeola*)) winter along the Town's shore between November and March. The Town's marshes support nesting colonies of terns (including colonies of roseate terns, which are fairly uncommon on the East Coast of the U.S.), gulls, and wading birds. During the months of March, April, October, and November, the Town's coasts are important to migrating birds, including several different species of raptors²¹⁵.

Habitat Resources

Marine and Estuarine Waters

As described in greater detail in the Water Quality Section of this report, the Town's system of tidal surface waters covers approximately 19,310 acres and includes four coves, 11 bays, 11 ponds, and 28 creeks.

The bays, salt ponds, and harbors around the Town of Southampton provide significant natural habitat for finfish, shellfish, crustaceans, marine mammals, sea turtles, and migratory birds^{216;217}. One example of the ecological significance of the Town's marine and estuarine waters is the New York State Department of State's designation of Shinnecock Bay as having winter waterfowl of Statewide significance²¹⁸.

The Marine and estuarine waters of the Town of Southampton also support a variety of aquaculture projects as described in the Water-Dependent Uses section and in the Harbor Plans.

Tidal Wetlands

The Town of Southampton is fortunate to have vast and significant tidal wetlands (more than 1,180 acres), fringing many of its ponds and bays, including a majority of the bay-side barrier beaches along the Town's Atlantic coast. These wetlands are shown in Figure 28.

Tidal wetlands, primarily salt marshes in Southampton, provide habitat for a wide variety of fish and crustaceans, and also form the basis of the detrital food chain (see Figure 4). Juvenile fish use the marsh to forage, and the plant material from the grasses wash out into the bays where it feeds a wide variety of herbivores. The peat and fine sediments that underlie the marsh grasses form a barrier between the saline waters of the bays and the fresh groundwater, maintaining the levels of fresh groundwater in adjacent upland areas. The grassy marsh face traps some sediments and associated contaminants, removing them from the waters of the bays. Additionally, tidal wetlands help to protect against storm inundation and erosion.

²¹⁵ US Fish and Wildlife Service. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed. Southern New England-New York Bight Coastal Ecosystems Program, Charlestown, RI. Online at: http://library.fws.gov/pubs5/web_link/text/.

²¹⁶ Board of Trustees. 2001. Marine Resources Protection and Management Plan; Moriches Bay, Shinnecock Bay and Mecox Bay. Online at www.southamptontownny.gov/FTP/SEQRA/mrmp.pdf.

²¹⁷ US Fish and Wildlife Service, 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed. Southern New England-New York Bight Coastal Ecosystems Program, Charlestown, RI. Online at: http://library.fws.gov/pubs5/web_link/text/.

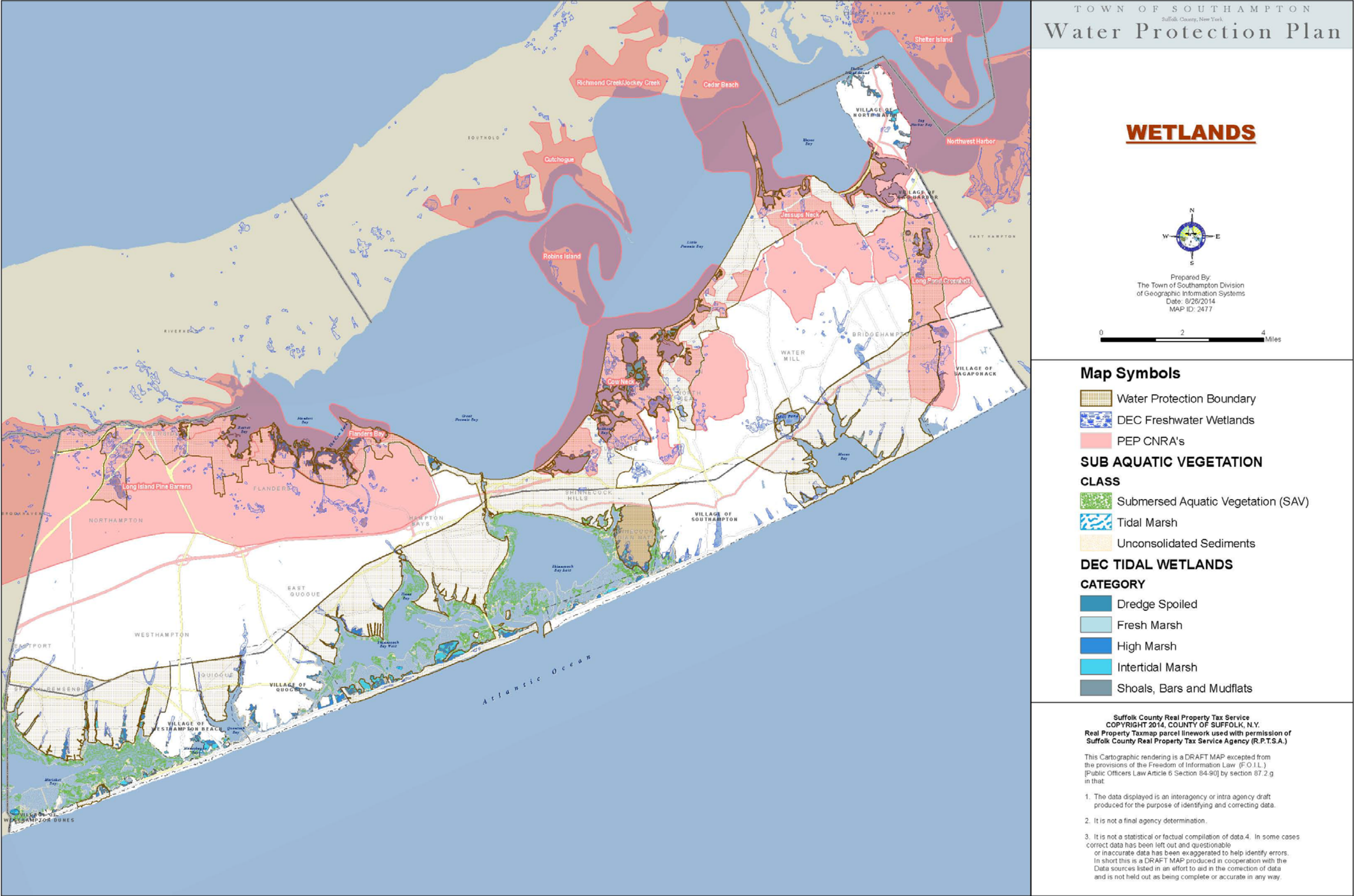
²¹⁸ Board of Trustees. 2001. Marine Resources Protection and Management Plan; Moriches Bay, Shinnecock Bay and Mecox Bay. Online at www.southamptontownny.gov/FTP/SEQRA/mrmp.pdf.

Protection of the Town's wetlands is addressed in Chapter 325 of the Town Code, which gives the Town Conservation Board or the Town Planning Board (in cases where an application requires site plan, subdivision or special exception approval) the ability to review applications for development projects on land with wetlands.

Consistent with the Community Preservation Project Plan²¹⁹, the Town has been proactive in terms of purchasing wetland parcels for protection.

²¹⁹ Town of Southampton. 2005. Community Preservation Project Plan. Online at:
<http://www.southamptontownny.gov/content/72/837/1839/1843/default.aspx>.

Figure 28: Wetlands



Freshwater Wetlands

Freshwater wetlands—ponds, streams, swamps, marshlands, bogs, and wet meadows—are home to a wide variety of wildlife. Depending on the wetland, fish, amphibians and reptiles may use this habitat year round. Birds may remain throughout the year or may use the wetlands for migratory stops. The freshwater wetlands also provide drainage sites where waters settle and sediments drop out. That drainage function helps minimize impacts from floods and helps recharge groundwater supplies while filtering out pollutants. Further descriptions of the resources related to freshwater wetlands may be found in Edinger *et al.*, (2002)²²⁰.

Prior to implementing protective measures, many wetlands within the Town were either lost or their functions were deeply impaired. Nevertheless, the Town of Southampton benefits from 1,750 acres of freshwater wetlands (including very extensive stands of Atlantic white cedar swamp) and is working to protect and restore more freshwater wetlands.

Currently, freshwater wetlands greater than 12.4 acres (or smaller if considered of unusual local importance) are protected at the State level under the Freshwater Wetlands Act, which the Town of Southampton has the authority to implement under Town Code Ch 325A, Wetlands, Freshwater. (Freshwater wetlands also receive protection under the Federal Clean Water Act.) Freshwater wetlands are defined by vegetation type; and many activities within wetlands (*e.g.*, the building of roads and buildings, the placement of fill, and application of pesticides) require users to obtain permits and avoid, minimize, or mitigate for the impacts to the wetland resources.

Benthic Habitat

The lands under the bays, salt and freshwater ponds, and streams serve as critical habitat for shellfish and submerged aquatic vegetation, and provide food sources for fish and waterfowl. These are areas of high productivity, with more shallow areas typically trapping sunlight in plants which serve as food for fish, waterfowl and other species. Benthic habitat also provides shelter for burrowing mollusks and crustaceans. Further descriptions of the resources related to benthic communities may be found in Edinger *et al.*, (2002)²²¹.

Submerged Aquatic Vegetation

Submerged Aquatic Vegetation (SAV) includes plants that grow primarily below the water's surface. SAV provides important habitat value, serving to provide a settling substrate for shellfish species such as bay scallops, offer shelter against predation, provide a source of food, play a vital role in nutrient cycling, and minimize the impacts of currents, waves, and erosion. In the waters around Southampton, primary SAV species of interest include eelgrass, widgeon grass, sea lettuce, sea wrack, rockweed, bladder wrack, red algae (including Irish moss), *Agardhiella*, and *Gracilaria*. An invasive species, *Codium fragile* (*i.e.*, green fleece), is also common in Southampton waters.

²²⁰ Edinger, G.J., D.J. Evans, S. Gebauer, T.G. Howard, D.M. Hunt, and A.M. Olivero (editors). 2002. Ecological Communities of New York State. Second Edition. A revised and expanded edition of Carol Reschke's Ecological Communities of New York State. (Draft for review). New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

²²¹ Edinger, G.J., D.J. Evans, S. Gebauer, T.G. Howard, D.M. Hunt, and A.M. Olivero (editors). 2002. Ecological Communities of New York State. Second Edition. A revised and expanded edition of Carol Reschke's Ecological Communities of New York State. (Draft for review). New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

Protecting SAV, and especially eelgrass, is highly important. The wasting disease of the 1930s that decimated eelgrass beds has been linked to the decline in bay scallop populations; and eelgrass beds have been very slow to recover²²². Specific efforts to protect SAV can be found in the federal Clean Water Act, the South Shore Estuary Reserve Comprehensive Management Plan, the State's Tidal Wetlands Program (Article 25), and the Southampton Trustees Rules and Regulations.

Barrier Islands, Beaches and Dunes

Coastal beaches, barrier beaches, barrier islands, and dune complexes are areas where the forces of wind, waves and ocean currents have deposited sediments (typically sands, gravels, and cobble) along the shore. In nature, inlets in barrier beaches form from storm activity or when waters in the bay get too high. Breakthroughs between the bays and the ocean often migrate along the shore, and then close again over time periods ranging from days to years. In many cases, human activities modify these movements by either closing breaches or by stabilizing inlets to maintain channels. Barrier complexes provide buffers to protect the bays and adjacent upland development, and can be a sediment source for adjacent beaches and islands. Barrier islands, beaches, and dunes are also important—and sometimes critical—habitat for a range of birds and mammals. Their seasonal importance for human recreation helps support the tourism economy of Southampton.

Anadromous/Catadromous Fish Runs

Anadromous fish (such as alewives or blueback herring) are those who live in the ocean and return to fresh or brackish waters to spawn. Catadromous fish (such as American eels) do the reverse; they spend their lives in fresh water environments and return to the ocean to spawn. Long Island supports 17 diadromous (which includes both anadromous and catadromous) fish species, but only alewife and American eel have significant spawning runs within Southampton. Atlantic tomcod, three spine stickleback, and white perch spawn to a lesser extent in Southampton waters, while striped bass and shad are not believed to spawn in Southampton, though juveniles are found in local waters. These species are important to the food chain in both marine and freshwater systems. Southampton has several fish runs utilized primarily by alewives and American eels. These include Big Fresh Pond/North Sea, Long Pond, Wildwood Lake, and Ligonee Brook. It is critical to keep these passageways open so that these species can continue to reproduce locally. More information may be found in Figure 4, Significant Coastal Fish and Wildlife Habitats.

Forest Cover

The 1999 Comprehensive Plan Update²²³ identifies six distinct forest types within the Town: “red cedar forest, pitch pine-oak forest, successional maritime forest, chestnut oak forest, mixed mesophytic forest and successional southern hardwoods.” These areas provide varying habitats for a range of songbirds, migratory birds, mammals, reptiles, amphibians, insects, and other species. Additionally, they provide human recreational areas and scenic vistas and buffers which help define the character of the Town. One of the most notable forested areas in Southampton is the Pine Barrens, which includes more than 50,000 acres of largely undeveloped land and 50,000 acres of compatible growth area spanning the towns of Southampton, Brookhaven, Riverhead, and East Hampton. The Pine Barrens is home to a complex system of relatively undeveloped forest, swamps, marshes, and grasslands, as well as a wide variety of animals. This area lies over Long Island's freshwater aquifers and has been protected in large

²²² Board of Trustees. 2001. Marine Resources Protection and Management Plan; Moriches Bay, Shinnecock Bay and Mecox Bay. Online at www.southamptontownny.gov/FTP/SEQRA/mrmp.pdf.

²²³ Town of Southampton. 1999. Southampton Tomorrow: Comprehensive Plan Update, Implementation Strategies.

part to address water quality concerns, however the area also supports walking trails and locally significant scenic views.

Designated Significant Coastal Fish and Wildlife Habitats

Because of their Statewide importance, the NY Department of State/Division of Coastal Resources (DOS) designates Significant Coastal Fish and Wildlife Habitats. This designation is based on an evaluation and recommendation from the Department of Environmental Conservation (DEC), and may include resources such as marshes, wetlands, mud and sand flats, beaches, rocky shores, riverine wetlands and riparian corridors, stream, bay and harbor bottoms, submerged aquatic vegetation beds, dunes, old fields, grasslands and woodlands and forests. For each designated site, the DOS prepares a habitat map and narrative that provides specifics about the habitat area and resources. Twenty such habitats have been designated within the waterfront boundary of Southampton Town. These areas may be seen in Figure 4, and include the following:

- Alewife Creek and Big and Little Fresh Ponds
- Cow Neck
- Cranberry Bog County Park
- Cupsogue County Park
- Dune Road Marsh
- Far Pond and Middle Pond Inlets
- Flanders Bay Wetlands
- Long Pond Greenbelt
- Mecox Bay and Beach
- Moriches Bay
- Noyack Bay Beaches
- Peconic River
- Sag Harbor and Northwest Harbor
- Sagaponack Inlet
- Sebonac Neck
- Shinnecock Bay
- Southampton Beach
- Tiana Beach
- Towd Point
- Westhampton Beach and Dune

More information about each of these areas may be found on the DOS website²²⁴.

Regulatory reviews by both the DEC and DOS take into account any potential impacts to Significant Coastal Fish and Wildlife Habitats, and a “habitat impairment test” is part of the impact assessment portion of the DOS federal consistency review. As part of this Water Protection Plan, the Town can make revisions to the habitat descriptions; and those revisions would replace the State’s descriptions upon approval of the Plan. As such, these new habitat descriptions would be used in all consistency reviews.

Issues and Analysis

Loss of Shellfish

Prior to 1986, Long Island waters supported an abundant bay scallop population. However so-called brown tide (which appeared from 1985–1987, and again in 1995, and which is caused by *Aureococcus anophagefferens*) decimated the bay scallop population by 1) shading and killing the eelgrass which scallops rely on for predator protection and settling substrate during the early stages of development, 2)

²²⁴ New York Department of State. No Date. Significant Coastal Fish and Wildlife Habitats. Online at: <http://www.dos.ny.gov/opd/programs/consistency/scfwhabitats.html#li>.

out-competing the algae that bay scallops consume, thereby depriving them of their food source²²⁵, and 3) reducing the overall population to such low densities that spawning events did not result in widespread fertilization²²⁶. It is believed that bay scallop populations have continued to suffer because there continues to be too few adults to spawn successfully²²⁷, and because the habitat which supported them is compromised—both in terms of loss of SAV and impaired water quality in some locations. The latter is especially true in western Shinnecock Bay, where researchers note that shellfish are not successfully producing offspring due to poor water quality²²⁸. Though water samples in Peconic Bay (In West Neck and Flanders Bay) routinely test positive for brown tide, blooms have not been noted in Peconic Bay since 1997²²⁹. Research is being conducted to better understand and address brown tide.

Efforts are also underway to monitor bay scallop populations and help increase their spawning capacity by growing juveniles in protected areas and releasing them into “spawning sanctuaries” when they reach a size that makes them less susceptible to predation. Monitoring of restoration efforts in Peconic bay from 2007–2010 has shown an increase in the abundance of juvenile and adult scallops.

Hard clam populations have also declined in the waters surrounding Southampton over the past several decades. Population loss in Shinnecock Bay since the 1970s is estimated at 95%²³⁰. Causes of the decline include brown tide, overfishing, and habitat degradation; and, similar to bay scallops, the low densities of spawning adults make it difficult for the stocks to rebound naturally.

Oyster populations have similarly declined over the past several years, and several efforts are underway to increase populations through aquaculture activities.

To combat the issue of low density, The Nature Conservancy is working with fishermen and towns to develop spawning sanctuaries for shellfish. Additionally, the Peconic Estuary Program has focused efforts on identifying the causes and minimizing the impacts of brown tides²³¹ in the hopes of minimizing their impact to shellfish. The Shinnecock Bay Restoration Program and the SPAT program through the Cornell Cooperative Extension (and in partnership with the Town Trustees) are working to reintroduce shellfish into the marine environment to improve habitat through increased water filtration by shellfish. Through this process, they will also likely increase the population of spawning adults.

Loss of SAV

Not only did brown tide impact shellfish populations, over the years it—along with pollution and nutrient inputs, disruption from boating, fishing, and dredging activities—also decimated eelgrass beds. Estimates place the loss of SAV as high as 90%, but information about the true historic and current extent is not sufficient to quantify loss.

²²⁵ Peconic Estuary Program. 2005. Environmental Indicators Report. Riverhead, NY.

²²⁶ Tettelbach, S. Bay Scallop Restoration. Online at: <http://sites.google.com/site/stephentettelbach/bay-scallop-restoration>.

²²⁷ Tettelbach, S. Bay Scallop Restoration. Online at: <http://sites.google.com/site/stephentettelbach/bay-scallop-restoration>.

²²⁸ Wright, M. 2012. Western Shinnecock bay is Sterile, Thanks to Human Proximity, Scientists Say. Southampton Press. Online at: <http://www.groupfortheeastend.org/wp/wp-content/uploads/2012/04/Southampton-News-Western-Shinnecock-Bay-Is-Sterile-Thanks-To-Human-Proximity-Scientists-Say-27east.pdf>.

²²⁹ Peconic Estuary Program. 2008. Brown Tide. Online at: <http://peconice.ipower.com/BrownTide.html>.

²³⁰ Hamptons.com. 2011. Shellfish Restoration Project Complete. Online at: <http://www.hamptons.com/Community/Main-Articles/15209/Shellfish-Restoration-Project-Completed.html#.VM9xUyygvh4>.

²³¹ Peconic Estuary Program. 2001. Comprehensive Conservation and Management Plan.

Some strategies identified to reduce impacts from fishing pressure include setting aside “no harvest zones” and buffer zones to prevent the use of certain disruptive harvesting techniques (such as “easing” for razor clams) in the vicinity of established and recovering eelgrass beds.

Other strategies, aimed at general boating activity, include improved marking of shallow areas and navigational channels, conducting public education about the importance of channel markers, increasing enforcement in areas of frequent disturbances²³², and using “conservation moorings” designed to keep mooring chains from mowing down SAV.

Impacts to SAV from shore-side and upland activities can also be minimized. Stormwater abatement and septic maintenance efforts can reduce the input of nutrients and sediments. Coastal development can be conducted in a manner that minimizes the introduction of sediment; and docks and piers can be constructed in a way that minimizes shading and impacts to bottomland.

While measures to prevent loss of existing SAV is important, restoration activities are also needed to help rebuild SAV resources. Research about the restoration of eelgrass beds in Shinnecock Bay shows mixed success when shoots harvested from an adjacent area were transplanted to a bare area and monitored. At one site, “east of Inlet” the average percent survival was 557.11% when comparing the number of shoots planted on November 15, 2006 with those observed on September 25, 2007. At another site (“Gull Island”) the survivability was only 19.96% when comparing the number of shoots planted on November 15, 2006 with those observed on October 3, 2007²³³. The difference between survivability rates at each of the test sites is unknown, but researchers speculate that bioturbation, shellfishing activities, and high water temperatures might have influenced survivability.

Sea Level Rise and Climate Change

As explained in greater detail in the section about Flooding, Erosion, and Sea Level Rise, the increase in sea level in Southampton will likely impact the extent of habitat and the range of natural resources. Marshes, seagrass beds, tidal flats, and beaches may not be able to migrate due to coastal development resulting in the loss of critical habitats and ecosystem services such as storm attenuation.

Marshes will particularly be at risk where they are backed by steep slopes or development. The more immediate losses, however, may be losses of barrier beaches where sea level rise might accelerate shoreline erosion²³⁴.

Additionally, wetland boundaries will be subject to change as sea level rises, with potential enforcement implications.

Climate change also presents challenges for the Town’s ecosystem and natural resources. As water temperatures change globally, some species will migrate, posing new issues (*e.g.*, new predators or new species to compete for existing resources) in Town waters. Related to climate change, ocean acidification may also impact animals in Town waters, such as shellfish, whose shell thickness may be affected by the change in water chemistry.

Invasive Species

²³² Pickerell, C., Rivara, G., Petersen Manzo, K., Schott, S. 2009. Town of Southampton Eelgrass and Bay Scallop Restoration Planning Project: Final Report.

²³³ Pickerell, C., Rivara, G., Petersen Manzo, K., Schott, S. 2009. Town of Southampton Eelgrass and Bay Scallop Restoration Planning Project: Final Report.

²³⁴ Strange, E.M. No Date. North Shore, Long Island Sound and Peconic Estuary. Online at: http://www.epa.gov/climatechange/effects/downloads/sections3_2_9.pdf.

Some of the Town's native natural resources are affected by Invasive species, including:

- The Asian shore crab, *Hemigrapsus sanguineus* which is believed to have arrived in the area via ballast water, and which out-competes fiddler crabs in marsh areas. (Specific areas of high populations of Asian shore crabs include the Dune Road marsh and Goose Creek marsh)²³⁵,
- The common reed (*Phragmites australis*), is often found in disturbed wetlands. While it does provide some habitat value, it out-competes native species and impairs nutrient cycling capabilities of marshes.²³⁶
- Green fleece (*Codium fragile*), which is believed to have arrived in the area via a shipment of oysters from Europe. Found in the sub-littoral zone up to approximately 40 feet of water, green fleece can attach to oyster shells. If it traps enough gas as it photosynthesizes, it may become so buoyant as to raise the oyster and carry it away, thus earning the nickname "the oyster thief."²³⁷ Green fleece may have some habitat value for bay scallops, but its impacts on native species are not well understood.

One additional issue related to invasive species is the introduction of non-native animals through the stocking of Wildwood Lake, Alcotts, Beaverdam, Big Fresh Pond, Trout Pond, and Phillips Pond. This issue of stocking non-native species, rather than native species, was brought up during the 1999 Comprehensive Plan Update²³⁸, and still remains an issue of concern for the Town.

Coastal development/alteration (water quality, shoreline, wetlands)

Coastal development and alteration has a significant impact on the area's natural resources. For example:

- Low-lying marshes have been drained or filled or ditched, resulting in the loss of important habitat
- Shoreline hardening structures have affected sediment transport in Southampton waters
- New homes and businesses have increased impervious surface coverage and present new opportunities for introduction of nutrients
- Dams have been built in locations important to the spawning of diadromous fish

Some efforts are already in place to address the impacts of coastal development and alteration, including:

- Collaboration between the Town and County to acquire open space of benefit to natural resources
- Efforts of the Town and the Peconic Estuary Program to prevent additional shoreline hardening structures
- Projects conducted by the Town to address stormwater problems

²³⁵ Peterson, B.J., Fournier, A.M., Furman, B.T., Carroll, J.M. 2014. *Hemigrapsus sanguineus* in Long Island salt marshes: experimental evaluation of the interactions between an invasive crab and resident ecosystem engineers. PeerJ.

²³⁶ Fish and Wildlife Service. No Date. *Phragmites: Questions and Answers*. Online at: http://www.fws.gov/gomcp/pdfs/phragmitesQA_factsheet.pdf.

²³⁷ Town of Southampton, 2001. *Marine Resources Protection and Management Plan: Moriches Bay, Shinnecock Bay and Mecox Bay*.

²³⁸ Town of Southampton, 1999. *Southampton Tomorrow: Comprehensive Plan Update, Implementation Strategies*.

- Public education conducted by the Green Committee to teach residents about water quality issues that impact human health and the ecosystem

While these efforts are effective, opportunities exist to strengthen the Town's approach to minimizing the impacts of coastal development.

PUBLIC ACCESS AND RECREATION

General Context

There are a wide variety of uses for water-related access and recreational activities along the extended shoreline and waterfront area within the Town of Southampton. Likewise, there are a number of jurisdictions involved. The following provides a brief overview of public access and recreation resources and related jurisdictions.

The Public Trust Doctrine in the Town of Southampton

Trustee Lands

The public ownership of underwater lands, rights of ways to the water, marshland, and common areas within what is now the Town of Southampton was established by the Dongan Patent of 1686. In that year, King James II of England, through his General Governor, Thomas Dongan, granted over 25,000 acres of land, instituting the first official government in the Town of Southampton. Local and State courts, and even the Supreme Court of the United States, have repeatedly ruled that the Dongan Patent is as valid today as it was in 1686. The Dongan Patent guarantees every Town Freeholder's right to access and use this land and its resources, and establishes the Board of Trustees of the Freeholders which holds these lands in trust and manages them. Over the intervening centuries, the Trustees have been faithful in upholding the public rights to these lands.

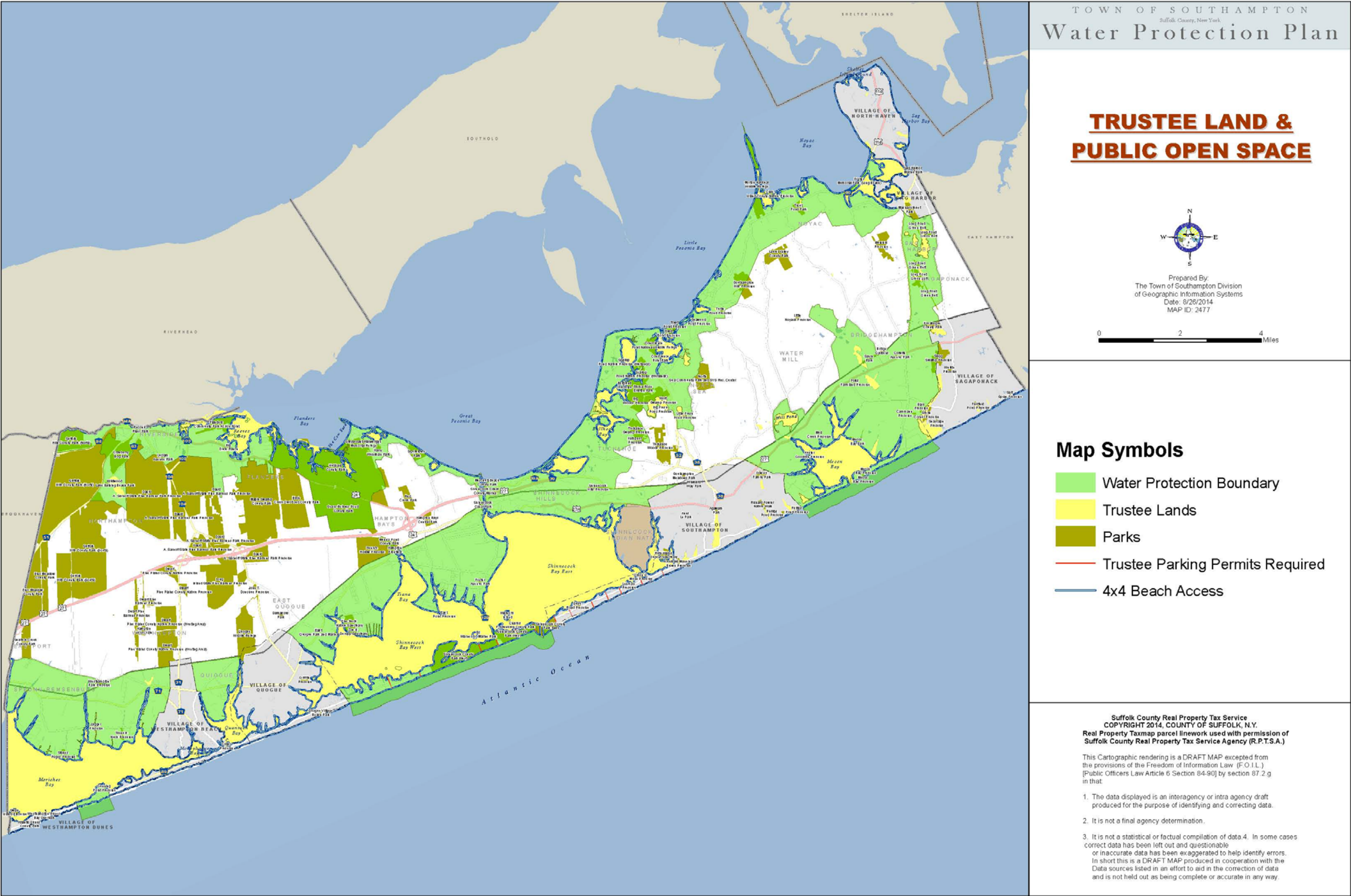
The "Blue Book", produced and regularly updated by the Trustees, describes lands and waters under their jurisdiction along the Atlantic shoreline in the following terms, "The easement along the Atlantic Ocean is bounded on the north by the crest of the primary dune, on the east by the easterly Town line, on the south by the high water mark of the Atlantic Ocean and on the west by the westerly Town line. This area is a right of way granted by the Dongan Patent and upheld by subsequent court cases." The Blue Book also describes a "Passing Way" between high and low water on the Atlantic shore.

Additionally, the Trustees hold title to lands below the mean high tide in the South Shore Bays as well as in the North Shore coves, creeks and embayments. They also hold title to various upland parcels that are important to public access to waterways. The land holdings of the Trustees are shown in Figure 29.

Public Trust in areas where Trustees do not "hold lands"

Lands below the low water mark on the Atlantic coast and within Peconic Bay are under the jurisdiction of the State of New York, also held in trust for the citizens. Unless otherwise stipulated for reasons of public health, safety, or welfare, the public has unfettered access to these areas.

Figure 29: Trustee Land & Public Open Space



Public Beaches

While the public has access to all lands below the crest of the dunes on the Atlantic shore, the Town of Southampton Parks and Recreation Department operates eight beaches which are health-department approved, and offers supervision during the summer months. These include pavilion facilities equipped with toilet facilities and food concessions. Seasonal parking permits are required and are available for purchase at the individual beaches. These include:

- Ponquogue Beach (Hampton Bays)
- Tiana Beach (Hampton Bays)
- Flying Point Beach (Southampton)
- Long Beach and Foster Memorial Park (Noyac)
- Emma Rose Elliston Park (Sag Harbor)
- Sagg Main Beach (Sagaponack)
- W. Scott Cameron and Mecox Beach (Bridgehampton)
- Pike's Beach (West Hampton Dunes)

Additionally, the Suffolk County Parks Department manages the following beaches (supervised during summer months):

- Sears Bellows, Bellows Terrace Road, Hampton Bays—Offers Bellows Pond swimming (Fresh water pond) and campground sites for trailers, tents, and organized camping clubs.
- Shinnecock East, Meadow Lane, Southampton—Offers Atlantic Ocean swimming, off road vehicle access, surf casting at Shinnecock Inlet, and outer beach camping for self-contained trailers or motor homes (no tents).
- Cupsogue Beach, Dune Road, Westhampton—Offers Atlantic Ocean swimming, off road vehicle access, and outer beach camping for self-contained trailers or motor homes (no tents).
- Meschutt Beach County Park, Hampton Bays (near Shinnecock Canal)—Offers Peconic Bay swimming (Still Water Bay) and camping for self-contained trailers or motor homes (no tents).

Existing Inventories of Public Access and Recreation Resources

Town of Southampton Recreation Plan (2003)

The 2003 Town Recreation Plan lists water-related recreation opportunities and facilities by type (as seen below) and by hamlet.

Bathing/Swimming Beaches

The 2003 Town Recreation Inventory and Needs Assessment (Sector Management Ltd., 2003) identifies 20 Town beaches and 4 County beaches (along with 9 Village beaches) along the waterfront. (As noted above, currently only eight of the Town beaches are Health Department approved and have facilities.)

Marinas, Boathouses and Piers

A total of 15 Town and 1 County public Marinas, Boathouses, and Piers are identified in the 2003 Town Recreation Inventory (Sector Management Ltd., 2003) along with a note that there are “at least 32” private marinas within the borders of Southampton Town. (It is not clear how many of these may be in the Villages.)

Other water-recreation

Several other forms of water-based recreation are listed, along with specific sites, in the 2003 Town Recreation Inventory (Sector Management Ltd., 2003) including charter fishing boats, fishing piers, paddle sports, SCUBA, and Surfing/Windsurfing facilities.

Town of Southampton Trustees Blue Book

The Trustees' "Blue Book" (Town of Southampton Trustees, 2011) provides a listing of public access points to beaches over which they have management authority—as well as rules and regulations over use of Trustee operated boat ramps and for driving on beaches.

Boat Ramps

A NY DEC survey (DEC, undated) lists 38 boat ramps providing access to the various embayments within Southampton. Five of these are in Villages (two in Sag Harbor and one each in Westhampton, Quogue and Southampton Village) and four are private with Day-Use fees. The rest are public.

Other Water-related Recreation

Recreational hunting of waterfowl, fishing and shellfishing are done in the waters in and adjacent to Southampton Town. (The latter two are discussed more thoroughly in the Water-Dependent Uses section.) Management of these resources within the south shore bays is under the jurisdiction of the Southampton Trustees. In Peconic and Gardiners Bays and the Atlantic Ocean, the NY Department of Environmental Conservation has jurisdiction.

Visual Public Access

For many residents and visitors, being able to see waterfront resources may be as important as being able to physically reach them. Visual Access is described in greater detail in the section on Scenic Resources, but should also be considered here. Construction of buildings or plantings along roadsides or in private yards may have significant impacts on the ability of visual access to public resources.

Issues and Analysis

Beaches

It is clear that residents and visitors to Southampton Town have access to an extensive number of beaches. Some residents and visitors are unclear about how to reach the beaches and where to park once they get there. Several of the roads leading to the beaches are under the management of the Trustees, but there have been misunderstandings about which ones they are and where appropriate parking exists along these roads. Better signage might help resolve this issue by directing visitors to appropriate parking and alleviating use of private areas for access.

Regular flooding on Dune road between East Quogue and the Shinnecock Inlet and on the access to Tiana Beach, can make it difficult for people to get to beach parking and for staff to get to work. The Town has completed an engineering plan to elevate Dune Road and has filed an application for a NY Department of Environmental Conservation Tidal Wetlands Permit for the project.

Jurisdictions

The Town Trustees operate under the mandate of the Dongan Patent which originally established ownership of lands in Southampton Town. Because of the importance of the legal rights guaranteed by this document, it would be useful to the public to have a better understanding of the Patent and how it is applied in current times. This could be done via brochures, a web page, and/or part of in-school education programs. Another possible option would be the development of an oral history of how the

waters and associated resources have been important to the community in the past and how they are currently being used and managed (or if such an oral history already exists, make it better known).

Over the years, as the primary activities in Town have changed from fishing and farming to recreation and tourism, there seems to have been a shift in landowner perception and attitudes from water as a public resource to water as a visual and private amenity for adjacent property-owners. This may reflect a shift in cultural perspective from water as a community-owned resource to a commodity that can be bought and sold. The community should somehow emphasize that living adjacent to the water does not extend ownership into those waters. As an extension of these attitudes, public access conflicts can, in some cases, lead to legal actions with well-funded groups challenging either the Town or non-profit groups. Better understanding of public rights and jurisdictions might help alleviate these costly suits.

A second aspect of this issue is that that some private landowners reportedly encroach on, or even block, legal public access ways, either purposefully or accidentally over time. Better understanding of public rights, as well as better signage, might help preclude such actions.

Boating

Public access should not focus solely on beach-goers but should also emphasize the abilities of boaters to reach and enjoy the waters of the Town. This includes maintenance of existing boat ramps, and encouragement for boating facilities—both public and private. Continuation of pump-out boats and facilities helps both boaters and environmental quality.

WATER-DEPENDENT USES AND THE SUSTAINABLE USE OF LIVING MARINE RESOURCES

Water-dependent uses are defined in several New York State statutes as a business or other activities which can only be conducted in, on, over, or adjacent to a water body because such activity requires direct access to that water body, and involves, as an integral part of such activity, the use of the water. Living marine resources include fish and shellfish and may be considered water-dependent uses for the purpose of this discussion because of their relationship both to the coastal waters and the shore-side facilities required for their harvesting and processing.

Location and Nature of Water-Dependent Uses

Water-dependent uses and businesses in Southampton include marinas, mooring areas, yacht clubs, boat yards, marine repair and service operations, boat launch ramps, public docks, fuel docks, commercial and recreational fishing operations, excursion vessels, and various support facilities for waterborne commerce and recreation.

The water-dependent commercial and recreational uses existing along Southampton's waterfront, many of which are depicted in Figure 30, are integral to the Town's identity and fundamental to its economic vitality. These maritime activities harvest food from the sea, provide livelihoods for hundreds of people, and recreational opportunities for thousands of residents and visitors.

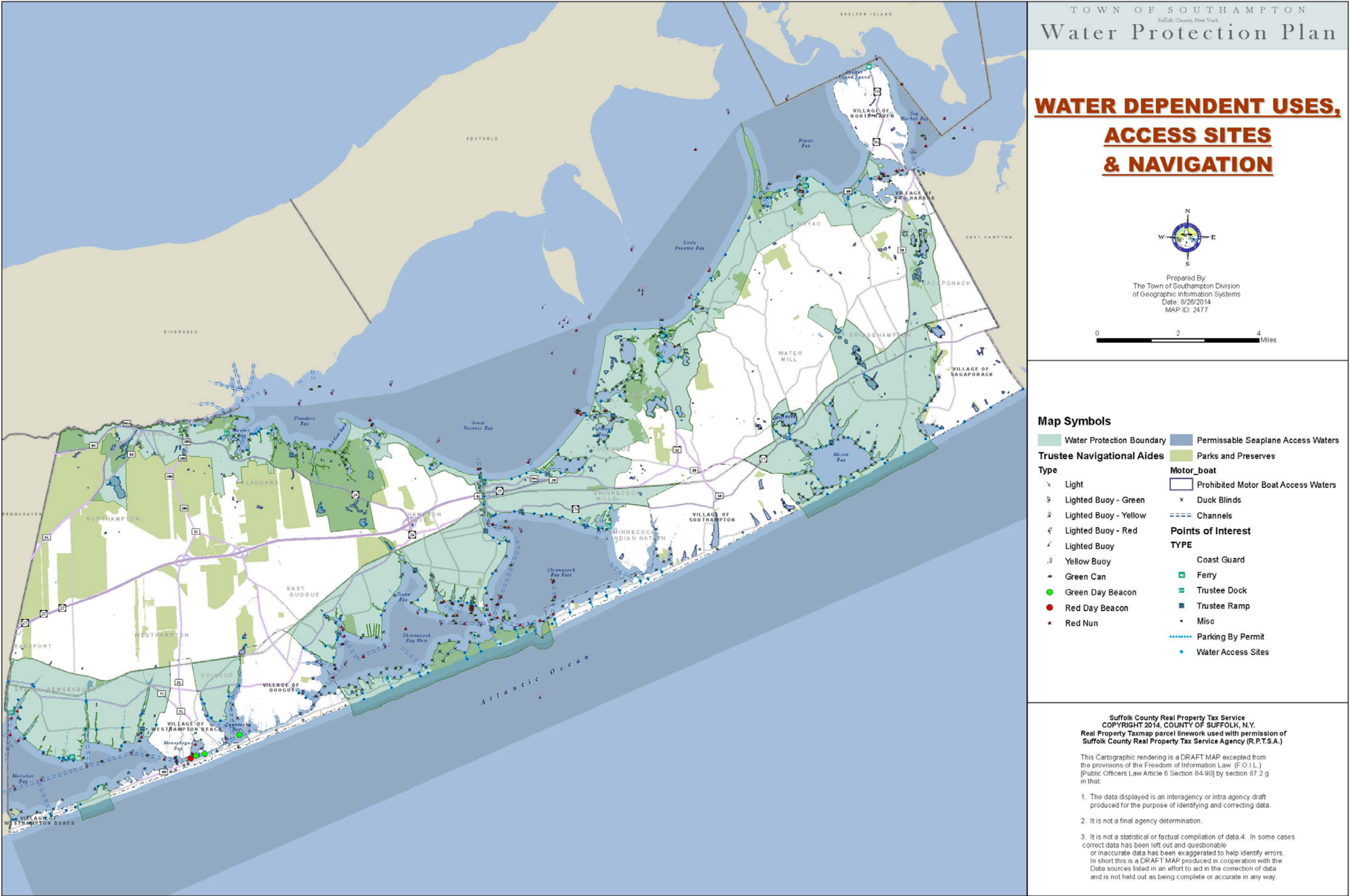
As cataloged in the South Shore Estuary Reserve Comprehensive Management Plan (SSER CMP) ²³⁹, there are two concentrations of water-dependent businesses and facilities ("maritime centers"²⁴⁰) in Southampton. Both are considered by the SSER CMP as "significant cultural maritime places"²⁴¹. The first and largest is the Shinnecock Canal area east of the Hamlet of Hampton Bays. This area supports the largest concentration of water-dependent uses in Southampton and is the most suitable area for future expansion of such businesses and facilities. A secondary maritime center is at the Shinnecock Inlet, on the bay side of the east end of Westhampton Beach Island. This area serves the second largest commercial fishing fleet in the South Shore Estuary along with charter fishing and recreational boats.

²³⁹ South Shore Estuary Reserve Council. 2001. Long Island South Shore Estuary Reserve Comprehensive Management Plan.

²⁴⁰ The Long Island Sound Coastal Management Program defines "maritime center" as a discrete portion or area of a harbor that is developed with, and contains concentrations of, water-dependent commercial and industrial uses or essential support facilities.

²⁴¹ The areas are considered culturally significant because they generally have a long and diverse maritime history dating back 50 years or more, and have historically supported and continue to support a range of maritime activities. From; Steadman, Geoffrey. 1999. "Zoning for Water Dependent Uses: Case Studies of Four South Shore Estuary Reserve Maritime Centers." Technical Report Series prepared for the South Shore Estuary Research Council.

