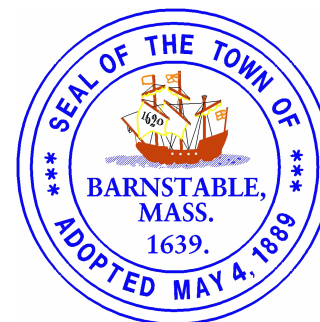


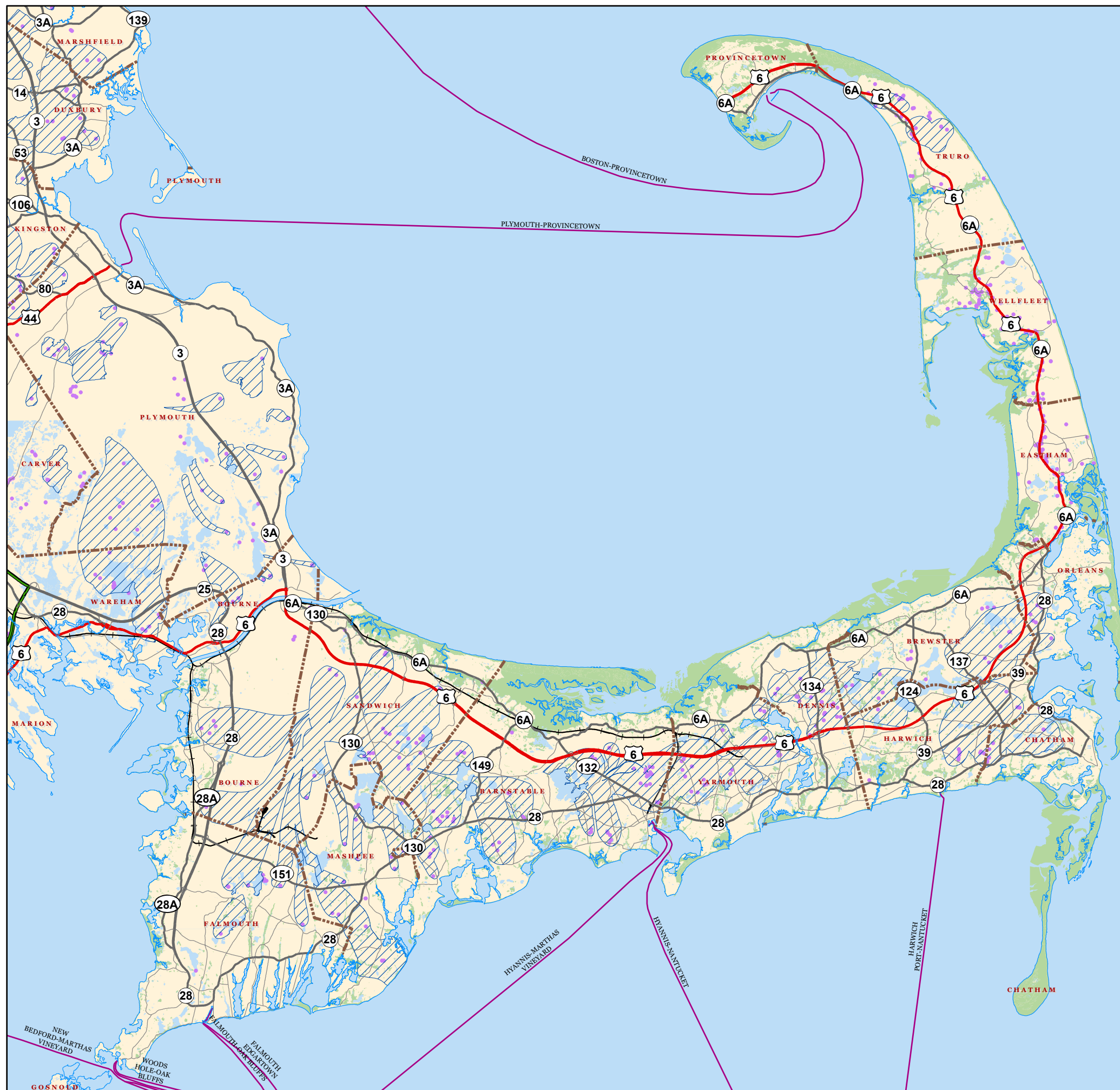
Town of Barnstable

Open Space and Recreation Plan 2010

Map Volume

1. Regional Context
- 2A. Environmental Justice Communities – MassGIS
- 2B. Environmental Justice Communities –Town of Barnstable
3. Zoning Districts
- 4A. Soils
- 4B. Geology
5. Unique Features
- 6A. Wells and Zones of Contribution
- 6B. Wetlands
- 6C. Fresh and Marine Water Features and Estuarine Watersheds
- 6D. Flood Insurance Rate Maps
- 6E. Hurricane Inundation Zones
- 7A. MA Natural Heritage and Endangered Species Program BIOMap
