



Shelter Island Watershed Management Plan

June 5, 2012



Project Objective

Develop an achievable watershed management plan to identify specific regulatory and management actions to reduce nonpoint source pollution and improve water quality of Shelter Island's bays and harbors.

Project Funding:

- *Grant from New York State Department of State with funds provided under Title 11 of the Environmental Protection Fund.*



What is a Watershed Management Plan?

- A Watershed Management Plan:
 - characterizes the environmental resources within the watershed,
 - identifies known issues and opportunities for improvement,
 - provides recommendations for projects that would result in water quality improvements, and
 - identifies methods for accomplishing suggested recommendations



What is a Watershed Management Plan?

■ Focus Areas:

- Natural resource & habitat protection
- Surface water impairments
- Land use
- Stormwater management
- Municipal operations
- Policy & legislation



Project Approach:

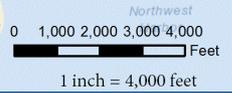
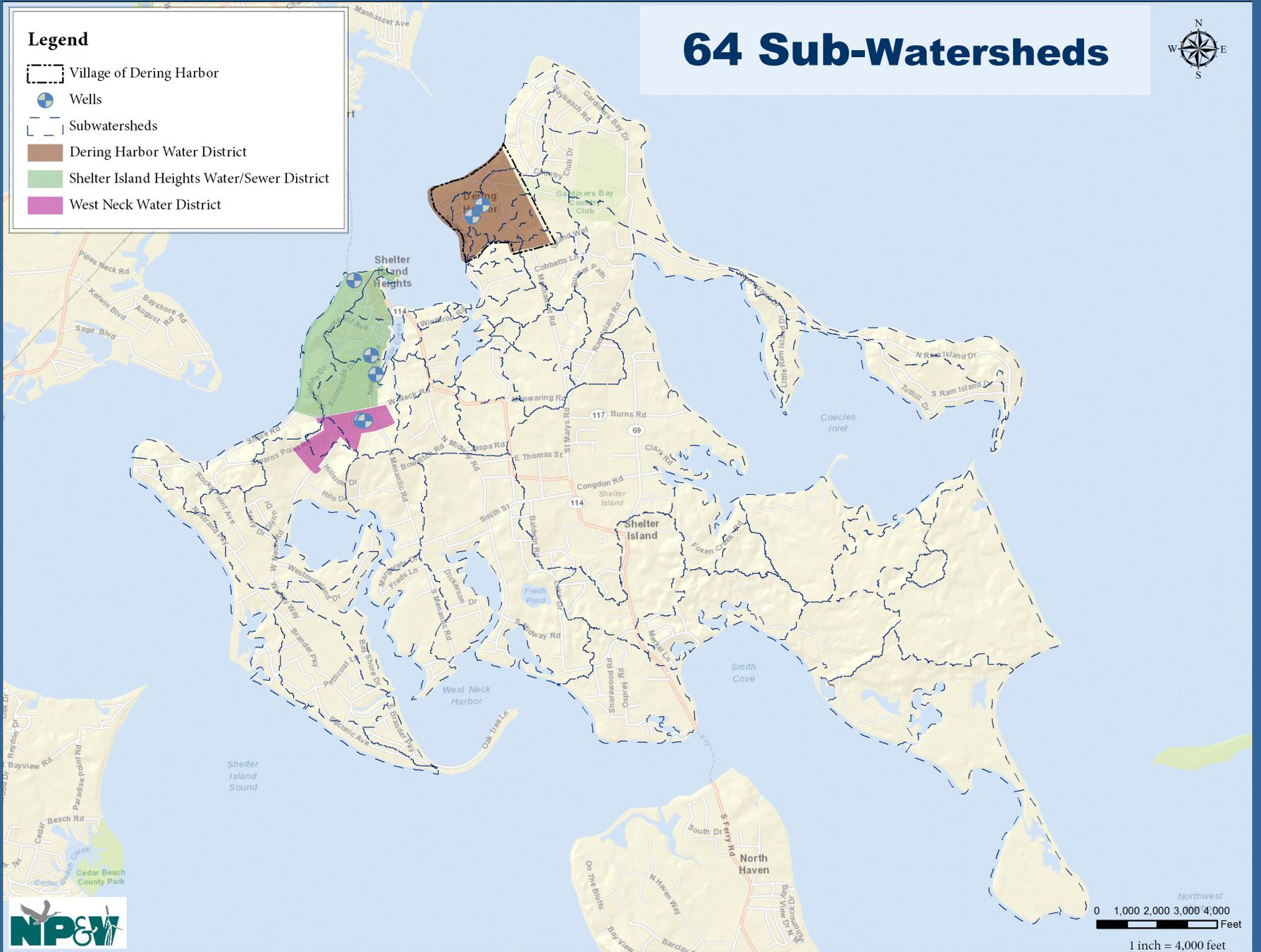
- Inventory - full search of existing literature from government and private sources, field investigations & inventory of existing conditions and problem areas, development of GIS mapping and full description of resources.
- Analysis - using resource map overlays and complete resource description to understand the inter-relationships of Watershed issues and management options. Complete an assessment of municipal operations.
- Public involvement – gather input from members of the public, develop education and outreach materials.
- Identify Management Actions – work with the WAC and the public to develop management and if necessary regulatory measures to address water quality, stormwater improvement implementation, municipal best management practices/”good house keeping”, water use controls, upland use controls, seasonal management, open space and passive recreation opportunities and overall public education and awareness.
- Prepare Watershed Management Plan – work with WAC & public to draft and finalize report.