Figure 30: Water-Dependent Uses, Access Sites & Navigation



Navigational Infrastructure

Water-dependent uses rely on direct vessel access to navigable water for their operations. The three bays of the South Shore Estuary within the planning area are Moriches, Quantuck, and Shinnecock bays, which together comprise approximately 14,000 acres of estuarine intertidal marshes, mudflats, intertidal flats, manmade canals and shallow water²⁴². The eastern half of Shinnecock Bay has depths ranging from seven to ten feet at mean low water (MLW) and parts of the western bay reach depth of five to seven feet MLW, though much is three to five feet deep. In Shinnecock Bay, the principal navigation channel is the federal Long Island Intracoastal Waterway Channel that connects the embayment with Moriches Bay to the west and with Great Peconic Bay (via the Shinnecock Canal) to the north. The Intracoastal Waterway Channel has an authorized depth of six feet and width of 100 feet.

The portion of the Peconic Estuary within the planning area includes the Peconic River and Flanders, Great Peconic, Little Peconic, and Noyac Bays. Depth of the waters ranges from five feet in Flanders Bay to 21 feet in Little Peconic Bay. Dredged channels provide vessel access to the Peconic River and into the several coastal ponds and smaller bays of the estuary.

The two most important navigational features in the planning area are the Shinnecock Inlet and Shinnecock Canal. The Shinnecock Inlet, between the eastern end of Westhampton Beach Island and western end of the Shinnecock barrier spit provides a navigable connection between Shinnecock Bay and the Atlantic Ocean. A federally-authorized navigation channel is maintained in the inlet. Mean tidal fluctuation on the ocean side of the inlet is 3.3 feet, tidal fluctuations in the bay average about 2.6 feet.

The Shinnecock Canal between Hampton Bays and Shinnecock Hills is a nearly one-mile long navigable connection between Peconic Bay to the north and Shinnecock Bay to the south. The controlling depth of the canal is -6.0 feet MLW. Vessels are able to transit from Long Island Sound and Peconic Bay through the canal and enter Shinnecock Bay and continue along the Intracoastal Waterway Channel west to Great South Bay. Navigational locks, operated by Suffolk County, aid the passage of boats and control water which flows only north to south. Nearly the entire shoreline of the Shinnecock Canal is fortified with concrete retaining walls, bulkheads, and riprap. The Shinnecock Canal area supports the largest concentration of water-dependent uses in the Town of Southampton and is of great importance to the economy of the Town²⁴³.

Two roads cross the Shinnecock Canal, State Route 27 (Sunrise Highway) and to the south, County Route 80 (Montauk Highway). A fixed railroad bridge also spans the canal between the two highways. The highway bridges have vertical clearances of 23 feet and 26 feet respectively. The lowest bridge is the fixed railroad bridge, with a vertical clearance of 22 feet above the water²⁴⁴.

The Ponquogue Bridge, which provides vehicle access from Ponquogue Point on the mainland to the eastern end of Westhampton Beach Island, divides the Shinnecock Bay into eastern and western segments.

Dredging and disposal

²⁴² Board of Trustees. 2001. Marine Resources Protection and Management Plan; Moriches Bay, Shinnecock Bay and Mecox Bay. Prepared by the Town of Southampton Trustees. Online at www.southamptontownny.gov/FTP/SEQRA/mrmp.pdf.

²⁴³ Steadman, Geoffrey. 1999. Zoning for Water Dependent Uses: Case Studies of Four South Shore Estuary Reserve Maritime Centers. Technical Report Series prepared for the South Shore Estuary Research Council.

²⁴⁴ NOAA Nautical Chart 12358.

The Final Long Island South Shore Estuary Reserve Comprehensive Management Plan (SSER CMP), adopted by the South Shore Estuary Reserve Council on April 12, 2001, recognized the importance of navigation in the region, observing, “The Reserve is home to the largest concentration of commercial and recreational vessels, marinas and other water-dependent businesses in the State.”

According to the 2010 study of dredging needs (see sidebar), there are 55 nonfederal dredging projects in the SSER bays of Southampton with an estimated 10-year dredge volume of 51,029 cubic yards. The estimated 10-year dredge volume for the Shinnecock Inlet, the one federal project, is 500,000 cubic yards.

There is a federally-authorized channel through the Shinnecock Inlet. The Army Corps of Engineers dredged the project in the early 1990s and conducted emergency dredging in 1999 to maintain navigation safety. Sand dredged from the inlet was placed on the beach immediately west of the west jetty in an effort to mitigate beach erosion in this area²⁴⁵.

Responsibility for dredging all channels except federal and privately maintained channels is with the Suffolk County Department of Public Works (SCDPW). The Suffolk County towns collaborate with the SCDPW to plan, permit, and implement dredging and dredged material disposal. SCDPW’s data base of projects from 2003 to 2013 lists 62 dredging projects and one dredge material placement site in Southampton.

The **Long Island South Shore Estuary Reserve Comprehensive Management Plan** contains a series of 77 implementation actions grouped into 11 Outcomes. Outcome 8 is to sustain water-dependent businesses which “depend on access to the estuary, safe navigation, infrastructure to support their daily operations, and clean estuarine waters (SSERC, 2001, 92). The viability of water-dependent businesses is linked to continued navigability of the waterways. <http://www.estuary.cog.ny.us/background-pages/cmp.htm>

An Assessment of Current Dredging Conditions and Future Needs for the SSER was completed by the Woods Hole Group in 2010 as one component of the Final Report on Planning for Dredged Materials Management in the Long Island South Shore Estuary Reserve. The report was a first step to facilitating improved navigational dredging in the region by providing the necessary information upon which the SSERC may develop a Dredge Materials Management Plan for the Reserve.

The report included assessments of current physical conditions and administrative procedures for public navigation channels and recommendations for improvements. The report quantified the current and future needs for dredging and characterized the volume and quality of dredged material.

Appendix D lists dredging projects in Southampton from 1940 to 2008, developed through a review of federal (US Army Corps of Engineers) and state (NYS Department of Environmental Conservation) dredging permit data bases.

The report presents information “useful in Identifying impediments to dredging projects, such as overlapping or conflicting environmental protection window, shortages of placement or beneficial reuse sites, redundant regulatory review, and escalating permitting and construction costs.”

http://www.estuary.cog.ny.us/dredging/1_FINAL_Dredging_Needs_web.pdf

Beach, Bay and Freshwater Access Management Strategy, Draft, Phase I, Inventory of Existing Conditions, 1996.

<http://www.waterfrontprotectionsouthampton.org/documents/BeachBayFWAccess.pdf>

Town of Southampton Comprehensive Plan Update, Implementation Strategies, 1999.

<http://www.southamptontownny.gov/content/72/837/2113/2365/default.aspx>

Town of Southampton Recreation Plan, Part IV. Town Recreation Inventory & Needs Assessment, 2003

<http://www.southamptontownny.gov/content/72/837/1839/1936/default.aspx>

²⁴⁵ Steadman, Geoffrey. 1999. Zoning for Water Dependent Uses: Case Studies of Four South Shore Estuary Reserve Maritime Centers. Technical Report Series prepared for the South Shore Estuary Research Council.

There are 13 historic and current dredged material disposal sites, four upland and nine areas for beach nourishment. Within Shinnecock Bay, there are significant dredged material disposal sites at Phillips Creek, Middle Pond, Gull and Warner's Islands, and along the Ponquogue and western portions of the barrier island²⁴⁶.

Dredging and dredged material disposal are regulated at the federal, state and local levels of government. The US Army Corps of Engineers is the permitting entity at the federal level and NYS Department of Environmental Conservation at the State level. The Southampton Board of Trustees has regulatory authority for dredging and placing moorings and structures in waters below mean high water within the Town of Southampton.

Recreational boating

Marinas, boatyards, boat ramps, support facilities

According to the 1999 Town of Southampton Comprehensive Plan Update²⁴⁷, there are 42 marinas in the Town of Southampton, and an additional 14 in the incorporated villages. Most are concentrated in two areas: Hampton Bays and the Shinnecock Hills/Shinnecock Canal area. These two areas support a total of 34 marinas and boat yards with a total of nearly 1,450 rental slips.

The Comprehensive Plan Update identified eight marinas providing a total of 821 boat slips in the Shinnecock Canal area, including the Suffolk County Shinnecock Marina, part of the County's Meschutt Park, which provides some 60 slips for primarily transient boaters. The marinas vary in size and type of boating services provided and are said to cater primarily to medium-size and larger pleasure craft. Most of the marinas located east of the Shinnecock Canal are in residential zones and are thus non-conforming uses.

Research conducted by the New York Sea Grant Extension Program²⁴⁸ identifies 26 recreational boating facilities in Shinnecock Bay. Included are two government facilities; two yacht clubs; and 22 commercial facilities. Of these facilities, 22 provide boat slips (a total of 1,078 slips are indicated); 15 provide dry stack storage spaces (a total of 735 storage spaces are indicated); 11 provide fuel; 13 provide repair services; and ten provide boat, motor, and/or trailer sales. A total of 2,705 boats over 16 feet in length using Shinnecock Bay was identified based on aerial photo analysis for the New York State Clean Vessel Act Plan²⁴⁹.

Dockage at the Town-owned recreational boating facilities Conscience Point Marina, Pine Neck Marine Preserve, and Bay Avenue Marina are typically full, with waiting lists. An informal survey of commercial marinas in Town during the summer OF 2012 revealed some slip vacancies attributable to the weakness of the economy.

Most marinas and boatyards in Southampton are located in the Resort and Waterfront Business (RWB) zone, although many are non-conforming uses in residential areas. Almost 70 percent of all RWB land is in the northeast end of Shinnecock Bay near the Ponquogue Bridge and immediately west and east of the

²⁴⁶ Board of Trustees. 2001. Marine Resources Protection and Management Plan; Moriches Bay, Shinnecock Bay and Mecox Bay. Prepared by the Town of Southampton Trustees. Online at www.southamptontownny.gov/FTP/SEQRA/mrmp.pdf.

²⁴⁷ Town of Southampton, 1999. Southampton Tomorrow: Comprehensive Plan Update, Implementation Strategies.

²⁴⁸ Tanksi, Jay. 1997. Draft Summary of Recreational Boating Facilities in the South Shore Estuary Reserve. New York Sea Grant Extension Program

²⁴⁹ New York State Department of State in cooperation with the Department of Environmental Conservation. 1996. The New York State Clean Vessel Act Plan.

Shinnecock Canal. These two areas, both of which are near Hampton Bays, support a total of 34 marinas and boatyards with a combined total of 1,447 rental slips. Total marina revenue in Southampton is estimated at \$17.6 million²⁵⁰.

Moorings for recreational boats and commercial – aquaculture vessels can be placed in Town waters upon issuance of a permit by the Trustees in locations assigned by the Bay Constables. Only residents, taxpayers, freeholders, and temporary residents are eligible for a mooring permit. Vessels on moorings on any creek, pond, bay or harbor on Peconic Bay Estuary can be no longer than 26 feet. Moorings cannot be placed prior to April 1 and must be removed in the winter months.

A table of existing recreational boating facilities is included in the Appendices.

Pump-out facilities

The Peconic and South Shore Estuaries are designated Vessel Waste No Discharge Zones (NDZ). One criterion established by the Clean Vessel Act for NDZ eligibility is an adequate number of existing pump-out facilities per vessel population (one facility per 300–600 vessels). In addition to the large number of pump-out facilities at public and private boating facilities along the Southampton waterfront (see table of facilities), the Trustees administered a pump-out boat program which includes seven pump-out boats strategically located along the coast at locations in Mill Creek, Cold Spring, Westhampton, North Sea & Hampton Bays providing free service in all waters of the Town of Southampton between May 15 and October 15. In recent years these boats have pumped about one million gallons of waste annually.

Commercial and Recreational Fishing and Shellfishing

This section focuses on those marine living resources harvested recreationally and/or commercially. The value of marine living resources as natural resources (not related to their commercial and/or recreational harvest value) is addressed in the section on natural resources.

The fishing industry has been and remains important to the character and economy of Southampton. The ocean and bays are productive waters, serving as a feeding area and nursery for commercial and recreational species including bluefish, winter and summer flounder, American eel, tautog and scup. The commercial and recreational harvest of these resources contributes significantly to the Town's economy, both directly through employment (*e.g.*, income for baymen and charter boat captains), and more indirectly through money spent on equipment sales, boat repairs, and fuel sales.

There are two types of commercial fishing industries in Southampton, finfishing and shellfishing.

Finfishing

The commercial deepwater finfishing industry is centered around the Shinnecock Commercial Fishing Dock located inside and to the west of Shinnecock Inlet. This maritime center supports the second largest commercial fishing fleet in the South Shore Estuary, along with charter fishing boats and recreational vessels.

There are three private commercial facilities – the Shinnecock Fishermans' Cooperative, Shinnecock Fish Dock, and Pell's Dock – and the public dock built by the County and managed by the Town with 20 slips for commercial vessels. In the mid-1990s, there were between 30-35 vessels in the commercial deep-water fishing fleet based at the Shinnecock maritime center with another 10-20 transient vessels that off-load their catch at the facility. Trawlers are the most common type of vessel, but there are also clam

²⁵⁰ Town of Southampton Department of Land Management. 1999. Southampton Tomorrow: Comprehensive Plan Update: Implementation Strategies, p. 282. Online at:
<http://www.southamptontownny.gov/content/72/837/2113/2365/default.aspx>.

dredge vessels, long-line fishing boats, lobster and gill-net boats. Commercial fisheries landings at these facilities have exceeded ten million pounds each year with dockside values of seven to ten million dollars.

As of December 31, 2011, Resident Marine Commercial Food Fishing Licenses were held by 114 individuals in Southampton, which represents 11.65 percent of such licenses (978) held in New York State²⁵¹. The approximately 30–35 vessels create an estimated 240 commercial boat crew jobs and approximately 100 jobs in boat repair, maintenance, fish processing, packing and transport.

Shellfishing

The underwater lands of Southampton have supported a major commercial and recreational fishery, which remains a critical part of the economy of the Town today. Prior to the 1950s, shellfishing was undertaken by commercial fishermen primarily during periods of finfish migration, and typically not as a full-time profession. Scallops and oysters were harvested in the fall, and hard clams and scallops were taken during the winter.

Commercial shellfishing in Southampton currently supports more than one hundred people in the Town. In 1998, there were 113 commercial shellfishing permits issued by the Town Board of Trustees. In addition, 1,741 recreational shellfishing permits were issued. In 1999, 114 commercial permits were issued along with 1,380 recreational permits. As shown on Figure 31, many portions of the Town's waters are open to shellfishing for at least a portion of the year, although some of the smaller inlets and most of Reeves Bay are closed year-round.

Prior to the 1950s, shellfishing was undertaken by commercial fishermen during the period of finfish migration, and typically not as a full-time profession. Scallops and oysters were harvested in the fall, and hard clams and scallops were taken during the winter.

In the mid- 1990s, an estimated 30 baymen and women relied on shellfish harvesting as their sole income source, while an estimated 200 or more Town residents supplemented their income through shellfishing. Today, men, women, and children continue to directly utilize the shellfish resource to earn income. The most economically significant type of shellfish commercially harvested in Southampton in 1993 was hard clams (36,925 bushels – with a value of \$2,769,596). Soft clams (460 bushels - \$29,306), mussels (2017 bushels - \$20,070), and bay scallops (312 pounds - \$3,176) also generate value though significantly less than hard clams. The total value of shellfish harvested in Southampton in 1993 as reported by New York State Department of Environmental Conservation was \$2,823,337, or 23% of the value of comparable shellfish harvested in Suffolk County²⁵².

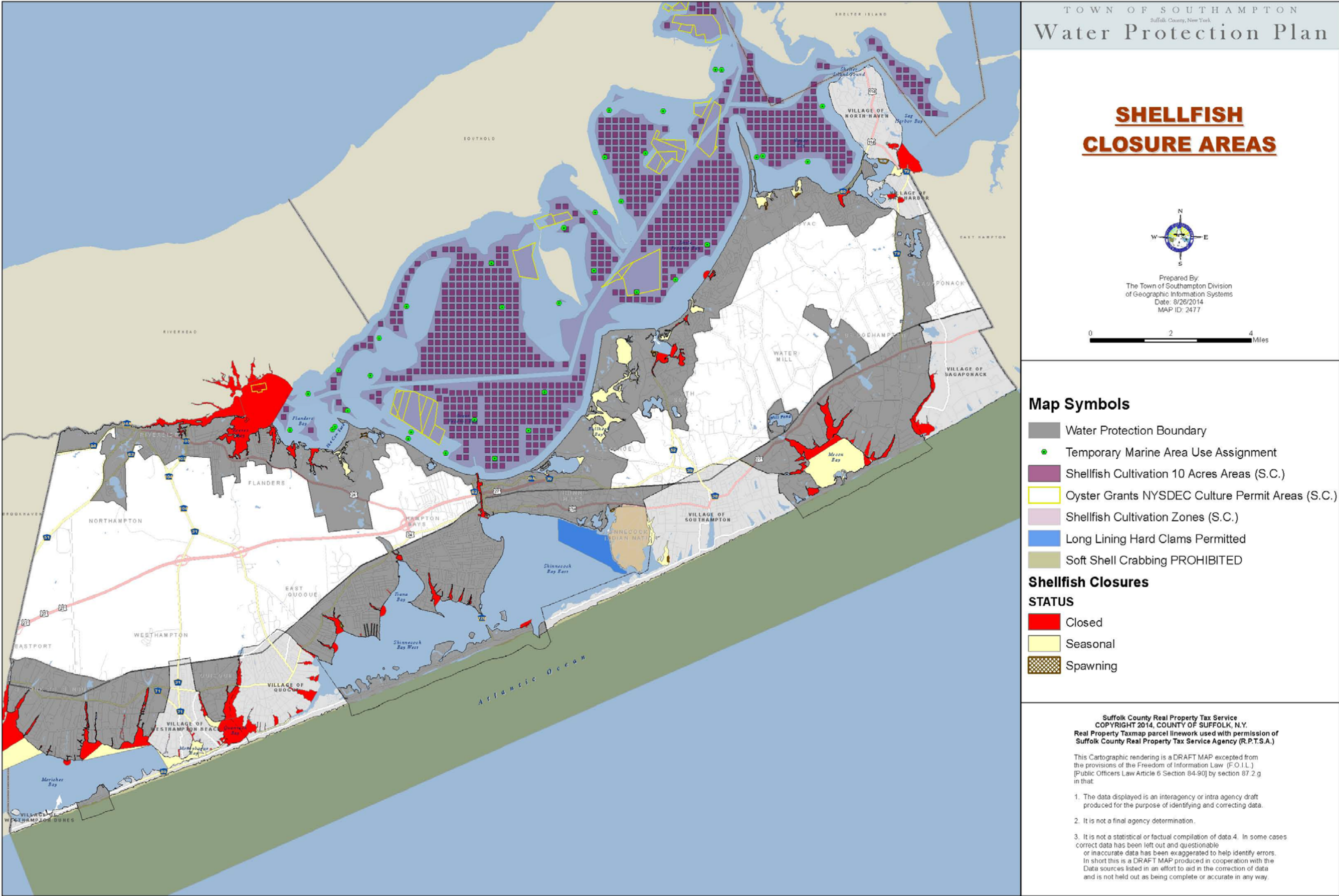
There are 11,971 acres of aquatic oyster lands in Southampton. Almost all the aquatic land in Shinnecock Bay (the Southampton portion of the system) is publicly owned and managed by the Town Trustees. Shinnecock Bay is commercially significant as common shellfish, such as hard clams (*Mercenaria mercenaria*), soft clams (*Mya arenaria*), bay scallops (*Argopecten irradians*), mussels (*Mytilus edulis*) and crustacean blue crabs (*Callinectes sapidus*), populate the Bay. The area is certified for commercial and recreational shellfishing, though the Trustees have established sanctuaries in key locations, including hard clam sanctuaries in Moriches Bay, Quantuck Bay, Tiana Bay, Shinnecock Bay, Fort Pond, Heady Creek, Red Creek Pond, North Sea Harbor, Noyac Creek, and Sag Harbor Cove. The Trustees have no professionally trained shellfish scientists on staff, and rely on Cornell Cooperative Extension and the Town's Environment Division of the Department of Land Management for technical

²⁵¹ NYDEC. 2012. Personal communication, Div. Marine Resources.

²⁵² Clearly these figures are dated. They are, however, the most recent that could be located for the preparation of this document.

assistance. The Trustees devote about 90 percent of their resources to shellfish management and 10 percent to management of freshwater finfish.

Figure 31: Shellfish Closure Areas



While the Trustees currently have no published plan for the management of their finfish or shellfish resources, the economic potential of such a plan is being increasingly recognized as the potential quality of the resource under Town management is realized. For example, a study of Mecox Bay estimated its oyster population at over 38 million with a value of almost \$5 million²⁵³.

Additional information about shellfishing in each of the major waterbodies is detailed further in the Harbor Plan section of this document.

Aquaculture

Suffolk County (Department of Planning) administers a shellfish aquaculture lease program that provides secure access to publicly owned underwater lands in Peconic Bay. The program is designed to increase investment in aquaculture; avoid conflicts with commercial fishing and other uses of the bay; and augment the natural harvestable populations of oysters, hard clams and bay scallops.

The County controls both the location of shellfish farms through issuance of leases on underwater land within a 29,969 acre Shellfish Cultivation Zone (See Figure 32 and 33) and the extent and intensity of aquaculture use through limits on lease size and number. The Cultivation Zone includes the NYS Department of Environmental Conservation-issued Temporary Marine Use Assignment locations; historic, private oyster grants; and other contiguous areas where the impacts/conflicts of shellfish aquaculture activities on environmental resources/socio-economic concerns will be minimal. New leases can be issued for 5 or 10 acre parcels for a total of 60 acres per year.

As of 2012, the program has had three leasing cycles, the first was to offer leases to those who had been operating in Peconic Bay under a DEC Temporary Main Area Use Assignment. The second cycle was for private owners who were interested in cultivating species other than oysters on their private grant parcels. The third cycle was for shellfish farmers seeking new leases. There are currently nine leases within the Town of Southampton boundary in waters of the Peconic Bays and Noyac Bay; four others are pending and five more are proposed. In the latest cycle, bay-wide, many more applications were submitted than can be approved under the 60 acre annual cap.

Following issuance of a lease by the County, leaseholders must then obtain permits from the US Army Corps of Engineers, NYS Department of Environmental Conservation (On/off bottom culture permit), NY Department of State federal consistency concurrence, and a US Coast Guard private aids-to-navigation permit. The length of time needed to secure a lease and required permits has been an issue for some prospective shellfish farmers in these early stages of the program.

²⁵³ Board of Trustees. 2001. Marine Resources Protection and Management Plan; Moriches Bay, Shinnecock Bay and Mecox Bay. Online at www.southamptontownny.gov/FTP/SEQRA/mrmp.pdf.

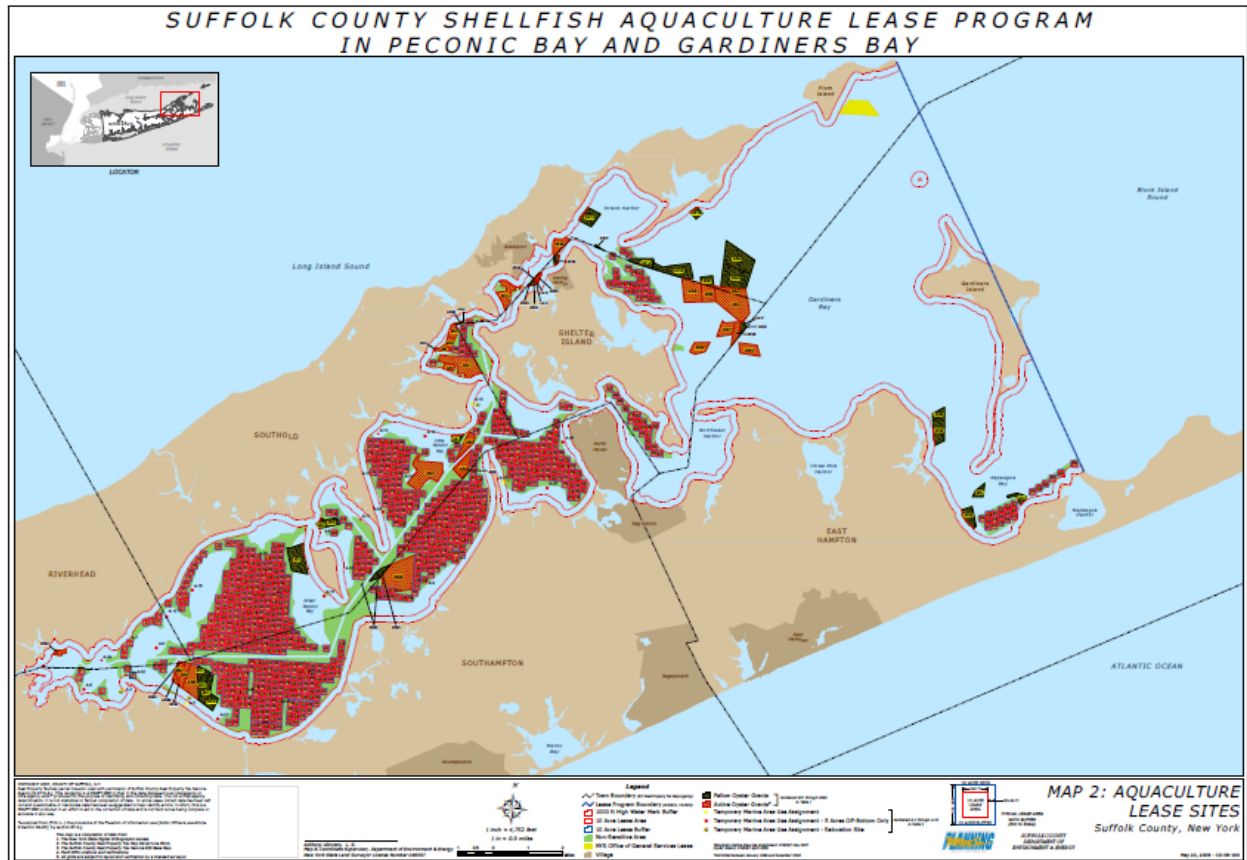


Figure 32: Aquaculture lease sites overlaying the Suffolk County Shellfish Cultivation Zone

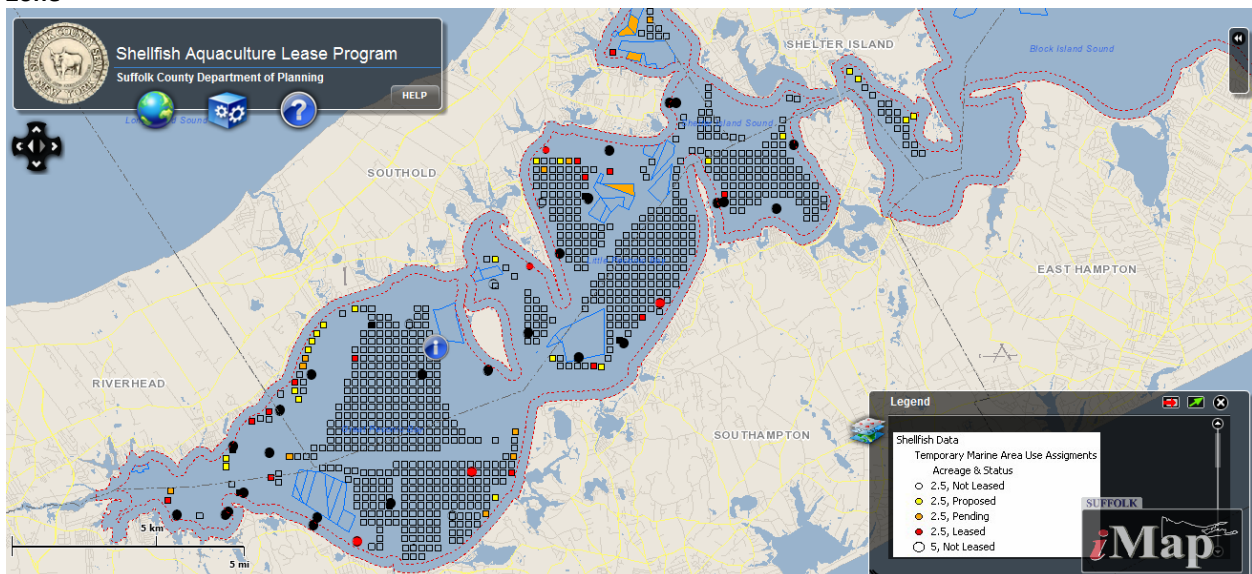


Figure 33: Aquaculture Lease Status Map. Map depicts the status of lease site locations within the Shellfish Cultivation Zone, i.e., whether a site has been leased, has been applied for, or is available for leasing.

<http://www.suffolkcountyny.gov/Departments/Plan>

In March of 2009 the Southampton Town Trustees and the Parks and Recreation Department joined the Suffolk County Cornell Cooperative Extension in implementing a community oyster garden in Southampton Town at Tiana Bay (in Western Shinnecock Bay) in Hampton Bays. This program seeks to restore the shellfish populations within the Town as well as educate residents about how to grow and harvest oysters, thereby becoming stewards of their environment.

Participants are given lessons along with 1,000 seed oysters and two floating cages to grow and protect their oysters. Once fully grown, all the oysters can either be put back into the bay or half can be kept for consumption. Additional aquaculture activity is being conducted by the Shinnecock Bay Restoration Program, which is planting oysters and clams in the Bay to improve water quality. (These programs are described in greater detail in the Water Quality section of this Inventory and Analysis.)

A feasibility study of small-scale commercial mariculture in Southampton public waters was prepared by TerraAqua Environmental Sciences and Policy for the Southampton Board of Trustees in 2003. The basis for the study is that wild shellfish stocks have declined in Southampton waters and that shellfish aquaculture may provide a continued livelihood for fishermen. The study also concluded that Shinnecock and Moriches bays are capable of supporting substantial shellfish (oysters, clams, and scallops) farming. The recommended method is movable, off-bottom culture. The primary obstacle is conflict with other uses which the study addresses by recommending mitigation measures such as geographic separation, established mariculture zones, and public involvement throughout the process. Baymen have started small-scale aquaculture in the State-owned waters of Peconic Bay within the boundaries of Southampton, and Trustee's shellfish growing efforts now extend into Sag Harbor and West Moriches Bay.

The Shinnecock Indian Reservation historically supported an American oyster (*Crassostrea virginica*) and hard clam aquaculture farm in Heady Creek. In 2013, the Peconic Institute and the Shinnecock Nation entered into a partnership to restore and upgrade the facility to continue to grow shellfish, and to educate residents about the importance of shellfish to the environment and economy.

Sport Fishing

Recreational fishing in Southampton includes both shellfishing and fin fishing. The Town supports a fleet of charter boats, and surfcasting is also a popular activity on the Town's beaches. Those wishing to fish in New York must enroll in the State's Recreational Marine Fishing Registry. A conservative estimate of the direct value of sport fishing to the Town is between \$32 and \$66.8 million dollars—a value far in excess of the wholesale value of the commercial fin- and shellfish fisheries. These figures underscore the importance of water quality in the Town in preserving these valuable economies²⁵⁴.

Those wishing to shellfish recreationally in Town waters must obtain a permit from the Trustees. Permits for freeholders, residents, and taxpayers are free, while permits for temporary residents range from \$10 to \$40, depending on the amount of time for which a permit is valid.

Issues and Analysis

Decline of the working waterfront

Displacement of traditional water-dependent uses by residential and non-water-dependent commercial uses diminishes an important economic base, source of employment, and community character. Stressors on environmental quality impact the productivity of marine resources relied upon by the

²⁵⁴ Town of Southampton Department of Land Management. 1999. Southampton Tomorrow: Comprehensive Plan Update: Implementation Strategies. Online at: <http://www.southamptontownny.gov/content/72/837/2113/2365/default.aspx>.

harvesting industries. Planning, regulatory and programmatic tools to protect and expand working waterfront uses need to be strengthened.

Water Use and Access Issues

There is competition among different user groups and different types and sizes of vessels for use of embayment waters, navigation channels, and boating support and access facilities, including competition among commercial and recreational fishermen, pleasure boaters, personal watercraft users, swimmers and SCUBA divers, waterfowl hunters, charter fishing and excursion vessels, hand-propelled craft, and passenger ferries. Some of this competition is due to inadequate infrastructure such as docking and loading facilities, limited parking, and need for maintenance dredging. Loss of existing boat support facilities (for resident and transient boaters) exacerbates the problem. There are occasionally conflicts between public rights to use navigable water and the rights of littoral owners. Visual access to scenic views of the estuaries, bays and ocean is another quality of the community that can be diminished by private coastal development.

Recreational Boating

It is increasingly challenging for the marine industry, including marinas, to survive and locate in the Town because of economic pressures from competing land uses and the costs of maintaining waterfront infrastructure and navigational channels and fairways. In some instances, family-owned boatyards are in danger of being converted to another use because of the lack of family interested in continuing the business. Code amendments to better address marina site selection, a comprehensive assessment of dredging needs, water quality issues and pollution management is needed²⁵⁵.

Fisheries

As with other waterfront uses, fisheries enterprises are negatively impacted by rising property values and property taxes which make it increasingly difficult to find affordable waterfront property for access and support services (*e.g.*, affordable dock space, upland storage areas, unloading and transfer areas, and repair facilities). The desirability for waterfront property has driven up real estate prices to a point that fishermen are finding it difficult or impossible to afford waterfront property. Hence, access to the water and related fishing industry related facilities is becoming increasingly difficult. Commercial fisheries are also affected by proximity to residential development, increasing the likelihood of interference with business practices and nuisance suits.

There is a need for additional support facilities for commercial fishermen, including affordable dock space, upland storage areas, unloading and transfer areas, and repair facilities. Displacement of commercial fishermen from private marinas is another increasing problem for fishermen.

A suitably-trained labor force will be required for the industry to remain competitive over time.

Mariculture offers the potential to revitalize commercial and recreational shellfishing.

Maintaining safe access to the port and its dockside facilities through the Shinnecock Inlet is an ongoing issue for the Shinnecock marine center. The condition of the access road to the port's commercial facilities, threatened by erosion and flooding, is an additional issue of concern.

²⁵⁵ Town of Southampton, 1999. Southampton Tomorrow: Comprehensive Plan Update, Implementation Strategies.

Like many fishing communities in the northeast, the Southampton commercial fishing industry also faces the challenge of maintaining a suitably-trained labor force. Development of a local/regional market with direct sales to local consumers in addition to the wholesale market will add stability to the industry.

In addition to challenges related to access and maintaining a skilled labor force, the primary issue facing the Town's marine living resources is that of water quality. As described in greater detail in the Water Quality Strategy document chapter and in the Water Quality section of this Inventory and Analysis, the primary concern with regard to water quality is that of an overabundance of nutrients, largely stemming from inadequate wastewater treatment (*e.g.*, failing septic systems and inadequate nitrogen removal from existing systems).

Excessive nutrients have been linked to harmful algal blooms (HABs). Since the mid 1980s, several types of harmful algal blooms have been observed within the County's marine waters (*Aureococcus anophagefferens*, *Alexandrium fundyense*, *Cochlodinium polykrikoides*, and *Dinophysis acuminata*). These HABs can cause hypoxic (low dissolved oxygen) conditions, leading to fish kills, and can impair the functioning of marine life, such as the bay scallop, which was greatly affected by the brown tides of the mid 1980s. As filter feeders, the scallops expended a great deal of energy filtering the brown tide. Unable to digest the algae, the population declined to the point of near extinction. Efforts to restore the bay scallop population have had positive results, but the population remains vulnerable due to water quality issues.

Some of these algal blooms can also produce toxic compounds with human health impacts, such as saxitoxin (produced by *Alexandrium fundyense*) which causes Paralytic Shellfish Poisoning (PSP). This can lead to the closure of shellfish beds and loss of important fishing days.

HABs can also shade out important types of submerged vegetation. Eelgrass all along the Atlantic coasts of North America and Europe was already all but decimated in the 1930s by wasting disease, but the brown tide events of 1985–1987 and 1991 have been identified as the cause of the more recent decline in eelgrass abundance in the Peconic Estuary (Gobler, 2011²⁵⁶; Stephenson, 2009²⁵⁷). Loss of habitats such as eelgrass are linked to declines in important species of fish and shellfish, who rely on eelgrass beds as nursery grounds, foraging grounds, and refuges from predators.

Dredging

There is an ongoing need for maintenance dredging to help ensure navigation safety and the continued viability of water-dependent activities and facilities, including dredging of federal, State, County, Town, and privately maintained channels and boat basins²⁵⁸. Dredging is also needed in some areas for environmental, *e.g.*, water quality purposes. However, dredging is expensive and funding is becoming increasingly scarce; permitting can be time consuming and complicated, and upland and in-water disposal options (for material not suitable for beach nourishment) are limited. Enhanced coordination is needed among federal, State, County, Town and private dredging projects. Maintaining a strong economic base of water-dependent businesses is important for supporting the public benefit assessment in support of funding for dredging.

²⁵⁶ Gobler, C. October 27, 2011. Personal Communication.

²⁵⁷ Stephenson, L.B. 2009. Eelgrass Management Plan for the Peconic Estuary.

²⁵⁸ NY Department of State. 1997. Dredging and Dredged Material Management. Technical Report Series prepared for the South Shore Estuary Reserve.

AGRICULTURE

Agriculture in Southampton

As stated in Southampton's 1999 Comprehensive Plan Update, agriculture is central to the character and economy of the Town. Agriculture supports not only its own industry, but the tourism and second home industries as well, for without the scenic qualities of farmland and the sense that Southampton is a rural, agricultural community, the Town would lose some of its appeal as a tourism and second home destination.

Historically, most of the Town's agricultural activity has been in the eastern half of Town, which has also become the focus of agricultural land preservation efforts. Agriculture in the western portion of Southampton has been limited by sandier, less productive soils, the Pine Barrens, and relatively dense settlement patterns. However, clusters of farmland still remain, primarily north of Montauk Highway in East Quogue north of Lewis Road, and in the Speonk/Remsenburg area.

An inventory of farmland completed in 1997–1998 by the Department of Land Management, in conjunction with the Peconic Land Trust and the Farmland Committee, revealed that the amount of farmland remaining in Southampton was approximately 8,527 acres (8.5 percent of the Town's land area). Thirty-one percent of this agricultural land is protected from development. According to the 1999 Southampton Comprehensive Plan Update, between 1970 and 1995, approximately 3,273 acres, or 27.7 percent of the Town's farmland, were developed or removed from active production—an annual loss of 121.2 acres.

Important sectors of agriculture in Southampton are family farms, horse farms, vineyards, and nurseries.

The Town and its partners have created, and are implementing, a range of regulatory and programmatic approaches to preserving and increasing agriculture.

In 1972 Southampton established an Agricultural Overlay District in its Zoning Law, covering 13,550 acres of the most productive agricultural soils. An inventory of farmland completed in 1998 revealed that 8,474 acres of agricultural land remained in the overlay district, and currently 4,763 acres remain. The district serves as the target area for the Town's Community Preservation Project Plan, which currently identifies 4,252 acres of farmland among its highest priorities for protection. A significant amount of this is in the coastal area covered by this Water Protection Plan.

Another regulatory tool is the Planned Residential Development provisions of the Southampton Zoning Law which requires clustering of subdivision lots and preservation of the remaining land.

As of 1999, the Town and County "purchase of development rights" programs had preserved roughly 17.46 percent of the existing agricultural land base, with subdivision reserves and private land trusts preserving another 12.17 percent.

The Town's agricultural reserve program, implemented and managed by the Town Planning Board, Farmland Committee, and Town Board had preserved 893 acres of agricultural land in new subdivisions as of 1999.

Issues and Analysis

Farmland retention and preservation requires attention to the needs and concerns of the agricultural industry in Southampton. These issues, identified in the Comprehensive Plan include:

- Rising property values; taxes, both property and inheritance
- Conflicts with adjacent uses, especially residential

- Environmental concerns and a supportive regulatory regime
- Development of strong local and regional markets

Transportation planning that accommodates needs of farming

WATER QUALITY IMPROVEMENT STRATEGIES

Throughout the various meetings, interviews, and research conducted in preparation of this SWPP, it became evident that water quality is a topic of great concern to residents and natural resource managers. The SWPP is not intended to serve as a water quality management plan, however the significance of the issue warranted this special section as a means to address this issue beyond the policies and recommendations described in the main body of the rest of the document. As such, this section of the SWPP begins with a summary of the Town's water resources and issues, and concludes with a reorganization of the implementation techniques presented in the Policies and Implementation Recommendations Section of the SWPP—providing greater detail about many of the recommendations and offering a more structured roadmap for recommendation implementation.

This section also highlights and builds upon some of the work in which the Town is already involved to address water quality, such as;

- the partnership between the Trustees, local residents, and the Cornell Cooperative Extension's Southold Project in Aquaculture Training (SPAT) program to encourage aquaculture projects designed to help filter water in the bays and estuaries;
- the Town's work to map all discharges within the South Shore Estuary Reserve (SSER) and Peconic Estuary;
- the development of the Trustees' Pump-Out Boat program (which removed 101,672.5 gallons of vessel-based waste during the 2013 boating season);
- the implementation of the Town's Septic Rebate Program, which provides eligible residents with a significant percentage of the cost of a septic system upgrade, depending on the location of the project;

- the Town's establishment of an accelerated review process for Community Preservation Fund parcels in located either in the aquifer protection overlay district, within the 0–2 year surface to groundwater zone, and parcels located within the recharge zones for public well heads; and
- the Town's educational efforts to reduce contaminants from runoff.

Additional information about many of these efforts can be found in the Inventory and Analysis Section of the SWPP.

Many of the recommendations presented in this water quality strategy are consistent with, and draw from, other existing local and regional planning efforts that address water quality, including;

- the Town's Sustainability Plan,
- the Peconic Estuary Program's Comprehensive Conservation and Management Plan,
- Peconic Green Growth's efforts to prioritize areas for septic upgrades,
- the Long Island South Shore Estuary Reserve's Comprehensive Management Plan,
- the Town's Climate Action Plan (in development), and
- the Suffolk County's Comprehensive Water Resources Management Plan.

Many of these documents note the regional nature of Southampton's water quality problems—and this Plan reflects that concept, stressing the importance of working collaboratively with the County and others engaged in improving water quality.

The Need for this Chapter

The Town of Southampton's culture and economy are deeply influenced by the area's exceptional natural resources. Residents and businesses alike rely on clean water from the sole source aquifers to support their daily activities. Recreational opportunities focused around the Town's surface waters—such as fishing, boating, and beach going—make Southampton a great place to live as well as a premier tourist destination and second home community. Commercial uses of the waterways, such as the fishing activities of the baymen, add to the Town's economy and help to maintain the traditional uses of the surface waters and shore-based facilities.