- 7.B MA Natural Heritage and Endangered Species Program Wildlife Habitats
8. Fisheries and Vernal Pools
- 9A. Protected Open Space
- 9B. Recreation Lands, Unprotected Open Space and Other Public Lands
- 9C. Private Agriculture and Recreation Lands
- 10A. Potential Green Infrastructure
- 10B. Bikeways
11. Ways to Water
12. 7-Year Action Plan



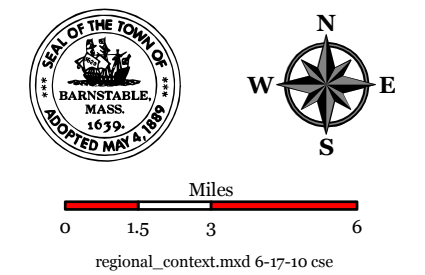


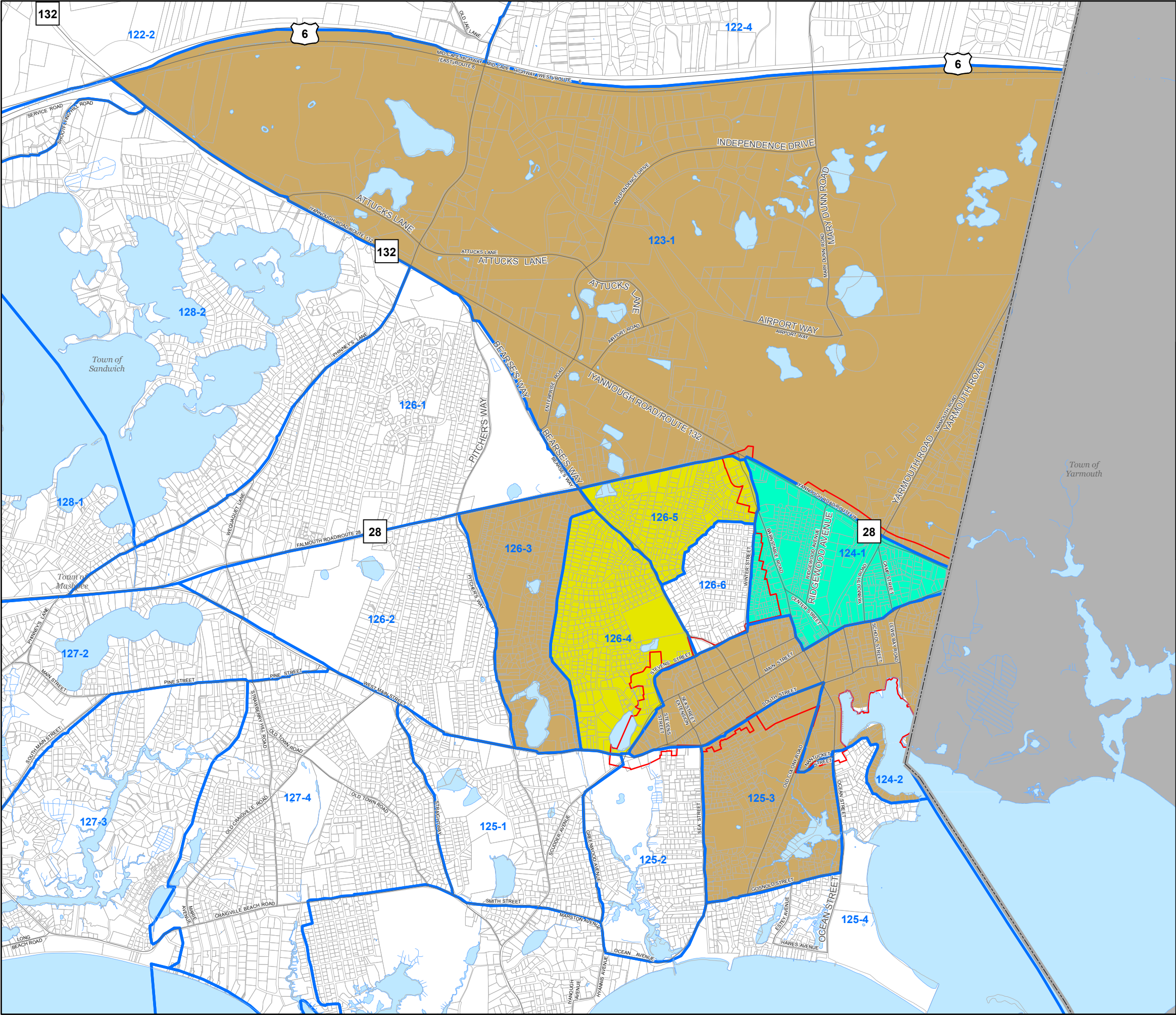
- State Approved Zone II
- Zone I (400' buffer around well)
- Mass GIS / DEP Wetlands
- Towns
- Coast
- Interstate
- U.S. Highway
- State Route
- Non-numbered route
- Railroad
- Ferry Routes
- Water