64 Sub-Watersheds

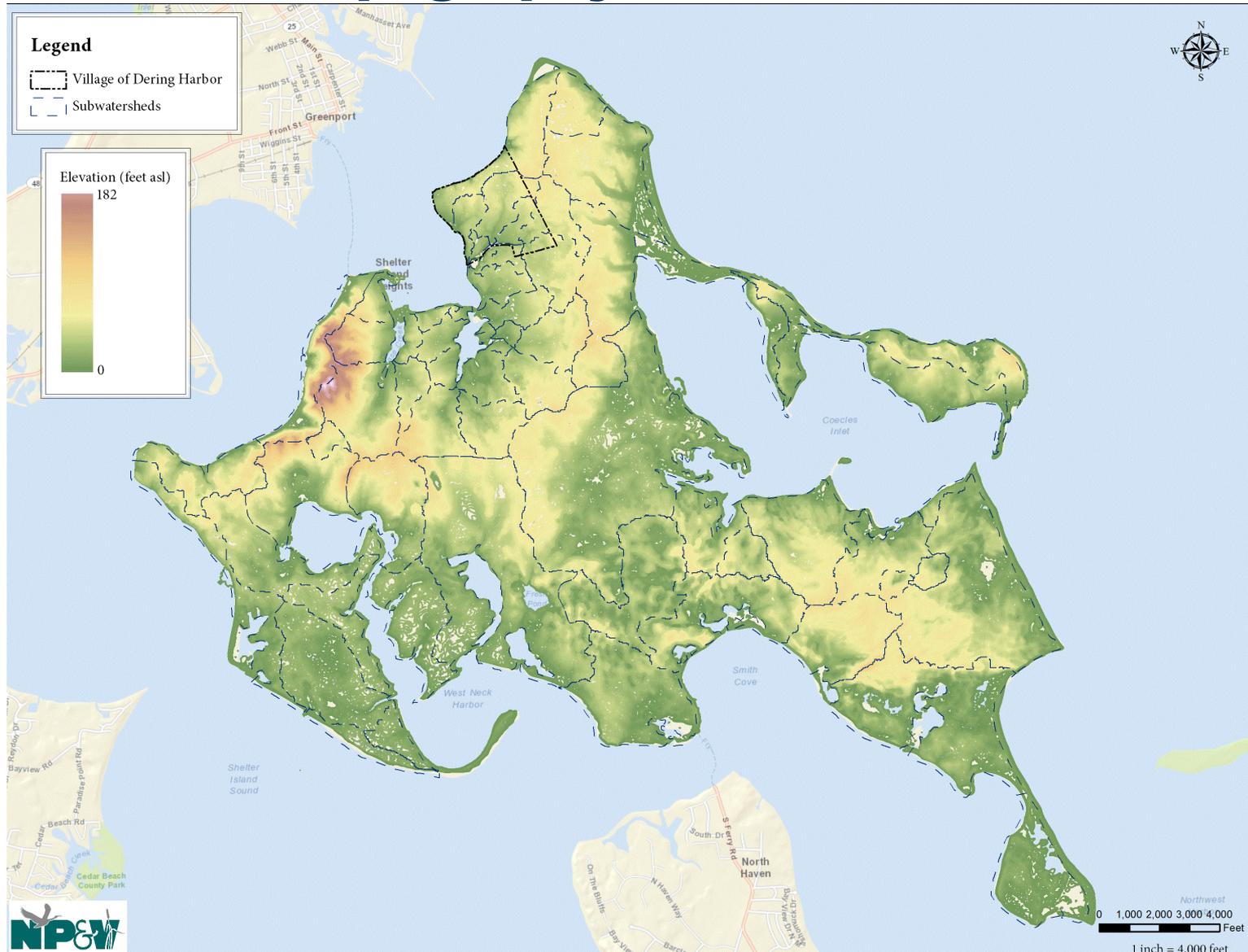


Legend

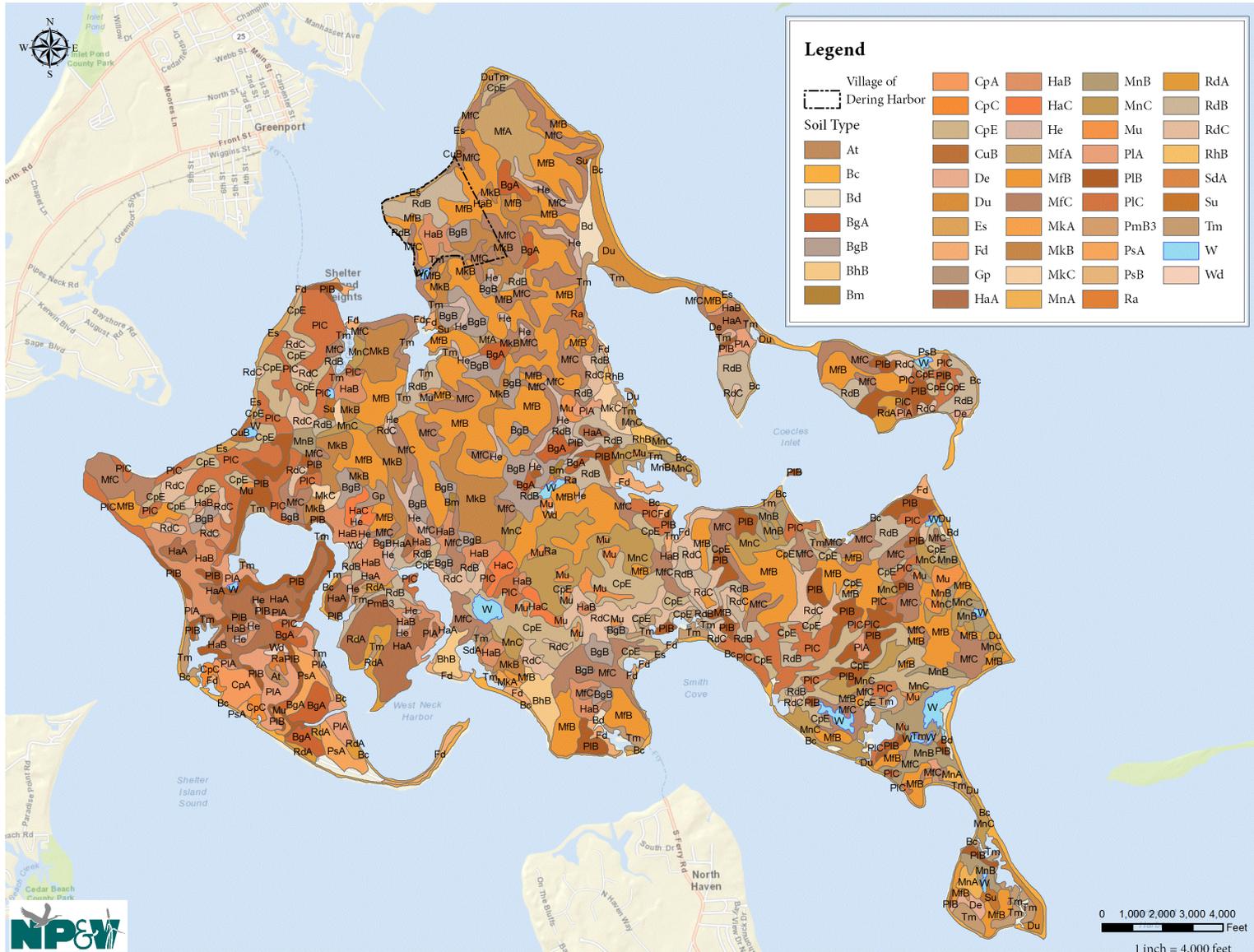
- Village of Dering Harbor
- Wells
- Subwatersheds
- Dering Harbor Water District
- Shelter Island Heights Water/Sewer District
- West Neck Water District