The critical role that water—both surface water and groundwater—plays in Southampton is clear, and yet recent research and monitoring efforts show that the short- and long-term health of surface and ground waters is being significantly jeopardized by human activity. Various efforts are underway to improve groundwater quality in the three aquifers underlying the Town (the Magothy Aquifer, the Lloyd Aquifer, and the Upper Glacial Aquifer), which provide almost 90% of baseflow to streams, and serve as critical sources of drinking water²⁵⁹. Monitoring results make a clear case for the need to reduce nitrogen inputs. More specifically, from 1987–2005, the average nitrate levels in each aquifer increased; by 1.22 mg/l in the Upper Glacial Aquifer (39% increase), by 2.29 mg/l in the Magothy (201% increase), and by 1.87 mg/l in the Lloyd Aquifer (183% increase)^{260, 261}. While the nitrates are perhaps the most significant issue with regard to the health of the aquifers, other contaminants of concern include Volatile Organic Compounds (VOCs) including tetrachloroethylene, trichloroethylene and 1,1,1-trichloroethane; Methyl

²⁵⁹ Suffolk County. 2010. Suffolk County Comprehensive Water Resources Management Plan, August 2010 draft. <http://www.suffolkcountyny.gov/Departments/HealthServices/EnvironmentalQuality/WaterResources/ComprehensiveWaterResourcesManagementPlan.aspx>

²⁶⁰ Berry, G. 2011. Proposed Methodology for Establishing Need for Decentralized Wastewater Upgrades Based on Environmental Conditions for Suffolk County Towns, Southampton Sample. Online at: <http://studioabarchitects.com/files/Download/11x17methodologyalltext.pdf>.

²⁶¹ CDM. 2011. Suffolk County Comprehensive Water Resource Management Plan.

Tertiary Butyl Ether (MTBE); Perchlorate; Pesticides; and “emerging contaminants” which include pharmaceuticals and personal care products²⁶².

The Town is also working to improve conditions in the surface waters where contaminants, excessive nitrogen and the related development of harmful algal blooms (HABs) in the marine environment are the primary concern. Beginning in the mid 1980s, several types of harmful algal blooms have been reported within the County’s marine waters, including brown tide (caused by *Aureococcus anophagefferens*) and red tide (caused by *Alexandrium fundyense*, *Cochlodinium polykrikoides*, and *Dinophysis acuminata*). In addition to causing hypoxic conditions and the shading of marine plants (the brown tide events of 1985–1987 and 1991 have been identified as the leading cause of the decline in eelgrass abundance in the Peconic Estuary^{263, 264}), some of these algal blooms can produce toxic compounds with human health impacts such as saxitoxin (produced by *Alexandrium fundyense*) which causes Paralytic Shellfish Poisoning (PSP). That specific red tide has led to the closure of shellfish beds around the Town of Southampton²⁶⁵.

The protection of groundwater and surface water quality involves both the elimination or mitigation of existing problems, and the prevention of new ones. This presents various challenges as to how to effectively manage land and water uses to protect and restore water quality. In an unwavering effort to preserve the character and benefits associated with the waters of Southampton, the Town has risen to this challenge by embracing initiatives and innovative techniques for improving water quality, restoring habitat, enhancing fin and shellfish stocks, preserving wetlands, and providing access and open space for the public’s health, safety and general welfare. The recommendations below are meant to further the work of the Town and other partners engaged in this fight to protect the region’s water quality.

WATERSHED OVERVIEW

Southampton has two primary surface watersheds, one that drains north toward the Peconic Bays and another which drains south toward the Atlantic Ocean. The divide is shown on the Surface Watersheds map below (and in larger scale as Map 15, Surface Watersheds, in the map collection document), with the darker areas being within the boundary defined for the Water Protection Plan. The black and white dotted line shows the watershed divide between flows to the Atlantic Ocean and to the Peconic Bay area. On either side of the divide are a significant number of sub-watersheds. These sub-watersheds discharge into many different types of waterbodies including ponds, streams and/or embayments. Each sub-watershed’s land uses (residential, agricultural, commercial, industrial, etc.) may produce different sources and levels of contaminants; and the differing amounts of impervious surface (paved areas, buildings, etc.) can affect the pathway of surface water by increasing runoff and decreasing infiltration to groundwater. It is important to note that the watershed boundaries shown in the Surface Watershed map extend well beyond the boundaries of this planning document—and beyond the boundaries of the Town itself—providing a clear illustration of the need for regional coordination on water quality issues.

²⁶² CDM. 2011. Suffolk County Comprehensive Water Resource Management Plan.

²⁶³ Gobler, C. October 27, 2011. Personal Communication.

²⁶⁴ Stephenson, L.B. 2009. Eelgrass Management Plan for the Peconic Estuary.

²⁶⁵ Berry, G. 2011. Proposed Methodology for Establishing Need for Decentralized Wastewater Upgrades Based on Environmental Conditions for Suffolk County Towns, Southampton Sample. Online at: <http://studioabarchitects.com/files/Download/11x17methodologyalltext.pdf>.

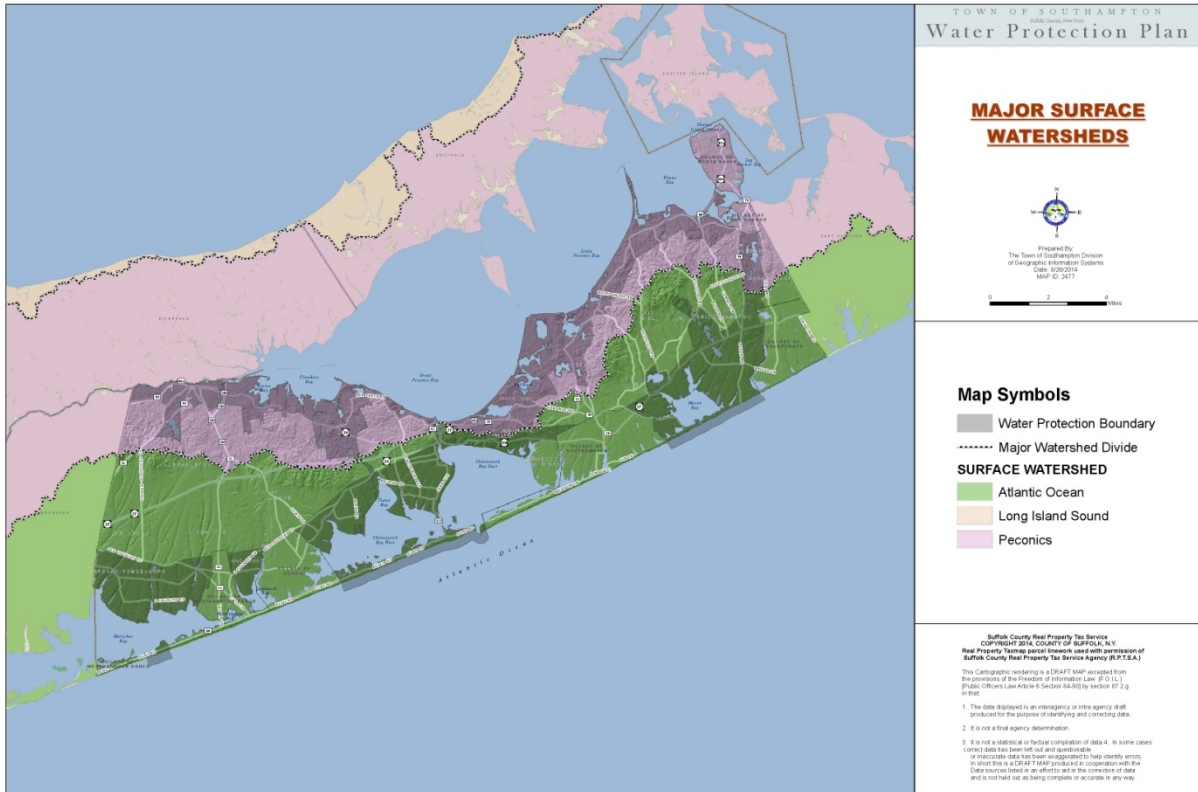


Figure 34: Major Surface Watersheds (A larger version of this map is available in Figure 2.)

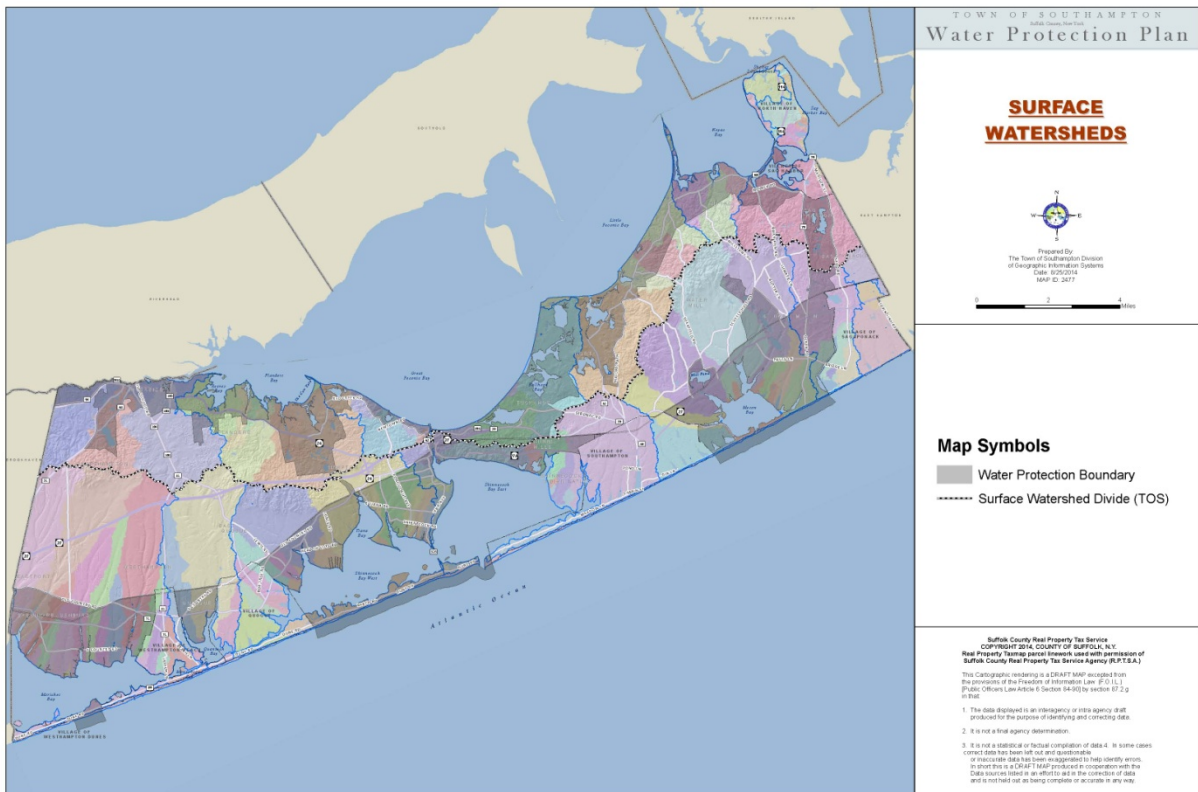


Figure 35: Surface Watersheds (A larger version of this map is available in Figure 3.)

In addition to the surface waters in the Town, there is a vast groundwater system as well, which contains the Magothy Aquifer, the Lloyd Aquifer, and the Upper Glacial Aquifer. The general direction of groundwater movement is similar to that of surface water, with some water draining to the Peconic and some draining to the Atlantic. In order to best manage these watersheds, it is important to understand the sources of water as well as the ways in which they move throughout Town. The following is excerpted from the Long Island Comprehensive Waste Treatment Management Plan²⁶⁶:

The quality of groundwater on the aquifers of Long Island is dependent on a number of factors. In undeveloped areas, recharge from relatively good quality rainfall, together with whatever natural treatment and pollution retention is provided by the vegetation, soils and geologic sediments have resulted in the availability of very high quality groundwater in the underlying aquifers. Where the land has been subjected to heavy use or modification by man, groundwater quality has been degraded. The degree of degradation is dependent upon the type of land use; the location of the individual sources of contamination, such as cesspools and landfills; the characteristics of the contaminants and the length of time that the waste disposal practice has been in existence.

Sources of Water

The waters of the estuaries and embayments in and around the Town of Southampton are affected by four sources of input:

1. Marine (saline) waters, which are the result of inflow from the Atlantic Ocean to the south and Peconic Bay to the north.
2. Fresh and estuarine water in the Peconic River, which passes through the towns of Brookhaven, Riverhead, and Southampton on its 12-mile path to Flanders Bay.
3. Precipitation, which may originate from clouds formed miles, or even hundreds of miles away from the Town. When this precipitation falls, it enters the groundwater through the soils, or moves across the landscape as runoff, often entering surface waters.
4. Groundwater, which is recharged by rain and re-used water (*e.g.*, septic effluent, lawn watering), and which may travel from surrounding towns.

Each of these sources has specific impacts on water quality, wildlife habitat, and species of flora and fauna within the embayments.

Movement of Water

In the generally loose, sandy soils of Southampton, deposited by glaciers thousands of years ago, fresh water moves in three linked, but distinct pathways;

1. Surface water flow may be as a defined river or stream or as sheet flow of stormwater. Some of water in this pathway may infiltrate into the groundwater but most will remain on the surface as it moves downhill to the receiving water body.
2. Groundwater flow which has infiltrated, or percolated, into the ground following a precipitation event. As it percolates, it eventually reaches the settled level of the water table. Like surface water, groundwater also “flows downhill” from the upper reaches of the watershed towards the receiving waterbody. As it moves, some groundwater may intersect with a fresh water body like a

²⁶⁶ Nassau-Suffolk Regional Planning Board. 1978. Long Island Comprehensive Waste Treatment Management Plan.

kettle hole pond, wetland or a stream, but much will remain underground until reaching an embayment or the ocean.

3. Water may also move in the subsurface, above the normal ground water level, in a temporary flow related to short-term melting or storm conditions. The volume in this sort of flow is generally much less than the other two pathways.

As mentioned, water may move from one of these pathways to another. It may also return to the atmosphere through evaporation or transpiration from plants.

Depending on geology and the soils or on human infrastructures like water supply systems and drainage systems, watershed boundaries (*i.e.*, the drainage basin or catchment) for surface water and groundwater may differ; however, for the purposes of this Plan for Southampton, they will be considered identical. Water movement through the various pathways (*i.e.*, in surface water, groundwater, or subsurface water), however, will move at vastly differing rates of speed and has the potential to carry very different contaminants from varying sources.

Surface water moves much more rapidly than groundwater—surface water flows are often measured in feet/second or feet/minute whereas groundwater movement is more typically measured in feet/day, even in the sandy soils found in Southampton. With groundwater flow at these rates, it may take years—or even decades—for groundwater and any contaminants it may contain to reach a receiving waterbody.²⁶⁷

Surface waters, by their nature, tend to pick up and carry contaminants found on the surface, including silt and soil particles, pet waste, fertilizers, fuel spills, bacteria (pathogenic or otherwise), etc. Groundwater or subsurface flows generally carry only dissolved or liquid contaminants from underground sources, *e.g.*, nutrients from underground waste disposal systems (bacteria and other pathogens are typically filtered out by the soils in very short order), light-weight petroleum products (gasoline, home heating oils) leaking from underground storage tanks, or other chemical contaminants. Groundwater volume and flow may be affected by withdrawal—through wells—for domestic, commercial, or industrial uses, although the deeper the well, the less impact on groundwater flow to nearby embayments.

Management of these various contaminant pathways requires vastly differing techniques. For example, upgrading from a leaking cesspool to a standard septic system will generally prevent pathogens from entering the groundwater, but will do little to slow the flow of nutrients through the system. Shifting from a standard septic system to some more advanced treatment, such as a wastewater treatment facility, offers the possibilities of both removal of pathogens and nutrients, and the potential to direct the location of the outflow to increase recharge.

More specific information about the Town's watersheds and the issues associated with water quality and quantity in the watersheds are described in the Inventory and Analysis and in the following section, which also contains strategies to address the issues.

WATER QUALITY ISSUES

As described more fully in the Inventory and Analysis section of the SWPP, the primary sources of surface and groundwater impairment in Southampton are wastewater, stormwater, fertilizers and pesticides, and atmospheric deposition. Further stressors to water quality and quantity stem from sea level rise. The sources and impacts are described below for each category of stressor.

²⁶⁷ Maps in Berry (2011) show the groundwater to surface water influence zones and notes that nearly half (47%) of all residential development in the Peconic Estuary watersheds is located in the 0-2 year influence zone.

The recommendations that follow are contained in Section 2 of the SWPP, and have been identified through public meetings, meetings with Town personnel and water quality experts, and through a review of documents relevant to water quality and quantity issues in Southampton. The recommendations reflect both long-term strategies and short-term goals. Some of these recommendations will have immediate impacts on water quality, while others, such as efforts to improve groundwater, may take many years or even several decades to show improvement. Even if results will not be realized in the near-term, the Town should continue to be proactive and aggressive in its approach to addressing water quality and quantity issues.

Several entities are currently engaged in water quality protection and restoration efforts affecting the Town of Southampton; brief descriptions of some of the most active are below. The Town should consult with these entities, as well as with the nearby villages and neighboring towns, to implement some of the recommendations below.

- Peconic Estuary Program – The PEP is involved in the monitoring of surface water, groundwater, eelgrass, and atmospheric deposition. Some of their target issues include harmful algal blooms, stormwater management, and nitrogen reduction.
- Long Island South Shore Estuary Reserve – Among its priorities, the Reserve is concerned with point and nonpoint sources of water pollution.
- Peconic Baykeeper – The Peconic Baykeeper is engaged in promoting improved septic management, reducing stormwater pollution and vessel-based pollution, and enforcement of the Clean Water Act.
- Defend H2O – a relatively recent organization, advocates for the enactment of stronger water quality standards, sewage management reform, an end to use of the insecticide methoprene to control the mosquito population, and wetlands protection.
- Shinnecock Indian Nation – The Shinnecock Indian Nation, and in particular, the Shinnecock Environmental Division, works to protect and care for the environment. They also run a shellfish hatchery that conducts educational programs.
- The Central Pine Barrens Joint Planning and Policy Commission – The Commission implements a Comprehensive Land Use Plan and has the authority to review, permit, and enforce land-use decisions; operates a transferrable development rights and conservation easement program; and coordinates public land stewardship and management.
- Long Island Clean Water Partnership – The Partnership is a collaborative effort among environmental groups concerned with the water quality on Long Island. They have developed a 10-point action plan and are working to advance policies and research aimed at improving water quality.
- Shinnecock Bay Restoration Program – The Shinnecock Bay Restoration Program is working to restore the water quality and fisheries of Shinnecock Bay. It is involved in shellfish restoration/enhancement through the development of spawning sanctuaries for clams and through collaboration with Cornell Extension's SPAT program which encourages residents to help grow shellfish. The Program is also involved in eelgrass planting and conducts research on water quality.
- Town Trustees – The Trustees are a five-member elected board involved in, among many other things, maintaining and protecting surface water quality and minimizing negative impacts to fish

and shellfish and their habitats. Projects include running the Town's pump-out boat program and working with Cornell Cooperative Extension to improve water quality through shellfish cultivation.

- New York Department of Environmental Conservation – The DEC implements and enforces many State laws designed to protect the natural resources and water quality of New York. The agency also awards grant funds for projects such as those pertaining to water quality improvements and environmental cleanups.
- The Nature Conservancy – The Nature Conservancy has used the Nitrogen Loading Model (NLM) to compare the input of this nutrient from atmospheric deposition, fertilizer, and wastewater for forty-three sub-watersheds around the Peconic Bays.
- Peconic Green Growth – Peconic Green Growth has developed a prioritization process for identifying areas in Southampton that would be good candidates for innovative nitrogen removal upgrades and clustered systems to reduce the amount of nitrogen released into ground and surface waters.

Wastewater

As stated above, one of the primary water quality issues in Town is that of nutrient pollution stemming from septic systems and cesspools^{268, 269}. In 1973, Suffolk County Department of Health codes were changed to require the use of septic systems instead of cesspools—however existing buildings were not required to upgrade at the time. As a result, an estimated 23,000 buildings built in Southampton prior to 1973 may still use cesspools, rather than septic systems²⁷⁰. Effluent from these, now at least 40-year old, cesspools can leak, untreated, into the surrounding environment if they are not cleaned and maintained. If properly maintained, septic systems, by contrast, remove pathogens and offer limited removal of nutrients.

To increase the conversion to septic systems and to encourage the upgrade of failing septic systems, the Town has instituted a rebate program whereby eligible residents can receive a portion (up to 50–60%, depending on project location) of the costs of a septic upgrade. It is important to note, however, that while traditional on-site wastewater treatment systems (septic systems or cesspools) protect public health through the removal of pathogens, most are not designed to remove significant amounts of nutrients which move, relatively unimpeded, through groundwater flow into streams, rivers and embayments. To further complicate matters, even if septic systems are maintained and meet the federal nitrogen standards for safe drinking water (10 mg/l), the contaminant level for maintaining a healthy natural environment is 0.1-0.2 mg/l—well below the threshold for safe drinking water. The County maintains a list of the approved septic technologies, none of which adequately removes nitrogen to meet the contaminant level for a healthy environment. Recently, however, many denitrifying systems have been tested throughout the country, and funding (and planning and logistical support) from the State and from two charities founded by former New York City Mayor Bloomberg will bring another testing facility, the New

²⁶⁸ Lloyd, Stephen. 2014. Nitrogen Load Modeling to Forty-three Subwatersheds of the Peconic Estuary. Online at: <https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/Documents/Nitrogen%20load%20modeling%20to%20the%20Peconic%20Estuary%20-%20TNC%20May%202014.pdf>.

²⁶⁹ Kinney, E.L. and Valiela, I. 2011. Nitrogen Loading to Great South Bay: Land Use, Sources, Retention, and Transportation from Land to Bay. *Journal of Coastal Research*: Volume 27, Issue 4: pp. 672 – 686.

²⁷⁰ Berry, G. 2011. Proposed Methodology for Establishing Need for Decentralized Wastewater Upgrades Based on Environmental Conditions for Suffolk County Towns, Southampton Sample. Online at: <http://studioabarchitects.com/files/Download/11x17methodologyalltext.pdf>.

York State Center for Clean Water Technology, to Southampton. The new Center, developed by the NYS Department of Environmental Conservation, the Town of Southampton, and Stony Brook University will research new septic treatment opportunities designed to lower the cost of treatment and improve the effectiveness of removing nitrogen²⁷¹.

In the natural environment, nutrients from effluent produce an over-enrichment of the waters leading to accelerated growth of plant materials (macroscopic algae and a range of microscopic forms). This accelerated growth can have significant adverse effects on water quality, on marine life, and on human use and enjoyment of the waters. Additionally this over-enrichment of nutrients has been implicated in increased incidents of harmful algal blooms (*e.g.*, brown tides, rust tides, red tides) that affect both natural resources (*e.g.*, fish kills) and human health.

Another water quality consideration is that wastewater effluent also can contain traces of pharmaceuticals and personal care products. These chemicals have been shown to have impacts on the development of aquatic life, and may have impacts on human health as well.

Efforts to increase awareness of water quality impairments associated with wastewater have laid the groundwork to make significant improvements.

Stormwater

As precipitation travels through the watersheds, it picks up and transports debris, chemicals, animal waste, oil and grease, and sediments that can impact surface water and groundwater quality. Impervious surfaces in the watershed (roofs, roads, parking lots, etc.) exacerbate runoff and the transport of pollution by minimizing areas where water can infiltrate into the ground, at which point some of the chemicals and nutrients are filtered out.

The nutrients introduced via stormwater runoff have similar effects as those described above (*e.g.*, harmful algal blooms and fish kills). The introduction of chemicals and sediment can alter the development and functions of aquatic life. Litter can detract from recreational uses and create hazards for marine life. Pathogens which wash into the water can result in shellfishing and beach closures.

To address stormwater issues stemming from road runoff, Southampton has had an inter-municipal non-point source pollution control program in place since the 1993 Town of Southampton Clean Water Bond Act. Hundreds of road systems have been addressed, both within the Town and the Villages, through installation of road drainage and other non-structural corrective measures. Funding is provided through Town Bond Act funding, NYS Clean Water/Clean Air Bond Act funding, and annual Town drainage appropriations. Work is coordinated with Village mayors and highway superintendents. The Inter-municipal Water Body Management Program is formalized through the Phase II Stormwater Management Plan.

Additionally, the Town has identified and mapped all discharges within the South Shore Estuary Reserve (SSER) and Peconic Estuary. Priority action areas have been identified based on the analysis of water quality data, land use, topography, natural resources, the DEC Priority Waterbody List, DEC Water Quality Classifications, shellfish and fin fisheries, and the likelihood-of-success priority assigned by the Stormwater Abatement Committee and through public meetings.

Furthermore, the Capital Improvement Program for nonpoint source pollution control for towns and villages has been in place since 1993. Each year, capital improvement programs for nonpoint source

²⁷¹ Wright, Michael. 2014. Bloomberg Pledges \$1 Million to East End Water Quality Research. The Southampton Press. November 5, 2014. Online at: <http://www.27east.com/news/article.cfm/East-End/85908/Bloomberg-Pledges-1-million-To-East-End-Water-Quality-Research>.

pollution continue to be identified, including potential projects and opportunities for instituting Best Management Practices.

Fertilizers, Herbicides, and Pesticides

The application of fertilizers, herbicides, and pesticides—both residentially and commercially—introduces chemicals and nutrients into the surface and groundwaters of Southampton. These chemicals can contribute to the development of harmful algal blooms, the loss of eelgrass, and the mortality or compromised function of some marine species (*e.g.*, lobster²⁷²). Recent sampling of groundwater by the Suffolk County Department of Health Services detected traces of pesticides including Metalaxyl (a fungicide), Atrazine (an herbicide), and Imidacloprid (an insecticide) at testing sites throughout the County, including in sites in Southampton. Approximately half of the 117 pesticide-related chemicals detected in the County since 1977 are believed to be legacy compounds which persist despite the fact that they have not been used in many years²⁷³. Efforts to minimize pesticide use should be taken now, but even so, pesticides will persist in Town waters for some time.

Testing of nitrate in groundwater in some agricultural areas produced results exceeding 20 mg/l²⁷⁴. The maximum safe drinking water standard is 10 mg/l.

The nitrogen in fertilizers can contribute to the algal blooms and fish kills mentioned previously; while pesticides can contaminate drinking water and can be toxic or disruptive to the development of non-targeted species.

The County has already taken steps to reduce the impacts of fertilizers by banning their application between November 1st and April 1st. The County has also developed a document entitled the “Long Island Pesticide Pollution Prevention Strategy” which creates a blueprint for the DEC to “to evaluate pesticide usage on Long Island, identify pesticides that have the greatest potential to cause adverse impacts and work with partners to reduce or eliminate such usage or find alternatives that do not present such impacts”²⁷⁵. In particular, this report focuses on strategies that prevent the introduction of harmful pesticides by altering pest management processes, encouraging the use of alternate pest management strategies, and using less-toxic products when available. These County efforts, along with Town and regional educational programs pertaining to fertilizer, pesticide, and herbicide application (see the flyer mailed to residents as an example of the Town’s outreach and education efforts:

<http://www.southamptontownny.gov/DocumentCenter/Home/View/1875>), pave the way for additional programs and policies aimed at reducing the improper use and related impacts of these chemicals.

Atmospheric Deposition

Atmospheric nitrogen is a source of contamination for the Town of Southampton and was identified as a major source of nitrogen to the Peconic Estuary during the development of the Peconic Estuary TMDL. It is anticipated that the Federal Clean Air Act will result in a 31.3% reduction from the baseline atmospheric

²⁷² Spiegel, J.E., 2012. Pesticides found in LI lobsters for the first time: More study planned. The CT Mirror. July 10, 2012.

²⁷³ New York State Department of Environmental Conservation. 2014. Long Island Pesticide Pollution Prevention Strategy. Online at: http://www.dec.ny.gov/docs/materials_minerals_pdf/fullstrategy.pdf.

²⁷⁴ Berry, G. 2011. Proposed Methodology for Establishing Need for Decentralized Wastewater Upgrades Based on Environmental Conditions for Suffolk County Towns, Southampton Sample. Online at: <http://studioabarchitects.com/files/Download/11x17methodologyalltext.pdf>.

²⁷⁵ New York State Department of Environmental Conservation. 2014. Long Island Pesticide Pollution Prevention Strategy. Online at: http://www.dec.ny.gov/docs/materials_minerals_pdf/fullstrategy.pdf.

load by 2017 and beyond²⁷⁶. Given the State, national, and even global scale of the problem, and the ongoing State and federal efforts to address the sources, it is not addressed in detail in this analysis of Southampton's water quality issues.

Sea Level Rise

In addition to threats from contamination, sea level rise will also have an impact on groundwater and surface water resources. Groundwater models used to estimate the impacts of a one-foot and two-foot increase above mean sea level indicate that, as more saltwater enters the groundwater system (essentially pushing up on the fresh water layer), the freshwater aquifer system of the South Fork will become thinner²⁷⁷ and may be pushed upward. These changes to the water system may have direct effects on water quality, including:

3. The intrusion of salt water into fresh groundwater which will reduce access to fresh water for such uses as irrigation and drinking water.
4. The rise of the groundwater table, which 1) will reduce the depth between septic systems/cesspools and groundwater, leading to the possible inundation of existing septic systems and cesspools by groundwater, compromising treatment capabilities, and allowing for the input of poorly treated or untreated waste into the groundwater system; and 2) may result in the increased discharge of groundwater into surface waters such as streams and ponds, which could flood nearby infrastructure and bring additional contaminants into contact with the groundwater system.

Additionally, sea level rise and predicted increases in storm intensity will likely lead to the introduction of contaminants and marine debris stemming from storm damage²⁷⁸.

RECOMMENDATIONS

The significance of the Town's water quality problems is reflected in the wealth of existing programs and research projects already in place to understand and address the issues. Moving forward, there are many ways in which the Town might choose to further address water quality. Several options are presented below, ranging from long-term comprehensive recommendations, to smaller initiatives that can be conducted in the near-term, to the continuation of programs already in place. The path ultimately chosen by the Town will depend on factors such as available information, funding, and public support.

It is strongly recommended that the Town convene a panel of water quality experts to review the contents of this chapter and to develop a consensus on the best way to move forward.

Nutrient Recommendations

The most significant water quality issue in Southampton is that of excess nutrients. As mentioned above, and in the Inventory and Analysis Section of the SWPP, nutrients are primarily introduced into ground and surface waters through wastewater, stormwater, the use of fertilizers, and atmospheric deposition.

One tool for addressing nitrogen pollution is the development of Total Maximum Daily Loads (TMDLs). TMDLs provide the opportunity to identify *the maximum amount* of a pollutant that waterbodies can

²⁷⁶ US EPA. 2013. Peconic Estuary TMDL Review.

²⁷⁷ Suffolk County. 2010. Suffolk County Comprehensive Water Resources Management Plan, August 2010 draft. <http://www.suffolkcountyny.gov/Departments/HealthServices/EnvironmentalQuality/WaterResources/ComprehensiveWaterResourcesManagementPlan.aspx>.

²⁷⁸ NOAA. 2013. Global Warming and Hurricanes. Online at <http://www.gfdl.noaa.gov/global-warming-and-hurricanes>.

receive before they are considered impaired and unable to meet water quality standards designed to allow the best uses of the waterbodies.

Developing TMDLs would require the investment of time and effort, but is an important step in identifying impairments and targets; and it leads to developing strategies for reaching those targets. Once TMDLs are established, the Town could take steps to address its water quality issues by developing a strategy that includes a combination of wastewater, stormwater, and fertilizer management. (Atmospheric deposition is being addressed at the national level and is not a focus of this Plan.)

In addition to, or as an alternative to TMDLs, the Town could utilize the existing sub-watershed models, and run additional models to identify the primary sources of nitrogen in each sub-watershed. Using that information and other existing research, the Town could develop a comprehensive water quality management plan, or specific plans for stormwater, wastewater, and fertilizer use. The scale for any of these plans could be at the Town, watershed, sub-watershed, waterbody, or target/priority area scale.

Alternatively, the Town could select and implement any of the recommendations below as funds and research became available to justify doing so (*i.e.*, without developing a coordinated strategy).

Develop TMDLs:

1. Continue to work with the State and County to establish and implement pollution prevention Total Maximum Daily Loads for waterways identified as impaired.²⁷⁹ Utilize existing TMDLs where possible (*e.g.*, the Peconic Estuary).
 - a. Develop nutrient TMDLs for all other coastal waterbodies (*i.e.*, those not yet identified as “impaired”) in Town.

As part of TMDL development:

1. Establish a TMDL workgroup for local waterways, regardless of the waterway’s status with respect to the New York State 2012 Section 303(d) List. A TMDL workgroup could include elected representatives from the Town, planning department staff, conservation staff, wastewater treatment representatives, local watershed groups, citizens, water authorities, farmers, and other stakeholders working together to identify priority waterways and determine how to improve water quality in these waterways (see: work done by York County, PA TMDL workgroup).
2. Identify the sources and amounts of nutrients being discharged into the waterbodies of the Town.
 - a. Define the amounts of nutrients being discharged from specific watersheds/sub-watersheds.
 - b. Quantify the nutrient inputs from various sources (*e.g.*, wastewater discharge, fertilizers, atmospheric deposition (direct and in stormwater runoff from land), etc.). Work with the Town’s GIS Department to conduct additional studies to better understand the contribution of nutrients to each embayment (by watershed/sub-watershed, and by source(s) of nutrients). Work has already been done in the Peconic Estuary²⁸⁰, the Great

²⁷⁹ A potential model for this work may be seen in the efforts of the MA South Coastal Watershed (see: <http://www.mass.gov/dep/water/resources/scoast11.pdf>).

²⁸⁰ Lloyd, Stephen. 2014. Nitrogen Load Modeling to Forty-three Subwatersheds of the Peconic Estuary. Online at: <https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/Documents/Nitrogen%20load%20modeling%20to%20the%20Peconic%20Estuary%20-%20TNC%20May%202014.pdf>.

South Bay²⁸¹; and Shinnecock and Moriches Bays²⁸². Update the model every five years to track changes.

3. Define the nutrient target loads of the coastal waterbodies.
4. Define the flushing rates of the waterbodies.
5. Define and quantify the impacts (environmental and economic) of nutrient enrichment in the coastal waterbodies.
6. Identify the routes taken for the nutrient input (*e.g.*, ground water, stormwater runoff).

Once TMDLs have been identified, the Town can begin to prioritize where and how to reach their TMDL targets. Some options for this include:

7. Prioritize areas to target for nitrogen reduction. As part of this, advance the approach proposed by Peconic Green Growth for developing and implementing a strategy to reduce nitrogen through upgrading septic systems and/or installing clustered decentralized systems in the areas with the greatest influence on water quality, such as Flanders, Noyac, and North Sea. Also as part of this, use the results of sub-watershed models^{283, 284} of nitrogen sources and concentrations to target areas most appropriate for nitrogen removal through septic upgrades, clustered systems, and other innovative technologies. Where existing watershed management plans, or their equivalent (*e.g.*, the Peconic Estuary Comprehensive Conservation Management Plan) have been developed, utilize them.
8. Prepare new, and implement existing, watershed management plans to address the needs and mechanisms to reduce nutrient input.
9. Explore opportunities to increase flushing within embayments and coastal ponds as appropriate. As part of this effort, understand potential impacts (positive and negative) of increasing flushing, and work to reinstate the line item for dredging in the Town budget.
10. Identify watersheds/sub-watersheds that, through future development, may cause elevated nutrient levels in excess of the TMDLs, and consider options to either limit future development or to take action to reduce nutrient discharge.
11. Consider expanding the use of Community Preservation Funds to include projects addressing water quality.
12. Prepare a build-out plan for the areas of the town subject to future development to assess the potential for future nutrient inputs.
13. Establish comprehensive nutrient management plans and/or implement best management practices to protect water quality while maintaining the economic viability of the Town's farms.
14. Limit or require BMPs for irrigation infrastructure, especially in areas using fertilizer.

²⁸¹ Kinney, E.L., Valiela, I. 2009. Nitrogen Loading to Great South Bay: Land Use, Sources, Retention, and Transport from Land to Bay. *Journal of Coastal Research* Volume 27, Issue 4: pp. 672 – 686

²⁸² Stinnette, Isabelle. 2014. Nitrogen Loading to the South Shore, Eastern Bays, NY: Sources, Impacts, and Management Options. Masters Thesis, SUNY at Stony Brook.

²⁸³ Lloyd, Stephen. 2014. Nitrogen Load Modeling to Forty-three Subwatersheds of the Peconic Estuary. Online at: <https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/Documents/Nitrogen%20load%20modeling%20to%20the%20Peconic%20Estuary%20-%20TNC%20May%202014.pdf>.

²⁸⁴ Kinney, E.L. and Valiela, I. 2011. Nitrogen Loading to Great South Bay: Land Use, Sources, Retention, and Transportation from Land to Bay. *Journal of Coastal Research*: Volume 27, Issue 4: pp. 672 – 686.

15. Consider current subdivision regulations and how they may be amended to progress toward the goal of creating clustered denitrification systems for new neighborhoods or require the use of the most feasible approved technologies and strategies to reduce the input of nutrients. Consider the model provided by the Town of Falmouth, MA, where the subdivision review includes limiting total nitrogen concentrations from wastewater discharge²⁸⁵.

Separately, or as part of TMDL implementation, the Town should consider developing a Wastewater Management Plan—either for priority areas or for the entire Town—factoring in future build-out. Nutrient-related pieces of the Wastewater Management Plan to consider include:

1. Consider establishing a Wastewater Management and Water Quality Advisory Committee to provide oversight and recommendations to the Town Supervisor/Town Board.
2. Consider all options for treatment of wastewater to remove nutrients prior to discharge to either coastal waters or groundwater. Address both existing “permissible” technologies and those potentially “permissible” in the future. Options include:
 - a. Amend Chapter 177 to allow upgrades that, at a minimum, meet the current Suffolk County Department of Health Services requirements. As feasible, upgrades qualifying for these funds should be encouraged to go above and beyond the standards required by the County in order to further reduce nitrogen input to ground and surface water from septic systems.
 - b. Consider developing and implementing a Cesspool Removal Act, similar to the act enacted in Rhode Island in 2007 (see: <http://www.dem.ri.gov/programs/benviron/water/permits/isds/pdfs/cessfaq.pdf>, <http://www.nbnerr.org/cesspools.htm>). Such an Act would remove (anywhere in Town, or in certain prioritized areas such as those in the 0–2 year groundwater influence zone) failed cesspools and those cesspools serving a non-residential facility or multi-family dwelling. Additionally, this Act should call for the removal of all other cesspools within a certain distance (in RI, that distance was 200 feet) of the inland edge of all shoreline features bordering tidal water areas; within 200 feet of all public wells; and within 200 feet of a water body with an intake for a drinking water supply. This Act could also stipulate an inspection and replacement timetable.
 - c. Increase the distance required from the base of onsite septic systems to groundwater (add two feet to the county minimum). Allow exemptions due to hardship or enhanced treatment.
 - d. Support Suffolk County’s efforts to approve the use of alternative denitrification systems by collaborating on research projects, assisting with setting water quality goals, helping to identify grants and low-interest loan options to offset the cost of advanced systems, and providing opportunities to pilot technologies and train installers.
 - e. Pursue sewerage where feasible (*e.g.*, in the Flanders/Riverside Corridor (within scope of the SWPP planning area) and in the Village of Southampton (outside of the SWPP planning area)). Consider alternatives in target areas with non-conforming systems that affect groundwater (*e.g.*, Flanders/Riverside or Village of Southampton).

²⁸⁵ See regulation at:
<http://ecode360.com/9075609?highlight=coastal%20pond%20overlay,coastal%20ponds,coastal%20pond,overlay,pond#9075609>.

- f. Collaborate with the Cornell Extension Service to conduct a pilot project exploring the feasibility and impacts of installing permeable reactive barriers to treat groundwater with high nutrient concentrations before it reaches Southampton coastal waters.
 - g. Work with the Trustees and Stony Brook School of Marine and Atmospheric Sciences (SOMAS) to develop a shellfish cultivation, eelgrass restoration, and nitrogen reduction program in order to improve water quality in coastal embayments²⁸⁶.
 - h. Support the existing efforts of groups such as the Town Trustees, Cornell Cooperative Extension, the Sea Scouts, the Shinnecock Bay Restoration Program, the Shinnecock Nation, The Nature Conservancy, and Stony Brook School of Marine and Atmospheric Sciences (SOMAS), who are engaged in programs to improve water quality and habitat through the restoration of shellfish and eelgrass.
 - i. Explore opportunities to offer low-interest loans to homeowners with non-conforming septic systems for septic improvements. Some options might include working with the County to develop a program to provide low-interest loans, identifying banks that would offer low-interest loans for the specific purpose of upgrading systems, and working with the State to provide a tax credit for septic upgrades²⁸⁷.
 - j. Continue to support efforts to educate residents about the importance of septic system maintenance. Education about septic systems is already conducted through outreach related to the rebate program and through public forums such as those hosted by the Green Committee. Additional outreach and education may be achieved through partnerships with groups such as the Peconic Bay Keeper, Defend H2O, the Peconic Estuary Program, the South Shore Estuary Reserve, the Long Island Clean Water Partnership, the Shinnecock Bay Restoration Program, Suffolk County, Peconic Green Growth, TNC, and neighboring towns and villages.
 - k. Continue to fund the Septic System Rebate and Incentive Program through the Water Quality Protection Fund. To increase the efficacy of this program, give priority to incentivizing the installation of advanced systems in priority locations once the advanced systems are approved by Suffolk County
 - l. Explore opportunities to reuse purified wastewater. As part of this effort, identify incentives to encourage re-use and ensure that recharge does not impact the effectiveness of nearby wastewater treatment systems.
3. Require that a septic system or cesspool be inspected when the title of the property served by the system/cesspool is transferred. As an example, in Massachusetts, State law requires that an inspection be conducted no more than three years prior to the transfer of title²⁸⁸. An inspection would include the evacuation and removal of septage and the subsequent reporting by a septage collector that is licensed by the Suffolk County Department of Health Services. Funds from the Water Quality Protection Fund could be used to help defray costs to parcel owners. As part of this, develop and maintain an inventory of the type of system at each dwelling, along with the

²⁸⁶ See: Falmouth Comprehensive Wastewater Management Plan; Incorporating Shellfish Bed Restoration into a Nitrogen TMDL Implementation Plan, available at http://www.coonamessettfarm.com/sitebuildercontent/sitebuilderfiles/Incorporating_Shellfish_Bed_Restoration_into_Nitrogen_TMDL_Implementation_Plan.pdf.

²⁸⁷ For an example of such a program, see: <http://www.mass.gov/eea/agencies/massdep/water/grants/title-5-septic-systems.html>.

²⁸⁸ See 310 CMR 15.310.

date of the most recent inspection. This inventory may be useful in helping to prioritize locations for future upgrades.