TOWN OF BARNSTABLE MASSACHUSETTS

Open Space & Recreation Plan
2010 Update

Regional Context Figure 1



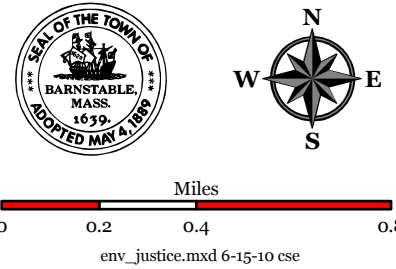


- Environmental Justice Populations Income & Minority
- Environmental Justice Populations Income
- Environmental Justice Populations Minority
- Census Block Groups
- Parcels
- Major Roads
- Town Boundary
- Water Bodies

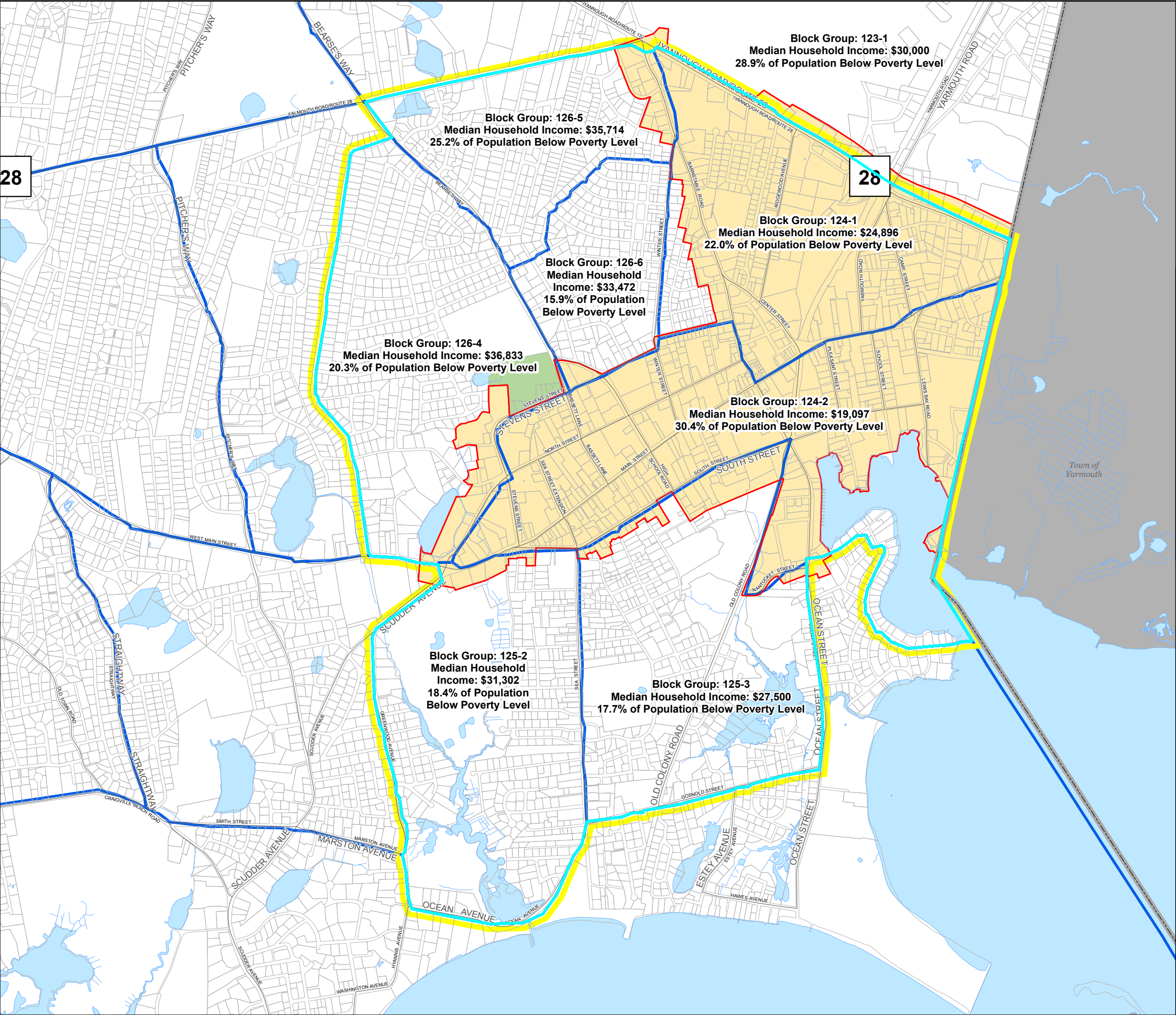
TOWN OF BARNSTABLE MASSACHUSETTS

Open Space & Recreation Plan
2010 Update

Environmental Justice Populations Figure 2A



TOWN OF BARNSTABLE
GEOGRAPHIC INFORMATION
SYSTEMS UNIT



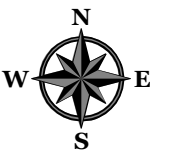
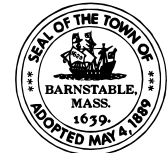
- Environmental Justice Planning Area*
- Census Block Groups
- Growth Incentive Zone (GIZ)
- Hyannis Youth & Community Center
- Parcels
- Fire District / Village Lines
- Major Roads
- Town Boundary
- Water Bodies

*Area delineated based on population density, assessed home values, & GIZ smart-growth planning strategy.