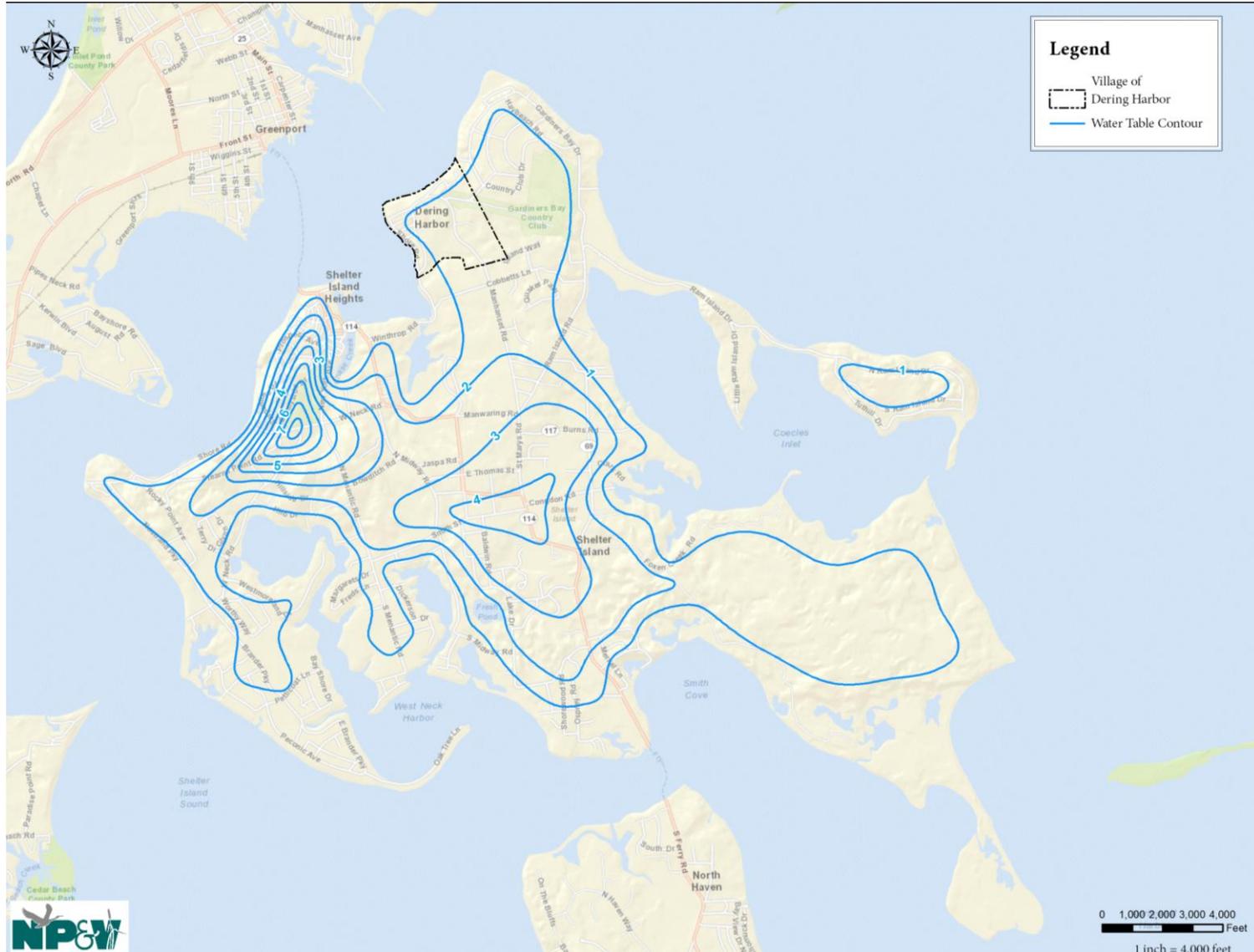
Resources - Topography



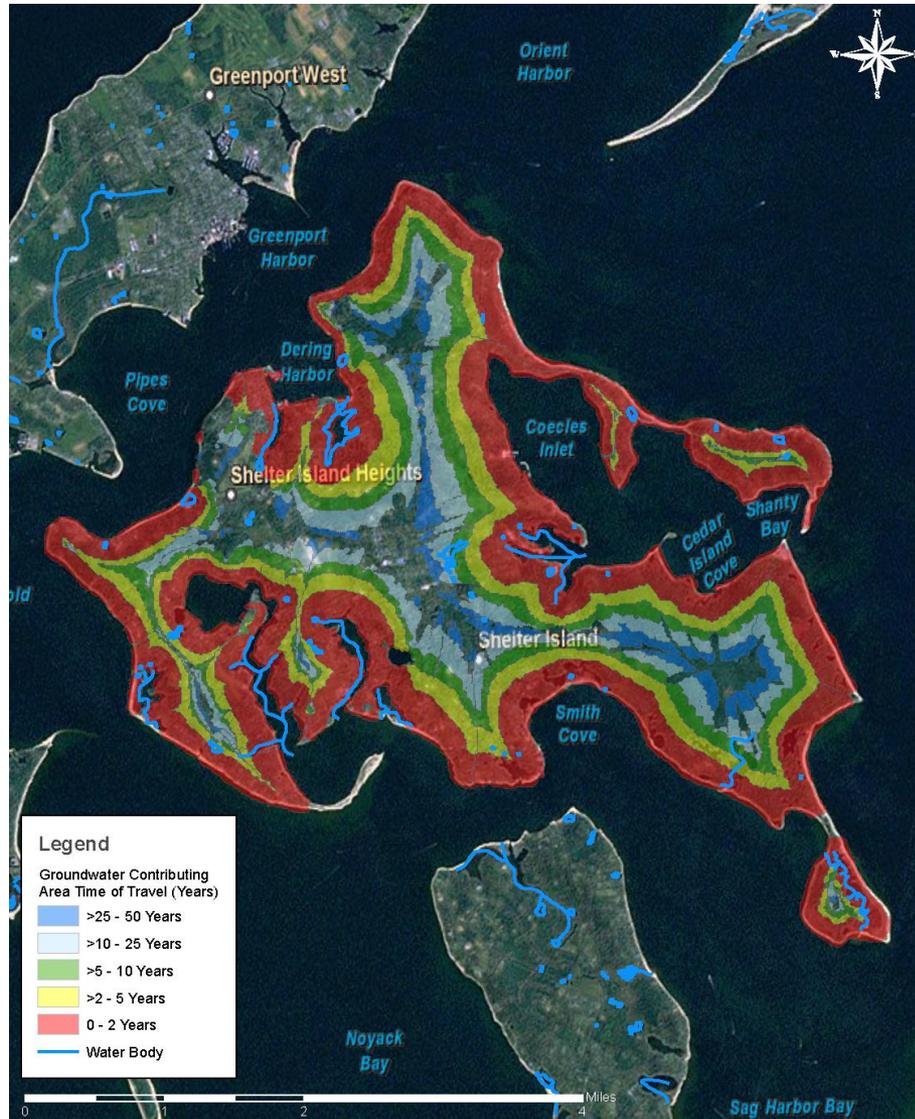
Resources - Soils



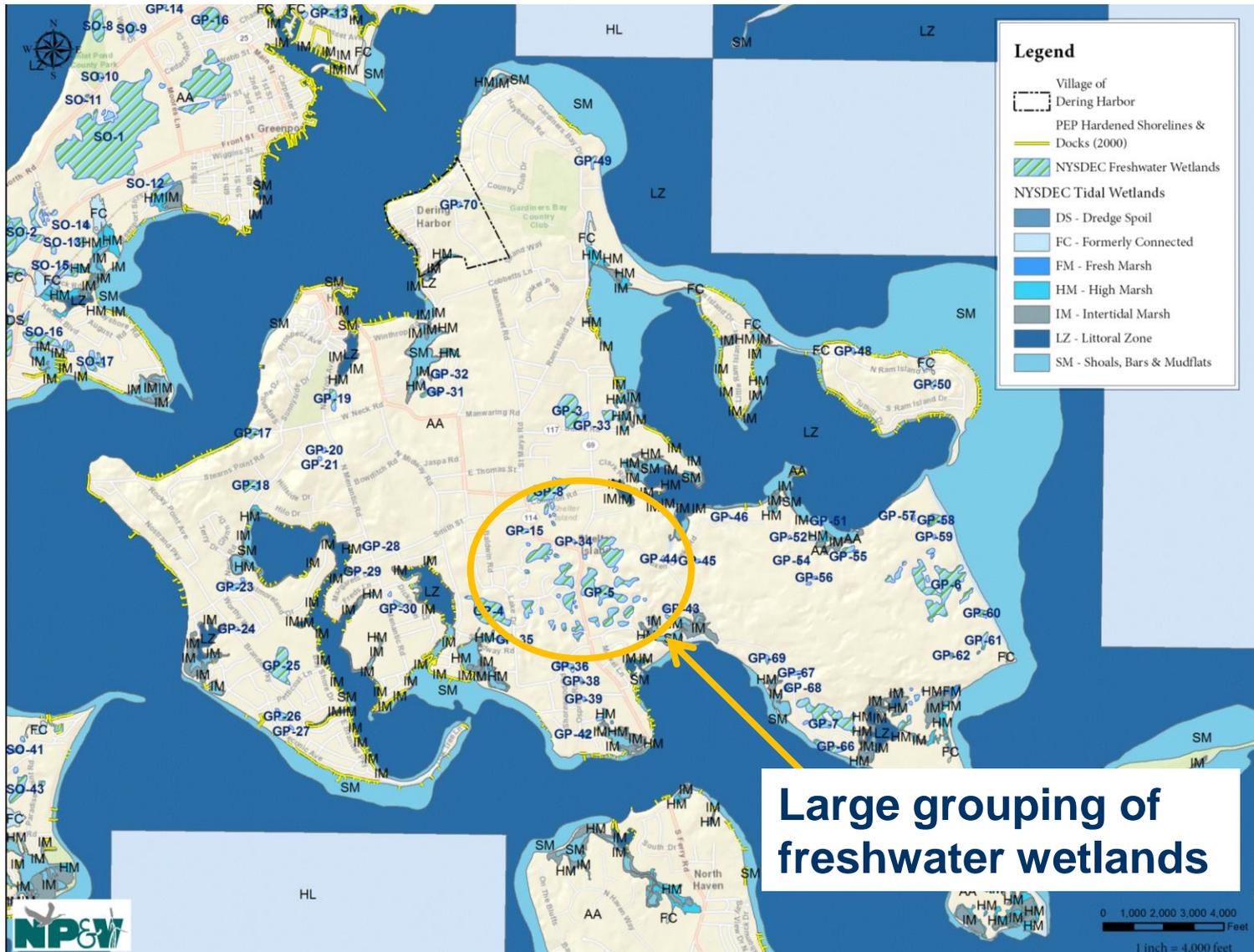
Resources - Groundwater



Resources - Groundwater

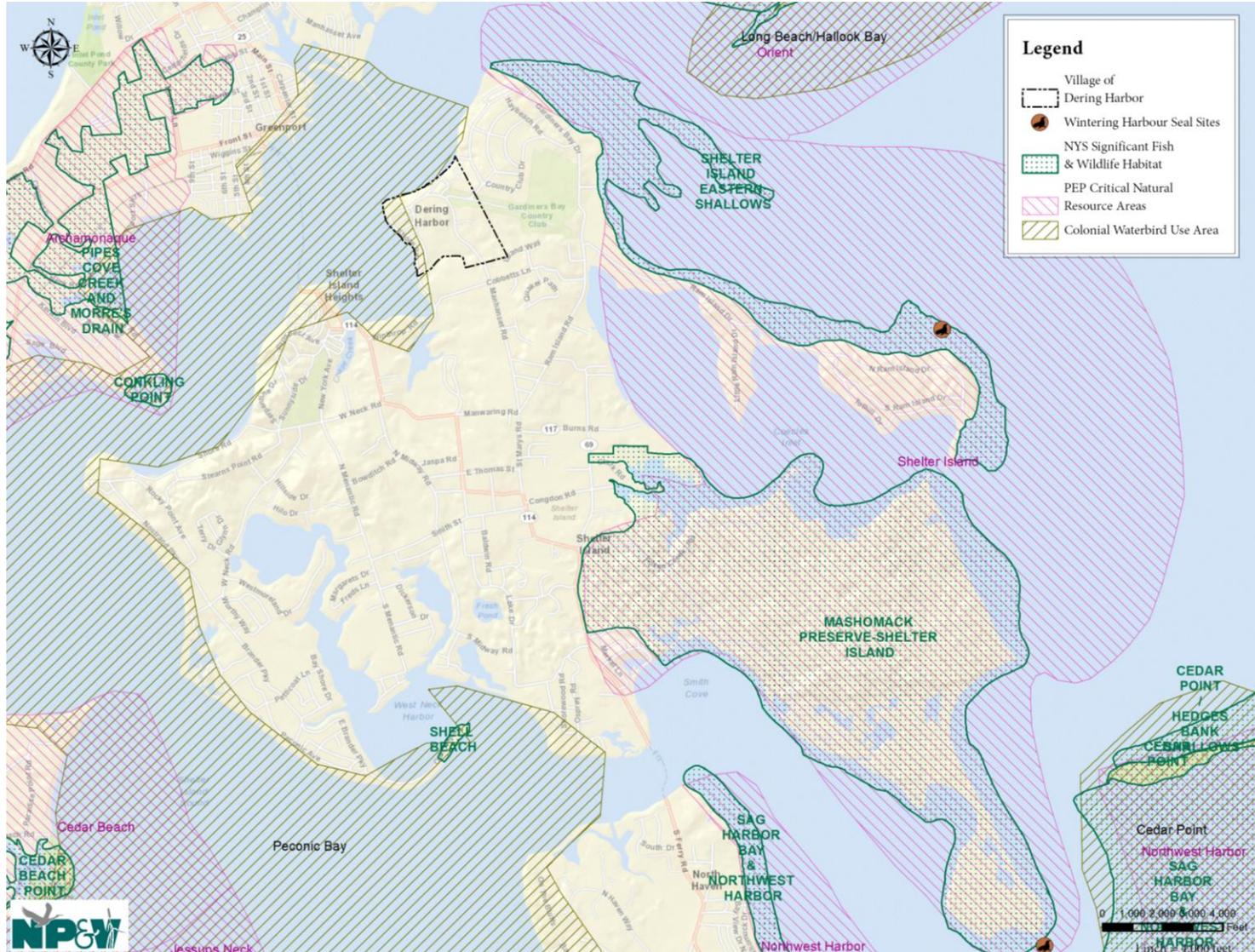


Resources - Wetlands

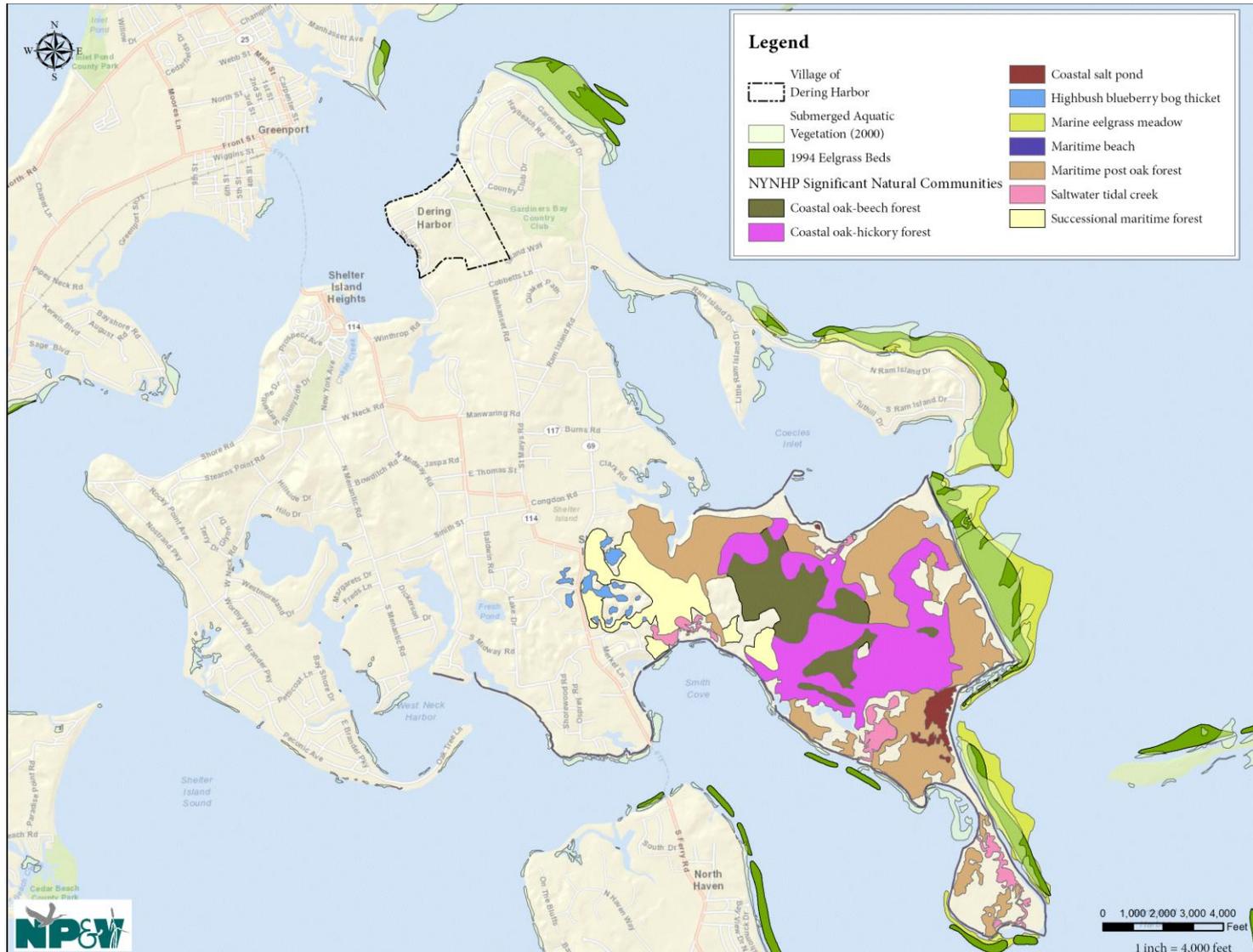


Large grouping of freshwater wetlands

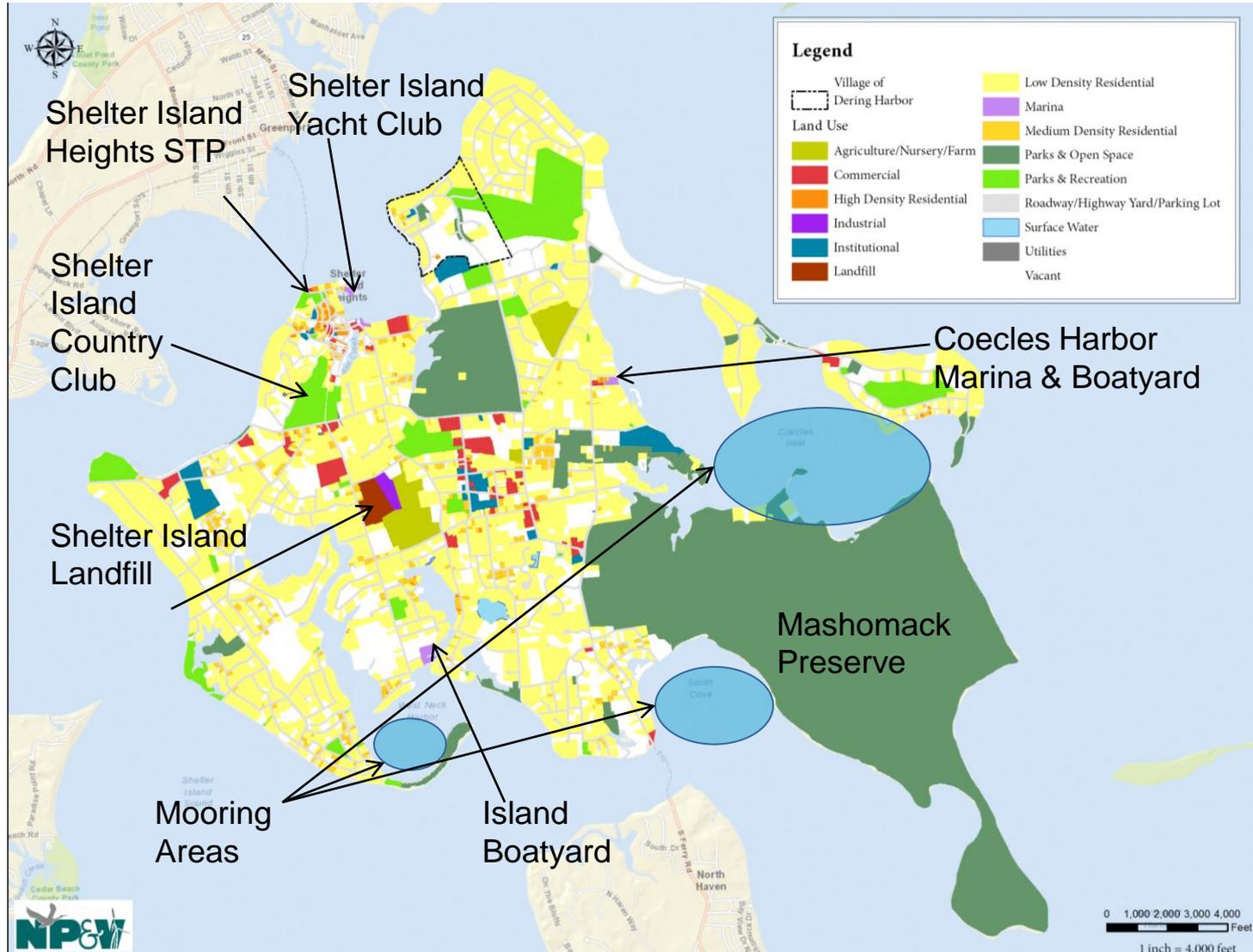
Resources – Resource Management Areas



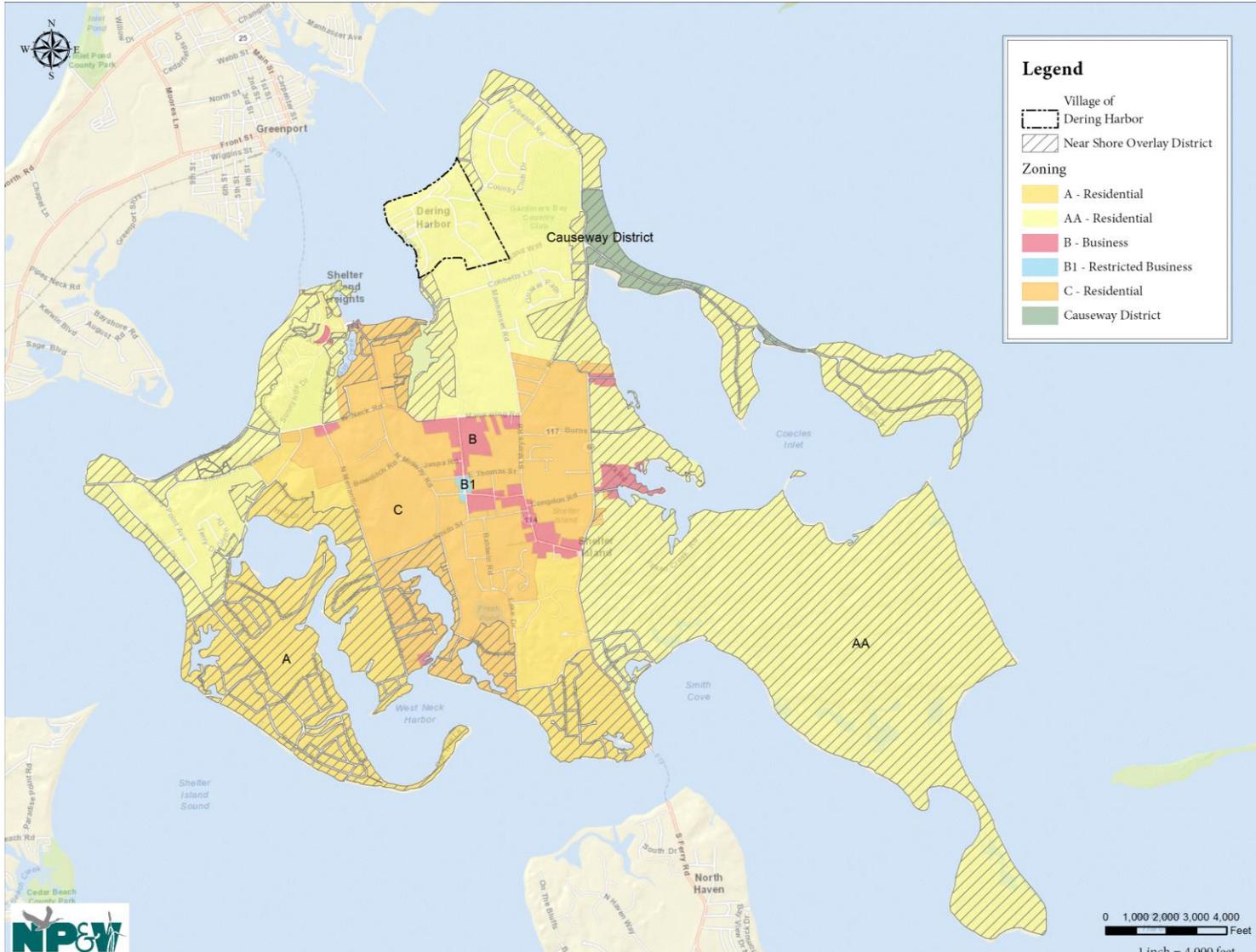
Resources – Significant Habitats



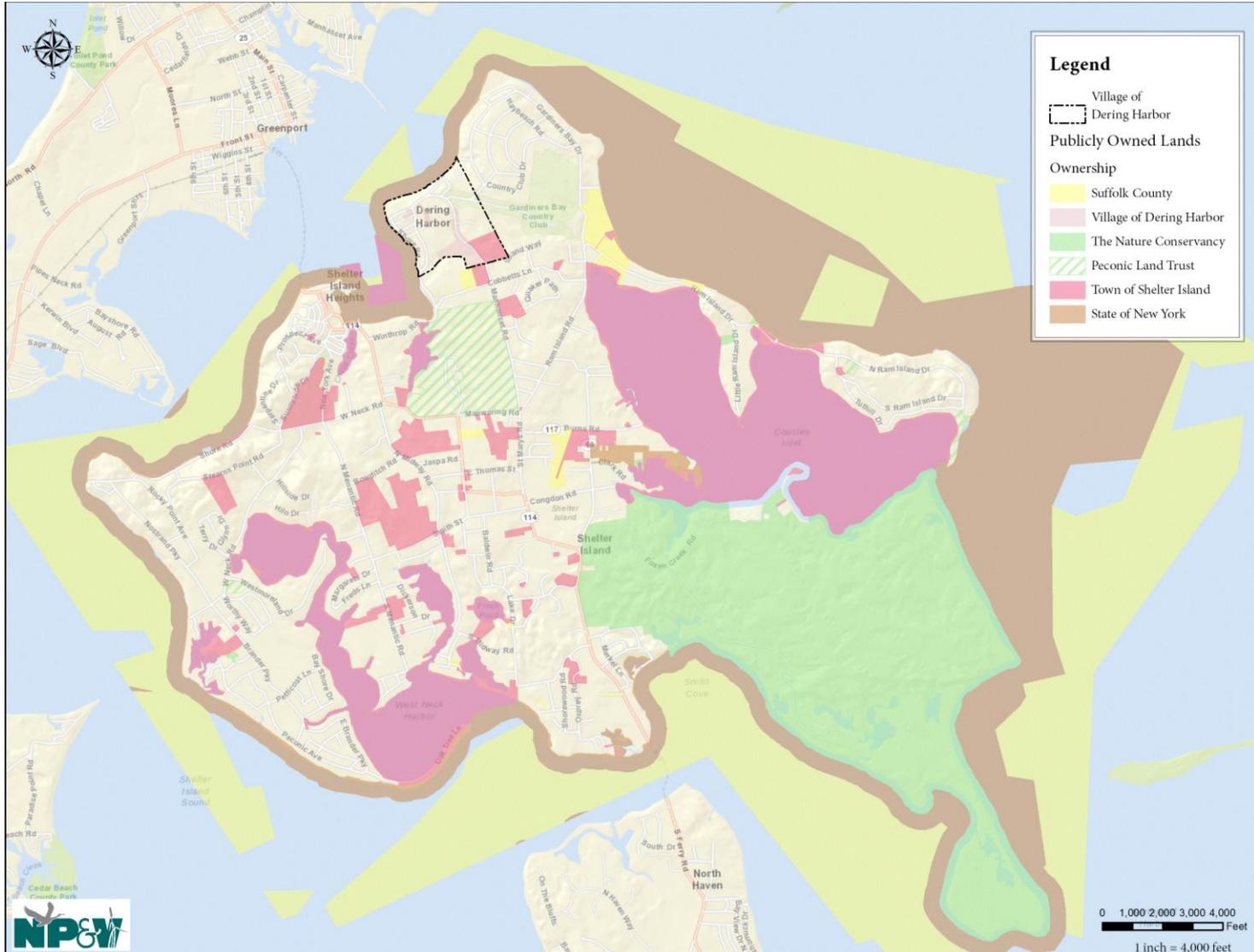
Resources – Land Use



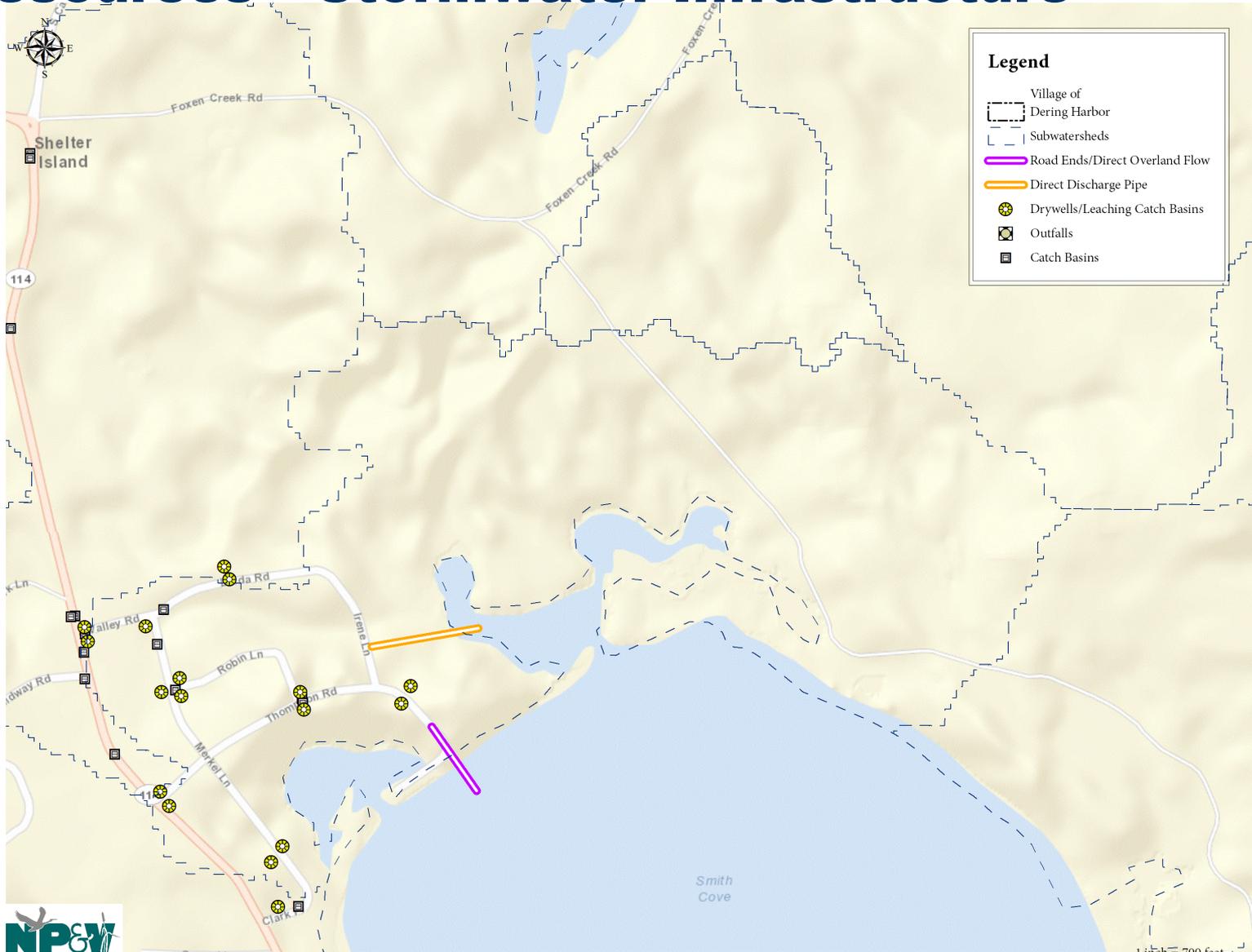
Resources – Zoning



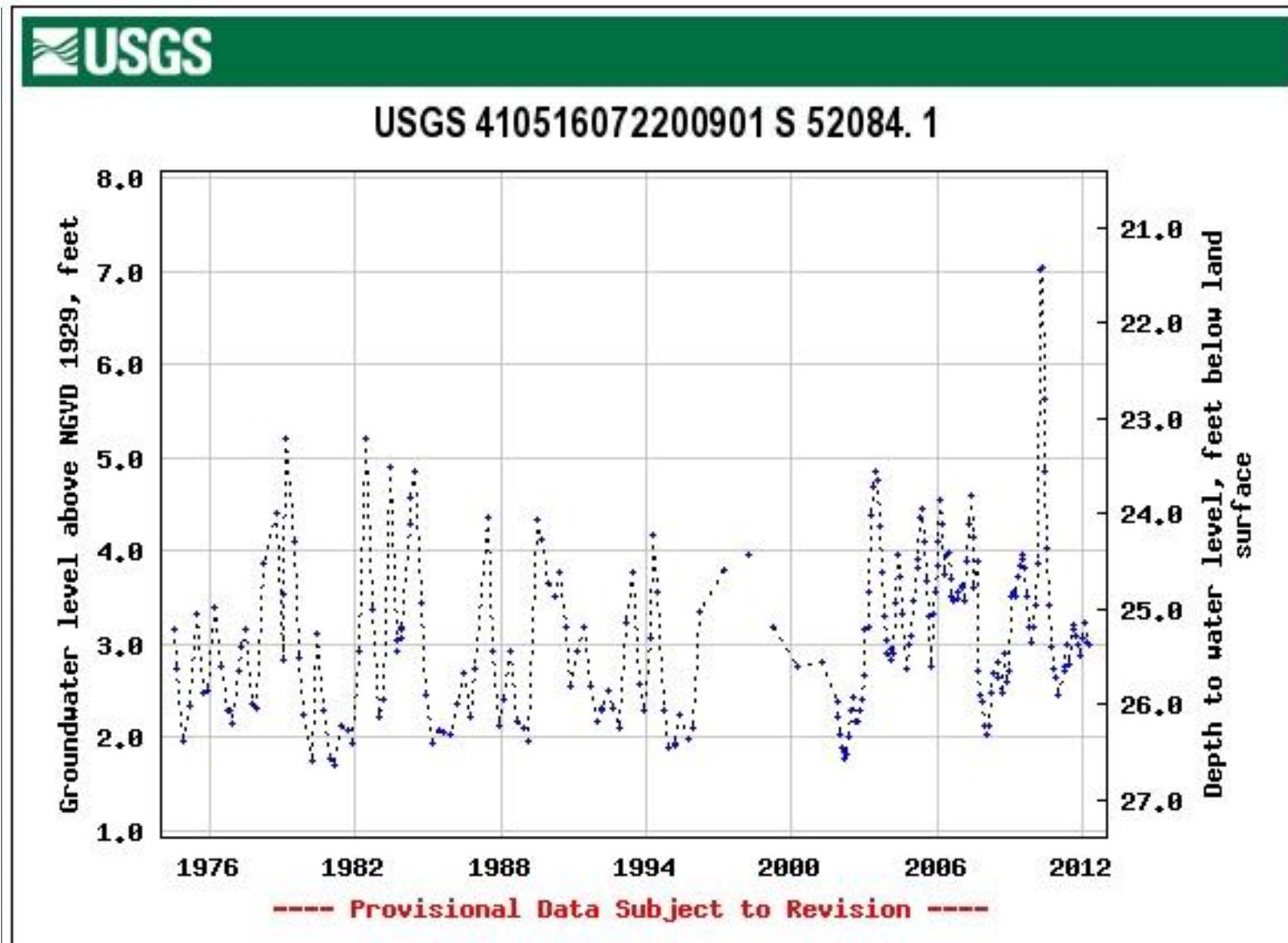
Resources – Publicly Owned Lands



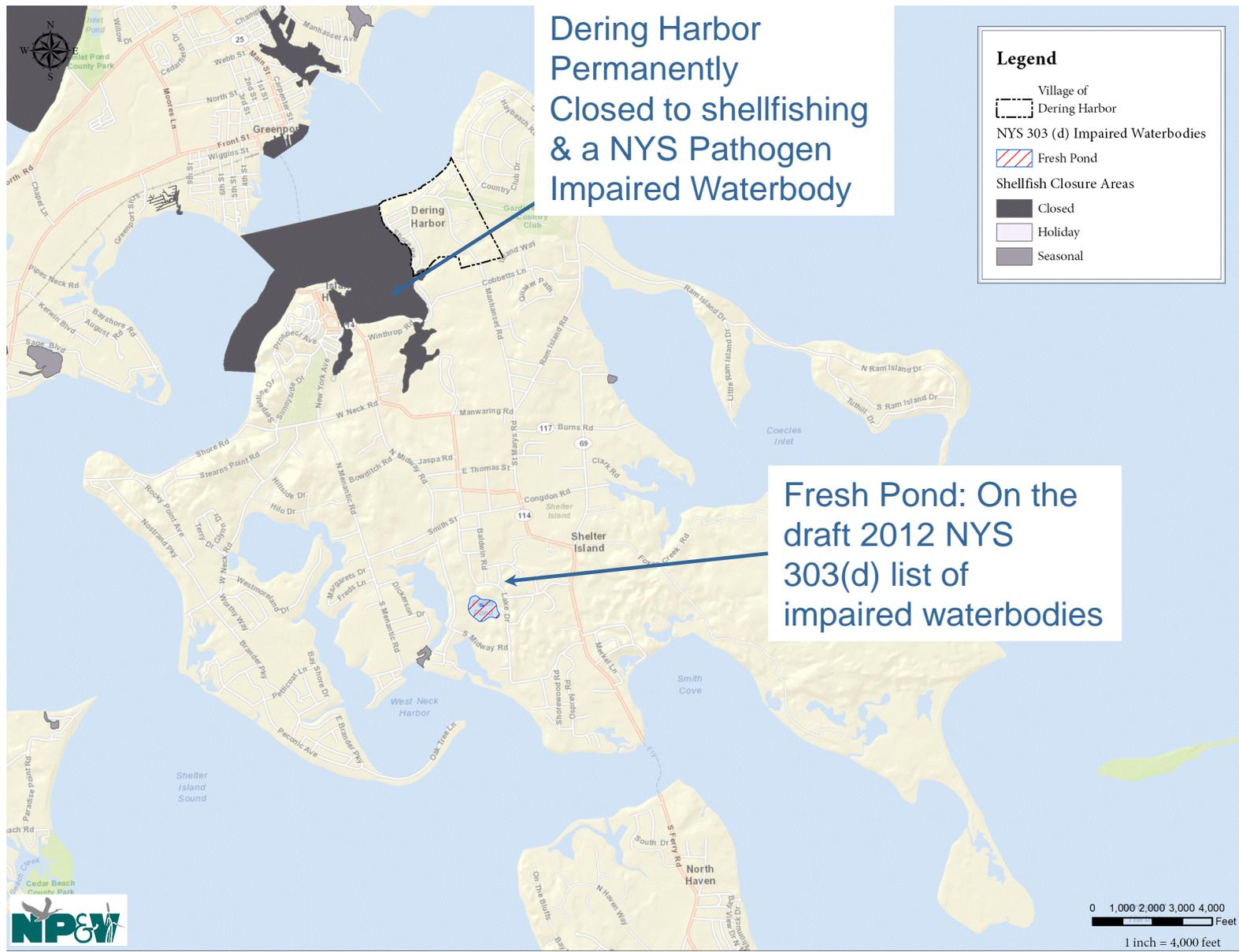
Resources – Stormwater Infrastructure



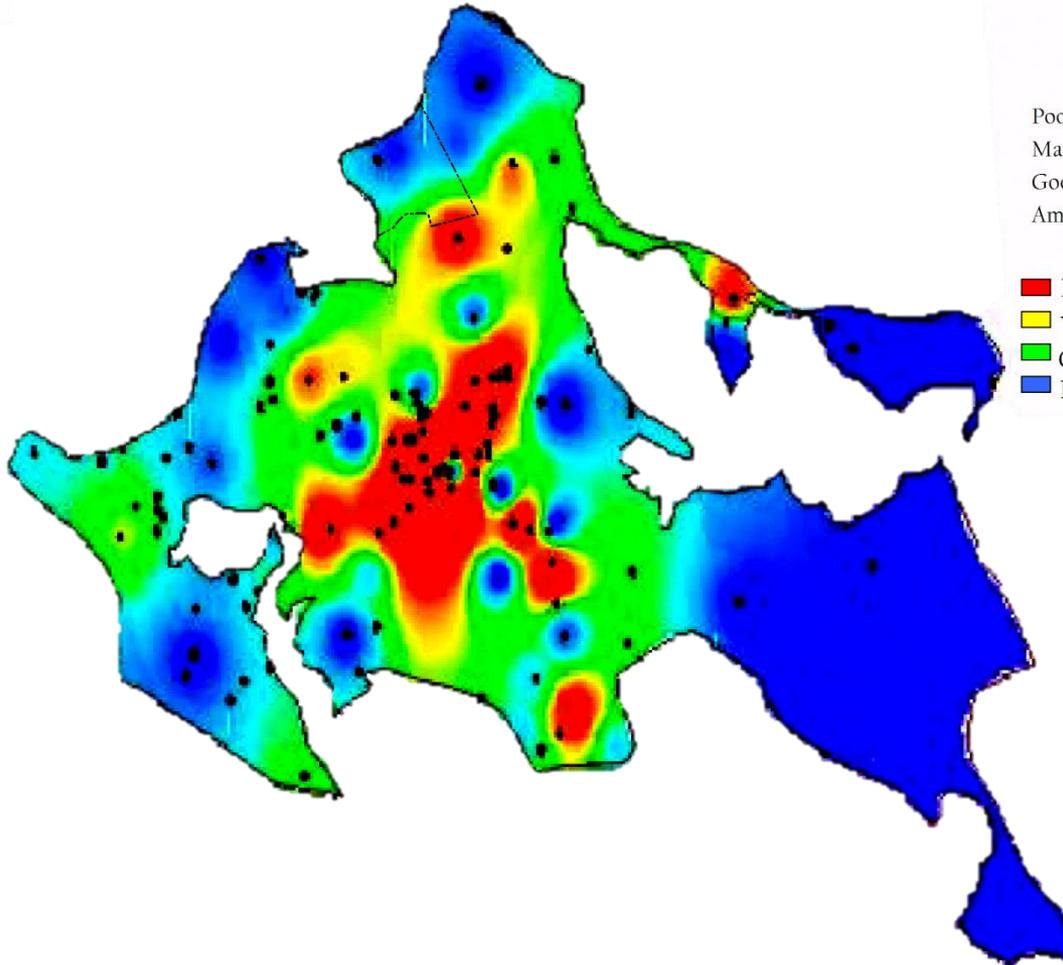