4. Assess existing wastewater infrastructure to understand the potential impacts from increased storm activity and sea level rise (*e.g.*, inundation in coastal areas, increased runoff).
5. Work with Suffolk County and Peconic Green Growth to identify those septic systems whose capabilities might be impaired with sea level rise and increased storm activity. Work to ensure that these systems do not impair water quality as a result of storm events and sea level rise. Current research in Rhode Island may yield important information on types of technologies best suited for at-risk systems²⁸⁹.
6. Consider creating a Town-wide water quality district, focusing on areas of highest need (*e.g.*, sub-watersheds identified as having among the highest nitrogen contributions; and/or areas with small lots in older communities with more limited resources). Within the district, levy an annual fee to use toward rebates for enhanced nitrogen systems.
7. Consider developing a Town-wide wastewater treatment district.
8. Explore opportunities to use a clustered community wastewater treatment system for each of the Town's business districts.
9. Support efforts to develop the Conscience Point Maritime Center at the site of the former Conscience Point Inn. The Maritime Center is in the early planning stages, and is likely to include a hatchery, a learning center, and historical information about the Shinnecock Nation and the baymen. This would be an excellent venue to also highlight the water-quality-related threats to shellfish, eelgrass, and the Town's maritime culture and economy. As part of this, the Center should provide visitors with suggested actions they can take to improve water quality (*e.g.*, get involved in shellfish gardening programs, participate in coastal cleanups, have septic tanks inspected, maintain native vegetation, use fertilizers responsibly, etc.).
10. Develop watershed maps that artistically portray the significance of watersheds and convey information about human impacts to water quality within the watersheds. Use the East Hampton Trails Maps as an example.
11. Continue to enforce occupancy limits, pursuant to Town Code §330-108, "Limitations on occupancy of dwellings and dwelling units," in order to prevent septic system failures from residences that exceed the occupancy limit.
12. Ensure adherence with SPDES permits.
13. Review final Suffolk County Comprehensive Water Resources Management Plan, when complete,²⁹⁰ and implement relevant recommendations.
14. Support ongoing water quality monitoring efforts and explore opportunities to expand monitoring. Expansion would include increasing the number of monitoring sites.
15. Implement the wastewater recommendations of the Town's Climate Action Plan, when complete.
16. Encourage the Suffolk County Department of Health Services to create and implement new local laws/regulations pertaining to septic system standards that remove nitrogen (more stringent than

²⁸⁹ See <http://www.ecori.org/climate-change/2013/8/29/is-your-septic-system-climate-change-ready.html> for more information.

²⁹⁰ Suffolk County Comprehensive Water Resources Management Plan, August 2010 draft.
<http://www.suffolkcountyny.gov/Departments/HealthServices/EnvironmentalQuality/WaterResources/ComprehensiveWaterResourcesManagementPlan.aspx>

current County standards) in order to protect natural resources. One approach would be to adopt more stringent standards that would apply to the entire County. An alternative strategy might be to adopt more strict nitrogen standards in areas identified to be especially “nitrogen sensitive” such as areas surrounding important drinking water resources (*e.g.*, the Aquifer Protection Overlay District), and areas within the 25-year influence zone for contributing groundwater to surface water (see Berry, 2011) . Work with the New York State Clean Water Coalition at Stonybrook to identify possible technologies to achieve the new standards. (The Citizens Campaign for the Environment (<http://www.citizenscampaign.org/campaigns/nitrogen-pollution.asp>) and the Long Island Clean Water Partnership (http://www.citizenscampaign.org/special_features/long-island-water-partnership.asp) advocate for a change in nitrogen standards from 10 mg/l to 2 mg/l.)

17. In areas where seasonal variations in the water table reduce depth-to-groundwater to below ten feet, ensure that test hole data be taken during those shallow depth-to-groundwater conditions.
18. Implement existing watershed plans.
19. Work with the County to ensure that high-volume coastal businesses (*e.g.*, restaurants) have septic systems in place to meet the actual needs of the facility. Require inspections of the septic systems, and enforce occupancy limits to ensure that the systems can adequately meet the demands. Explore opportunities for offering low-interest loans and rebate programs to help offset costs.

Separate, or as part of TMDL implementation, the Town should consider developing a Stormwater Management Plan. Specific nutrient-related pieces of the Stormwater Management Plan to consider include (see below for more on stormwater in general):

1. Under Chapter 285, amend the Stormwater Pollution Prevention Plan (SWPPP) to require runoff control practices that would result in no net increase of nutrient and sediment pollution from new development (see: policies of the Philadelphia Water Department) and reduce the threshold for a SWPPP from one acre to [number to be determined].
2. Utilize agricultural best management practices, where applicable, including technical assistance, financial assistance, education, training, technology transfer, and demonstration projects
3. Conduct educational activities to minimize the impacts of stormwater, including:
 - a. The funding and implementation of demonstration projects to educate residents about opportunities to capture stormwater on their own property (*e.g.*, rain gardens, etc.)
 - b. The implementation of training programs for homeowners and landscapers on the latest information regarding proper fertilization techniques
4. Ensure adherence with SPDES permits.
5. Review final Suffolk County Comprehensive Water Resources Management Plan, when complete,²⁹¹ and implement relevant recommendations.
6. Implement the stormwater recommendations of the Town’s Climate Action Plan, when complete.
7. Continue to identify impacts to water quality and living marine resources due to stormwater, *e.g.*, nutrients, other pollutants, sedimentation, etc.

²⁹¹ Suffolk County Comprehensive Water Resources Management Plan, August 2010 draft.
<http://www.suffolkcountyny.gov/Departments/HealthServices/EnvironmentalQuality/WaterResources/ComprehensiveWaterResourcesManagementPlan.aspx>

8. Implement existing watershed plans.
9. Develop watershed maps that artistically portray the significance of watersheds and convey information about human impacts to water quality within the watersheds. Use the East Hampton Trails Maps as an example.

In addition to developing the new plans identified above, the Town should continue to support, as appropriate, the implementation of other plans developed to reduce impacts from nutrient enrichment.

Emerging Pollutants

So-called emerging pollutants such as pharmaceuticals and personal care products are often released into the environment through the discharge of wastewater. As such, the management of emerging pollutants can be conducted as part of a comprehensive water quality management plan, as part of a wastewater management plan, and/or through the implementation of individual recommendations.

Options to consider include:

1. Define and quantify the impacts of emerging pollutants on the water quality and living marine resources of the Town.
2. Continue efforts to promote STOP day for the collection of pharmaceuticals and other efforts toward the proper disposal of personal healthcare products.
3. Support ongoing water quality monitoring efforts and explore opportunities to expand monitoring. Expansion would include increasing the number of monitoring sites as well as looking for traces of pharmaceuticals and personal care products.
4. Review final Suffolk County Comprehensive Water Resources Management Plan, when complete²⁹², and implement relevant recommendations.

Stormwater

Stormwater pollution is partially addressed above as it pertains to the conveyance of nutrients; however many types of pollutants can be moved via stormwater, including pesticides, oils, solid waste, and other contaminants. Management of stormwater can be conducted as part of a comprehensive water quality plan, through a stormwater management plan, and/or through the implementation of individual recommendations.

1. Calculate the current percentage of impervious surfaces in Town and set a maximum target percentage. Develop new regulations, policies and programs to avoid exceeding that target percentage. Consider lower target percentages in particularly sensitive areas (*e.g.*, aquifer recharge zones, coastal and riparian areas).

In 2001, calculations by the USGS estimated Southampton's percent impervious surface cover as 7.6%²⁹³. Research suggests that stream quality declines when impervious cover reaches 10%, and severe degradation occurs above 25%^{294,295}. Water quality in larger waterbodies with good

²⁹² Suffolk County Comprehensive Water Resources Management Plan, August 2010 draft.
<http://www.suffolkcountyny.gov/Departments/HealthServices/EnvironmentalQuality/WaterResources/ComprehensiveWaterResourcesManagementPlan.aspx>

²⁹³ Peconic Estuary Program. 2005. PEP Talk. Volume 2, Issue 4. Online at:
<http://www.peconicestuary.org/newsletters/October-2005.pdf>.

²⁹⁴ Peconic Estuary Program. 2005. PEP Talk. Volume 2, Issue 4. Online at:
<http://www.peconicestuary.org/newsletters/October-2005.pdf>.

²⁹⁵ Kaplan, M., Ayers, M. 2000. Impervious Surface Cover Concepts and Thresholds.

flushing rates may be able to tolerate higher percentages of impervious surface before experiencing degradation.

Impervious surface calculations can be made using existing GIS data or by interpreting satellite imagery or aerial photographs²⁹⁶.

2. Chapter 330, Zoning; Article XIII, Aquifer Protection Overlay District. Add language to limit the amount of impervious surface allowed within a development project.
3. Enact Town-wide or area-specific vegetation preservation requirements to maintain existing vegetation and reduce potential lawn areas for new development, similar to Town Code §330-67, which only applies within the Aquifer Protection Overlay District. As part of this, consider developing a shorefront overlay district to require vegetation preservation for water quality purposes²⁹⁷. If area-specific requirements are developed, create maps to help developers and homeowners comply with requirements. Specifically consider vegetation preservation requirements in Tuckahoe Woods, Noyack, Roses Grove, and Shinnecock Hills, as well as in the areas identified as Critical Environmental Areas in Town²⁹⁸.
4. Conduct an inventory of existing natural vegetation and develop regulations and incentives to ensure that the vegetation is protected. As part of this, consider developing a vegetation protection overlay district. (See #3, directly above.)
5. Amend the Stormwater Pollution Prevention Plan (Town Code Chapter 285) to require runoff control practices that would result in no net increase of nutrient and sediment pollution from new development²⁹⁹.
6. Utilize stormwater best management practices (*e.g.*, vegetated infiltration swales and pervious pavement) to reduce direct stormwater input to water bodies, both for new projects and for modifications to existing developments.
7. Maintain existing storm drains with a regular cleaning schedule and conduct street cleaning as recommended by the EPA³⁰⁰. Create a stormwater drainage management program that identifies priority areas, cleaning schedule, etc. and consider dedicated funding source.
8. Conduct educational activities to minimize impacts of stormwater, including:
 - a. The implementation of training programs for homeowners and landscapers on the latest information regarding proper fertilization techniques.
 - b. Continuing efforts to educate residents about the importance of reducing litter and keeping streets and sidewalks free of debris.

²⁹⁶ For more information, see: http://nemo.uconn.edu/tools/impervious_surfaces/pdfs/NEMO_tech_3.pdf.

²⁹⁷ For examples of possible code language, see East Hampton Town Code for their Harbor Protection Overlay District Language, §255 3-75(D)). Language for a sample code is also available in the Nature Conservancy report entitled: Native Vegetation Protection in the Peconics: A simple and effective approach. The Nature Conservancy, 2012. Native Vegetation Protection in the Peconics: A simple and effective approach.

²⁹⁸ See list at: <http://www.dec.ny.gov/permits/25153.html>.

²⁹⁹ See: policies of the Philadelphia Water Department (<http://www.phillyriverinfo.org/WICLibrary/StormwaterRegulations.pdf>), and the PA State Code: <http://www.pacode.com/secure/data/025/chapter102/s102.4.html> for examples.

³⁰⁰ See: <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=99>.

- c. The funding and implementation of demonstration projects to educate residents about opportunities to capture stormwater on their own property (*e.g.*, rain gardens).
9. Retrofit or upgrade priority stormwater drainage systems to allow for the removal of contaminants prior to their discharge into coastal waters. The Sub-watershed Improvement Plan for North Sea Harbor developed for the Peconic Estuary Program (by the Horsley Witten Group) should also be consulted for additional stormwater remediation projects.
10. Continue to organize and support volunteer-based trash and marine debris removal projects such as the existing annual Great East End Cleanup. Contact Ocean Conservancy's International Coastal Cleanup for supplies and educational materials.
11. Continue to implement best management practices to protect water quality while maintaining the economic viability of the Town's farms. Recognize adaptation as the key component for continuance of agriculture so that any consideration that affects agricultural production maintains flexibility for changing circumstances and practices. Work with the New York Agricultural Environmental Management Program, as they help farmers develop, implement, and evaluate conservation plans that protect natural resources while allowing farms to meet business objectives.
12. Continue to work to acquire and protect available open space independently and in coordination with not-for-profit organizations, the State, the County, and others as appropriate.
13. Implement existing watershed plans.
14. Consider expanding the use of Community Preservation Funds to include projects addressing water quality.

Pesticides and Herbicides

The Management of pesticides and herbicides can be conducted as part of a comprehensive water quality management plan or a pesticide and herbicide management plan, or through the implementation of individual recommendations. Options to consider include:

1. Work with the Suffolk County Soil and Water Conservation District to apply for funding opportunities through the New York State Agricultural Nonpoint Source Abatement and Control Program.
2. Work with the Nassau Suffolk Landscape Gardeners Association, the Cornell Cooperative Extension, and lawn-care businesses to promote environmentally-friendly landscaping practices.
3. Strongly encourage agricultural operators to partner with Suffolk County Agricultural Stewardship Program in order to obtain guidance on ways to reduce impacts from fertilizer and pesticide use.
4. Encourage homeowners to reduce their use of pesticides and fertilizers through targeted education on lawn and garden maintenance and care. Examples of strategies include encouraging the use of native plants and grasses, the use of Integrated Pest Management (IMP), and the use of slow-release fertilizers or no fertilizer. Coordinate this effort with nurseries and with the work being done by the Town's Sustainable Southampton Green Advisory Committee, the Office of Energy and Sustainability, and other non-profit organizations.
5. Implement the recommendations of the Long Island Pesticide Pollution Prevention Strategy, which presents multiple strategies to address pollution from pesticides.

6. Enact Town-wide or area-specific vegetation preservation requirements to maintain existing vegetation and reduce potential lawn areas for new development, similar to Town Code §330-67, which only applies within the Aquifer Protection Overlay District. If area-specific requirements are developed, create maps to help developers and homeowners comply with requirements.
7. Conduct an inventory of existing natural vegetation and develop regulations and incentives to ensure that the vegetation is protected. As part of this, consider developing a vegetation protection overlay district. (See #6, directly above.)
8. Specifically consider vegetation preservation requirements in Tuckahoe Woods, Noyack, Roses Grove, and Shinnecock Hills, as well as in the areas identified as Critical Environmental Areas in Town³⁰¹.

Water Recharge

Water quantity is another important piece of managing Southampton's water-related issues.

Recommendations for improving aquifer recharge and water re-use can be incorporated into a water quality management plan, or can be implemented on a case-by-case basis. Recommendations include:

1. In Chapter 330, Zoning; Article XII ("Aquifer Protection Overlay District"), expand the Overlay District to protect aquifer recharge areas in the eastern and western portions of the Town. Areas for particular consideration include Tuckahoe Woods and Shinnecock Hills, as well as additional locations identified as Critical Environmental Areas³⁰², and locations identified as Critical Natural Resource Areas for the Peconic Estuary.
2. Chapter 330, Zoning; Article XIII, Aquifer Protection Overlay District. Add language to limit the amount of impervious surface allowed within a development project.
3. Enact Town-wide or area-specific vegetation preservation requirements to maintain existing vegetation and reduce potential lawn areas for new development, similar to Town Code §330-67, which only applies within the Aquifer Protection Overlay District. If area-specific requirements are developed, create maps to help developers and homeowners comply with requirements. Specifically consider vegetation preservation requirements in Tuckahoe Woods, Noyack, Roses Grove, and Shinnecock Hills, as well as in the areas identified as Critical Environmental Areas in Town³⁰³.
4. Conduct an inventory of existing natural vegetation and develop regulations and incentives to ensure that the vegetation is protected. As part of this, consider developing a vegetation protection overlay district. (See #3, directly above.)
5. Explore opportunities to reuse purified wastewater. As part of this, identify incentives to encourage re-use and ensure that recharge does not impact the effectiveness of nearby wastewater treatment systems.
6. Continue to work to acquire and protect available open space independently and in coordination with not-for-profit organizations, the State, the County, and others as appropriate.
7. Attend the open meetings of the Long Island Commission for Aquifer Protection.

³⁰¹ See list at: <http://www.dec.ny.gov/permits/25153.html>.

³⁰² See list at: <http://www.dec.ny.gov/permits/25153.html>.

³⁰³ See list at: <http://www.dec.ny.gov/permits/25153.html>.

Sea Level Rise

Sea level rise impacts will affect both water quality and quantity. Consideration of sea level rise should be included in any plans pertaining to water quality and quantity in Southampton.

1. Support efforts to study the impacts of sea level rise to the aquifers in Southampton, similar to the studies conducted on Cape Cod³⁰⁴.
2. Assess existing stormwater and wastewater infrastructure to understand the potential impacts from increased storm activity and sea level rise (*e.g.*, inundation in coastal areas, increased runoff).
3. Identify all (above-ground and buried) fuel storage tanks that might be prone to storm damage or corrosion from salt water. Develop a strategy to remove/repair/replace systems as appropriate.
4. Work with Suffolk County and Peconic Green Growth to identify those septic systems whose capabilities might be impaired with sea level rise and increased storm activity. Work to ensure that these systems do not impair water quality as a result of storm events and sea level rise. Current research in Rhode Island may yield important information on types of technologies best suited for at-risk systems³⁰⁵.
5. Continue to work to acquire and protect available open space independently and in coordination with not-for-profit organizations, the State, the County, and others as appropriate.
6. Attend the open meetings of the Long Island Commission for Aquifer Protection.

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³⁰⁴ See project description at <http://www.apcc.org/sealevelrise/index.html>.

³⁰⁵ See <http://www.ecori.org/climate-change/2013/8/29/is-your-septic-system-climate-change-ready.html> for more information.

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HARBOR PLANS

Harbor planning involves the management of human uses of the shoreline and near shore marine environment in order to avoid conflict between uses and protection of natural resources. The principal aspects of harbor management involve the regulation of the operation of vessels and the placement of structures in water, protection of critical natural resources, and the allocation of portions of the water or lands under water for specific purposes. Governmental responsibilities affecting harbor management are exercised by a wide range of agencies operating at all levels of government. While many public agencies regulate human use of the marine environment, in New York State, the broadest authority to do so rests with local government.

JURISDICTION AND MANAGING AUTHORITIES:

Federal jurisdiction affecting harbor management primarily involves the US Army Corps of Engineers (COE) through their responsibilities under the federal Rivers and Harbors Act and the Clean Waters Act. Under these acts, the COE reviews the placement of structures in water for their effects on navigation and the environment. At the direction of Congress, the COE also undertakes civil works projects to improve navigation, manage the effects of storms and flooding, and restore ecosystems. The US Coast Guard's role is primarily related to vessel and navigational safety. The Department of Interior, particularly the US Fish and Wildlife Service, and the Environmental Protection Agency also affect harbor management through their direct and indirect role in the federal government's regulation of certain activities affecting the marine environment and its resources.

At the State level, the Department of Environmental Conservation has regulatory authority relative to tidal wetlands and the taking of shellfish, as well as protection of waters and the installation and management of impacts of docks and other structures in coastal hazard areas. The State Office of Parks, Recreation, and Historic Preservation, in addition to providing for recreational access to the shore directly or through grant awards, has certain responsibilities under the State Navigation Law. The Department of State Coastal Management Program affects harbor management through its *Consistency* review, ensuring that federal and State actions, including most of the above-mentioned actions meet State coastal policy standards—and through approval of local government harbor management plans.

Suffolk County has a role in harbor management in the Town of Southampton through the provision of dredging services and its role in the leasing of State underwater lands for aquaculture in the Peconic Estuary.

Inter-governmental programs for estuary management, *e.g.*, the South Shore Estuary Reserve and the Peconic Estuary Program, may also affect harbor management decisions through their research and recommendations.

While the combined effect of all the above programs on harbor management is substantial, only local government has the potential broad authority over most of its shore and near shore waters to effectively

manage human uses to fully address competition or potential conflict between the various uses, and between those uses and the natural resources on which they depend. In Southampton, the Town Trustees, as owners of much of the underwater land as well as some adjacent uplands and access points, play an essential role in harbor management.

SOUTHAMPTON HARBOR MANAGEMENT AUTHORITIES

The Town of Southampton, under NY State Town Law, can regulate the operation of vessels within the boundaries of the Town as well as an area up to a distance of 1500' from shore on the Atlantic Ocean shoreline. However, they may not regulate vessel operation within 1500 feet of a Village shoreline except through an agreement with the Village to provide that service. The Town does have the capacity to enforce State or Village regulations within Village waters. It may also establish use zones in the water through its zoning authority.

The jurisdiction of the Trustees, based on their ownership of underwater lands, is very broad. The Trustees do not, however, have ownership of the underwater lands of the Peconic Bay beyond the small embayments along the Peconic shoreline. Thus, while both the Town government and the Trustees have overlapping authority over harbor management within the Town boundaries, the geographic coverage is somewhat different and the authority in one case (the Town) is under the Police Powers of protecting public health, safety, and welfare, and in the other (the Trustees) that of a proprietor.

In Southampton comprehensive harbor management is primarily achieved through several local laws and the regulations of the Town of Southampton Trustees. These laws include:

- Chapter 111 Beaches, Parks, and Waterways
- Chapter 278 Shellfish
- Chapter 325 Wetlands
- Chapter A340 Management of Town Waters
- Town Trustees' Rules and Regulations for the Management and Products of the Waters of the Town of Southampton (the "Blue Book")

These laws and regulations are briefly summarized below:

Chapter 111, Beaches, Parks, and Waterways generally applies to all waters of the Town and includes regulations of activities on, in, or near beaches; discharge of waste to Town waters; channel designation and maintenance; vessel speed and operations; navigational hazards; moorings; anchoring; houseboats; boat ramps; water-skiing; aquatic events; seaplanes; personal watercraft; diving; and construction in Town waters. It is necessary to read carefully the full text of this Chapter to know whether the regulation applies in all waters of the Town or just in waters subject to the Southampton Trustees.

Chapter 278 Shellfish incorporates into Town law the Trustees regulations governing the taking of shellfish.

Chapter 325, Wetlands regulates activities within or affecting brackish, fresh, or tidal wetlands. Activities in or within 200 feet of a wetland require a permit. The activities regulated do not include those on Trustee lands or lands underwater. Activities in wetlands under the jurisdiction of the Trustees are governed by Trustee regulations. Wetlands not under the jurisdiction of the trustees require a permit from the Conservation Board. The Chief Environmental Analyst provides a report of the activity's effects on the wetland. Setbacks from the wetland boundary for various types of activities are established.

Chapter A340 Management of Town Waters incorporates in Town law the provisions of the Trustees' regulations on the management and products of the waters of the Town of Southampton. The chapter designates sanctuaries where the taking of wildlife is restricted, and regulates the taking of shellfish and fish, including the areas, methods, and time of taking. It further regulates the construction of docks, basins, and ramps.

Rules and Regulations for the Management and Protection of the Waters of the Town of Southampton (the "Blue Book") address activities on the lands and waters under the jurisdiction of the Town Trustees. Generally, these lands and waters include all the bays within the Town to the high tide line, other than in the Peconic Bay. (The Town boundary on the Atlantic Ocean is the high tide line but the Town can exercise jurisdiction to a distance of 1500 feet seaward of this line). The Blue Book regulates the taking of shellfish and fish, moorings, living on watercraft, dredging, bulkheading, docks (including specific standards on length), catwalks and elevated walkways, and other activities within the Trustees' jurisdiction.

MANAGEMENT OF THE HARBORS IN THE TOWN OF SOUTHAMPTON

The uses and activities described below within each of the individual embayments, harbors, and lakes in Southampton will be continued with management decisions being made using existing regulatory and policy programs. Dredged channels will be maintained with any expansion done only after careful review using standards in the Trustees' "Blue Book." Similarly, any dock construction and/or boat lift development will also comply with the Blue Book standards. The Town will continue to maintain public access points including boat launches and road end access points. Where there are specific management options available for selected waterbodies, they are described in the section specific to that waterbody.

HARBOR PLANS FOR INDIVIDUAL EMBAYMENTS

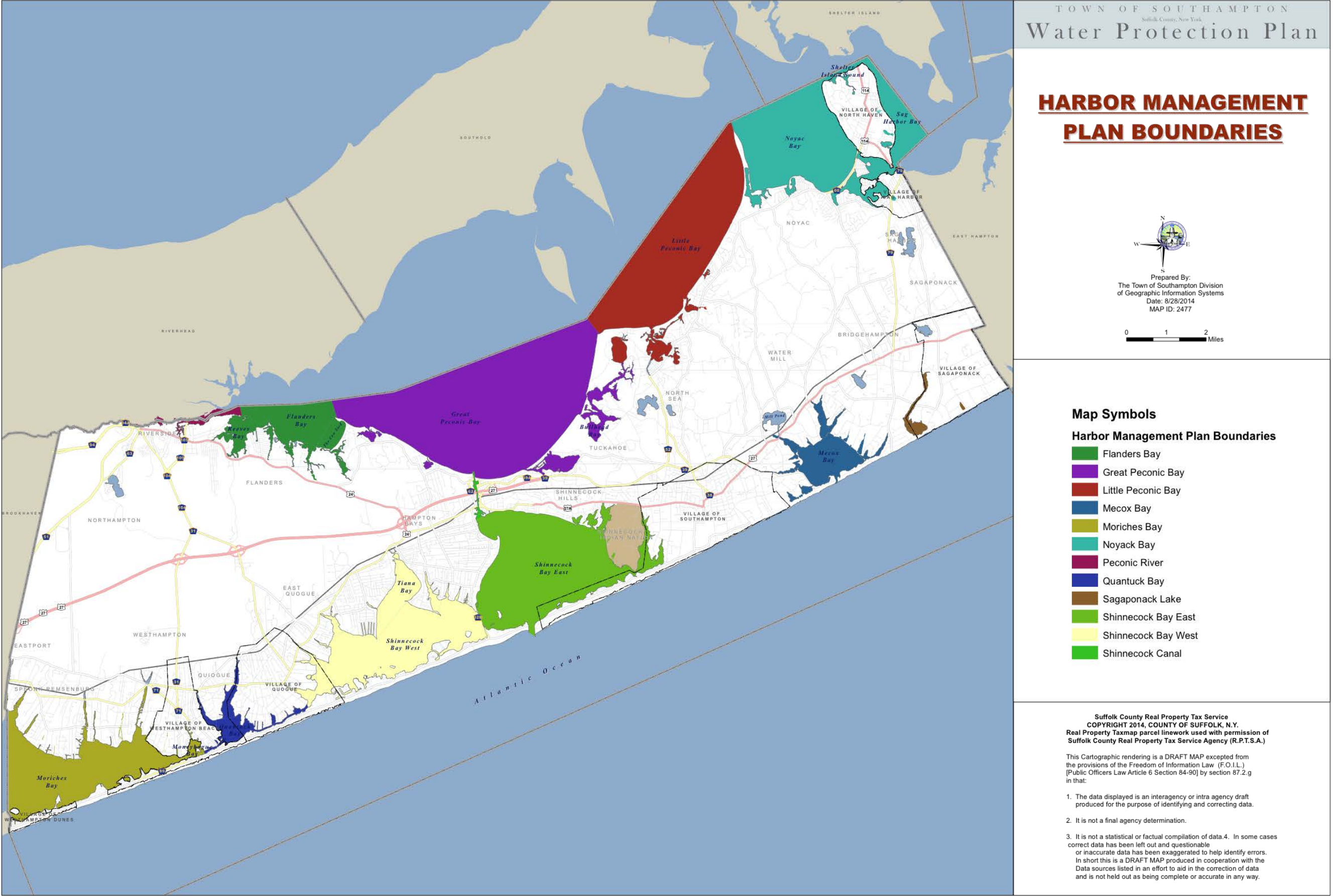
Surrounded as it is by water, Southampton has many open water areas, embayments, bays, ponds and brackish lakes that can function as harbors to boats of one size or another. For the purposes of organizing the following information, these have been segmented into the following groupings:

- Reeves Bay and Flanders Bay
- Great Peconic Bay
- Little Peconic Bay
- Mecox Bay
- Moriches Bay
- Noyac Bay
- Quantuck Bay
- Sagaponack Lake
- Shinnecock Bay East and West and Tiana Bay
- Shinnecock Canal

These may be seen on the map on the following page.

A set of three maps showing Natural Resources, Human Uses, and the Managed Areas for each of these areas is provided in the appropriate section. (The sets for Reeves Bay and Flanders Bay are combined.)

Figure 36:
Harbor Management Boundaries



REEVES BAY

General Geographic Area

For the purposes of this discussion, Reeves Bay is bounded to the north by a line running easterly from Iron Point to Goose Creek Point, and along the shoreline of Southampton in the Flanders area.

Managing Authorities

The Southampton Trustees hold the ownership rights over the lands under all the waters of Reeves Bay.

Description of Environmental Conditions

The shoreline of a significant portion of the shoreline of Reeves Bay consists of intertidal marshes; both high and low marsh. These areas form highly productive habitats that support significant commercial and recreational fishing and shellfishing activities. Water quality pollution from pathogens and excess nutrients limits shellfishing for human consumption in the Bay.

Aquaculture in Reeves Bay

Reeves Bay is closed to shellfishing due to water quality issues. Consequently, unlike most of the rest of the Peconic Bay complex, there are no shellfish leases within Reeves Bay. There are numerous fish traps utilized by commercial fishermen.

Navigation

Most of Reeves Bay is shallow, less than five feet in depth³⁰⁶. There is an entrance channel leading into the main body of the bay and branching to various locations where there are marinas or boat launch sites.

There are two other shorter channels leading to the canal areas between Longneck Avenue/Royal Avenue North and Royal Avenue North/Sylvan Avenue North respectively. It was proposed to dredge the two canals during the 2013 season. However, these projects were cancelled as they were determined to not be in the public's interest.

There are two marinas within the main portion of the Bay;

- B & E marina on Bay Avenue is in a Canal/Creek in the southeast corner of the Bay. It accommodates boats up to 28 feet with a maximum draft of 3 feet³⁰⁷.
- Strong's Marine on Flanders Road (Route 24) in the southwestern portion of the Bay has dockage for approximately 45 moderate sized boats with a maximum draft of 3 feet. There is also some landside storage available.

There are two additional locations with multiple slip dockage;

- Off Flanders Road immediately to the south of Big Duck Park there is a roadway leading to a dockage facility with 10–12 slips and two parking areas,
- At the end of the canal between Royal Avenue and Longneck Boulevard there is a boat basin with dockage for approximately 15 boats.

³⁰⁶ NOAA Nautical Chart #12358: Shelter Island Sound and Peconic Bays.

³⁰⁷ NY DEC, NY Sea Grant. No Date. Boating the Marine Waters of Long Island.

Additionally, there are approximately 15 private, residential docks within the Bay. Bulkheads along the two canals and in other locations within the Bay provide dockage for perhaps another 50 moderate sized boats.

There are three boat ramps within the body of the Bay³⁰⁸:

- B&E Marina operates a private ramp with a day-use fee. It is a single lane concrete ramp with temporary dockage. Ample parking is available as are restrooms
- Strong's Marine also has a private ramp with a day-use fee. The ramp is of single lane concrete construction designed for boats less than 20 feet in length. There is ample parking available, temporary dockage and restrooms.
- The Town Trustees manage the Point Road Ramp reached on Point Road off Shore Avenue. This is a single lane concrete ramp with dockage and parking for up to 20 vehicles and trailers.

There are also eight street ends providing additional access to the shoreline.

Surrounding Shoreline Land Use

The northwestern portion of the Bay is flanked by Flanders Community Park at Iron Point. South from the Park to Route 24/Flanders Road there is residential development. As mentioned above, there are two marinas at the southern end of the Bay. The east shore of the Bay is flanked by wetlands and open space. West of Goose Neck Point is an area of dense residential development with man-made canals.

Management of Reeves Bay

The Town will continue to maintain public access points including boat launches and road end access points. Of the three marinas in Reeves Bay only the one at the southern most end of the Bay is zoned RWB. That zoning district also includes some residential development to the west of the marina. It is recommended that the zoning be revised to reflect the present uses.

³⁰⁸ NY DEC, Bureau of Marine Resources. No Date. Boat Ramps Long Island Region, Town of Southampton.

Figure 37: Flanders and Reeves Bays Human Uses

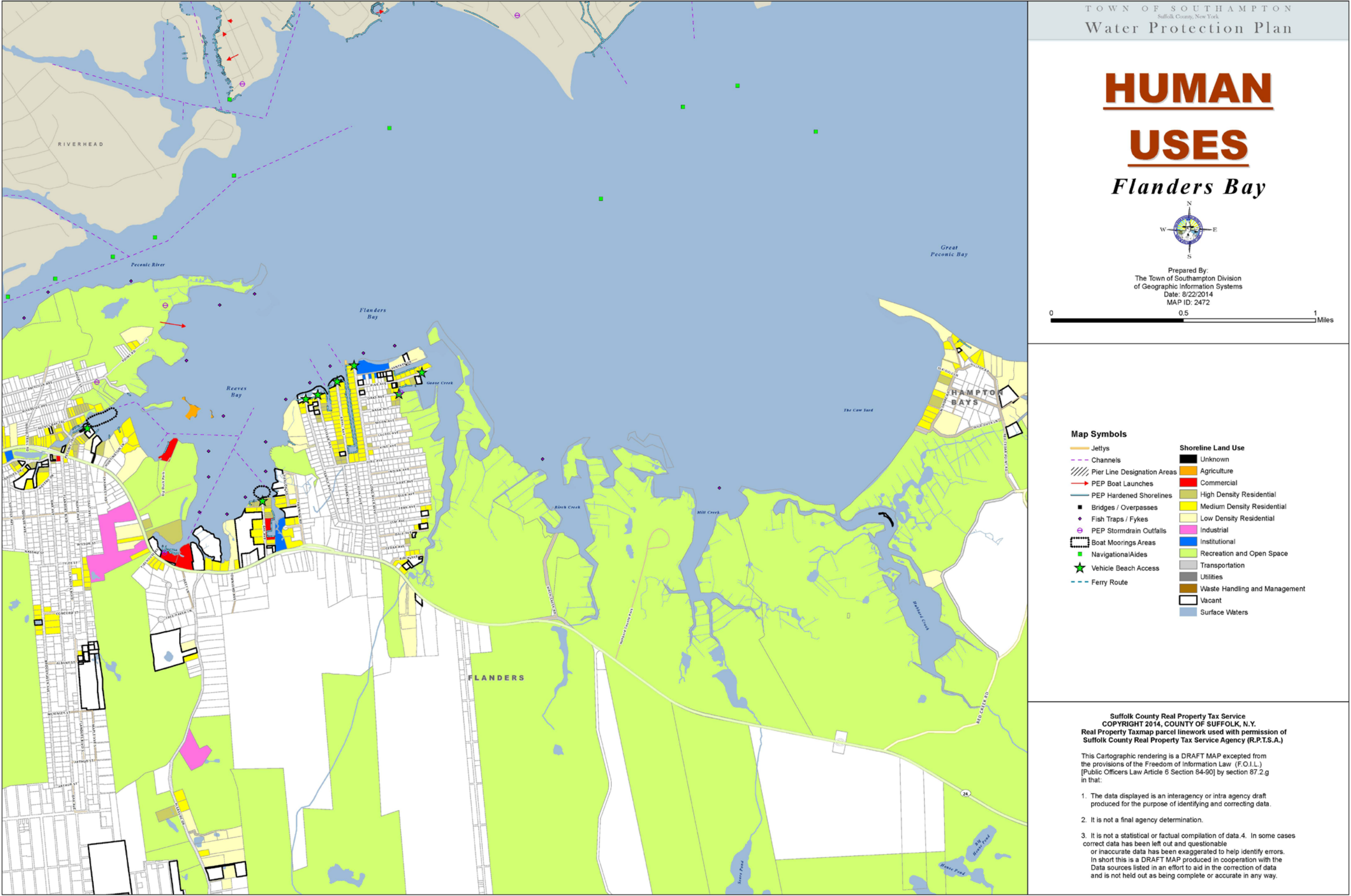


Figure 38: Flanders and Reeves Bays Managed Areas

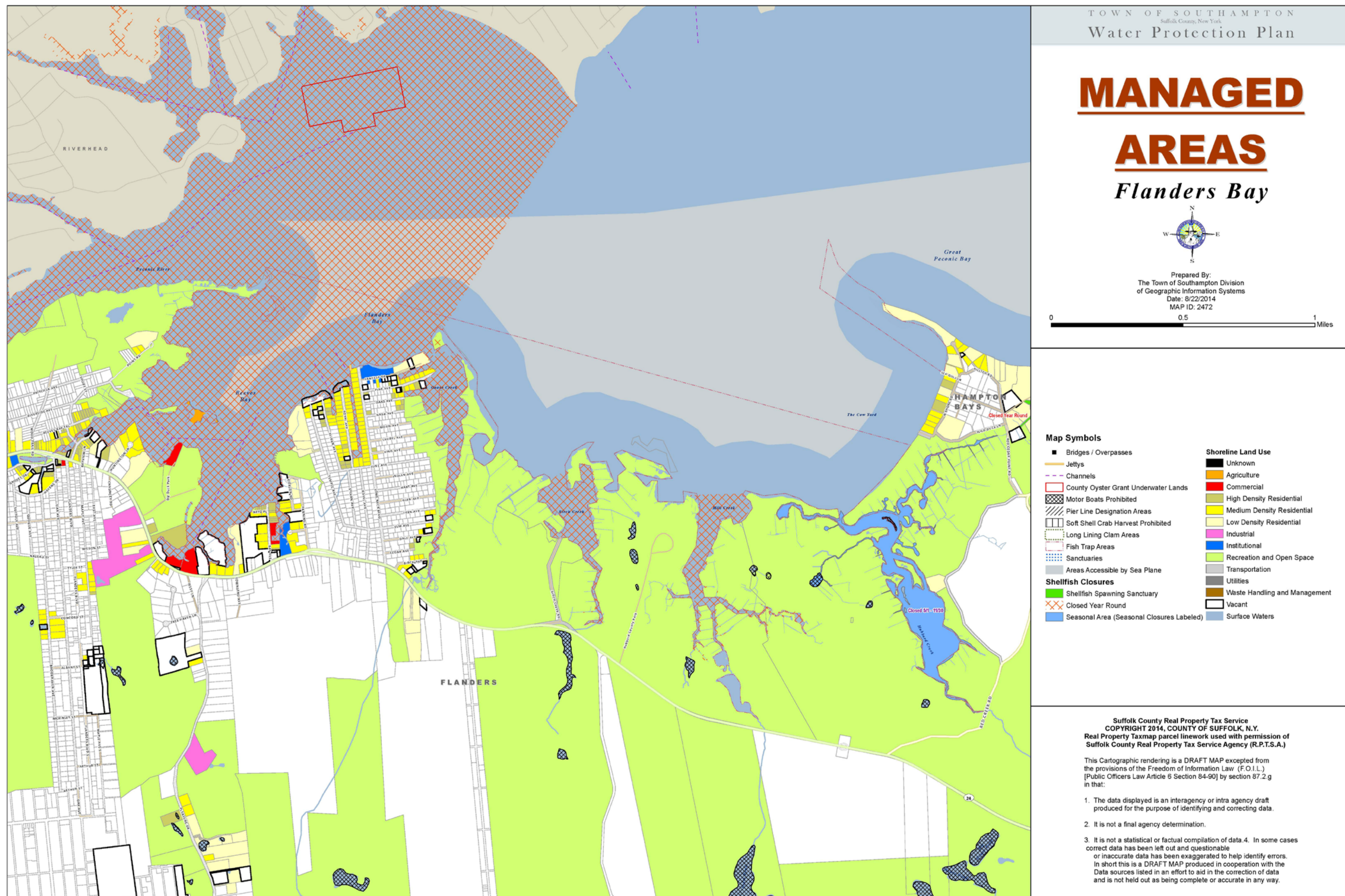
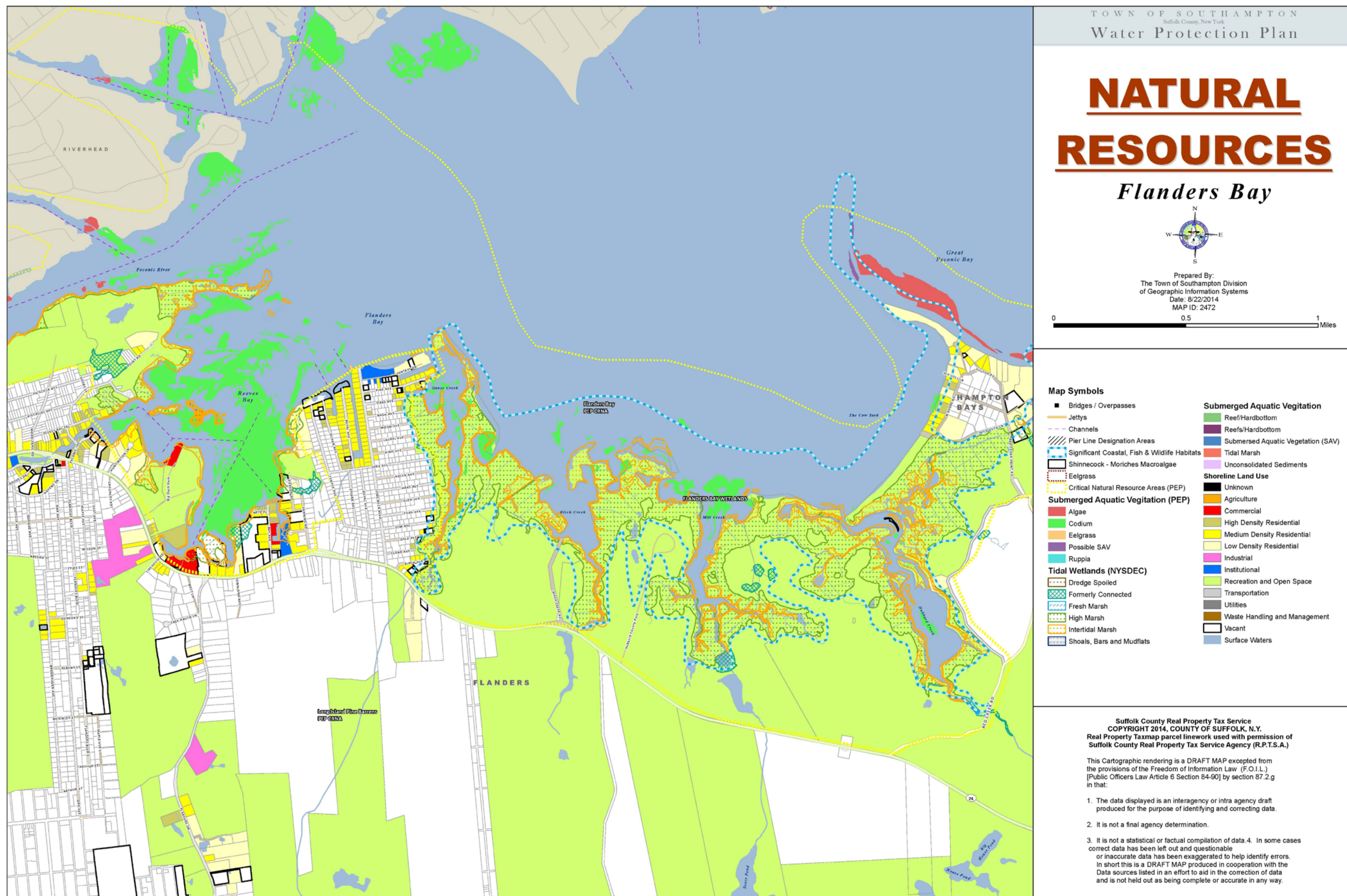


Figure 39: Flanders and Reeves Bays Natural Resources



FLANDERS BAY

General Geographic Area

For the purposes of this discussion, Flanders Bay is bounded on the north the boundary of the Town of Southampton within Peconic Bay. It is bounded on the west by Goose Creek Point and on the east by Red Cedar Point. There are four small embayments/tributaries leading into Flanders Bay. From west to east they include;

- Goose Creek
- Birch Creek
- Mill Creek
- Hubbard Creek

Managing Authorities

The Southampton Trustees hold the ownership rights over the lands under the four embayments/tributaries listed above. The rest of the lands under Flanders Bay below the high tide line are held in trust by the State of New York and are regulated under State and federal authorities. As the jurisdiction of the Town extends to the middle of Peconic Bay, all of Flanders Bay also falls under the jurisdiction of the Police Powers of the Town.