TOWN OF BARNSTABLE MASSACHUSETTS

Open Space & Recreation Plan
2010 Update

Environmental Justice Planning Area Figure 2B

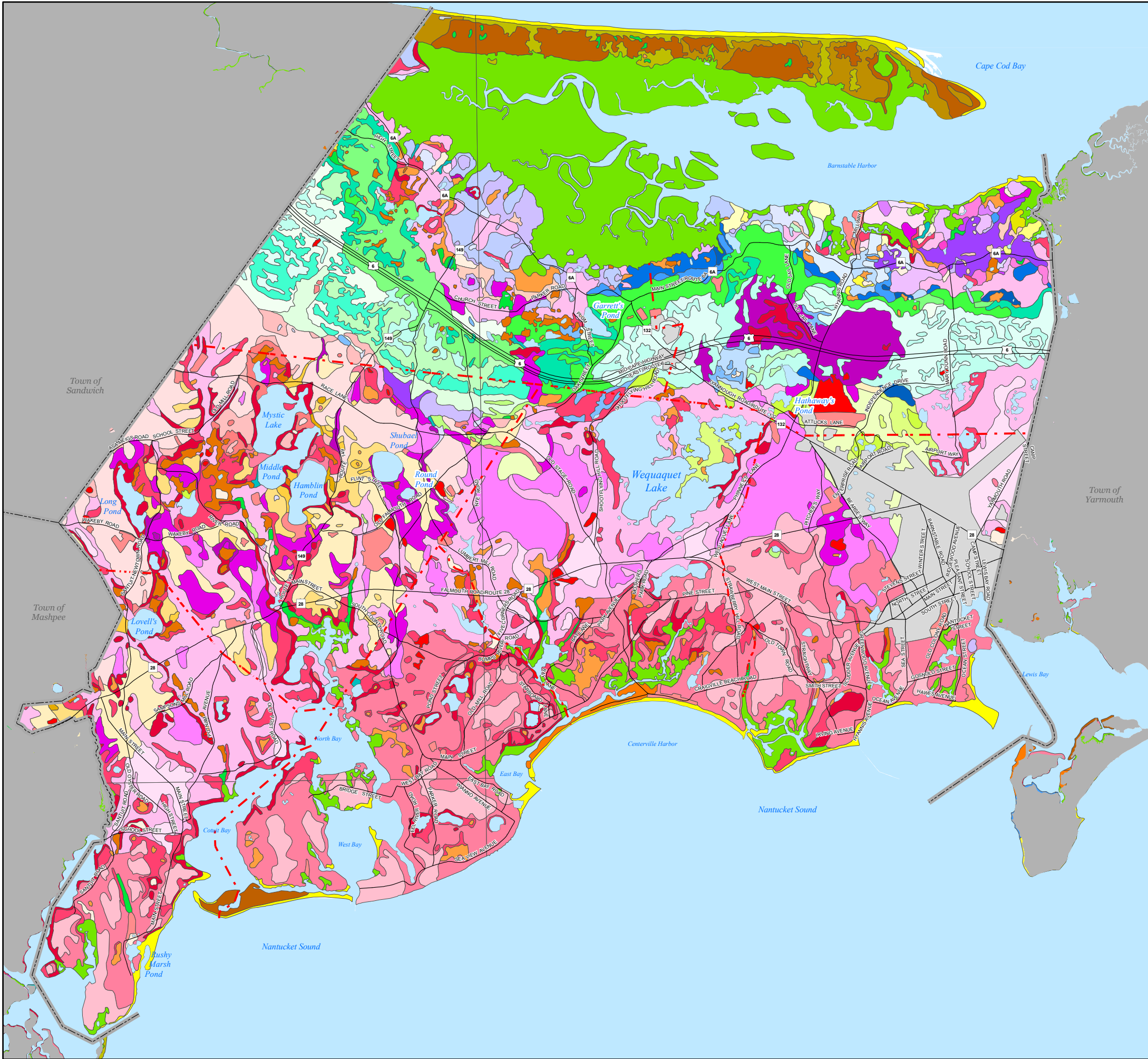


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TOWN OF BARNSTABLE
GEOGRAPHIC INFORMATION
SYSTEMS UNIT



Soils Key

AmA - Amostown sandy loam

BaB - Barnstable sandy loam

BaC - Barnstable sandy loam

BcC - Barnstable-Plymouth complex

BdB - Barnstable-Plymouth complex

BdC - Barnstable-Plymouth complex

BfC - Barnstable-Plymouth-Nantucket complex

BgC - Barnstable-Plymouth-Nantucket complex

BlB - Belgrade silt loam

BmA - Berryland mucky loamy coarse sand

BoA - Boxford silt loam

BoB - Boxford silt loam

CcA - Carver loamy coarse sand

CcB - Carver loamy coarse sand

CdA - Carver coarse sand

CdB - Carver coarse sand

CdC - Carver coarse sand

CdD - Carver coarse sand

CoB - Carver-Hinesburg loamy coarse sands

CoC - Carver-Hinesburg loamy coarse sands

DeA - Deerfield loamy fine sand

EaA - Eastchop loamy fine sand

EaB - Eastchop loamy fine sand

EaC - Eastchop loamy fine sand