Resources – Surface & Groundwater Monitoring



Known Impairments



Known Impairments - Nitrates

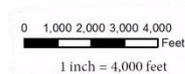


Legend

Village of
Dering Harbor

Poor: > 10 ppm
Marginal: 6-10 ppm
Good: 1-6 ppm
Ambient: < 1 ppm

Red 7-10+ mg/l
Yellow 5-7 mg/l
Green 2-5 mg/l
Blue < 2 mg/l



Watershed Management Plan Goals

■ Water Quality Goals

- ❑ Improve water quality through the identification, control and reduction of non-point source pollution.
- ❑ Prepare the Town/Village Stormwater Management Program with time lines / schedules and milestones for development and implementation of best management practices (BMPs)
- ❑ Establish watershed improvement strategies and implementation of BMPs to ensure pathogen pollutant load reduction per NYSDEC MS4 General Permit requirements.
- ❑ Evaluate the existing inventory of stormwater infrastructure within the watershed and investigate pollution sources and major non-point source causes of water quality impairments.
- ❑ Target potential areas available for stormwater improvements and establish a prioritization of recommended stormwater improvements.
- ❑ Develop, implement, and enforce a program to detect and eliminate discharges to the municipal separate storm sewer system or directly to surface waters from on-site sanitary systems in areas of shallow groundwater, low infiltrative soils, historical on-site sanitary system failures, or proximity to pathogen-impaired waterbodies, etc.

Watershed Management Plan Goals (cont.)

■ Natural Resource Goals

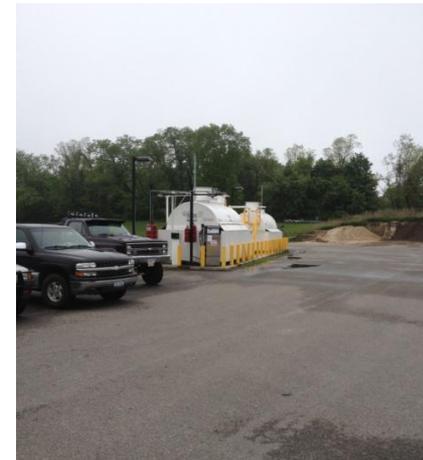
- Ensure protection of tidal and coastal freshwater wetlands for the benefits of water quality improvement, wildlife and fish habitat, marine food production, flood and storm control, open space, tourism and educational opportunities.