Description of Environmental Conditions

Most of the shoreline of Flanders Bay consists of intertidal marshes; both high and low marsh. These areas form highly productive habitats that support significant commercial and recreational fishing and shellfishing activities. Water quality pollution from pathogens and excess nutrients limits shellfishing for human consumption in the Bay.

Flanders Bay is one of 20 areas in the Town of Southampton designated as a Significant Coastal, Fish and Wildlife Habitat (SCFWH) by the NY Department of State/Division of Coastal Resources (DOS). The SCFWH assessments states:

Flanders Bay Wetlands comprise one of the most undeveloped large coastal wetland ecosystems on Long Island, encompassing the rare sea level fen community and an excellent example of the salt shrub community. This diverse area is one of the most valuable fish and wildlife habitats in the Peconic Bays section of Long Island. The Flanders Bay Wetlands are within the "Peconic Bays/Flanders Bay" Important Bird Area, one of 127 such sites identified in New York by the National Audubon Society.

Aquaculture in Flanders Bay

The body of Flanders Bay is open for shellfishing but three of the four embayments/tributaries to the Bay are closed to shellfishing due to water quality issues. Only Hubbard Creek is available for seasonal taking of shellfish. There are three aquaculture lease sites within Flanders Bay and one five-acre off-bottom area.

Navigation

The embayments/tributaries to the Bay are shallow and there are wide bands of shallow water along the shoreline. In the center and eastern portion of the Bay waters reach 12 feet at mean low water³⁰⁹. There are no dredged areas or channels within the body of the Bay. There are two canals running off Goose Creek but we found no recent record of their having been dredged.

There are no marina facilities within Flanders Bay. There is, however, a boat launch facility on Birch Creek Road off Route 24/Flanders Road³¹⁰. This is a single-lane beach launch for small boats only. The road is owned by the Town Trustees but Suffolk County owns the ramp area. No permit is required for parking.

Due to limited water depth, the extent of public open space bounding the Bay and the extensive fringing marshes, there very few private, residential docks within the Bay. Bulkheads along the two canals provide dockage for some small boats.

Surrounding Shoreline Land Use

A significant portion of Flanders Bay is bordered by Hubbard Park, owned and managed by Suffolk County. This is primarily open space. The upland area to the west of Goose Creek is heavily developed with residences. There is a sizable band of salt marsh between the developed land and the waters of Goose Creek. Near Red Cedar Point there is another residential area.

Management of Flanders Bay

The Town will continue to maintain the public access boat ramp.

The impact assessment portion of the Flanders Wetlands SCFWH narrative identifies activities that could or would adversely affect the areas habitat values and are therefore to be avoided.

³⁰⁹ NOAA Nautical Chart #12358: Shelter Island Sound and Peconic Bays.

³¹⁰ NY DEC, Bureau of Marine Resources. No Date. Boat Ramps Long Island Region, Town of Southampton.

GREAT PECONIC BAY

General Geographic Area

The area described in this section includes the open waters of Great Peconic Bay and the associated inlets, embayments and coastal ponds in the Town of Southampton.

For the purposes of this discussion, the Southampton portion of Great Peconic Bay is bounded to the north by the Town boundary—the “middle” of the Bay; to the west by Red Cedar Point and a line extending from that point north-north west to the Town boundary; to the east by Cow Neck point and a line running Northwest to the Town boundary; and by the shoreline of Southampton between these points.

Included in the following descriptions are several embayments and coastal ponds:

- Red Creek Pond/Wehrman Pond,
- Squires Pond,
- Cold Spring Pond,
- Sebonac Creek/Bullhead Bay complex, and
- Little Sebonac Creek/Scallop Pond complex

This area also connects with the northern end of the Shinnecock Canal. The Canal will be treated in a separate section of this document.

Managing Authorities

The underwater lands in Great Peconic Bay, below the mean high water line, are owned by the State of New York and held in trust for its citizens.

As the Town boundary for Southampton extends to the middle of the Bay, the Town holds Police Power authority (protection of public health, welfare, and safety) over these waters and has the capacity to establish laws and regulations applying here—so long as they do not conflict with State or federal laws. This could potentially include zoning to manage specified activities.

Pursuant to early 20th century legislation, Suffolk County may lease these lands for aquaculture. The County began the leasing only a few years ago. Some leases are currently being utilized while others remain unused as of 2014. See the attached map for further details of location.

Within the embayments and coastal ponds listed above, the Southampton Trustees hold the ownership rights over the lands under the waters.

Aquaculture in Peconic Bay

The borders of the Town of Southampton extend to the middle of the open waters of the Peconic Bay complex (including Great Peconic Bay, Little Peconic Bay, Noyac Bay, and Sag Harbor) although the land under the waters are held in trust (“owned”) by the State of New York. Leasing of shellfish aquaculture areas, however, is administered by Suffolk County under Local Law No. 25-2009 pursuant to Chapter 425 of the Laws of New York 2004. The County’s authority, however, is limited to the assignment of lease areas; enforcement of aquaculture regulations is done by the NY Department of Environmental Conservation (DEC). The overall shellfish cultivation zone includes several categories of leases including

DEC-issued Temporary Marine Area Use Assignment locations, historic private oyster grants and other areas leased by the County.

Leases for new shellfish aquaculture consist of five- or 10-acre parcels with a limit of 60 additional acres per year. The leases are used for oyster, hard clam, and bay scallop production.

Within Great Peconic Bay, maps provided on the Suffolk County Government web site dated May 2009³¹¹ showed:

- six Temporary Marine Use Assignments,
- one relocated site,
- one Temporary Marine Use Assignment of five acres for off-bottom use,
- three Active Oyster Grants
- four Fallow Oyster Grants, and
- 62 potential lease areas.

Data on each lease area is provided on the Suffolk County web site.

Aquaculture within the coastal ponds and embayments is under the jurisdiction of the Town Trustees, is regulated by the standards provided in the Trustees' Blue Book, and is further discussed in the sections on the specific pond or embayment.

Embayment and Coastal Pond Descriptions

Red Creek Pond

The northern, Peconic Bay side of the Pond is protected by undeveloped barrier beaches with a breach that allows navigation into and out of the pond as well as tidal flushing. The channel is currently marked by Trustee-maintained buoys.

The Pond is relatively shallow—maximum depths of approximated five feet at mean low water³¹² —with the eastern portion particularly so, limiting navigation in the latter areas. There is some bulkheading of the shore, primarily on the western portion of the Pond.

Between 2003 and 2012 the entrance channel to the Pond was dredged five times under contract from the Suffolk County Department of Public Works, Waterways Division. The dates, volume dredged and disposition of the dredged materials are summarized below³¹³.

Year Dredged	Volume Dredged in cubic yards	Disposition of Dredged Materials
2012	1,750	Beach re-nourishment to west of inlet
2010	5,275	"
2009	3,100	"

³¹¹Suffolk County. No Date. Program Maps. Online at:
www.suffolkcountyny.gov/Departments/Planning/Divisions/EnvironmentalPlanning/AquacultureLeaseProgram/ProgramMaps.aspx.

³¹² NOAA Nautical Chart #12358: Shelter Island Sound and Peconic Bays.

³¹³ Data provided by the Suffolk County Department of Public Works, Waterways Division.

2006	3,500	“
2003	4,750	“

Within the Pond there are approximately 15 private docks, most of which appear capable of handling power boats up to ~25–30 feet in length. Floating docks are encouraged by the Trustees’ Blue Book regulations. There are some 15–20 moorings holding sailing vessels up to ~25–30 feet with other moorings near shore with smaller power boats. Moorings are regulated by the Trustees. Boatlifts/hydro-hoists are prohibited³¹⁴.

There is a Town-owned launch ramp/area on Red Creek Road which includes a dock for temporary, launch/hauling-related activities³¹⁵. The launch area is sandy (4-wheel drive vehicles are recommended) and designed for boats 20’ or less in length. There is very limited parking on-site.

Year-round certification for shellfishing exists in the Pond, with the primary shellfishing being for soft shelled clams, hard clams, and scallops; but the area is subject to periodic closures. Additionally, there is a hard clam sanctuary in the Pond.

Squires Pond

The northern, Peconic Bay side of the pond is protected by undeveloped barrier beaches with a breach that allows limited navigation into and out of the pond as well as tidal flushing.

The Pond is relatively shallow (generally less than three feet at mean low water)³¹⁶.

There is a Town-owned boat launch area at the end of Squires Pond Road with no docking facility. It appears that some boats are launched into Great Peconic Bay from the sandy barrier beach to the east of the inlet³¹⁷.

There is one private dock in the Pond off Newtown Road and mooring potential is very limited³¹⁸.

Shellfishing occurs in the pond, primarily for soft clams, but is subject to periodic closures.

Cold Spring Pond

The northwestern (Great Peconic Bay) side of the Pond is created by a heavily developed (with residential housing) barrier beach traversed by Cold Spring Pond Road. At the western end of the barrier is an inlet allowing for navigation and tidal flushing.

There are channels through the Pond’s waters but much of the Pond is shallow (less than five feet at mean low water)³¹⁹

Between 2003 and 2012 the entrance channel to the Pond was dredged five times under contract from the Suffolk County Department of Public Works, Waterways Division. The dates, volume dredged and disposition of the dredged materials are summarized below³²⁰.

³¹⁴ Town of Southampton Trustees. 2011. Blue Book Rules and Regulations for the Management and Products of the Waters of the Town of Southampton. Online at: www.southamptontrustees.com/forms/blue_book.pdf.

³¹⁵ Boat Ramps; Long Island Region; Town of Southampton, Undated, NY State, Dept Environmental Conservation, Bureau of Marine Resources.

³¹⁶ NOAA Nautical Chart #12358: Shelter Island Sound and Peconic Bays.

³¹⁷ Google maps..

³¹⁸ Google maps

³¹⁹ NOAA Nautical Chart #12358: Shelter Island Sound and Peconic Bays.

³²⁰ Data provided by the Suffolk County Department of Public Works, Waterways Division.

Year Dredged	Volume Dredged in cubic yards	Disposition of Dredged Materials
2013	12,075	Beach re-nourishment to west of inlet
2012	5,175	"
2011	4,100	"
2010	4,590	"
2009	16,200	"
2006	10,125	Location not specified
2005	3,450	Beach re-nourishment west of inlet
2004	7,000	
2003	6,250	"

There are approximately 20 private docks lining the entry channel. Two canals lie on the northern section of the Pond, behind the barrier beach. The northern-most of these (lying between Cold Spring Pond Road and Sand Gate Lane) has five or so bulkheaded slip areas and ten private docks. The southern canal (lying between Sand Gate Lane and Landsend Lane) is generally bulkheaded on the Landsend Lane side with boats tied to the bulkheads. There are another ~25 private docks in the western portion of Pond. The eastern section of the Pond is shallow and generally undeveloped. There appear to be almost no moorings in the Pond.

Floating docks are encouraged in Cold Spring Pond and boatlifts/hydro-hoists are prohibited³²¹

There is a Town-owned boat launch in Shinnecock Hills, off Inlet Road. This site consists of a single lane cobble area designed for boats under 20 feet only³²². A second Town-owned launch area is on Landing Road off Shrubland Road and consists of a sand launch for boats under 20 feet³²³. Neither has a docking facility and both have limited parking. A third sand launch area with no parking is shown on Google maps on Clam Road (off Inlet Road East). This Clam Road launch area is owned by the Trustees.

The Lobster Inn Marina on Inlet Road offers approximately 15 slips and accommodates another 10 or so boats tied along the bulkhead

Portions of the Pond are used for the caged grow-out of oysters. In the past, shoreside property owners have expressed concern about the proximity, nature, and operation of these cages, but most concerns have been resolved by the Trustees.

Some portions of the Pond are certified for year-round shellfishing, while some other parts are certified for seasonal shellfishing only. Harvested species include soft clams, hard clams, and scallops. There is a controlled shellfish harvest zone in the Pond for soft clams. This zone is subject to periodic closures, as managed by the Trustees.

Sebonac Creek/Bullhead Bay Complex

³²¹ Town of Southampton Trustees. 2011. Blue Book Rules and Regulations for the Management and Products of the Waters of the Town of Southampton. Online at: www.southamptontrustees.com/forms/blue_book.pdf.

³²² Boat Ramps; Long Island Region; Town of Southampton, Undated, NY State, Dept Environmental Conservation, Bureau of Marine Resources.

³²³ Boat Ramps; Long Island Region; Town of Southampton, Undated, NY State, Dept Environmental Conservation, Bureau of Marine Resources.

This complex has two openings to Great Peconic Bay; one on either side of a small barrier island. Little Sebonac Creek lies to the northern side of the island and Sebonac Creek to the south. The latter has a buoyed entrance with water depth of approximately five at low water. Within channels there is water depth through the Bay of approximately 10 feet at low water. Little Sebonac Creek and Bullhead Bay, outside of the channels, are shallow, with less than five feet depth at mean low water³²⁴. Scallop Pond, connected via West End Creek and Island Creek (both very shallow) has water depths of up to 15 feet.

Between 2003 and 2012 the entrance channel to the Creek complex was dredged nine times under contract from the Suffolk County Department of Public Works, Waterways Division. The dates, volume dredged and disposition of the dredged materials are summarized below³²⁵.

Year Dredged	Volume Dredged in cubic yards	Disposition of Dredged Materials
2013	8,450	Beach re-nourishment to west of inlet
2012	6,175	Beach re-nourishment to east of inlet
2011	7,500	Beach re-nourishment to west of inlet
2010	14,875	Beach re-nourishment to east of inlet
2009	7,990	"
2008	20,350	On island adjacent to channel
2007	7,500	Beach re-nourishment east of inlet
2004	2,500	"
2003	3,500	"

There are three Town-owned boat launch facilities within the complex:

- The Barkers Island Road facility provides launching into Bullhead Bay over sand with 4-wheel drive recommended. It is designed for boats less than 20 ft and offers limited parking.
- The Bullhead Bay Ramp off West Neck Road (maintained by the Trustees) also launches into Bullhead Bay over a single lane of concrete. It offers limited parking and a tie-up dock.
- West Neck Point Road End launches into Little Sebonac Creek via a sandy area at the road end. No parking is provided³²⁶.

The Bullhead Yacht Club (private) is located within the Bay and has some 50+ slips, a launch area, and some 15 or so moorings. There is an anchorage off the northeastern shore of Ram Island. Next to the club is a Town dock³²⁷. It is considered one of best ports in Peconic Bay with excellent protection in easterly winds, 3' tidal range and scenic surroundings.

There are less than 15 private docks within the complex. Boatlifts/hydro-hoists are prohibited by Trustee regulation.

³²⁴ NOAA Nautical Chart #12358: Shelter Island Sound and Peconic Bays.

³²⁵ Data provided by the Suffolk County Department of Public Works, Waterways Division.

³²⁶ Boat Ramps; Long Island Region; Town of Southampton, Undated, NY State, Dept Environmental Conservation, Bureau of Marine Resources.

³²⁷ Duncan, Robert T., Roger S. Duncan, Paul W. Fenn, W. Wallace Fenn. 2002. Cruising Guide to the New England Coast, 12th edition. W.W. Norton & Co., NY.

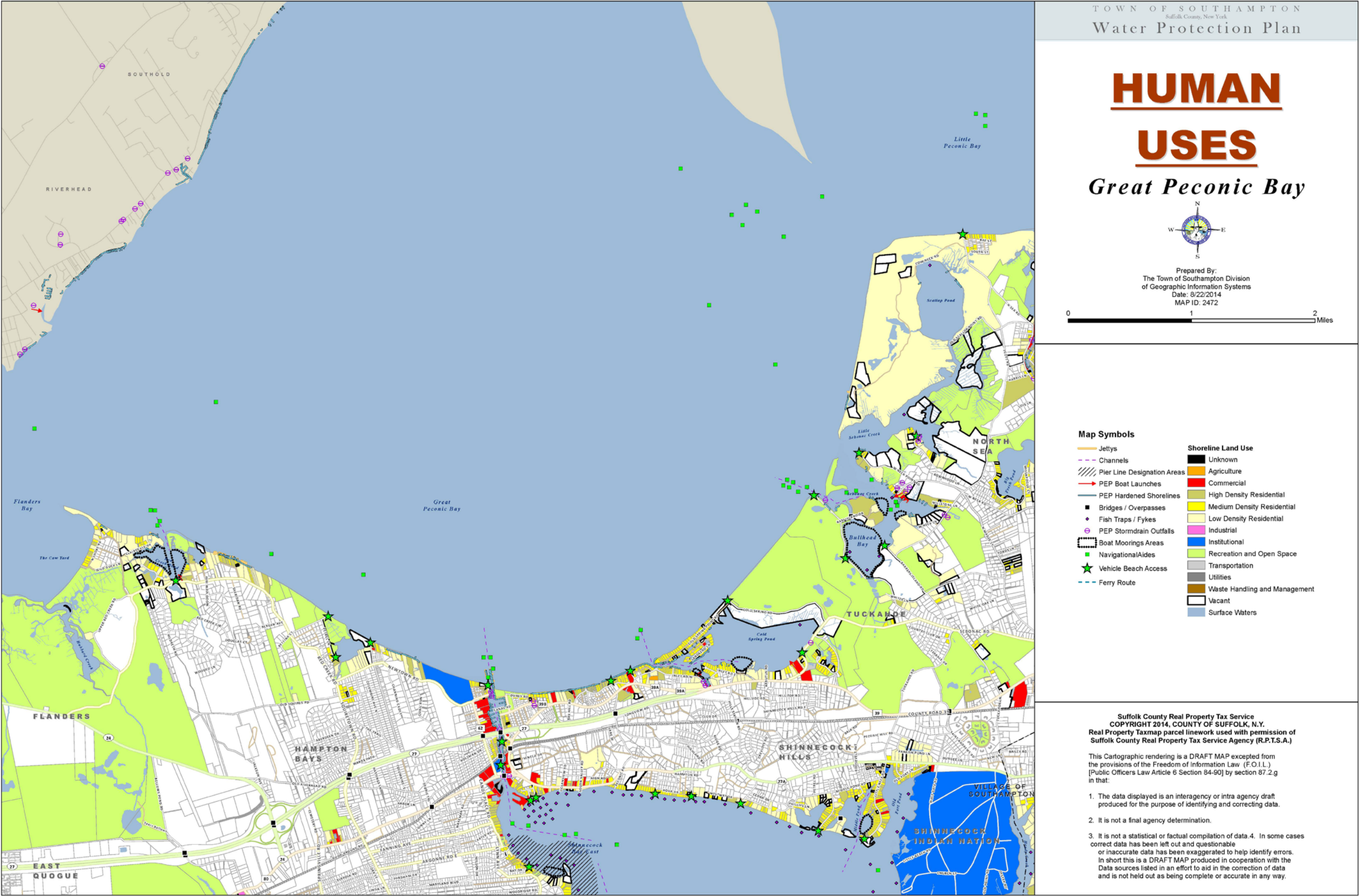
The complex also supports an eelgrass sanctuary.

Little Sebonac Creek connects to Scallop Pond via West Neck Creek and Island Creek. There is little development in the creeks (3-4 docks) due to their shallow nature. Scallop Pond has two boat launch facilities off Scallop Pond Road.

All waters in this complex are seasonally certified. Bullhead Bay has a Controlled Harvest zone for the taking of softshell clams, hard clams, and scallops. This is subject to periodic closures³²⁸.

³²⁸ Town of Southampton Trustees. 2011. Blue Book Rules and Regulations for the Management and Products of the Waters of the Town of Southampton. Online at: www.southamptontrustees.com/forms/blue_book.pdf.

Figure 40: Great Peconic Bay Human Uses



**Figure 41: Great Peconic Bay
Managed Areas**

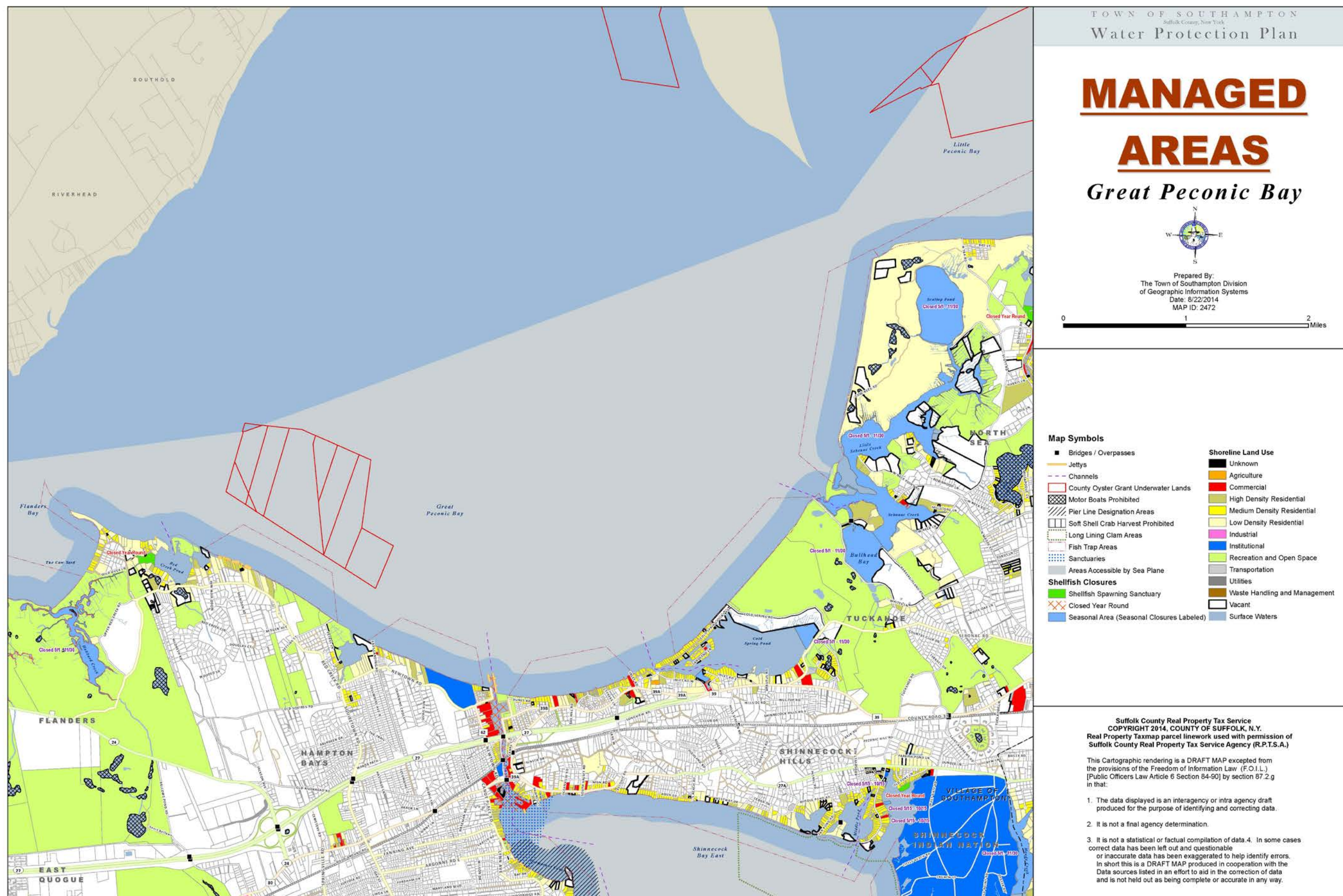
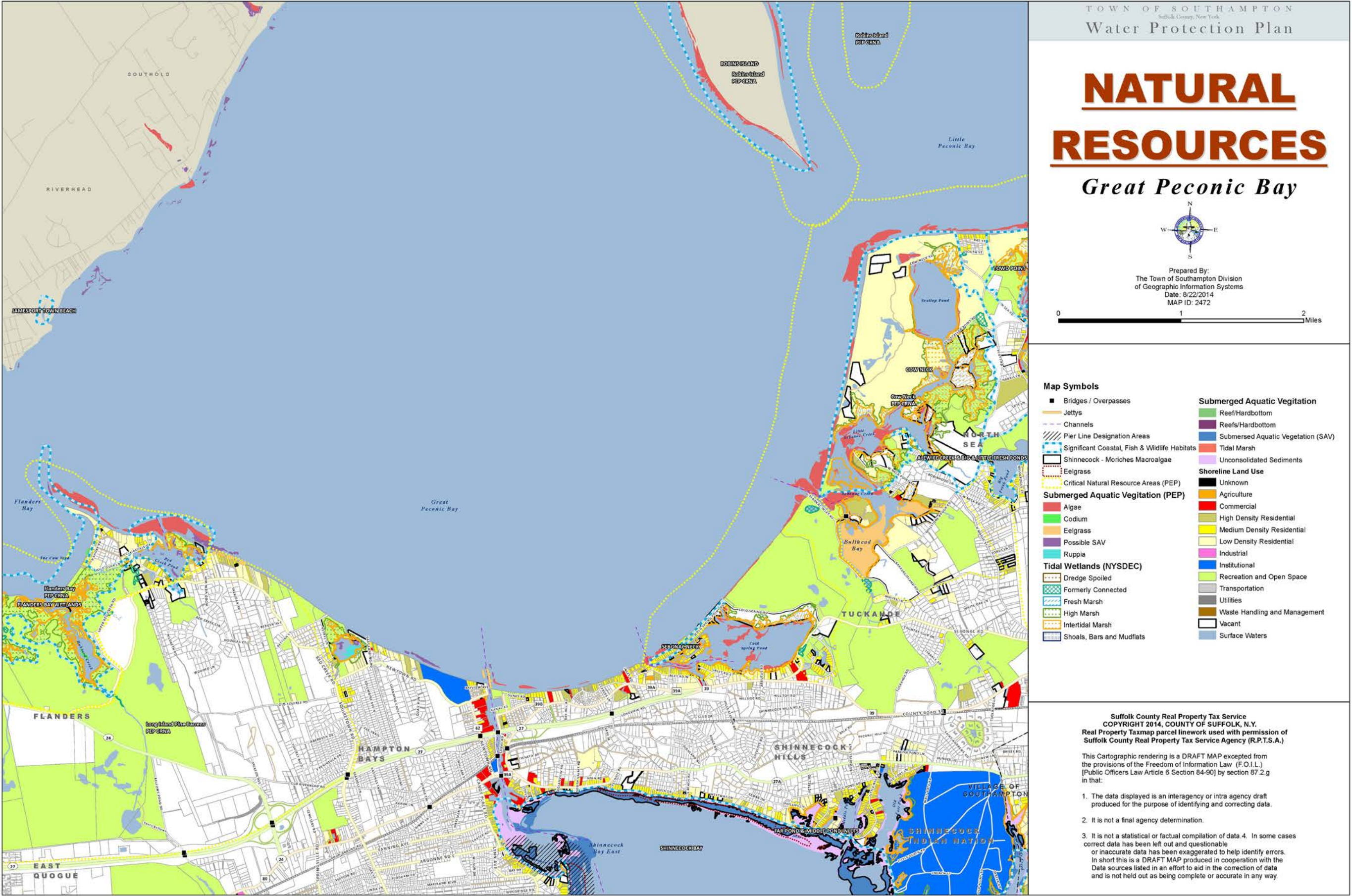


Figure 42: Great Peconic Bay Natural Resources



LITTLE PECONIC BAY

General Geographic Area

The area described in this section includes the open waters of Little Peconic Bay and the associated inlets, embayments and coastal ponds in the Town of Southampton.

For the purposes of this discussion, the Southampton portion of Little Peconic Bay is bounded to the north by the Town boundary—the “middle” of the Bay; to the west by Cow Neck point and a line running Northwest to the Town boundary; to the east by Jessup Neck and a line extending from that point north to the Town boundary; and by the shoreline of Southampton between these points.

Included in the following descriptions are several embayments and coastal ponds:

- North Sea Harbor,
- Wooley Pond, and
- Fresh Pond.

Managing Authorities

The underwater lands in Little Peconic Bay, below the mean low water line, are “owned” by the State of New York and held in trust for its citizens.

As the Town boundary for Southampton extends to the middle of the Bay, the Town holds Police Power authority over these waters and has the capacity to establish laws and regulations applying here. This could potentially include zoning to manage specified activities.

Within the embayments and coastal ponds listed above, the Southampton Trustees hold the ownership rights over the lands under the waters.

Aquaculture in Peconic Bay

The borders of the Town of Southampton extend to the middle of the open waters of the Peconic Bay complex although the land under the waters are held in trust (“owned”) by the State of New York. Leasing of shellfish aquaculture areas is administered by Suffolk County under Local Law No. 25-2009 pursuant to Chapter 425 of the Laws of New York 2004. As mentioned previously, the County’s authority, however, is limited to the assignment of lease areas; enforcement of aquaculture regulations is done by the NY Department of Environmental Conservation (DEC). The overall shellfish cultivation zone includes several categories of leases including DEC-issued Temporary Marine Area Use Assignment locations, historic private oyster grants and other areas leased by the County.

Leases for new shellfish aquaculture (off-bottom culture) consist of five-acre parcels, with a limit of 60 additional acres per year. The leases are used for oyster, and bay scallop production.

Within Little Peconic Bay, maps provided on the Suffolk County Government web site dated May 2009³²⁹ showed:

- three Temporary Marine Use Assignments,
- one Active Oyster Grant, and

³²⁹Suffolk County. No Date. Program Maps. Online at:
www.suffolkcountyny.gov/Departments/Planning/Divisions/EnvironmentalPlanning/AquacultureLeaseProgram/ProgramMaps.aspx.

- 129 potential lease areas.

Data on each lease area is provided on the Suffolk County web site.

Aquaculture within the coastal ponds and embayments is under the jurisdiction of the Town Trustees, is regulated by the standards provided in the Trustees' Blue Book, and is further discussed in the sections on the specific pond or embayment.

Embayment and Coastal Pond Descriptions:

North Sea Harbor

In 1640 colonists from Lynn, Massachusetts landed on Conscience Point on the west side of the entrance to what is now called North Sea Harbor, and founded the Town of Southampton, the first English colony in what is now New York State.

There is a buoyed channel into and through the harbor but most of the rest of the Harbor is shallow at ~3-4 feet at mean low water³³⁰. The Harbor connects via Davis Creek to Turtle Cove and, to the south to Fish Cove. The bridge crossing of Towd Point Road over Davis Creek limits boat traffic to the east to small craft (paddle craft or small dinghies). There is limited bulkheading along the Towd Point Road shoreline and more extensive bulkheads at the commercial facilities along North Sea Road. The Harbor is flanked to the west by the Conscience Point Wildlife Refuge.

Between 2003 and 2012 the entrance channel to the Harbor was dredged 10 times under contract from the Suffolk County Department of Public Works, Waterways Division. The dates, volume dredged and disposition of the dredged materials are summarized below³³¹.

Year Dredged	Volume Dredged in cubic yards	Disposition of Dredged Materials
2013	11,595	Beach nourishment to the east of inlet
2012	6,950	Beach nourishment to west of inlet
2011	6,050	Beach nourishment to the east of inlet
2010	6,350	"
2009	14,950	"
2008	6,550	"
2007	13,475	Beach nourishment to west of inlet
2005 (Dec)	5,650	Beach nourishment to the east of inlet
2005 (March)	14,200	"
2004	5,650	"

Within the Harbor there are approximately 35 private docks, most of which appear capable of handling power boats up to ~25 feet in length. Many of the bulkheaded areas also include slips or other dockage.

³³⁰ NOAA Nautical Chart #12358: Shelter Island Sound and Peconic Bays.

³³¹ Data provided by the Suffolk County Department of Public Works, Waterways Division.

There are several limitations to dock design within the Harbor institutionalized in the Trustees' regulations:

- All docks between 30 Robins Land, North Sea and 8 Helen's Lane, North Sea must be shore parallel, in a "T" or "L" configuration as the Trustees have determined that this is the most efficient configuration to ensure the safest navigation possible. The landward side of these floats must have a water depth of 30 inches at low tide.
- Docks, including floating docks are not to exceed 60' in length from average high water line into North Sea Harbor.
- Boatlifts/hydrohoists are prohibited in the Harbor.

Strong's Southampton Marina at 1810 North Sea Road offers 40 slips up to 40' in length and 3' draft, in-water and dry storage. There are two marinas on North Sea Road including a Town of Southampton facility at 1976 N. Sea Road.

There appear to be less than ten moorings in the Harbor, most located off the northern marina facility on North Sea Road³³². Moorings are regulated by the Trustees.

The Southampton Historical Museum owns Conscience Point, an historic site and nature trail, and the adjacent dock area, consisting of a launch and ramp area with a single lane asphalt ramp and space for some trailers³³³. The dock is maintained by the Town Trustees. A non-profit shellfish hatchery leases space on the dock from the Museum. Another Trustee-maintained ramp is located on Towd Point Road³³⁴.

The Harbor includes a mix of year-round, conditional, seasonal and uncertified shellfishing areas. The Nature Conservancy, with the Town Trustees, has established a hard clam sanctuary in the Harbor on the west side of Conscience Point.

Wooley Pond

The northwestern, Peconic Bay side of the Pond is protected by a developed barrier beach. A buoyed, dredged channel provides access to the Pond for boating.

The western portion of the Pond has navigable depth while the eastern portion is relatively shallow (generally less than five feet at mean low water)³³⁵.

Peconic Marina off Noyac Road has slips for almost 100 boats with dockage for boat sizes up to 30'. A 45-foot marine railway and a 12-ton forklift are available at the marina. There are moorings for almost 30 boats in Pond³³⁶. There is a second common facility with a launch area off Wooleys Drive. Approximately 30 private docks are located in the Pond. Boatlifts/hydrohoists are prohibited in the Harbor³³⁷.

³³² Google maps.

³³³ Boat Ramps; Long Island Region; Town of Southampton, Undated, NY State, Dept Environmental Conservation, Bureau of Marine Resources.

³³⁴ Boat Ramps; Long Island Region; Town of Southampton, Undated, NY State, Dept Environmental Conservation, Bureau of Marine Resources.

³³⁵ NOAA Nautical Chart #12358: Shelter Island Sound and Peconic Bays.

³³⁶ Active Captain: The Interactive Cruising Guidebook. Online at: www.activecaptain.com.

³³⁷ Town of Southampton Trustees. 2011. Blue Book Rules and Regulations for the Management and Products of the Waters of the Town of Southampton. Online at: www.southamptontrustees.com/forms/blue_book.pdf.

Shellfishing occurs in the Pond, primarily for soft clams, hard clams, scallops, conch, and blue crab; but it is subject to periodic closures.

Between 2003 and 2012 the entrance channel to the Pond was dredged four times under contract from the Suffolk County Department of Public Works, Waterways Division. The dates, volume dredged and disposition of the dredged materials are summarized below³³⁸.

Year Dredged	Volume Dredged in cubic yards	Disposition of Dredged Materials
2011	3,350	Beach nourishment west of inlet
2008	650	"
2006	7150	Beach nourishment south of channel
2003	8,800	Beach nourishment west of inlet

Fresh Pond

The northwestern (Little Peconic Bay) side of the Pond is created by a developed (with residential housing) barrier beach traversed by East Shore Drive. At the western end of the barrier is an inlet allowing for navigation and tidal flushing.

Most of the Pond is shallow (less than 5 feet at mean low tide)³³⁹. The southwestern side of the entry channel is bulkheaded. The Pond hosts approximately 20 private docks and several bulkheads with boat dockage. There appear to be a minimal number (less than five) of moorings in the Pond³⁴⁰. There is a boat launch area off Lake Drive.

Per Trustees' Regulations, fixed dock facilities are prohibited but floating, removable docks will be considered. Boatlifts/hydro-hoists are prohibited³⁴¹.

Between 2003 and 2012 the entrance channel to the Pond was dredged eight times under contract from the Suffolk County Department of Public Works, Waterways Division. The dates, volume dredged and disposition of the dredged materials are summarized below³⁴².

³³⁸ Data provided by the Suffolk County Department of Public Works, Waterways Division.

³³⁹ NOAA Nautical Chart #12358: Shelter Island Sound and Peconic Bays.

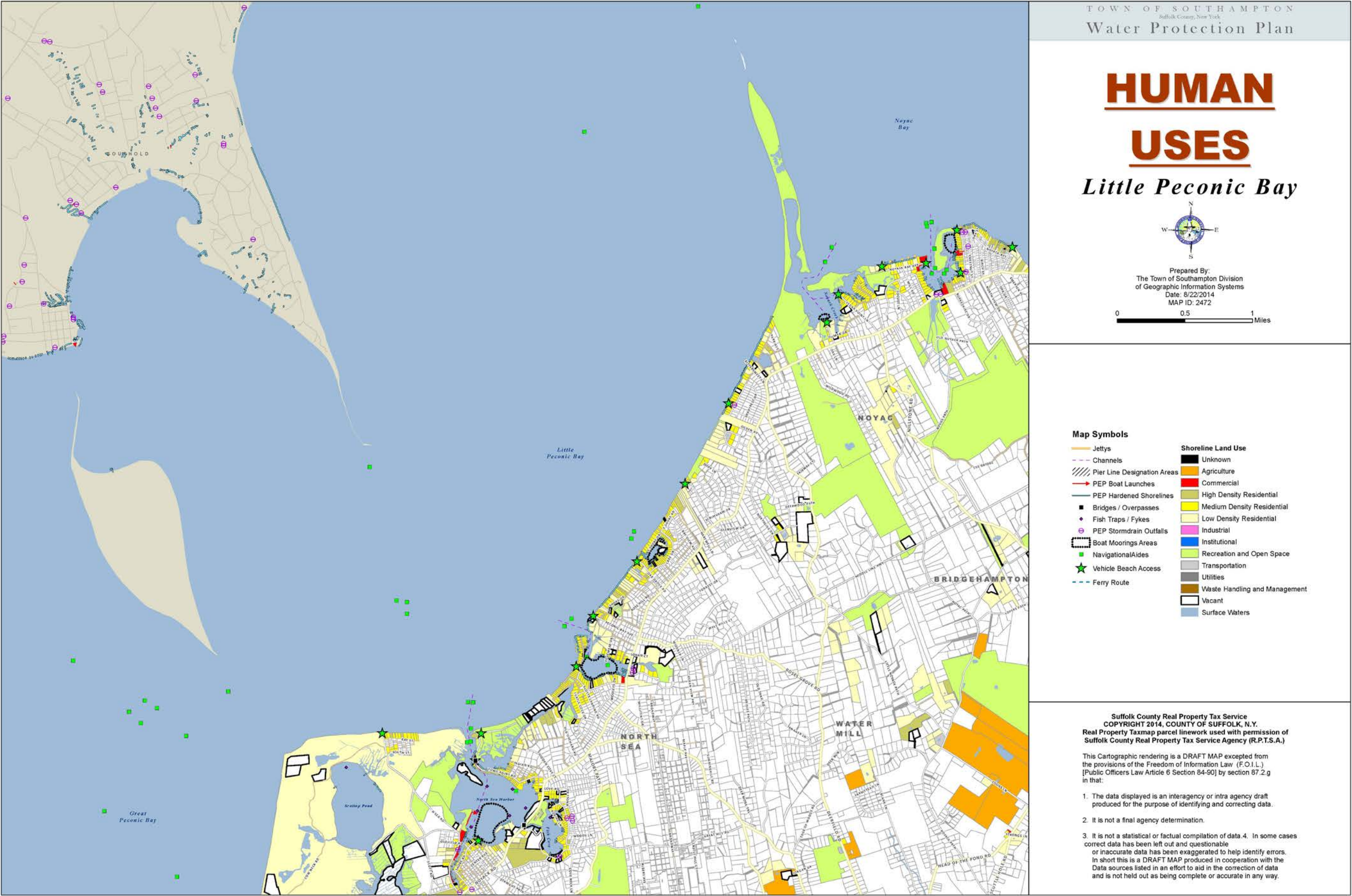
³⁴⁰ Google maps.

³⁴¹ Town of Southampton Trustees. 2011. Blue Book Rules and Regulations for the Management and Products of the Waters of the Town of Southampton. Online at: www.southamptontrustees.com/forms/blue_book.pdf.

³⁴² Data provided by the Suffolk County Department of Public Works, Waterways Division.