EnA - Enfield silt loam

EnB - Enfield silt loam

EnC - Enfield silt loam

FmA - Freetown mucky peat

FsA - Freetown & Swansea mucks

FtA - Freetown coarse sand

HeA - Hinckley sandy loam

HeB - Hinckley sandy loam

HkC - Hinckley gravelly sandy loam

HkD - Hinckley gravelly sandy loam

HnA - Hinesburg sandy loam

HnB - Hinesburg sandy loam

HnC - Hinesburg sandy loam

HoC - Hooksan sand

HoD - Hooksan sand

HxC - Hooksan-Dune land complex

ImA - Ipswich, Pawcatuck & Matunuck peats

MaA - Maybid silt loam

MeA - Merrimac sandy loam

MeB - Merrimac sandy loam

MeC - Merrimac sandy loam

MeD - Merrimac sandy loam

NaB - Nantucket sandy loam

NaC - Nantucket sandy loam

NsB - Nantucket sandy loam

NsC - Nantucket sandy loam

PeA - Pipestone loamy coarse sand

PmB - Plymouth loamy coarse sand

PmC - Plymouth loamy coarse sand

PmD - Plymouth loamy coarse sand

PsB - Plymouth loamy coarse sand

PsC - Plymouth loamy coarse sand

PsD - Plymouth loamy coarse sand

PvC - Plymouth-Barnstable complex

PvD - Plymouth-Barnstable complex

PxD - Plymouth-Barnstable complex