- Improve water quality of runoff to ensure the protection and continued inhabitation of shellfish in the tidal waters surrounding the island.
- Identify and protect important natural resources within the watershed.
- Restore wetland areas and wetland productivity by reestablishing wetland and riparian buffers and wetland restoration where possible.



Watershed Management Plan Goals (cont.)

■ Use Management Goals

- Evaluate existing land use codes and update codes to incorporate water quality improvement measures (i.e., encouraging reduction in impervious surfaces, use of green infrastructure, retention of natural buffers, water conservation, etc.)
- Evaluate municipal operations and establish/promote best management practices to alleviate nonpoint source pollution.
- Maintain and promote appropriate water-dependent land use.



Watershed Management Plan Goals (cont.)

■ Educational Goals

- Improve water quality education by informing watershed residents and businesses of common activities that cause water quality issues and simple solutions to reduce impacts. Educational outreach efforts should focus in the following areas:
 - Stormwater discharges from private properties
 - Methods for addressing stormwater runoff on individual properties
 - Impacts of use of fertilizer and irrigation
 - Sources of pathogens and methods to reduce pathogen inputs to waterbodies



Watershed Management Plan Goals (cont.)

■ Educational Goals (cont.)

- ❑ Information regarding the Island-wide tick control programs and impacts of insecticide applications to individual properties.
- ❑ Promote environmental stewardship to increase awareness of watershed resources by partnering with existing organizations to sponsor programs and outreach efforts.
- ❑ Increase awareness of sources of pathogens and impacts of pathogens on surface waters through educational outreach. Provide a focus on the impacts of cesspools and the importance of proper cesspool/septic system maintenance.



Next Steps

- Gather public input on issues & opportunities.
 - <http://www.facebook.com/ShelterIslandWMP>
- Circulate Draft Characterization Section to WAC for review & comment.
- Brainstorm recommendations/management actions with WAC.
- Prepare draft recommendations & implementation strategy. Review with WAC.
- 2nd Public Outreach Meeting – discuss draft recommendations
- Issue Draft Watershed Management Plan
- 3rd Public Outreach Meeting – overall Draft Report
- Issue Final Report

Thank You!

We'll be happy to take your questions.