Year Dredged	Volume Dredged in cubic yards	Disposition of Dredged Materials
2013	2,400	Beach re-nourishment to west of inlet
2012	2,500	"
2011	2,700	"
2010	3,100	"
2008	2,800	"
2007	3,200	"
2005	1,200	"
2004	2,900	"

Figure 43: Little Peconic Bay
Human Uses



**Figure 44: Little Peconic Bay
Managed Areas**

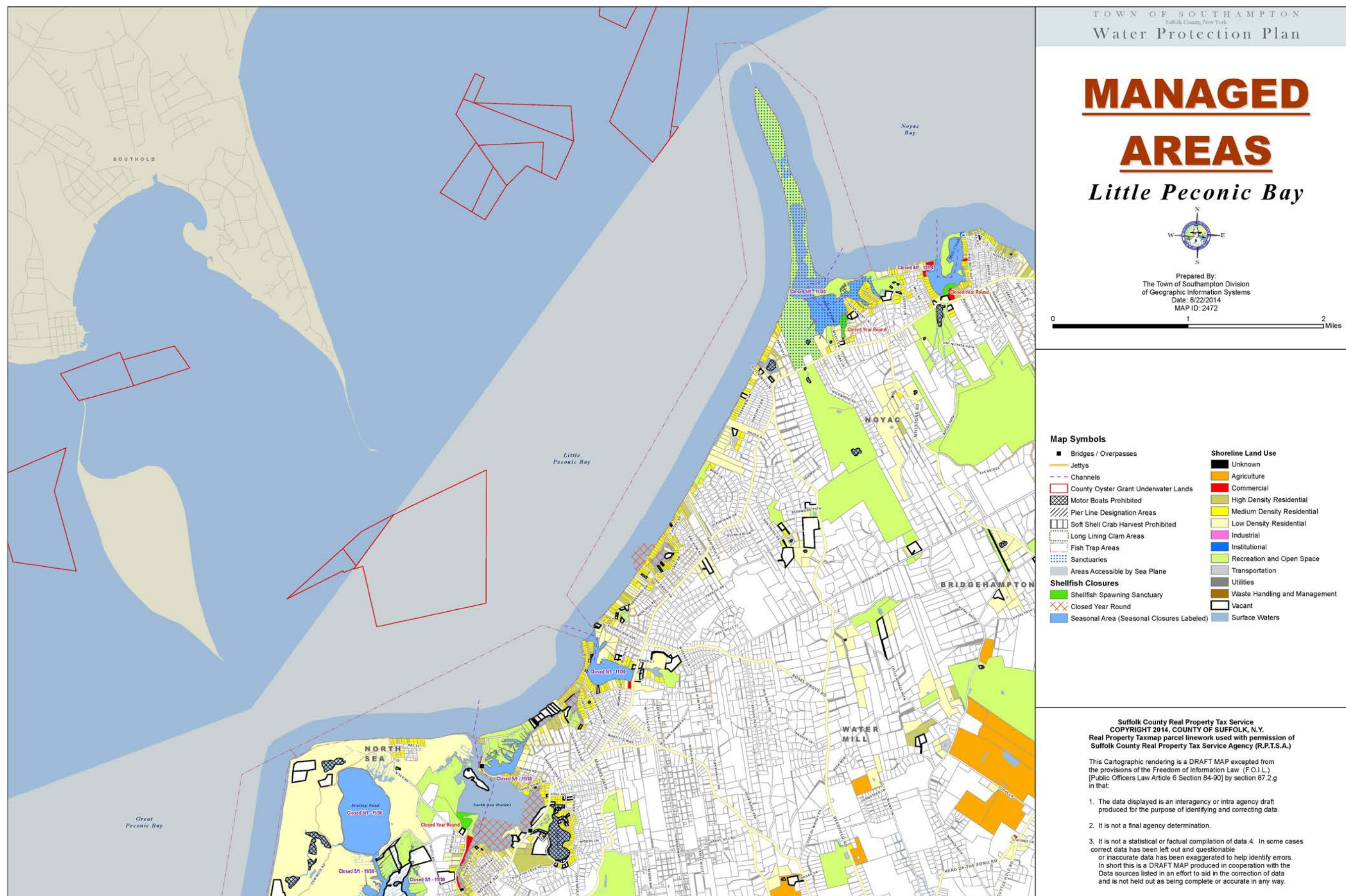
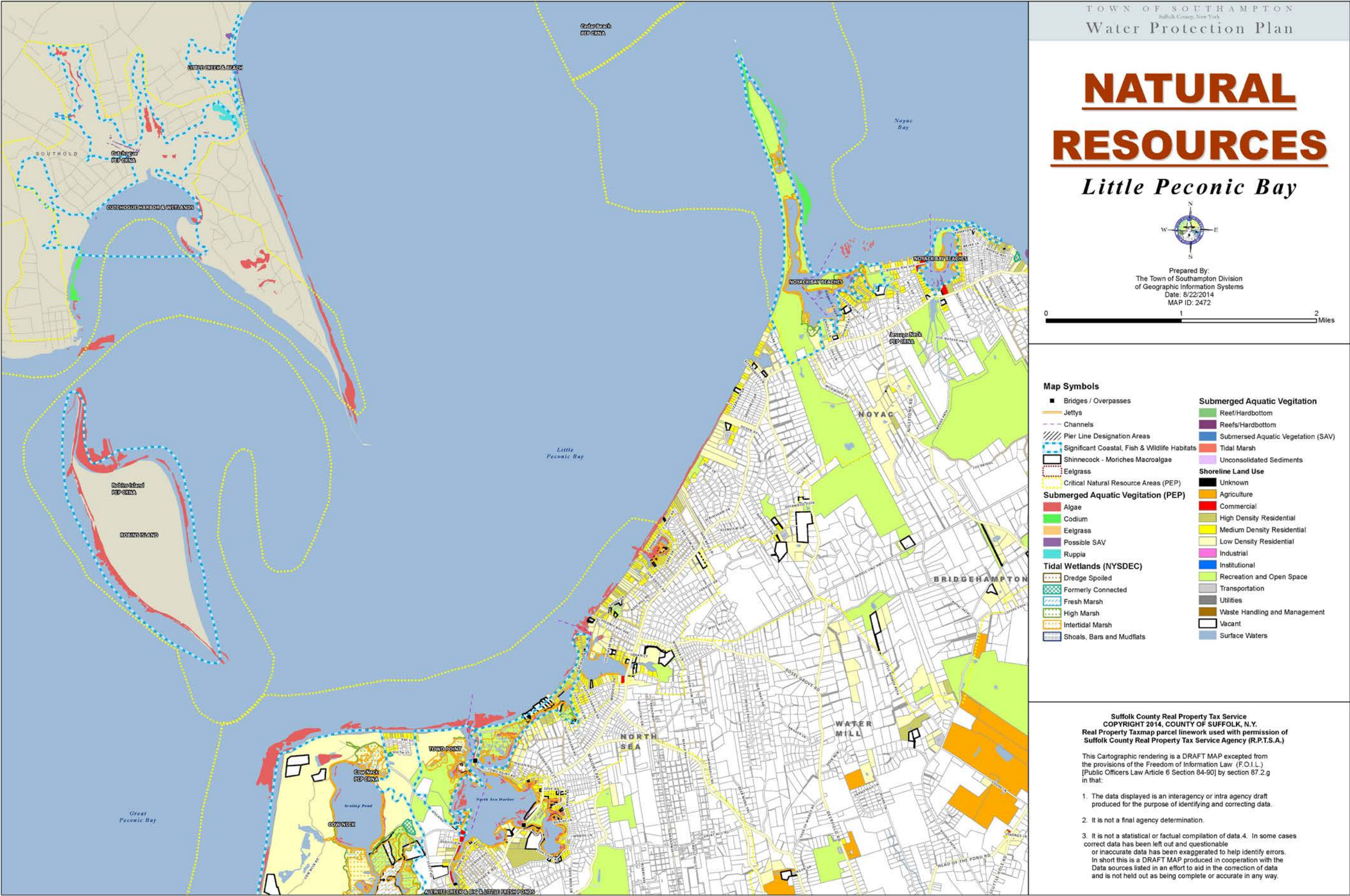


Figure 45: Little Peconic Bay
Natural Resources



NOYAC BAY

General Geographic Area

The area described in this section includes the open waters of Noyac Bay and the associated inlets, embayments and coastal ponds in the Town of Southampton.

For the purposes of this discussion, the Southampton portion of Noyac Bay is bounded to the north by the Town boundary—the “middle” of the Bay; to the west by Jessup Neck and a line running north to the Town boundary; to the east by Gleason Point in North Haven and a line extending from that point north to the Town boundary; and by the shoreline of Southampton between these points.

Included in the following descriptions are two significant embayments and coastal ponds:

- Noyac Creek and
- Mill Creek.

Managing Authorities

The underwater lands in Noyac Bay, below the mean low water line, are “owned” by the State of New York and held in trust for its citizens. As the Town boundary for Southampton extends to the middle of the Bay, the Town holds Police Power authority (protection of public health, welfare, and safety) over these waters and has the capacity to establish laws and regulations applying here. Within the embayments and coastal ponds listed above, the Southampton Trustees hold the ownership rights over the lands under the waters.

Aquaculture in Noyac Bay

While the borders of the Town of Southampton extend to the middle of the open waters of the Peconic Bay complex, the land under the waters are held in trust by the State of New York. Leasing of shellfish aquaculture areas, however, is administered by Suffolk County under Local Law No. 25-2009 pursuant to Chapter 425 of the Laws of New York 2004. The County’s authority, however, is limited to the assignment of lease areas; enforcement of aquaculture regulations is done by the NY Department of Environmental Conservation (DEC). The overall shellfish cultivation zone includes several categories of leases including DEC-issued Temporary Marine Area Use Assignment locations, historic private oyster grants and other areas leased by the County. Leases for new shellfish aquaculture consist of five- or 10-acre parcels with a limit of 60 additional acres per year. The leases are used for oyster, hard clam, and bay scallop production.

Within Noyac Bay, maps provided on the Suffolk County Government web site dated May 2009³⁴³ showed

- One Temporary Marine Use Assignment,
- One Temporary Marine Use Assignment-Relocation site,
- Two Temporary Marine Use Assignments of five acres for off bottom culture, and
- 89 potential lease areas.

Data on each lease area is provided on the Suffolk County web site.

³⁴³Suffolk County. No Date. Program Maps. Online at:
www.suffolkcountyny.gov/Departments/Planning/Divisions/EnvironmentalPlanning/AquacultureLeaseProgram/ProgramMaps.aspx.

Aquaculture within the coastal ponds and embayments is under the jurisdiction of the Town Trustees, is regulated by the standards provided in the Trustees' Blue Book, and is further discussed in the sections on the specific pond or embayment.

Embayment and Coastal Pond Descriptions

Noyac Creek

A private buoy marks the entrance channel to this waterbody. Noyac Creek includes two major segments. The first extends northward from the entrance between two undeveloped barrier beaches on Jessup Neck. There are no channels into or within this area, and water depths are shallow³⁴⁴. There are no docks or bulkheads in this segment and watercraft usage is limited to shallow draft vessels.

The second segment extends south of the entrance channel and is bounded to the northern, open water side by Clam Island and an undeveloped barrier beach—a popular area for hikers and bird watchers. This segment of the Creek includes navigable channels of over five feet in depth as of 2013³⁴⁵. One channel runs to the south-southeast towards the end of Maple Lane, the other runs to the east around Cedar Point to two smaller waterbodies north of Waterview Road. There have been periods of breaching of the barrier north of the end of Noyac Harbor Road.

Much of Noyac Creek is bounded by fringing salt marshes.

Between 2003 and 2012 the entrance channel to the Pond was dredged four times under contract from the Suffolk County Department of Public Works, Waterways Division. The dates, volume dredged and disposition of the dredged materials are summarized below³⁴⁶.

Year Dredged	Volume Dredged in cubic yards	Disposition of Dredged Materials
2012	1,450	Beach nourishment to east of inlet
2010	5,725	Beach nourishment on Clam Island
2007	2,700	"
2004	5,050	"

Within the Pond there are approximately 35 private docks, most of which appear capable of handling power boats up to ~25 feet in length. There are also a limited number (less than five) bulkheaded areas which provide dockage³⁴⁷. There are approximately 20 moorings in the central portion of the Creek complex, almost all off the end of Maple Lane.

Regulations by the Trustees provide some limitations to dock design and moorings within the Creek. These include:

- The stake moorings at the end of Maple Lane are limited to boats with a length of 16 feet or less and
- Boatlifts/hydrohoists are prohibited in the Creek.

The Town owns and operates two boat launch facilities within the Creek including:

³⁴⁴ NOAA Nautical Chart #12358: Shelter Island Sound and Peconic Bays.

³⁴⁵ NOAA Nautical Chart #12358: Shelter Island Sound and Peconic Bays.

³⁴⁶ Data provided by the Suffolk County Department of Public Works, Waterways Division.

³⁴⁷ Google maps.

- The Maple Lane ramp, a sand launch for small boats with limited parking and
- The Cedar Point ramp off Cedar Point Lane, a single lane asphalt ramp for small boats with a limited parking area.³⁴⁸.

The northern segment of the Creek includes some 40 acres of bottomland that is certified for shellfishing year-round. The remainder of the Creek is open for shellfishing from 1 December–1 May. Hard clams and soft clams are the principal species taken, though scallops and razor clams are also taken. A shellfish spawning sanctuary in the inlet to the east of Maple Lane is closed year-round to fishing (see the Managed Areas: Noyac Bay map prepared by the Town of Southampton for the specific location).

There are a number of actively used osprey nests present in and around Noyac Creek.

Mill Creek

The northern, Noyac Bay side of the Pond is protected by an undeveloped barrier beach. A buoyed, dredged channel provides access at a depth of approximately eight feet to the Pond for boating with private buoys marking the channels³⁴⁹. A constant flow of fresh water enters the Creek from Trout Pond.

Much of Mill Creek is bounded by fringing salt marshes.

There are three marinas/yacht clubs within the Creek:

1. Northampton Colony Yacht Club (Noyac Bay Ave.): In the past there have been some issues related to parking on Noyac Bay Ave., generally related to access by the public in the vicinity of the Yacht Club.
2. The Mill Creek Marina (3253 Noyac Rd)
3. Hidden Cove Marina (51 Pine Neck Ave.)

Additionally, there are approximately 20 residential docks within the Creek³⁵⁰, most with floats that are removed during winter months to prevent ice and storm damage. There is also a small (~15 boats) mooring field in the northern portion of the Creek with a waiting list for usage.

Regulations by the Trustees³⁵¹ provide some limitations to dock design and moorings within the Creek. These include:

- Fixed docks are prohibited, only floating docks will be considered, and
- Boatlifts/hydrohoists are prohibited in the Creek.

There is a boat launch owned and maintained by the Trustees at Pine Neck Avenue with a single lane concrete ramp, a tie-up dock, and ample parking³⁵².

The area is seasonally certified for shellfishing, and shellfishing is conducted primarily for soft clams, though it is subject to periodic closures.

³⁴⁸ Boat Ramps; Long Island Region; Town of Southampton, Undated, NY State, Dept Environmental Conservation, Bureau of Marine Resources.

³⁴⁹ NOAA Nautical Chart #12358: Shelter Island Sound and Peconic Bays.

³⁵⁰ Google maps.

³⁵¹ Town of Southampton Trustees. 2011. Blue Book Rules and Regulations for the Management and Products of the Waters of the Town of Southampton. Online at: www.southamptontrustees.com/forms/blue_book.pdf.

³⁵² Boat Ramps; Long Island Region; Town of Southampton, Undated, NY State, Dept Environmental Conservation, Bureau of Marine Resources.

At the foot of Bernard Place there is a small, Town-maintained dock, popular for fishing and feeding ducks, where the Town Bay Constable keeps a boat.

Between 2003 and 2012 the entrance channel to the Pond was dredged only once. This was done in 2006 under contract from the Suffolk County Department of Public Works, Waterways Division. Additional information is summarized below³⁵³.

Year Dredged	Volume Dredged in cubic yards	Disposition of Dredged Materials
2004	4,300	Beach nourishment east of channel.

Mill Creek is seasonally certified for shellfishing (Dec 15–April 1). Hard clams, soft clams, and oysters are present throughout the creek. There is, however, a permanent closure for shellfishing around the Mill Creek Marina facilities (see the Managed Areas: Noyac Bay map prepared by the Town of Southampton for specific location).

³⁵³ Data provided by the Suffolk County Department of Public Works, Waterways Division.

Figure 46: Noyac Bay Human Uses

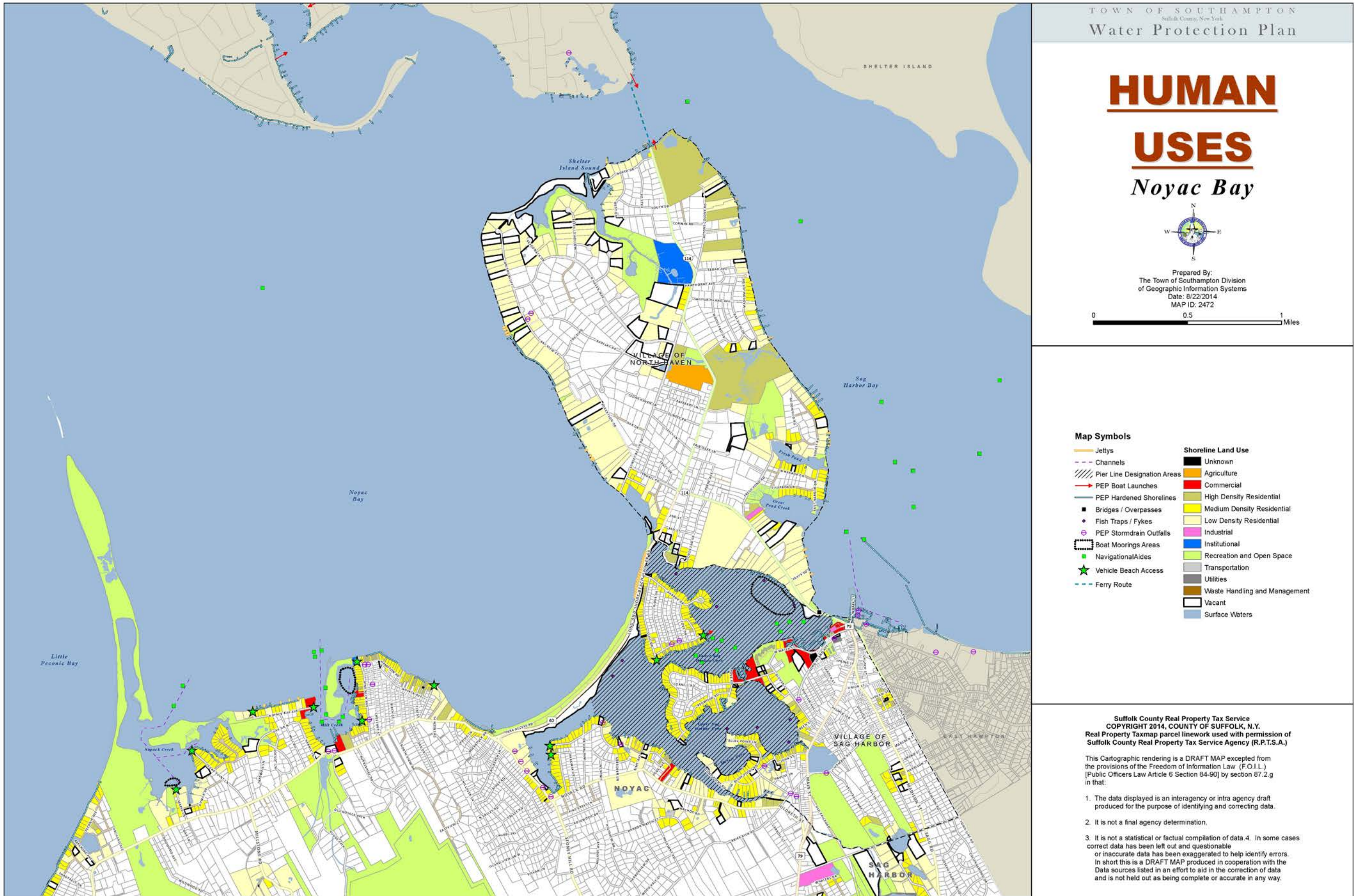


Figure 47: Noyac Bay Managed Areas

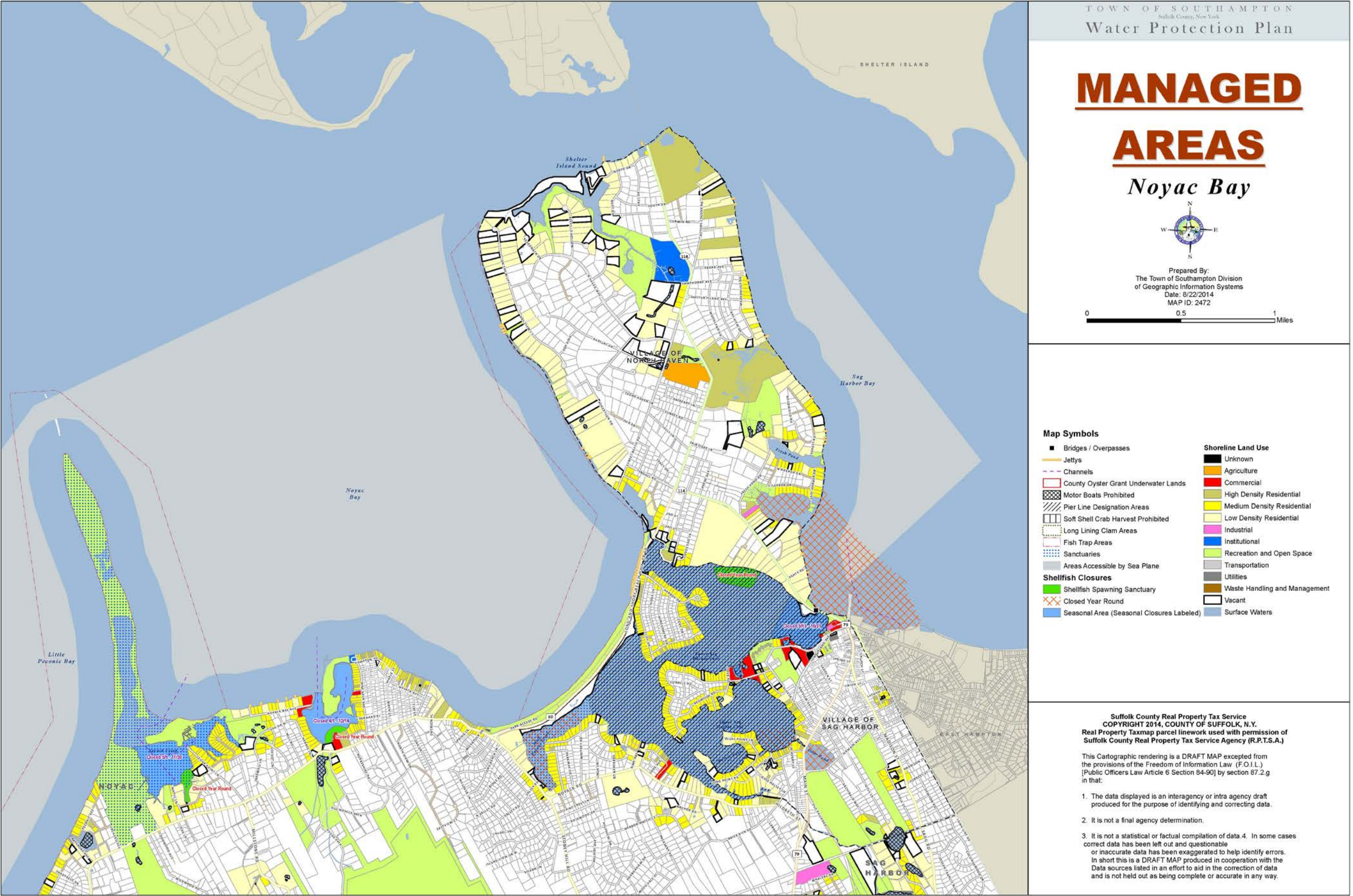
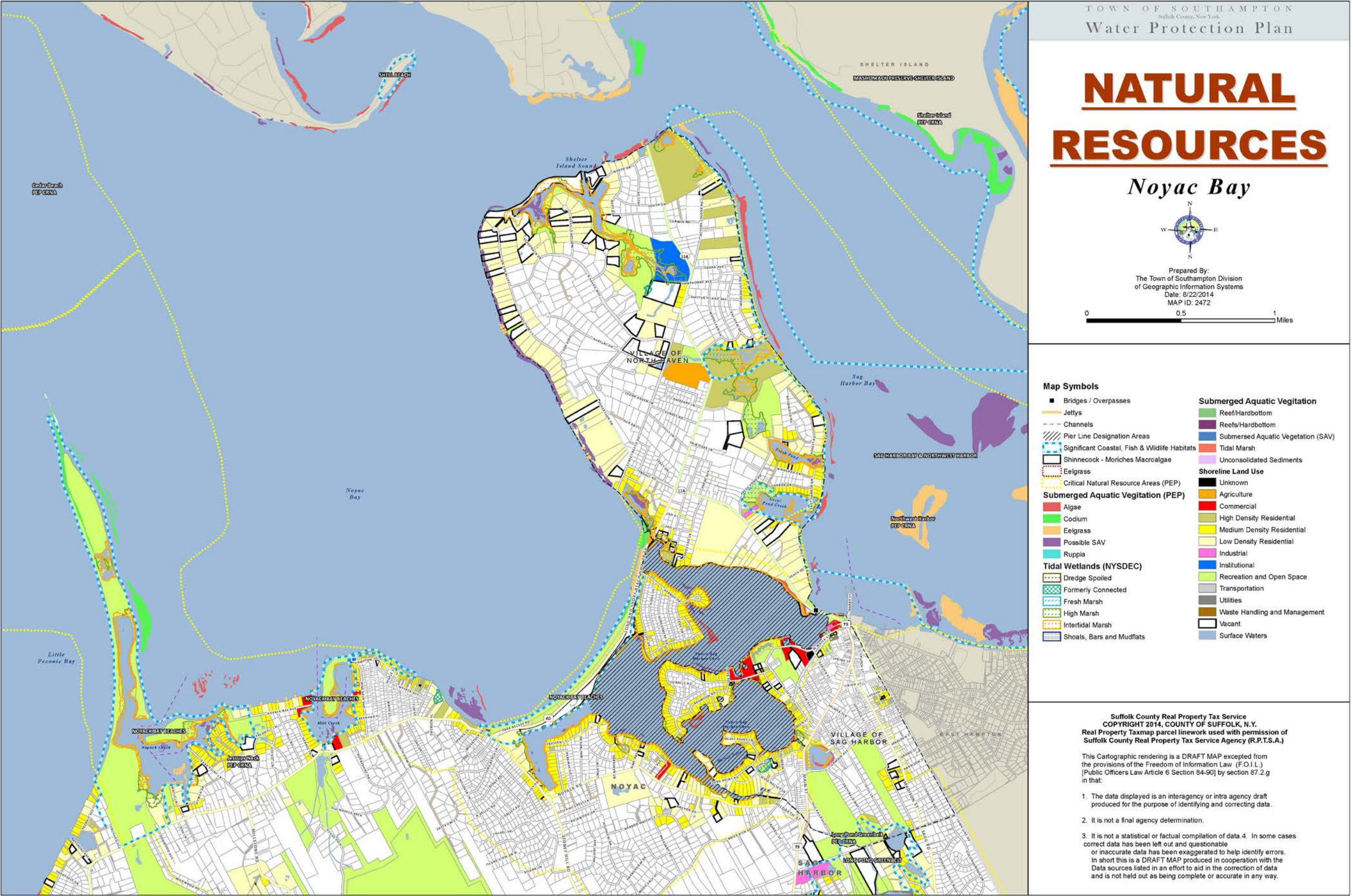


Figure 48: Noyac Bay Natural Resources



SAG HARBOR

The portions of Sag Harbor within 1500 feet from shore are managed according to the provisions of the Sag Harbor Local Waterfront Revitalization Program (LWRP), adopted by the Village and approved by the NY Department of State in 1986. For details of this Program, see the full text at http://docs.dos.ny.gov/communitieswaterfronts/LWRP/Sag%20Harbor_V/Index.html

The remaining portions of Sag Harbor within the boundary of the Town of Southampton have minimal activity, though the Trustees have established a hard clam sanctuary in the Harbor.

MORICHES BAY

General Geographic Area

The area described in this section includes the open waters of Moriches Bay and the associated inlets and embayments in the Town of Southampton.

For purposes of this discussion, the Southampton portion of Moriches Bay is bounded to the east by the Village of Westhampton Beach; to the east and north by the Hamlet of Westhampton; to the north by the Hamlets of Remsenburg, Speonk, and Eastport; to the south by the Westhampton Beach Barrier Island and the Village of West Hampton Dunes; and to the west by the Town Boundary with the Town of Brookhaven. This western boundary follows a course from the western tip of land between Seatuck Creek and the East River, and then angles down across the Bay where it meets the Barrier Island at the western land boundary line of the Village of West Hampton Dunes.

Included in the following descriptions are Seatuck Creek, East River, Speonk River, and Beaverdam Creek, which flow into the Bay; and Seatuck Cove, Apaucuck Cove, and Moneybogue Bay. This area also connects with Narrow Bay and Bellport Bay to the west and with Quantuck Bay to the east via Quantuck Canal. Areas to the west are outside the scope of this project. Quantuck Bay will be treated in a separate section of this document.

Managing Authorities

The Southampton Trustees have authority to regulate all waters and land below the mean high-water mark in Moriches Bay. In addition, the Trustees have authority over the area between the high-water mark and low-water mark adjacent to Moriches Bay³⁵⁴.

Description of Environmental Conditions

Moriches Bay is one of the three bays of the South Shore Estuary Reserve within the planning area. The other two are Quantuck and Shinnecock, which together with Moriches Bay comprise approximately 14,000 acres of estuarine intertidal marshes, mudflats, intertidal flats, manmade canals and shallow water. These protected, linked intertidal areas form highly productive habitats that support significant commercial and recreational fishing and shellfishing activities, as well as related tourism and seafood industries. Primary planning concerns in the Reserve include water quality; living resources; public use and enjoyment; estuary-related economy; and education, outreach, and stewardship.

Moriches Bay is one of 20 areas in the Town of Southampton designated as a Significant Coastal, Fish and Wildlife Habitat by the NY Department of State/Division of Coastal Resources (DOS). This habitat is significant for fish and shellfish, migrating and wintering waterfowl, colonial nesting waterbirds, beach-nesting birds, migratory shorebirds, raptors, and rare plants³⁵⁵. Moriches Bay is considered one of the most important areas on Long Island for habitat for migratory shorebirds³⁵⁶.

³⁵⁴ Town of Southampton Trustees. 2011. Blue Book Rules and Regulations for the Management and Products of the Waters of the Town of Southampton. Online at: www.southamptontrustees.com/forms/blue_book.pdf. Article 1, Section A.

³⁵⁵ New York State Significant Coastal Fish and Wildlife Habitat Narrative: Moriches Bay, http://www.dos.ny.gov/opd/programs/consistency/Habitats/LongIsland/Moriches_Bay.pdf.

³⁵⁶ Trustees of the Town of Southampton. 2001. Marine Resources Protection and Management Plan; Moriches Bay, Shinnecock Bay, and Mecox Bay.. Online at: <http://www.southamptontownny.gov/DocumentCenter/View/1273>.

Submerged Aquatic Vegetation (SAV) and eelgrass are present throughout the Bay, although most concentrated in the eastern half of the Bay and in Seatuck Cove. Unconsolidated sediments also are present throughout the Bay, although most concentrated in the western half of the Bay. Intertidal marsh and high marsh are present on a majority of shorelines in the Bay. There is one designated sanctuary area in the Bay, located in the interior of Apaucuck Cove and extending into Beaverdam Creek up to South Road. Tidal exchange in Moriches Bay is relatively large.

Harbor seals (*Phoca vitulina*), gray seals (*Halichoerus grypus*), and other Arctic seals are present in the Bay and surrounding areas from December to early May. The Bay also supports juvenile loggerhead sea turtles and juvenile green sea turtles during summer months.

Description of Marine Activities

The shoreline land use bordering Moriches Bay is primarily designated as low or medium density residential, with limited high density residential and commercial use, and small open space parcels. There are more than 25 water access sites and approximately 15 vehicle beach access sites in Moriches Bay. There are two Trustee docks in the Bay, one near Eastport Marina and the other near Westhampton Yacht Club, and one Trustee ramp near Apaucuck Cove. In addition there are dozens of private docks, as well as significant boat mooring areas along a majority of the north shore of the Bay, and several small areas on the shore of the barrier island along the southern boundary. There are several commercial boating facilities on the north shore of the Bay and on the barrier. Substantial designated fish trap areas are present in the Bay, including the north shoreline from Fish Creek to Apaucuck Cove, and a majority of the Barrier Island shoreline. There are approximately 47 designated fish traps/fykes and 15 duck blinds in the Bay. The interior of the Bay is designated as Permissible Seaplane Access Waters.

The primary navigation channel is the Federal Long Island Intracoastal Waterway channel that runs in approximately an east-west direction from Shinnecock Bay to the Great South Bay, thereby passing through Moriches Bay³⁵⁷. The channel has an authorized depth of six feet and a width of 100 feet³⁵⁸. Outside of this channel, the Bay is relatively shallow, with a maximum depth of six feet at mean low water, and four to five feet at mean low water in many locations³⁵⁹. There are additional channels that extend into Seatuck Creek, Fish Creek, Speonk River, and Apaucuck Cove.

A feasibility study of small-scale commercial mariculture in Southampton public waters was prepared by Terraqua Environmental Sciences and Policy for the Southampton Board of Trustees in 2003³⁶⁰. The study concluded that Moriches Bay is capable of supporting substantial shellfish (oysters, clams, and scallops) farming and in particular recommends movable, off-bottom culture. The primary obstacle is conflict with other uses, although mitigation measures may include geographic separation, established mariculture zones, and public involvement throughout the process.

Sizable areas along the north shore of Moriches Bay including Seatuck Creek, East River, Speonk River, and Apaucuck Cove are closed year-round to shellfishing. The Trustees have also established a hard clam sanctuary in the Bay.

³⁵⁷ Embayment Use Study of the SSER Comprehensive Management Plan. Online at: http://www.lisser.us/Final_Draft_HTML/Tech_Report_HTM/PDFs/Chap5/Embayment_Part1Sec4.pdf.

³⁵⁸ Embayment Use Study of the SSER Comprehensive Management Plan. Online at: http://www.lisser.us/Final_Draft_HTML/Tech_Report_HTM/PDFs/Chap5/Embayment_Part1Sec4.pdf.

³⁵⁹ NOAA Nautical Chart #12352: Folio Small-Craft Chart Shinnecock Bay to East Rockaway Inlet.

³⁶⁰ Terraqua. 2003. Potential Impacts of Small-Scale Commercial Mariculture in Southampton Public Waters: Feasibility Study. Online at: <http://darc.cms.udel.edu/ibog/SHExecSum.pdf>.

There are, however, several small areas along the north shore that are designated as seasonal areas for shellfishing and are closed from May 1 to November 30. These include an area south of Fish Creek to the western boundary of the Bay; a section of shoreline between Speonk River and Apaucuck Cove; and Moneybogue Bay and a small portion of the Bay to the west of the Jessup Lane Bridge.

Figure 49: Moriches Bay
Human Uses

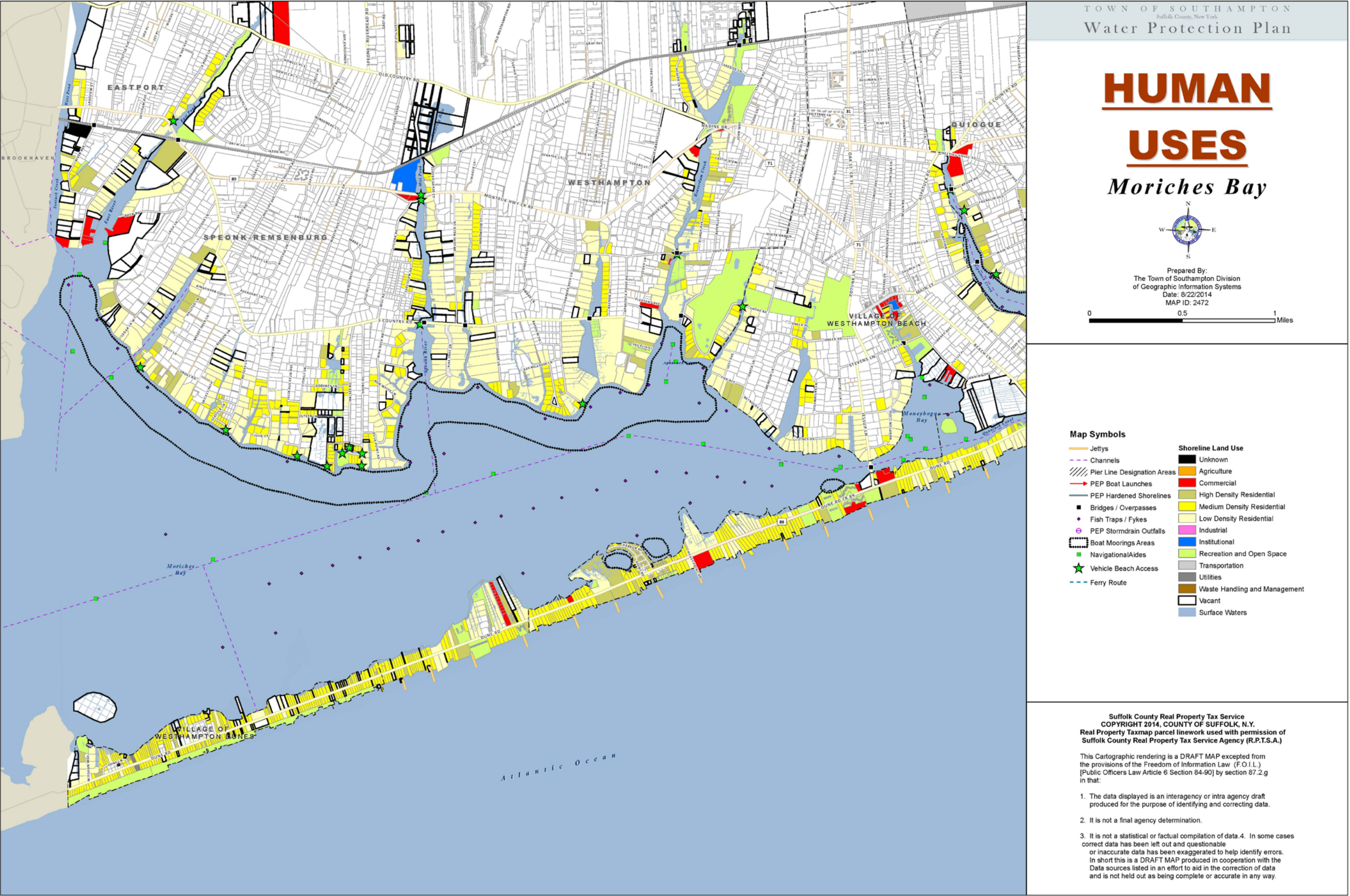


Figure 50: Moriches Bay Managed Areas

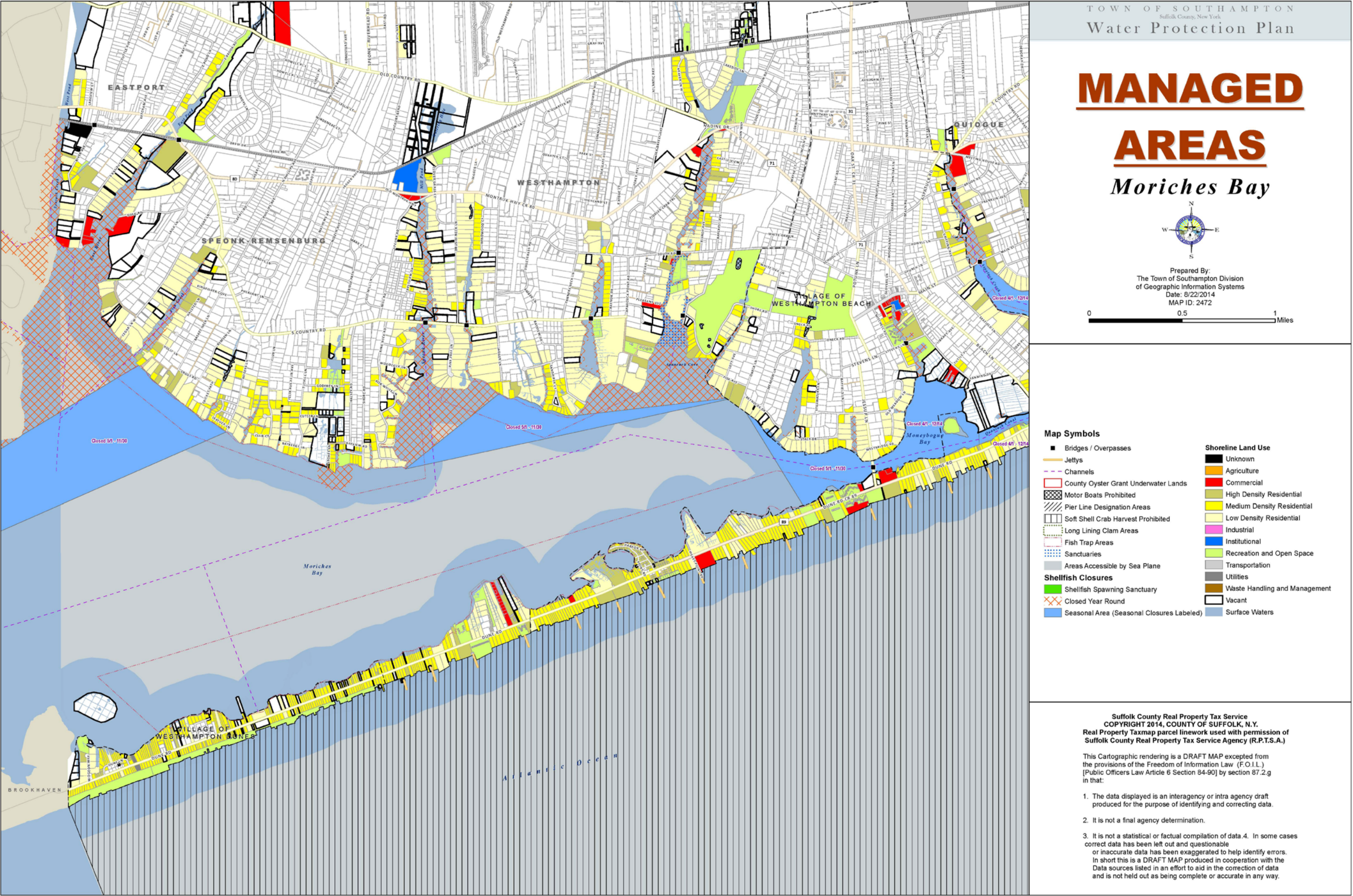
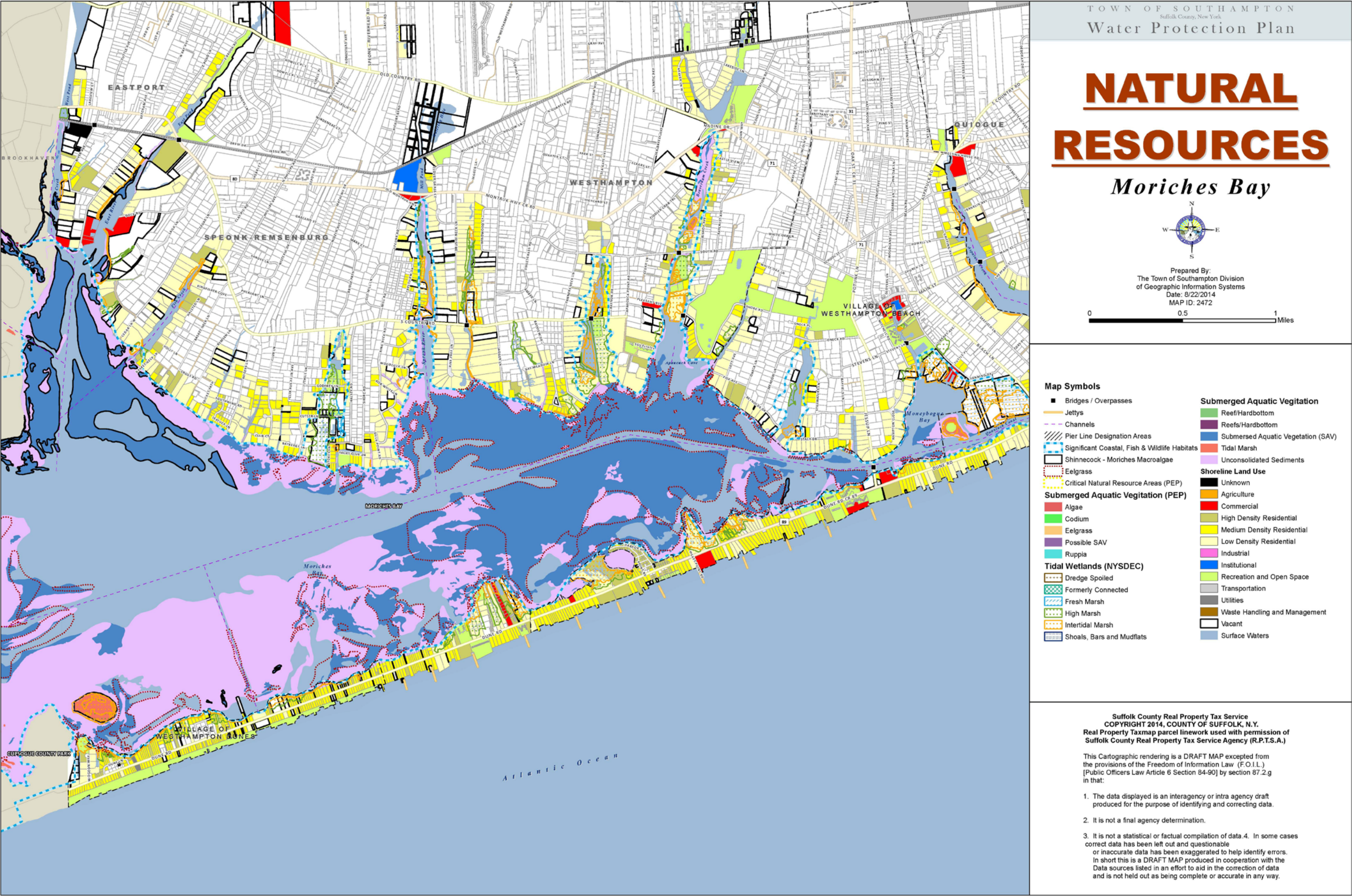


Figure 51: Moriches Bay
Natural Resources



QUANTUCK BAY

General Geographic Area

The area described in this section includes the open waters of Quantuck Bay and the associated inlets and embayments in the Town of Southampton.