PyD - Plymouth-Barnstable-Nantucket complex

ScA - Scitico silt loam

SdA - Sudbury fine sandy loam

Bh - Beaches

Dm - Dumps, landfill

Dn - Dune land

Pg - Pits, sand & gravel

Ud - Udipsamments, smoothed

Ur - Urban land

W - Water

WS - Water

Source: soils data obtained from MassGIS in 2001. The data is based on the United States Department of Agriculture & National Cooperative Soil Survey soil survey of Barnstable County, Massachusetts, conducted in 1983. Information and explanations about the soil data displayed on this map may be found in the USDA Soil Conservation Service publication: Soil Survey of Barnstable County, Massachusetts, 1993.

Fire District / Village Lines

Major Roads

Town Boundary

Water Bodies

TOWN OF BARNSTABLE

MASSACHUSETTS

Open Space & Recreation Plan

2010 Update

Soils

Figure 4A

SEAL OF THE TOWN OF BARNSTABLE, MASS. 1639

ADOPTED MAY 4, 1889

N

W

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0.25

0.5

1

1.5

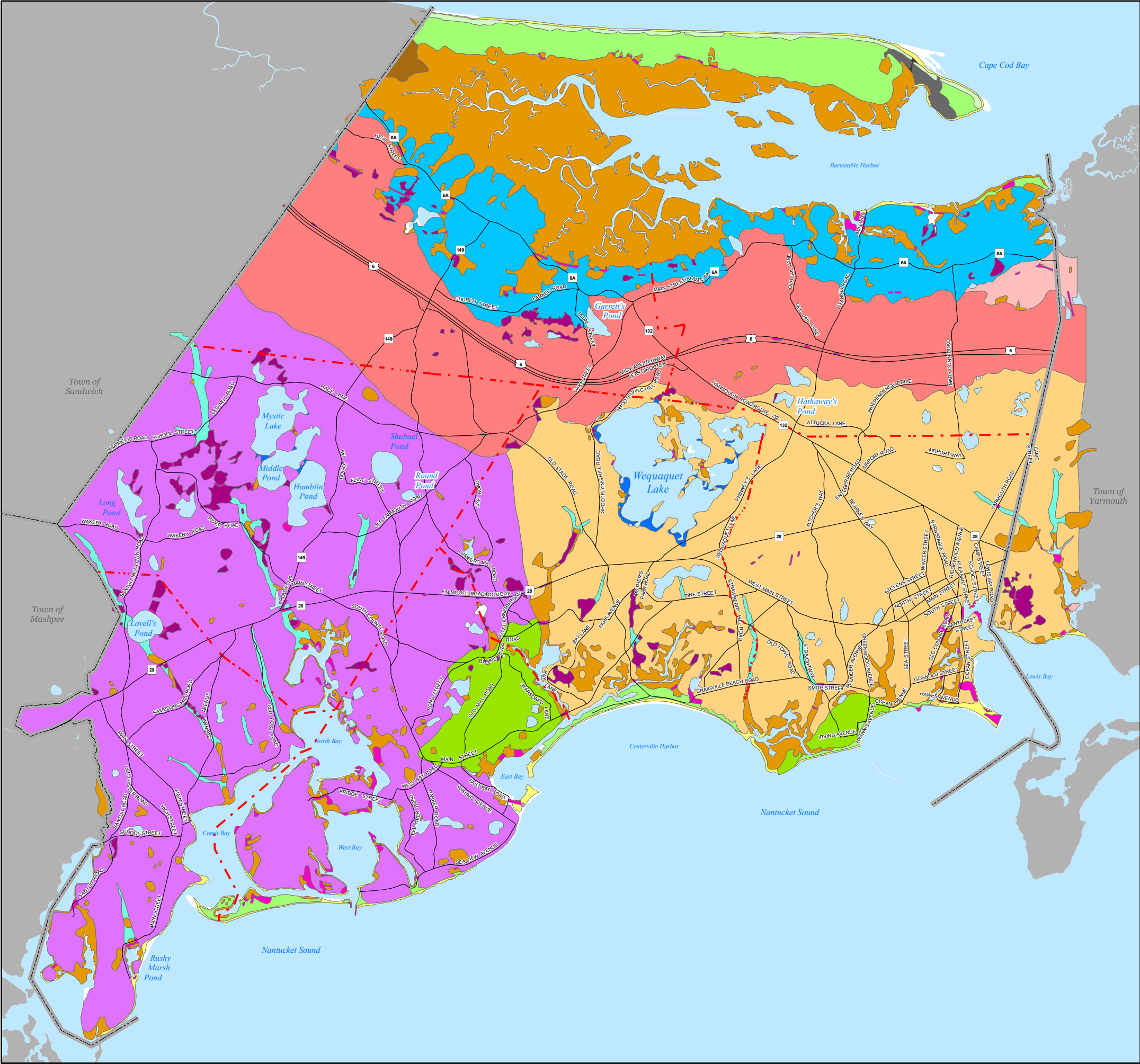
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TOWN OF BARNSTABLE

GEOGRAPHIC INFORMATION SYSTEMS UNIT



Geology Key

af - Artificial Fill

Locally derived sand, gravel, and boulders.

cb - Cranberry Bog

Freshwater marsh or swamp deposits capped with a top dressing of sand.

Qd - Dune Deposits

Mostly sand derived from beach deposits, deposited by wind action to form dunes.

Qf - Foredune Deposits

A ridge of wind deposited sand parallel to the shore.

Qbd - Beach & Dune Deposits

Wind deposited sand in isolated dunes and beach deposits of sand, pebbles, and small boulders.

Qb - Beach Deposits

Mostly sand with some gravel and widely scattered boulders, derived from glacial deposits by wave erosion, transported along the shore and deposited above sea level by waves and currents.

Qbs - Storm Beach Deposits

Sand to small boulders in the bottom of storm sluices and as overwash fans. The sluice on the east end of Sandy Neck was probably cut by a major northeast storm.

Qls - Lakeshore Deposits

Formed along the shores of ponds and lakes, consists of beaches of well sorted sand and gravel with lag deposits of cobble from the wave winnowing of glacial deposits.

Qs - Marsh & Swamp Deposits

Mostly decaying marine marsh plants mixed varying amounts of sand, silt, and clay. Underlain by glacial, marine, or freshwater deposits, capped by live marine marsh plants.

Qvf - Valley Floor Deposits

Sediments deposited in the floors of valleys (furrows) cut into the outwash plains.

Qld - Delta Deposits

Gravelly sand and pebble with some silt and clay. Deposits were the result of a river system emptying into a proglacial lake which occupied the current area of Cape Cod Bay.

Ql2 - Glacial Lake Deposits

Deposits associated with the proglacial lake in Cape Cod Bay. Mostly a discontinuous veneer of clay and silt over ice-contact deposits composed of gravelly sand, gravel, till, and large boulders.

Qhw - Harwich Outwash Plain Deposits

Mostly gravelly sand, north of the Sandwich moraine ice-contact deposits of the outwash plain include till, silt, clay, and large boulders.

Qsm - Sandwich Moraine Deposits

A veneer of sandy to silty till from 3 - 25 ft. thick underlain by stratified sand and gravel.

Qmp - Mashpee Pitted-Plain Deposits

Mostly gravelly sand with some pebble and small boulders

Qbo - Barnstable Outwash Plain Deposits

Mostly gravelly sand with some pebble and small boulders. North part of the deposits include some till, clayey silt, and large boulders. Some areas may be underlain by silt and clay.

Qk - Kame Deposits

Mostly gravelly sand with some pebble and small boulder gravel, includes some scattered boulders.