For purposes of this discussion, the Southampton portion of Quantuck Bay is bounded to the west by the Village of Westhampton Beach; to the north by the Hamlet of Quogue; to the south by the Village of Westhampton Beach barrier island; and to the east by the Town boundary with the Village of Quogue that passes through the Bay. This eastern boundary follows a course down the approximate middle of Old Ice Pond, Upper Quantuck Creek, and Quantuck Creek, then angles toward the Westhampton Beach barrier island where it meets the barrier island at the land boundary line of the Village of Westhampton Beach and the Village of Quogue. Given these boundaries, the Town of Southampton portion of Quantuck Bay is approximately two-thirds of the total area of the Bay, with the eastern one-third portion of the Bay not within the scope of the Southampton Water Protection Plan (SWPP).

Included in the following descriptions are the Aspatuck Creek and Quantuck Creek which flow into Quantuck Bay. This area also connects with Moneybogue Bay and Moriches Bay to the west via the Quantuck Canal, and with Penniman Cove and Shinnecock Bay to the east via the Quogue Canal. Moriches Bay and Shinnecock Bay each will be treated in separate sections of this document.

Managing Authorities

The Southampton Trustees have authority to manage all waters and land below the mean high-water mark in Quantuck Bay³⁶¹.

Description of Environmental Conditions

Quantuck Bay is one of the three bays of the South Shore Estuary Reserve within the SWPP planning area. Together they comprise approximately 14,000 acres of estuarine intertidal marshes, mudflats, intertidal flats, manmade canals and shallow water. These protected, linked intertidal areas form highly productive habitats that support significant commercial and recreational fishing and shellfishing activities, as well as related tourism and seafood industries. Primary planning concerns in the Reserve include water quality; living resources; public use and enjoyment; estuary-related economy; and education, outreach, and stewardship.

Intertidal marsh is present along a majority of shoreline in the Bay, with high marsh present in limited locations. Unconsolidated sediments are present primarily off the shoreline of the Barrier Island and the southern shoreline of the Village of Quogue. There are two designated sanctuary areas in the Bay, one in Upper Quantuck Creek and the other in a small inlet off of Quantuck Creek just south of Montauk Highway.

Description of Marine Activities

³⁶¹ Town of Southampton Trustees. 2011. Blue Book Rules and Regulations for the Management and Products of the Waters of the Town of Southampton. Online at: www.southamptontrustees.com/forms/blue_book.pdf. Article 1, Section A.

The shoreline land use bordering Quantuck Bay is primarily designated as low or medium density residential, with limited high density residential and commercial use. There are 7 water access sites and 4 vehicle beach access sites in Quantuck Bay, although there are no commercial boating facilities. In addition there are dozens of private docks throughout the Bay and significant boat mooring areas along all shorelines. Boatlifts/hydro-hoists are prohibited³⁶². There are some 23 designated fish traps/fykes and 1 duck blind in the Bay. The interior of the Bay is designated as Permissible Seaplane Access Waters.

The primary navigation channel is the Federal Long Island Intracoastal Waterway channel that runs in approximately an east-west direction from Shinnecock Bay to the Great South Bay, thereby passing through Quantuck Bay³⁶³. The channel has an authorized depth of six feet and a width of 100 feet³⁶⁴. Outside of this channel, the Bay is generally shallow, with a maximum depth of four feet at mean low water, and two to three feet at mean low water in many locations³⁶⁵. There are two additional channels in the Bay that extend up into Aspatuck Creek and Quantuck Creek respectively.

The majority of Quantuck Bay is closed year-round to shellfishing. A small area at the mouth of Aspatuck Creek up to the Main Street Bridge is a seasonal area for shellfishing and is closed from April 1 to December 14. A pathogen TMDL has been developed for the Bay³⁶⁶. The Trustees have established a hard clam sanctuary within the Bay.

³⁶² Town of Southampton Trustees. 2011. Blue Book Rules and Regulations for the Management and Products of the Waters of the Town of Southampton. Online at: www.southamptontrustees.com/forms/blue_book.pdf. Article XVI.

³⁶³ Embayment Use Study of the SSER Comprehensive Management Plan.

³⁶⁴ Embayment Use Study of the SSER Comprehensive Management Plan.

³⁶⁵ NOAA Nautical Chart #12352: Folio Small-Craft Chart Shinnecock Bay to East Rockaway Inlet.

³⁶⁶ Battelle. 2007. Final Report for Shellfish Pathogen TMDLs for 27 303(d)-listed Waters. Online at: http://www.dec.ny.gov/docs/water_pdf/tmdlpathshel07.pdf.

Figure 52: Quantuck Bay
Human Uses

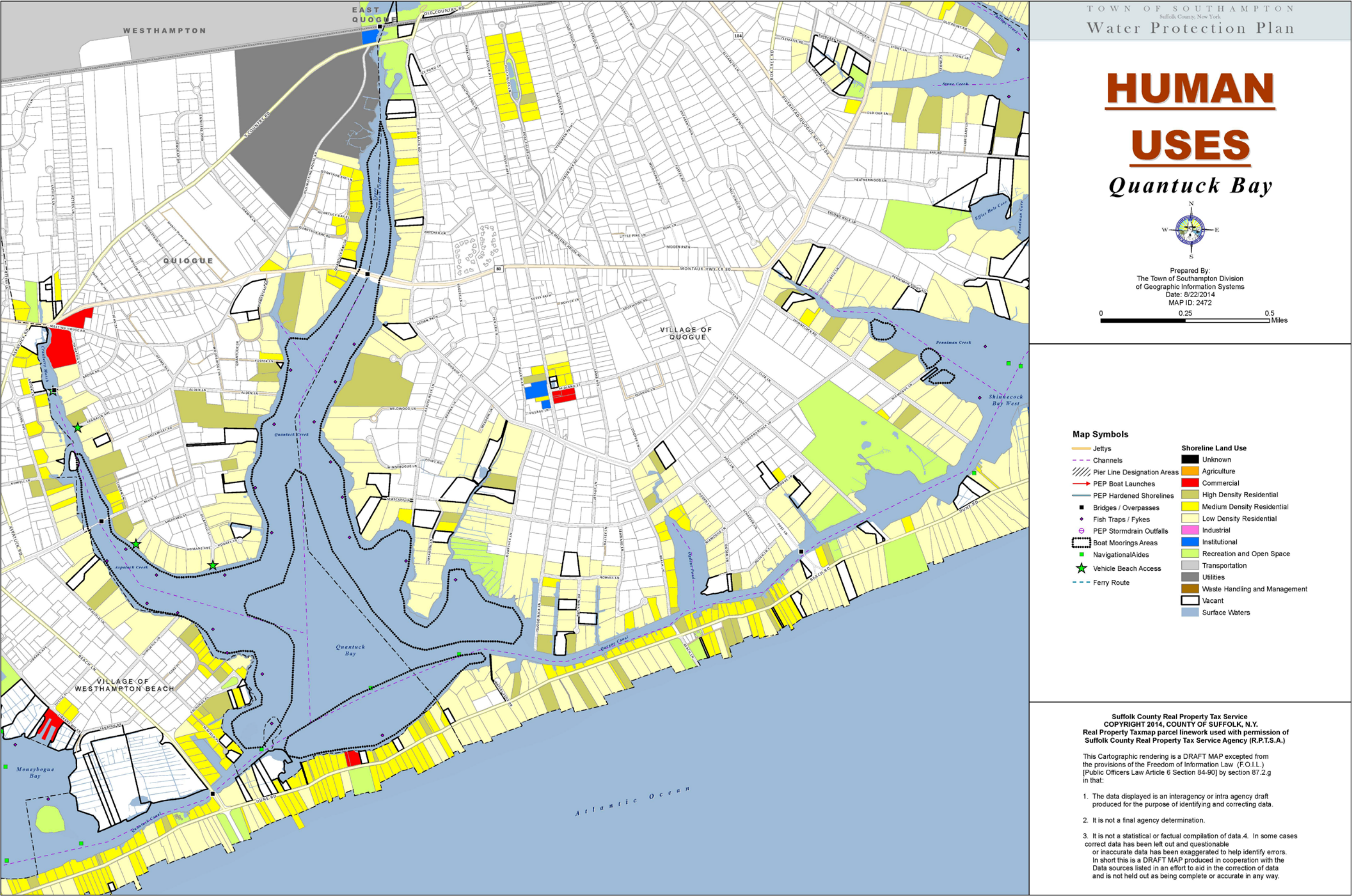


Figure 53: Quantuck Bay
Managed Areas

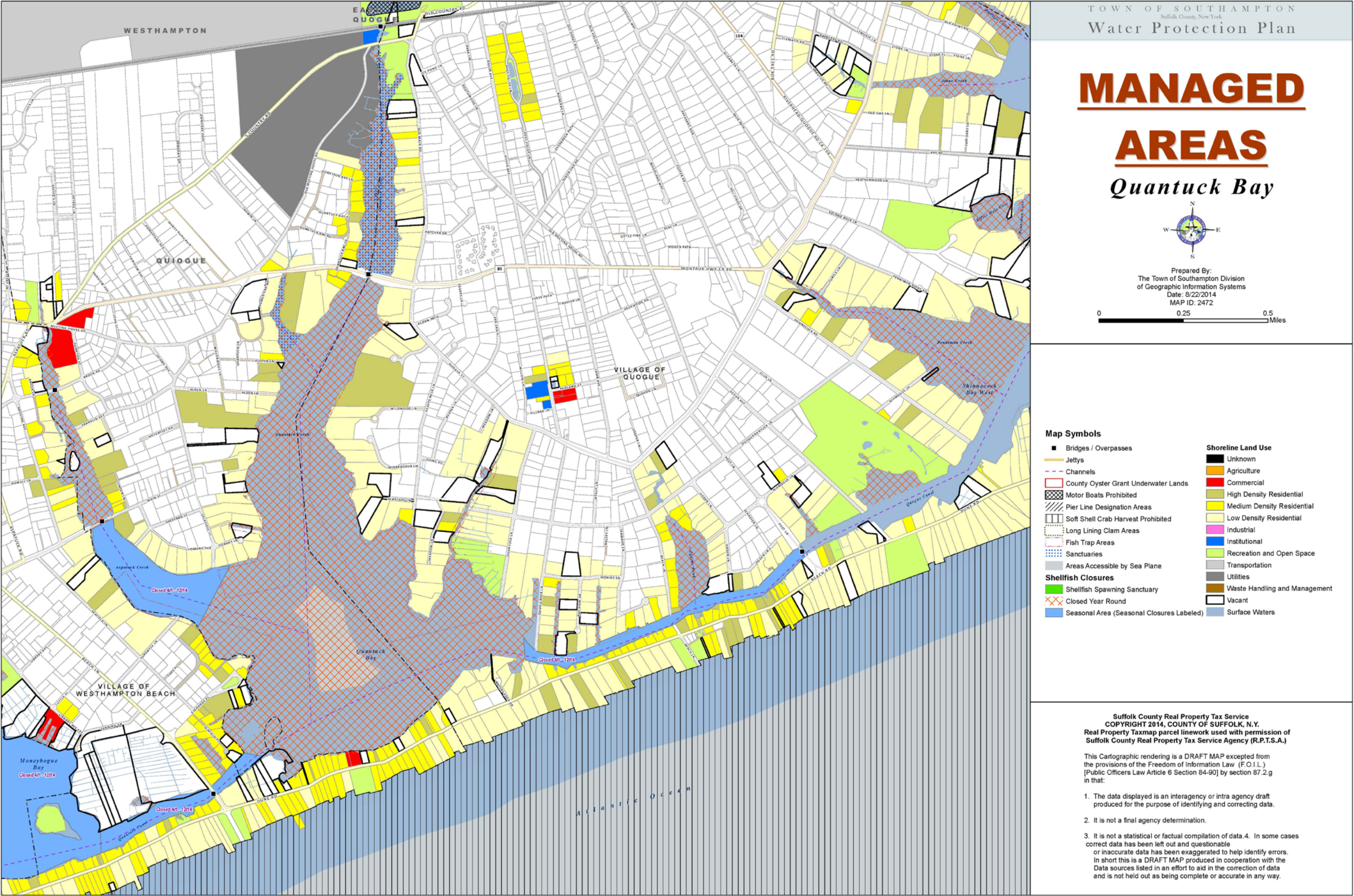
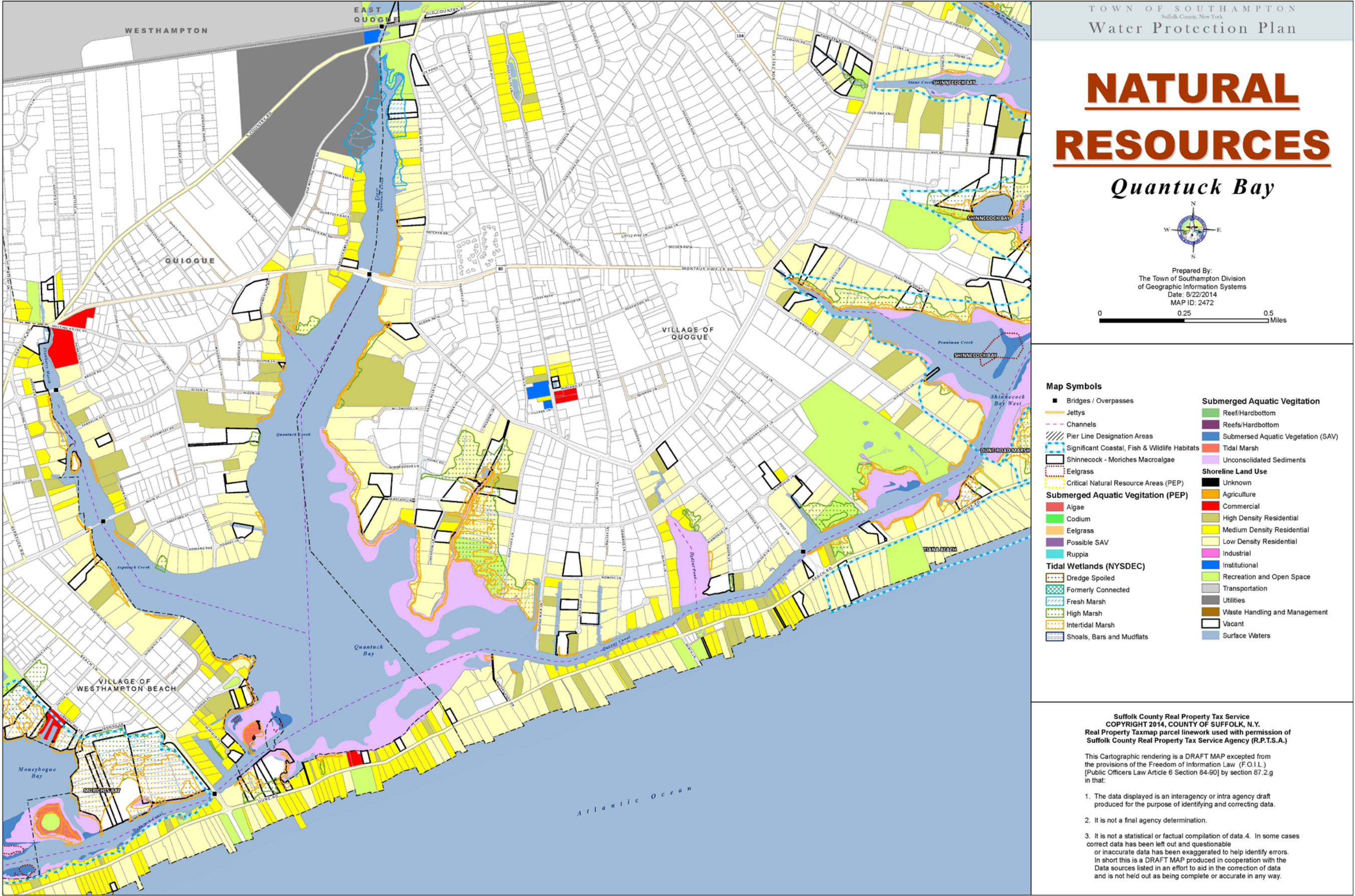


Figure 54: Quantuck Bay
Natural
Resources



SHINNECOCK BAY

General Geographic Area

Shinnecock Bay is about 9,000 acres of predominately open water, mudflats and salt marshes separated into an east and west bay at the Ponquogue Bridge. The Bay is over seven miles west to east, and about two and one-half miles north to south at the widest point.

An extensive coastal barrier island defines the south side of the Bay, separating it from the Atlantic Ocean. The barrier is broken at the Shinnecock Inlet, created originally by the 1938 hurricane and now maintained artificially by the US Army Corps of Engineers (COE) and is protected by jetties on either side. The inlet provides a navigable passage between the Bay and the ocean and allows considerable tidal flushing. The Shinnecock Canal connects Shinnecock Bay with Peconic Bay to the north. Shinnecock Bay West is connected to Quantuck Bay by the Quogue Canal, and from there Moneybogue, Moriches, and Great South Bays. These interconnected bays are part of the Intracoastal Waterway maintained by the ACOE.

The bordering land use on the mainland side is predominately medium-density residential with a number of commercial and private boating facilities clustered in a few areas. The barrier beach supports recreational and open space uses along with low density residential development.

Managing Authorities

Shinnecock Bay lies partly within two incorporated villages, Quogue and Southampton, and borders land held by the Shinnecock Indian Nation, which all lie outside the purview of this Town of Southampton Harbor Plan and the SWPP in general.

The Trustees have title to all underwater lands and land between the high-water and low-water marks, adjacent to Shinnecock Bay³⁶⁷ (including Tiana Bay) and authority to have control over, all fisheries, fowling, sand, weed, waters, within the Town. In exercise of this jurisdiction, the Trustees have enacted regulations governing the use of Trustee-owned lands and waters³⁶⁸. The regulations control such activities as fishing and shellfishing within Trustee-owned waters, the use of four-wheel drive vehicles on Town beaches, and the construction of certain structures such as bulkheads and revetments. New York Courts have upheld the Trustees' right to regulate fishing within Trustee-owned waters³⁶⁹ and Town Law §130(18)(2) specifically recognizes the right of the Trustees to regulate the taking of shellfish within Trustee-owned water and lands. The Trustees' authority to regulate land and underwater lands within their ownership is still subject to the public right to navigation under the public trust doctrine.

Natural Resources

The estuarine wetlands of Shinnecock Bay are one of the Town's most important ecosystems, serving as commercial shellfish grounds, finfish nurseries, and waterfowl wintering areas, and contributing to maintaining water quality. There are numerous areas of eelgrass in Shinnecock Bay West and extensive

³⁶⁷ Sharpe, William S. Long Island Colonial Patents and the Public Trust Doctrine, New York State Department of State, p. 7.

³⁶⁸ Town of Southampton Trustees. 2011. Blue Book Rules and Regulations for the Management and Products of the Waters of the Town of Southampton. Online at: www.southamptontrustees.com/forms/blue_book.pdf.

³⁶⁹ See generally Trustees, ETC., of the Town of Southampton v. Mecox Bay Oyster Co., Limited, 116 N.Y. 1, 8 (1889); see also Trustees of Freeholders of Commonalty and Town of Southampton v. Grannis, 920 N.Y.S2d 245, (2010).

stretches of eelgrass in Shinnecock Bay East. Intertidal and high marsh exists along the Bay-side of the barrier beach in both east and west Shinnecock Bay.

The Bay has biologically and commercially significant populations of hard clams, soft clams, bay scallops, razor clams, mussels, and blue crabs. The waters of the Bay are certified for commercial and recreational shellfishing. The Trustees have established hard clam sanctuaries in the Bay. Specific locations include Tiana Bay, Fort Pond, and Heady Creek.

As mentioned in the Moriches Bay section, in 2003, the Trustees commissioned a feasibility study of commercial aquaculture that concluded that environmental requirements for the farming of oysters, clams and scallops exist in Shinnecock and Moriches Bays, and that the most significant potential impediment would appear to be use conflicts³⁷⁰. Since then the Trustees have begun supporting an oyster aquaculture program in Tiana Bay whereby owners of docks are given oyster spat to raise in nets/cages hanging from the docks. When the oysters reach a suitable size, a portion of the crop is planted in Peconic Bay by Cornell Extension.

The Bay complex is also highly productive for marine finfish, serving as a feeding area and nursery for bluefish, winter and summer flounder, American eel, tautog, and scup. Forage fish including Atlantic silverside, striped killifish, mummichog, and northern pipefish are also found in the Bay.

Shinnecock Bay is a nesting and feeding grounds for the many migratory birds including waders and shorebirds. Shinnecock Bay has been designated by the New York State Department of State as having winter waterfowl populations of statewide significance.

While the entire Bay system is considered significant, specific tributaries have been targeted for increased protection due to high productivity levels of finfish, shellfish and birds, or crucial environmental parameters such as healthy submerged aquatic vegetation (SAV). These areas include Tiana Bay, Far Pond, Middle Pond, Old Fort Pond, Heady Creek, Taylor Creek, the Dune Road Marsh, Gull Island, and the Shallows.

Human Uses

As noted, the Bay is rich in marine life which supports both recreational and commercial fishing and shellfishing.

Recreational boating is a prime activity supported by numerous waterfront facilities providing access and support services. Navigational channels provide access between concentrations of these access points and deep water. Boating facilities in Shinnecock Bay include:

Shinnecock Bay West

Trustees' boat ramp: East Quogue Marine Park Bay Avenue

Weesuck Creek

Aldrich Marine

Hampton Marine Center

Tiana Bay

Colonial Shores Cottages and Marina

³⁷⁰ TerrAqua. 2003. Potential Impacts of Small-Scale Commercial Mariculture in Southampton Public Waters. Prepared for the Southampton Board of Trustees.

Trustees' boat ramp: Corwin Lane

Spellmans Marina

Hampton Boat Works

Hampton Bays Yacht Club East

PJ's Marina

Molnar's Landing

Mill River dockage

Shinnecock Bay East

Shinnecock Commercial Fishing Dock at Shinnecock Inlet

Trustee boat ramp: at Old Ponquogue Bridge Marine Park

Trustees' boat ramp: Argonne Road

Trustees' boat ramp: Peconic Road

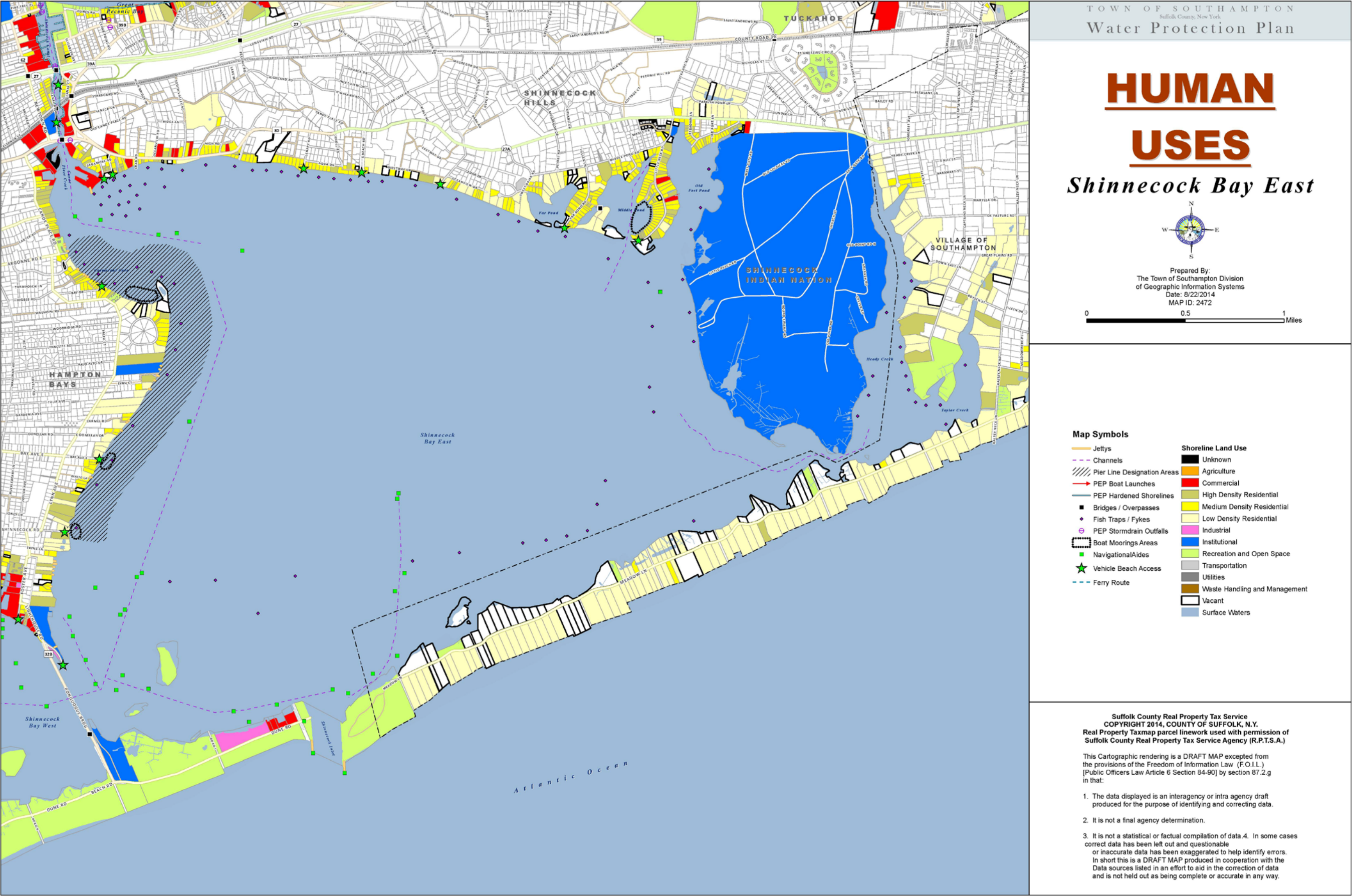
Southampton Yacht Club

Corrs Best Boat Works

Trustees' boat ramp: Old Fort Pond, Little Nick Road

In addition, there are several boat mooring areas in Shinnecock Bay East along the eastern shore of Hampton Bays and one in Middle Pond.

Figure 55: Shinnecock Bay East
Human Uses



**Figure 56: Shinnecock Bay
West Human Uses**

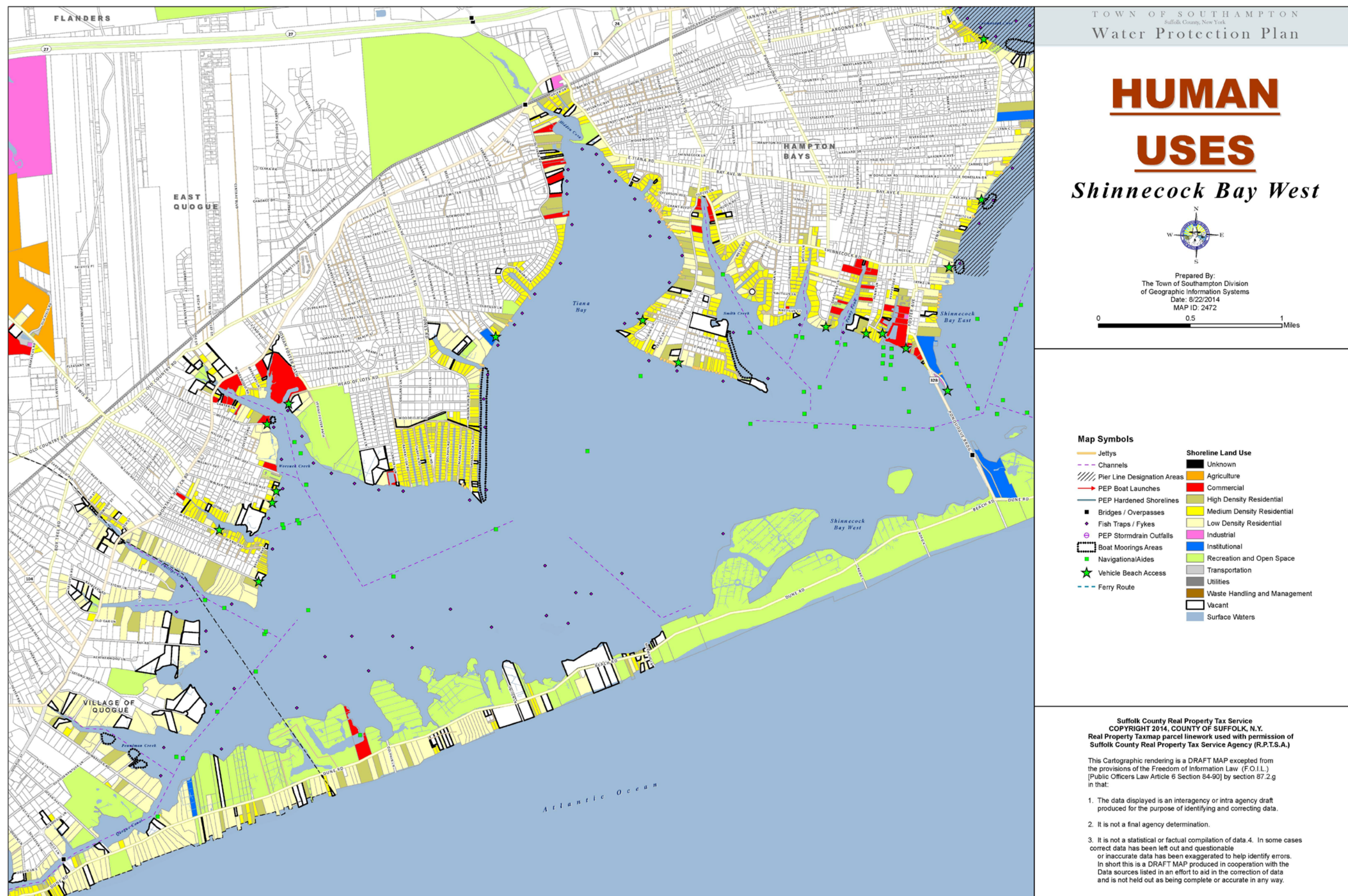


Figure 57: Shinnecock Bay East Managed Areas

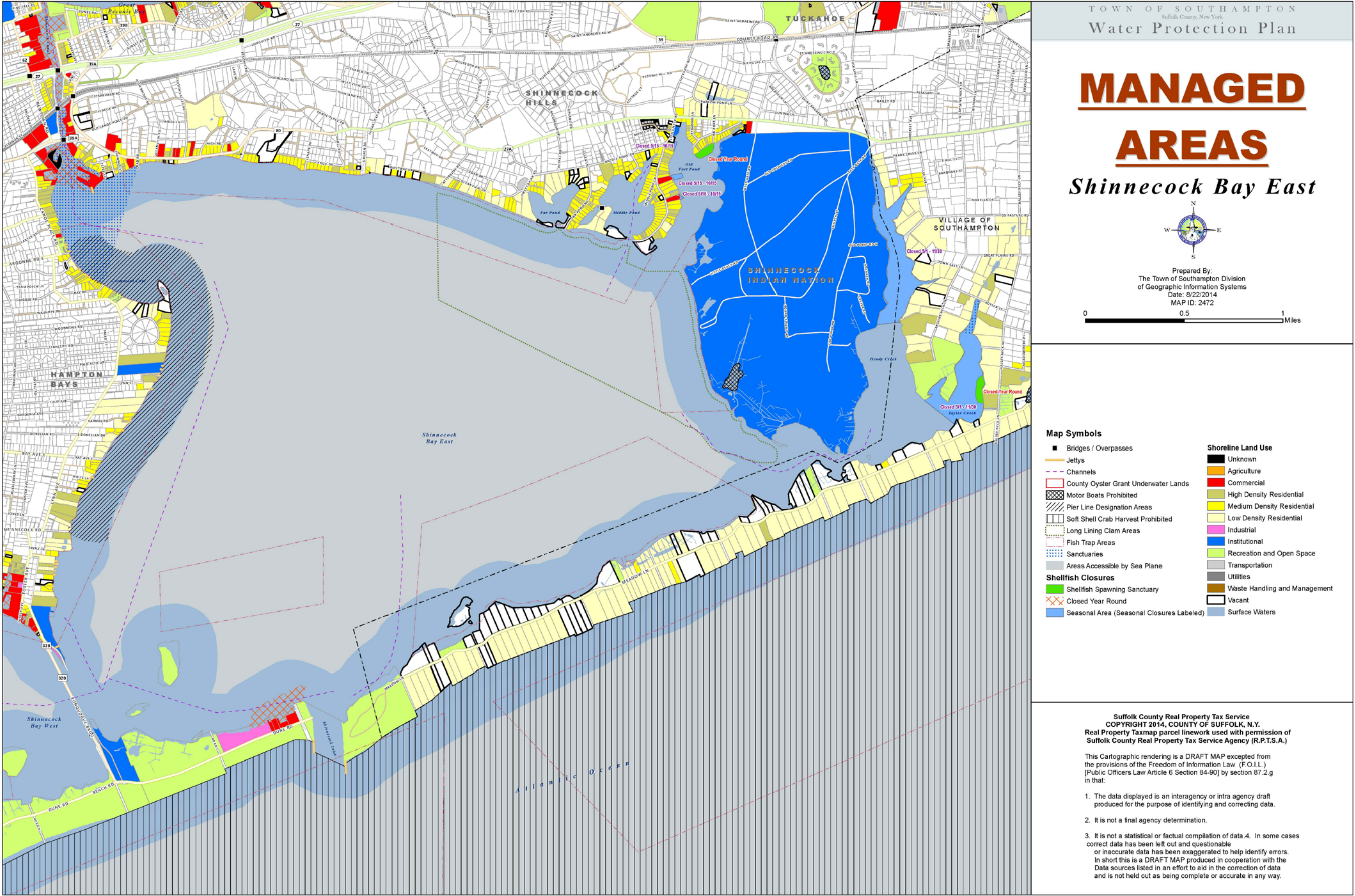


Figure 58: Shinnecock Bay
West Managed Areas

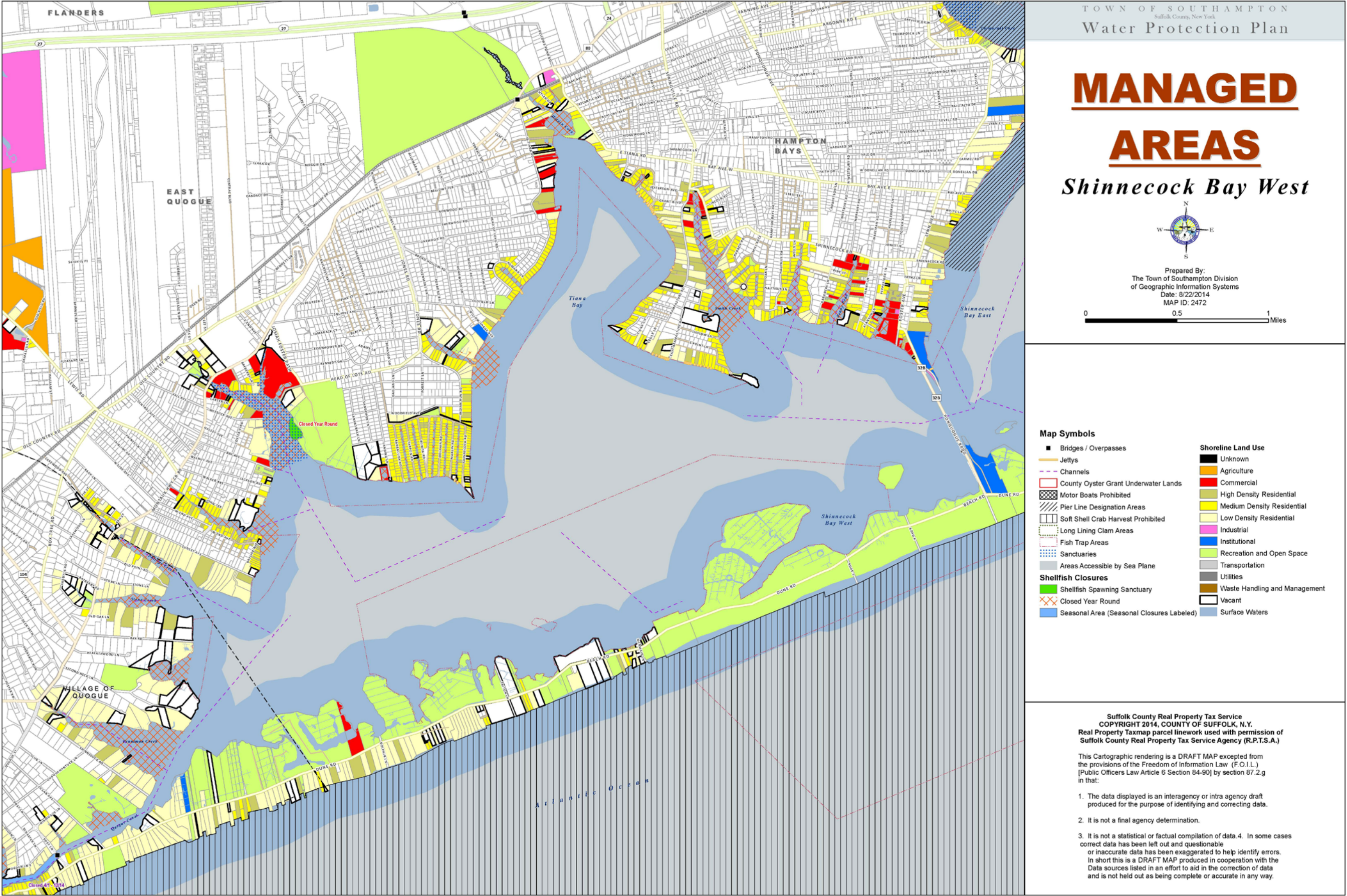


Figure 59: Shinnecock Bay East
Natural Resources

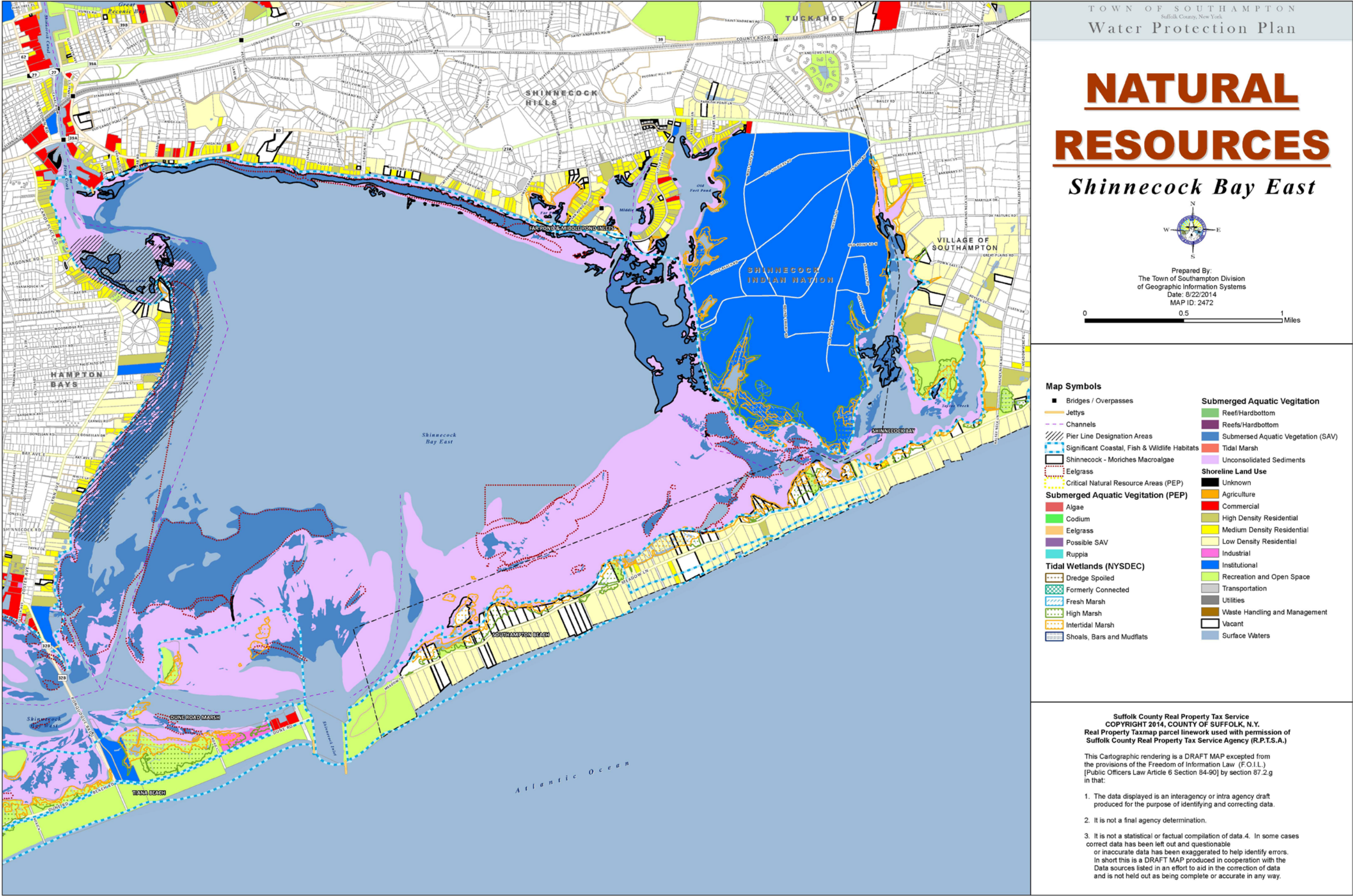
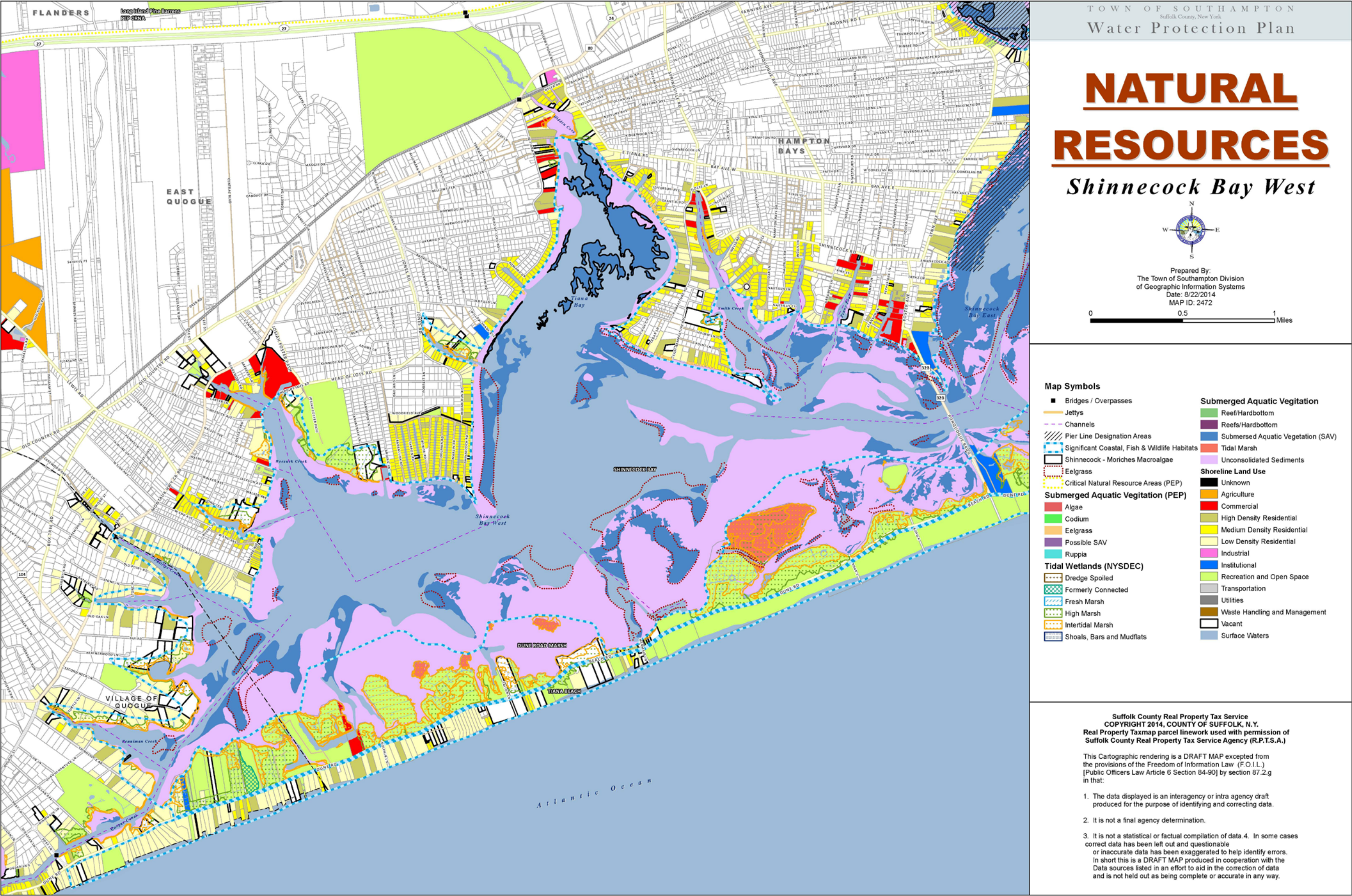


Figure 60: Shinnecock Bay
West Natural
Resources



SHINNECOCK CANAL

The Shinnecock Canal connects Great Peconic Bay to the north with Shinnecock Bay and the Atlantic Ocean to the south. The canal is 4,700 feet long and varies in width from 100 to 180 feet. It is spanned by two fixed highway bridges, Sunrise Highway and Montauk Highway and a fixed bridge carrying the Long Island Rail Road. The railroad bridge is the lowest, with 22 feet of vertical clearance above the water. The highway bridges have vertical clearances of 23 feet and 25 feet, respectively.

The opening of the canal in the late 19th century had a positive effect on the environmental conditions of Shinnecock Bay, increasing the salinity of the waters that had become brackish and rejuvenating fish and shellfish populations. A canal lock system (built in 1919) accommodates the differences in water levels and tide cycles of Peconic and Shinnecock bays: Peconic Bay can be three feet higher than Shinnecock Bay. The locks are owned and operated by Suffolk County.

Much of the shoreline along Shinnecock Canal is engineered with bulkheading or other shore stabilization structures. The Canal and the boating facilities on both sides of the Canal are the Town's most significant concentration of marine-related facilities and businesses. These facilities include:

- Mariners Cove Marina on the southwest corner
- Indian Cove Marina, west shore
- Spellman's Marina, west shore
- Surfside 3 modern yachts, west shore
- Hampton Watercraft and Marine, west shore
- Shinnecock Canal Marina on the northeast end of the canal
- Jackson's Marina, on the southeast corner of the canal

The Shinnecock Canal area represents the best opportunity for increasing boating facilities in the Town because so much of Southampton's shorefront abuts shallow water, wetlands or other sensitive habitats.

There are scattered small pockets of intertidal vegetation, but basically the area has been entirely altered and engineered for human uses. The Canal is closed to shellfishing year round. The lower portion of the Canal and adjoining section of Shinnecock Bay East is designated a wildfowl sanctuary and rest area where hunting, shooting, and taking of any wildfowl is prohibited.

Figure 61: Shinnecock Canal
Human Uses

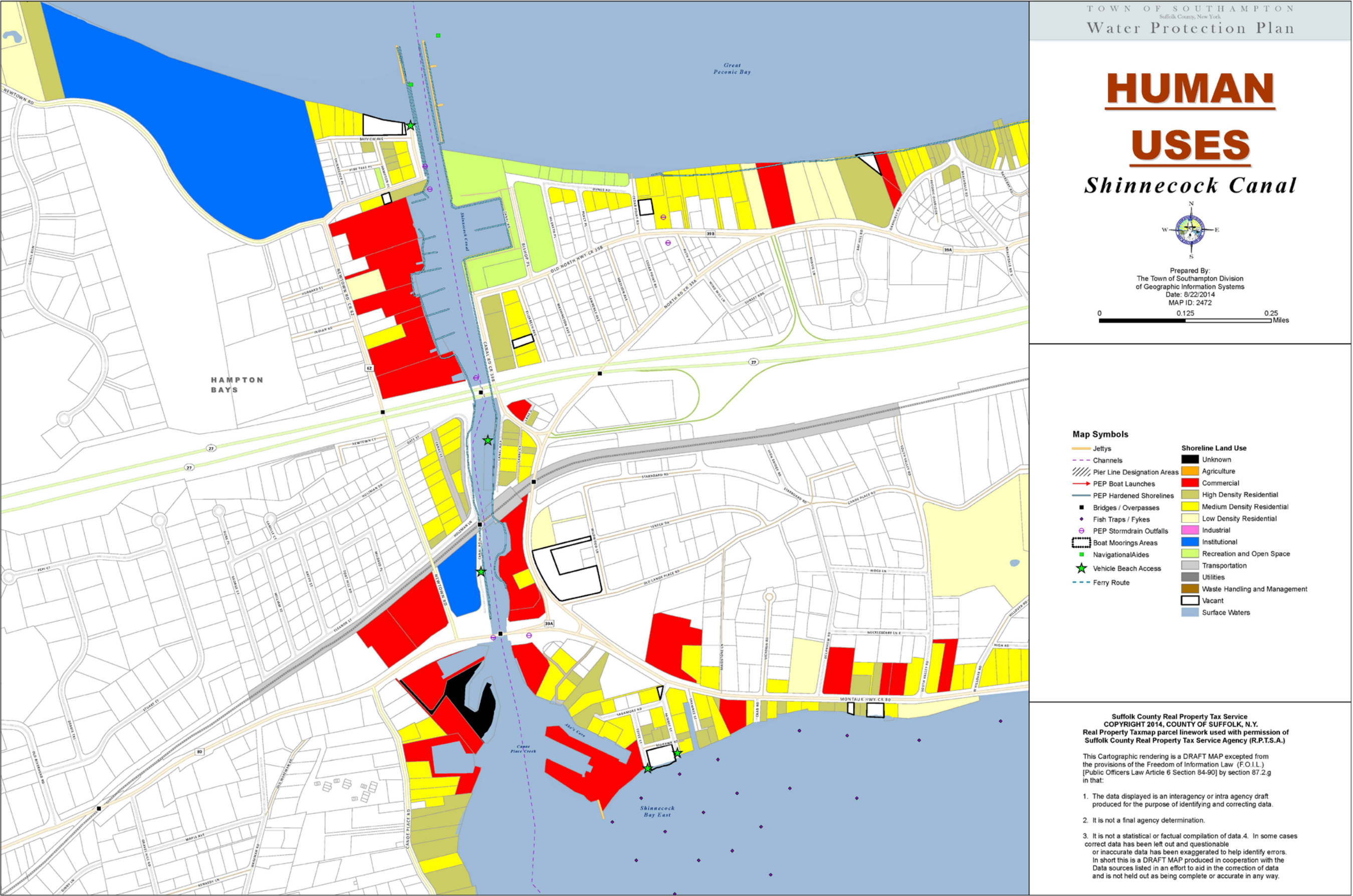


Figure 62: Shinnecock Canal Managed Areas

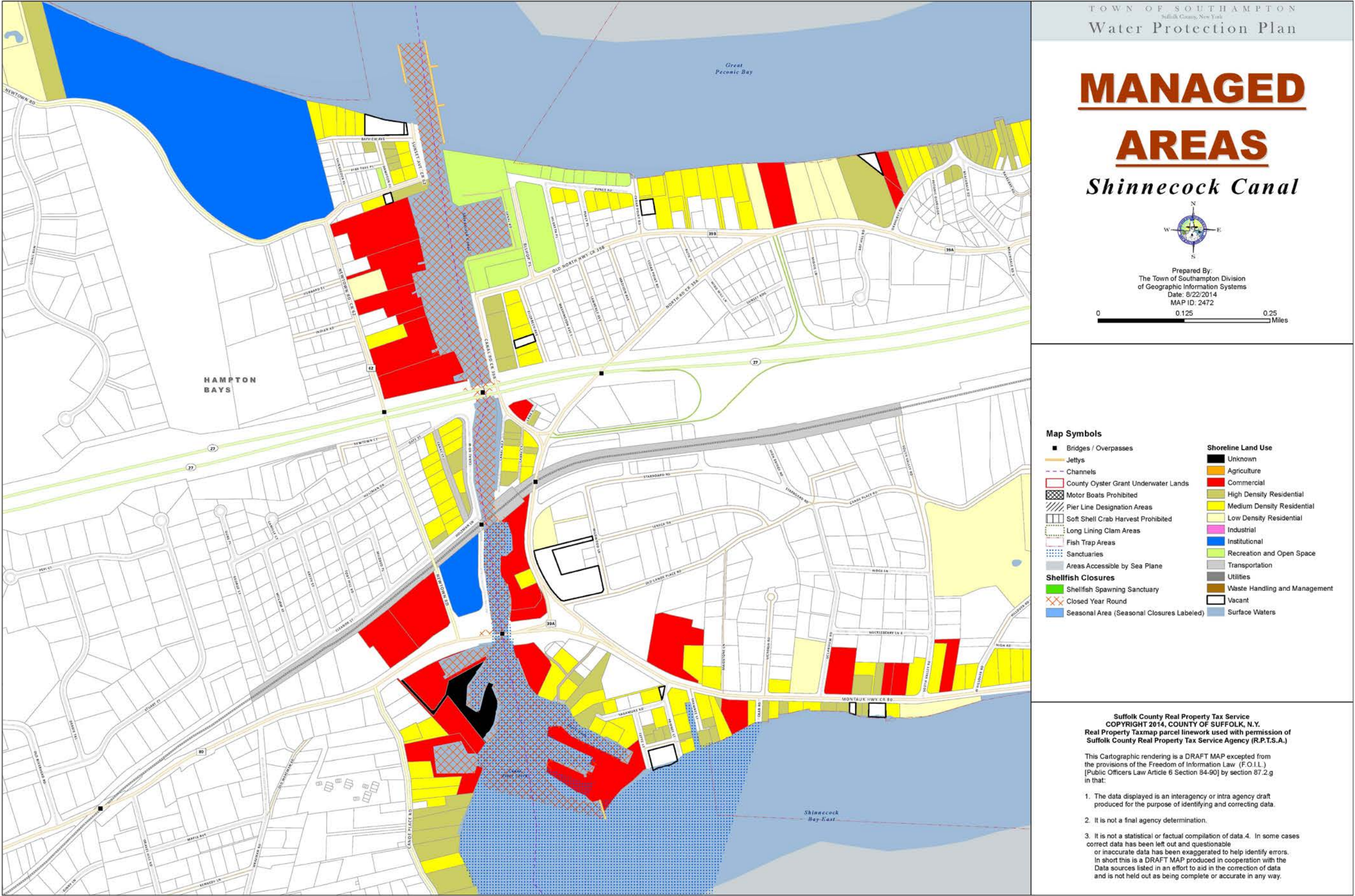
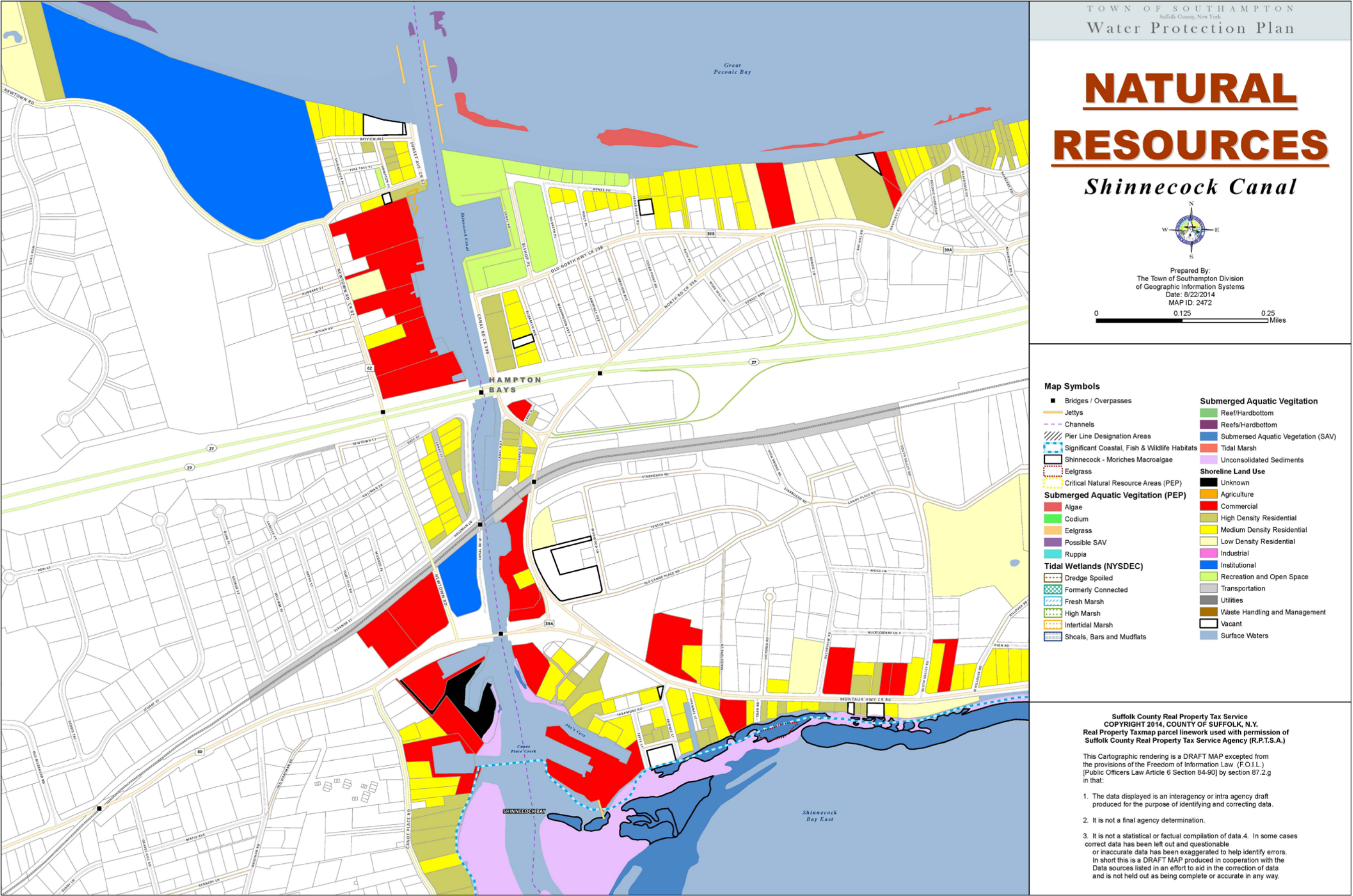


Figure 63: Shinnecock Canal
Natural Resources



Suffolk County Real Property Tax Service

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Real Property Taxmap parcel linework used with permission of

Suffolk County Real Property Tax Service Agency (R.P.T.S.A.)

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1. The data displayed is an interagency or intra agency draft produced for the purpose of identifying and correcting data.

2. It is not a final agency determination.

3. It is not a statistical or factual compilation of data.

4. In some cases correct data has been left out and questionable or inaccurate data has been exaggerated to help identify errors.

In short this is a DRAFT MAP produced in cooperation with the Data sources listed in an effort to aid in the correction of data and is not held out as being complete or accurate in any way.

MECOX BAY

General Geographic Area

Mecox Bay is one of the largest coastal pond ecosystems on Long Island consisting of 1,100 acres, located roughly two miles east of Southampton Village³⁷¹. The area includes Mecox Bay, Mecox Beach, Mill Creek, Hayground Cove, Channel Pond and the adjacent wetlands. The Bay itself is a predominantly shallow (less than three feet deep at Mean Low Water), fresh- to brackish-water coastal embayment. The Bay is connected to the Atlantic Ocean by Mecox Inlet, which is opened intermittently by either human engineering or natural breaches. The Bay has been designated as a significant Coastal Fish and Wildlife Habitat. The Bay is important to a variety of fish and wildlife species throughout the year³⁷². It offers valuable nesting areas and feeding sites for various shorebirds and migratory waterfowl.

Managing Authorities

The Southampton Trustees hold title to all underwater lands as well as the land between the high-water and low-water marks within and adjacent to Mecox Bay³⁷³. The Town Trustees also manage water levels and salinity within the Bay by breaching the barrier beach from time to time.

All of Mecox Bay and connecting bodies of water are subject to a pier line designation which limits dock construction, including floating docks, to lengths no greater than 50' measured from the average high water line.

The northern portion of the Bay and all connecting bodies of water are closed to shellfishing year round. This does not apply, however, to the taking of crabs, in conformance with Trustee rules.

Natural Resources

The estuarine wetlands of Mecox Bay, as with those of Shinnecock Bay, are among some of the most important ecosystems found in the Town³⁷⁴.

This coastal pond system is an important habitat for marine finfish and shellfish. White perch, soft clams, blue claw crabs and sticklebacks are common. It is one of two places on Long Island that provide commercial fishing for white perch during the winter months between November and March³⁷⁵.

Mecox Bay is a highly significant waterfowl wintering area, and the concentrations of certain species are of statewide significance. Canada geese, black ducks, scaup, mallards, common goldeneye, American wigeon, canvasbacks and mute swans all utilize the Bay system during the winter months from November to March. Least terns and piping plovers nest in the inlet area and on the ocean beaches, and utilize the mud flats as forage sites.

Concentrations of submerged aquatic vegetation occur in Mecox Bay.

³⁷¹ Board of Trustees of the Town of Southampton. 2001. Marine Resources Protection and Management Plan: Moriches Bay, Shinnecock Bay and Mecox Bay.

³⁷² NYS Department of State, Office of Planning and Development. 1987. New York State Significant Coastal Fish and Wildlife Habitat.

³⁷³ Sharpe, William S. Long Island Colonial Patents and the Public Trust Doctrine, New York State Department of State, p. 7.

³⁷⁴ NYS Department of State, Office of Planning and Development. 1987. New York State Significant Coastal Fish and Wildlife Habitat.

³⁷⁵ NYS Department of State, Office of Planning and Development. 1987. New York State Significant Coastal Fish and Wildlife Habitat.

The southern portion of Mecox Bay is open to the harvesting of fish, shellfish and crabs by Southampton Town residents holding Town Trustees shellfishing permits. Currently, as well as historically, the predominant shellfish taken (commercially, except from May through November) from Mecox Bay include oysters and soft-shell clams. While current population estimates regarding softshell clams are unavailable, Mecox Bay is believed to support a relatively healthy population.

The Bay supports a large year-round blue crab fishery, both commercial and recreational. Fishers are limited to 50 crabs, which must have shells at least 5 inches across. In 2014, between 75–100 summons were issued for violations involving the taking of crabs³⁷⁶. The citations included taking crabs without a permit, taking a greater number of crabs than allowable, taking crabs with eggs, and the taking of undersized crabs³⁷⁷.

There is also some commercial haul seine fishing for white perch, as well as commercial and recreational harvest of oysters.

The Trustees open the barrier beach in order to “flush” the Bay a few times a year. Mecox is “below sea level” so when opened, elevated waters run out and are replaced by cleaner ocean waters increasing salinity from perhaps 10 parts per thousand (ppt) to 15–18 ppt. The Trustees also turn over bottom sediments to improve habitat for shellfish.

Resource/use conflicts include illegal harvesting of blue crabs and water level fluctuations that cause problems for septic systems around the northern portion of the Bay. In the past, there have been some issues with growth of widgeon grass in Mecox which can “clog” the waters. The Trustees periodically mine sand from the Bay for sale to adjacent property owners to recreate beaches and dunes.

There are three boat launch sites in Mecox Bay³⁷⁸:

- The Rose Hill Road boat ramp off Rose Hill Road in Watermill. This is a single Lane asphalt ramp designed for small boats and requiring 4-wheel drive vehicles. The site has limited parking.
- The Mohawk Ave. Launch Site of Mohawk Avenue is a sand launch facility with very limited parking.
- The former Mecox Yacht Club site at the end of Bay Lane in Water Mill, now operated by the Town Parks and Recreation Department, has its own sailboat launch area, and immediately adjacent is a public boat launch area at the end of Bay Lane Road.

There are between 130 and 140 residential docks within the Mecox Bay complex, but no commercial marinas or yacht clubs. The Town Trustees limit length of docks in the Bay to 50 feet or less³⁷⁹.

³⁷⁶ Wright, Michael. August 20, 2014. 27 East.

³⁷⁷ Warner, Ed. September 4, 2015. Personal Communication.

³⁷⁸ NY State, Dept Environmental Conservation, Bureau of Marine Resources. No Date. Boat Ramps; Long Island Region; Town of Southampton.

³⁷⁹ Town of Southampton Trustees. 2011. Blue Book Rules and Regulations for the Management and Products of the Waters of the Town of Southampton. Online at: www.southamptontrustees.com/forms/blue_book.pdf.

Figure 64: Mecox Bay Human Uses

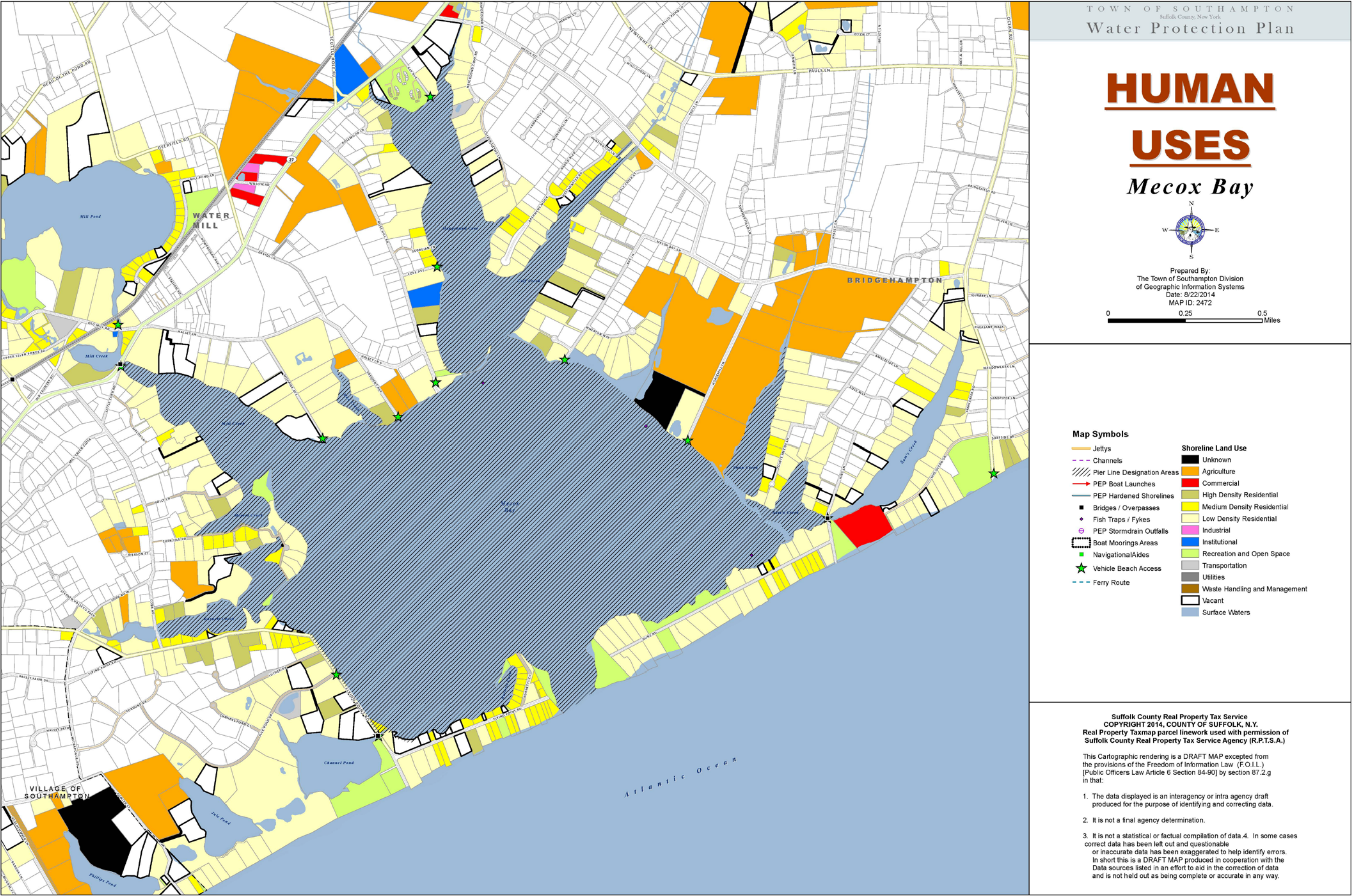


Figure 65: Mecox Bay
Managed Areas

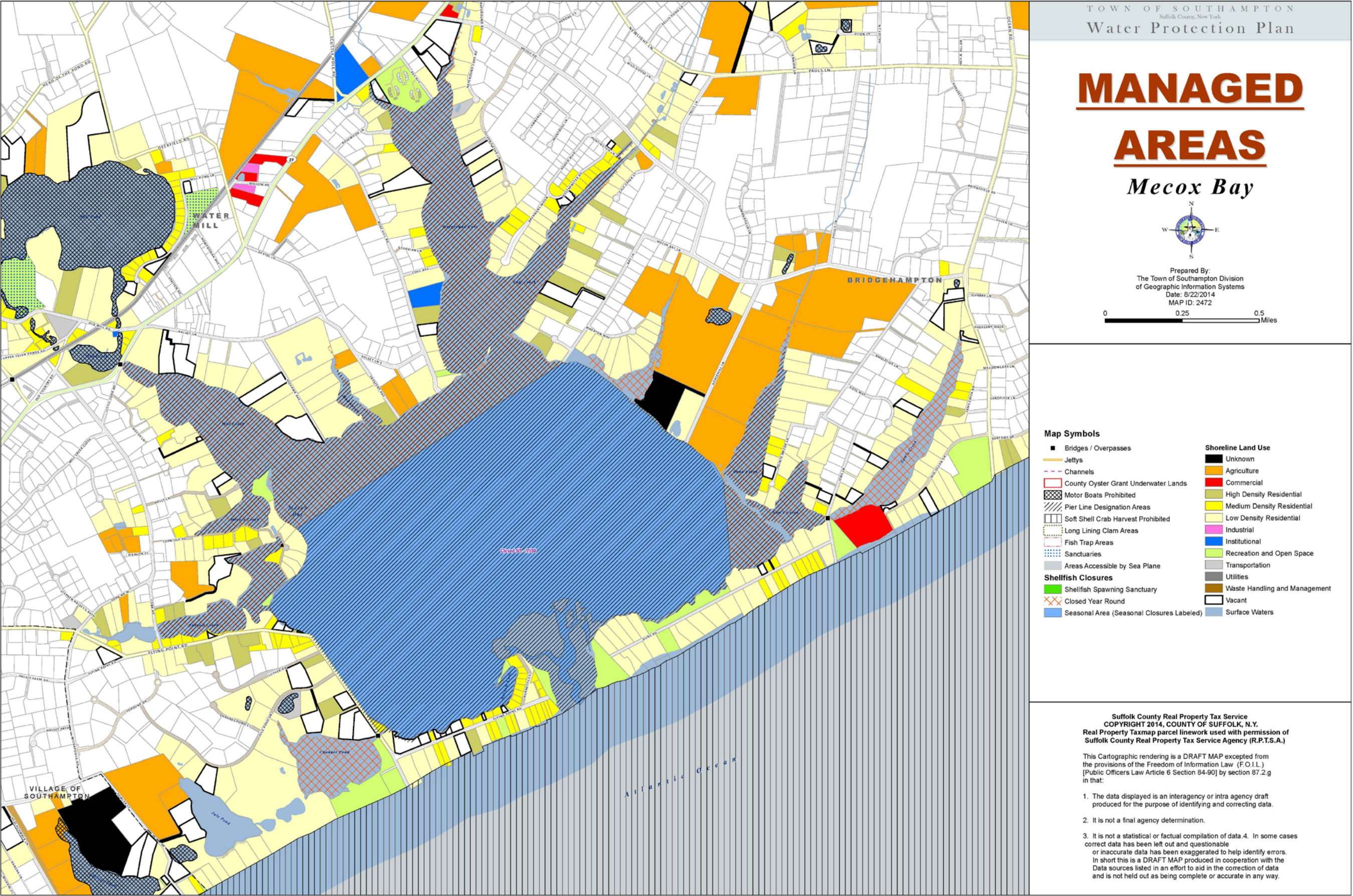
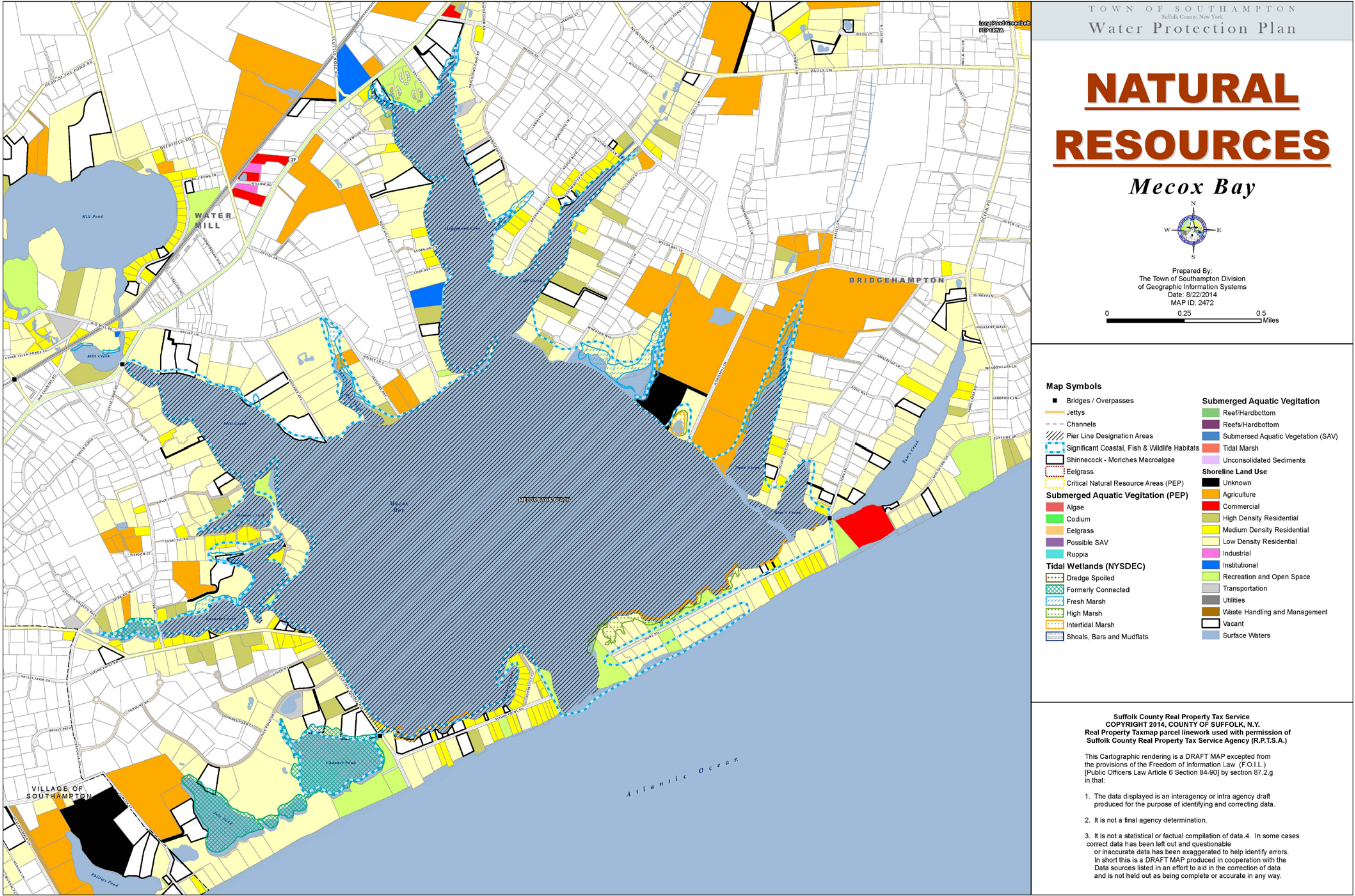


Figure 66: Mecox Bay Natural Resources



SAGAPONACK LAKE

General Geographic Area

Sagaponack Lake is protected from the Atlantic Ocean by an undeveloped barrier beach. The barrier, in its normal condition, prevents drainage of the Lake and consequently it must be opened from time to time to allow flushing and to manage water depths. Because its elevation is “higher than sea level” it will drain if opened but it doesn’t back-flush with sea water the way Mecox Bay does. The Lake is shallow in its natural state and drains quickly, becoming very shallow when opened. This provides only a limited environment for shellfish or use for boating. The barrier is breached periodically under the jurisdiction of the Town Trustees.

Because of the barrier beach, the Lake is not used as a harbor.

Managing Authorities

The Town Trustees have authority over lands in the area between the high-water and low-water marks, adjacent to Sagaponack Lake as well as all the bottom lands under the waters of the Lake.

Human Use

Recreational uses of Sagaponack Lake include boating, sailing, kayaking, ice boating in winter, and fishing for blue crabs. The south end is popular beach area for families. The Lake is also a popular site for birding and for water fowl hunting in December and January.

There is a boat launch on the east side of the bridge on Bridge Lane; the ramp is a sand launch and there is limited parking. There are approximately 25 residential docks in the Lake; 15 north of the Bridge Lane bridge and another 10 below³⁸⁰. Trustees’ regulations encourage floating docks rather than fixed structures.

As mentioned above, the Lake is periodically opened by mechanical means to lower the water level. During the periods when the inlet is open, migratory fish such as alewives, silversides, and bunkers enter. These provide forage for larger fish and birds (*e.g.*, osprey, heron, and egrets). When open, the Lake is popular for recreational sport fishing. There is also a limited commercial fishery for Atlantic silversides and white perch.

³⁸⁰ Google Maps.

Figure 67: Sagaponack Lake Human Uses

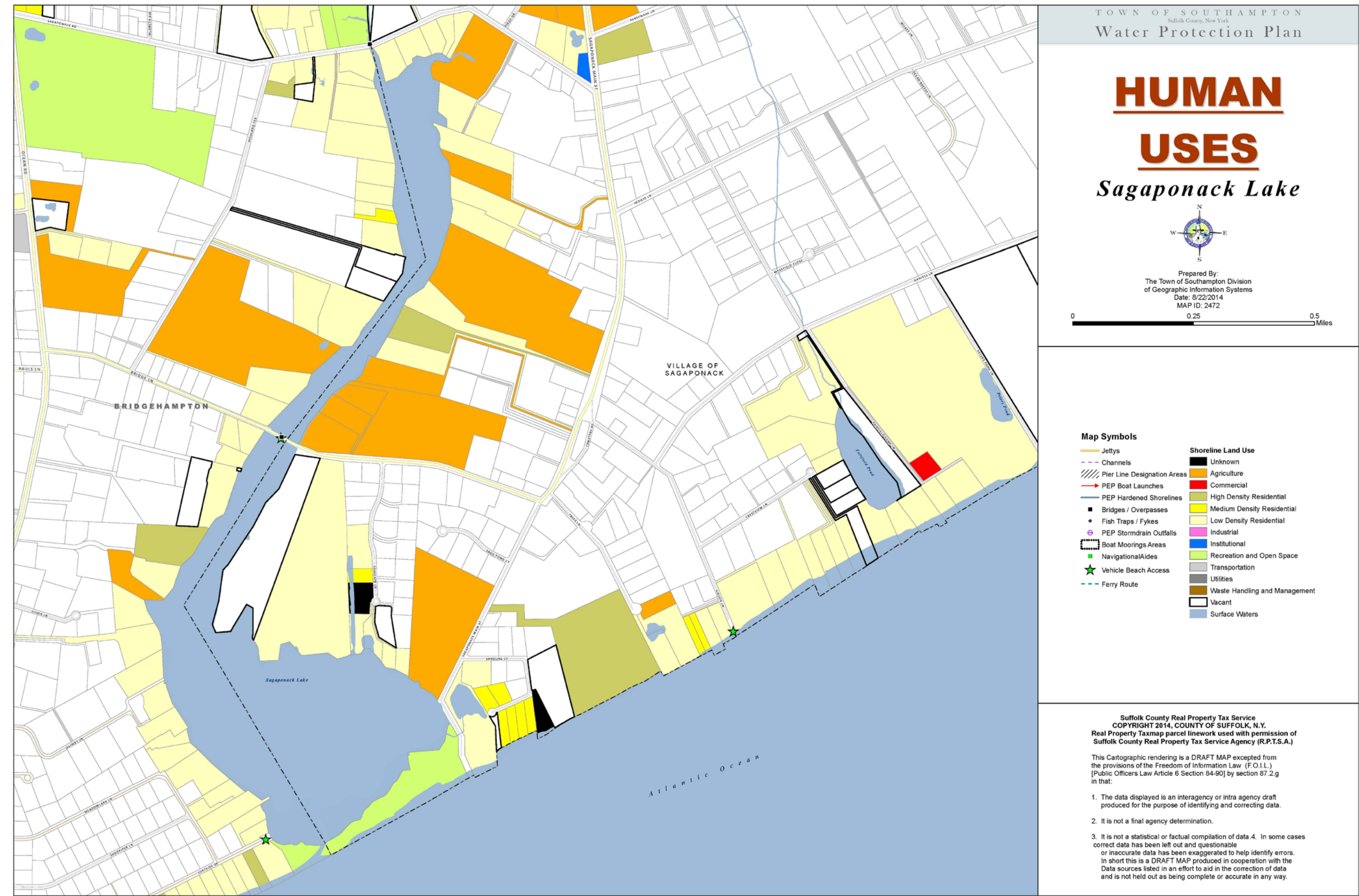


Figure 68: Sagaponack Lake Managed Areas

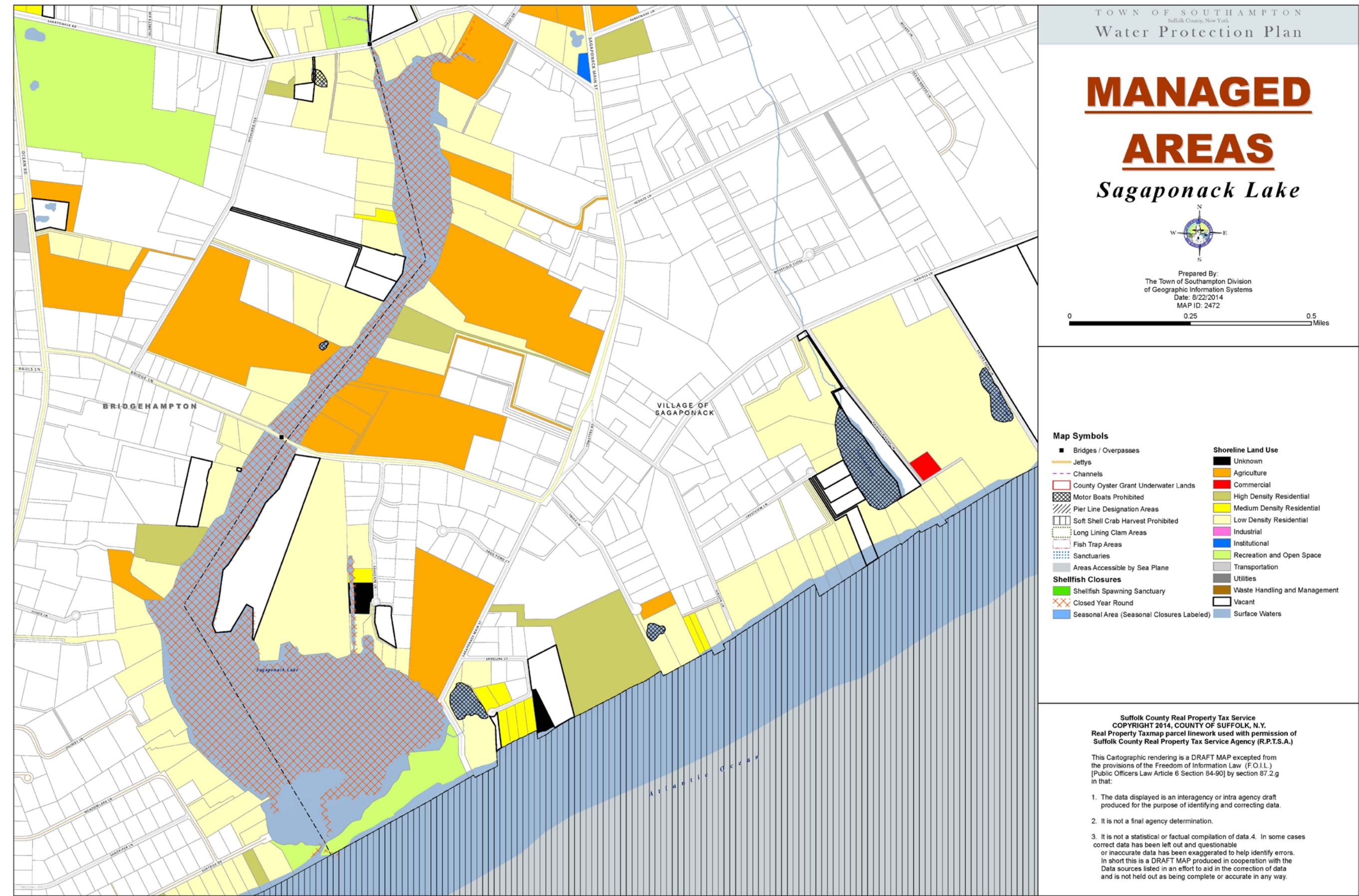


Figure 69: Sagaponack Lake Natural Resources