Fire District / Village Lines

Major Roads

Town Boundary

Water Bodies

Town of Sandwich

Town of Mashpee

Town of Yarmouth

TOWN OF BARNSTABLE

MASSACHUSETTS

Open Space & Recreation Plan

2010 Update

Geology

Figure 4B

SEAL OF THE TOWN OF BARNSTABLE, MASS. 1639

ADOPTED MAY 4, 1889

W

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0.25

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1

1.5

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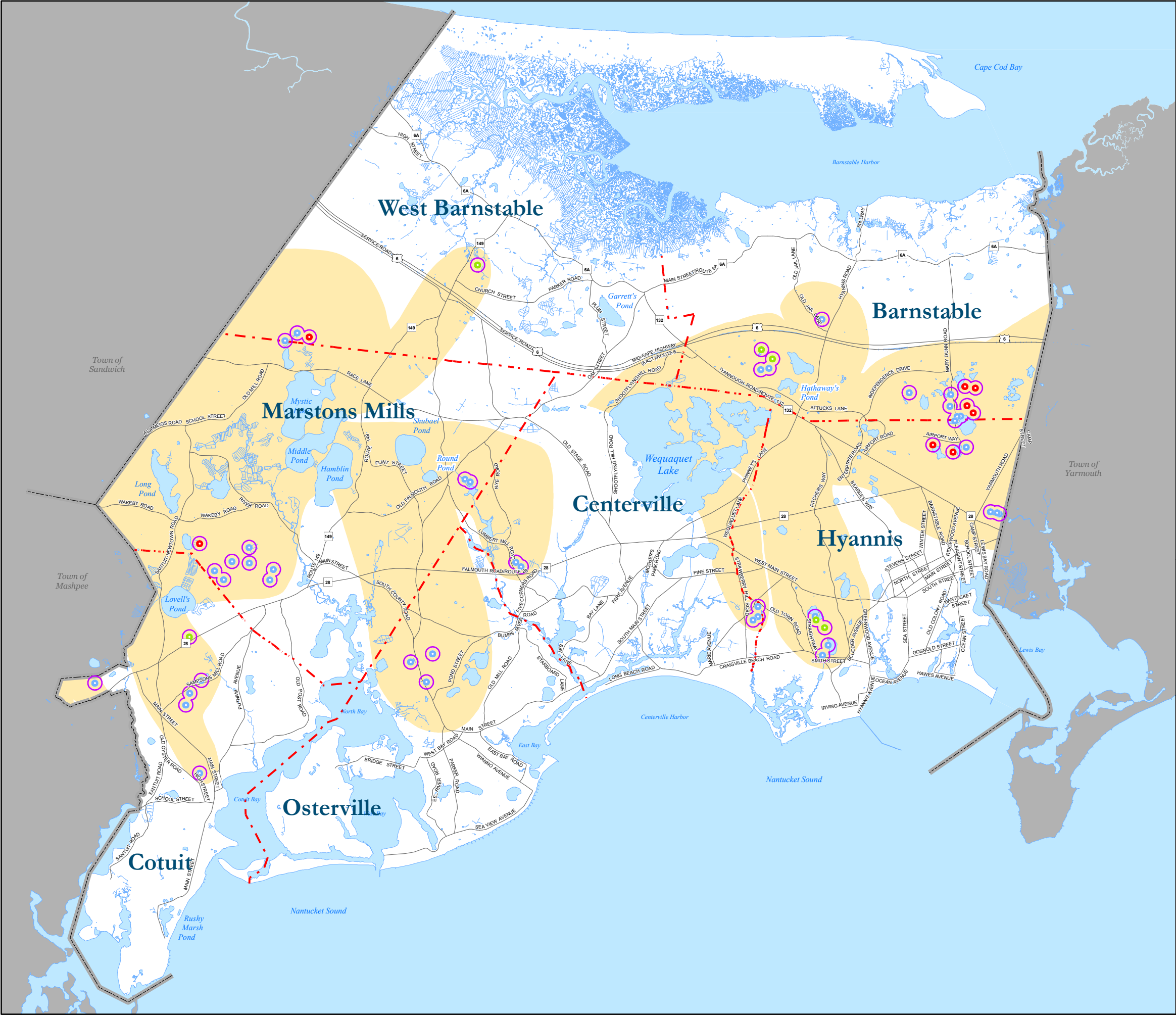
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TOWN OF BARNSTABLE

GEOGRAPHIC INFORMATION SYSTEMS UNIT

Source: Geologic data was digitized from 1:24,000 scale 1974 & 1975 USGS Geologic Quadrangle Maps of Hyannis, Cotuit, & Sandwich.



Public Water Supply Wells

- Existing Well
- Proven Future Well
- Proposed Future Well

- Zone I - 400 Ft. Radius Circles Around Public Wells
- Zones of Contribution to Public Water Supply

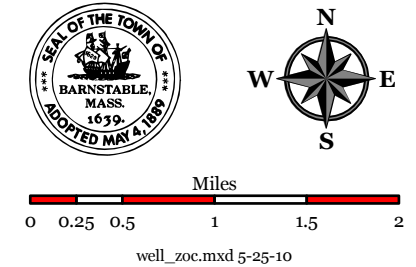
NOTE: this layer is a combination of the State Approved Zone II and the Town Approved GP and WP Overlay Districts.

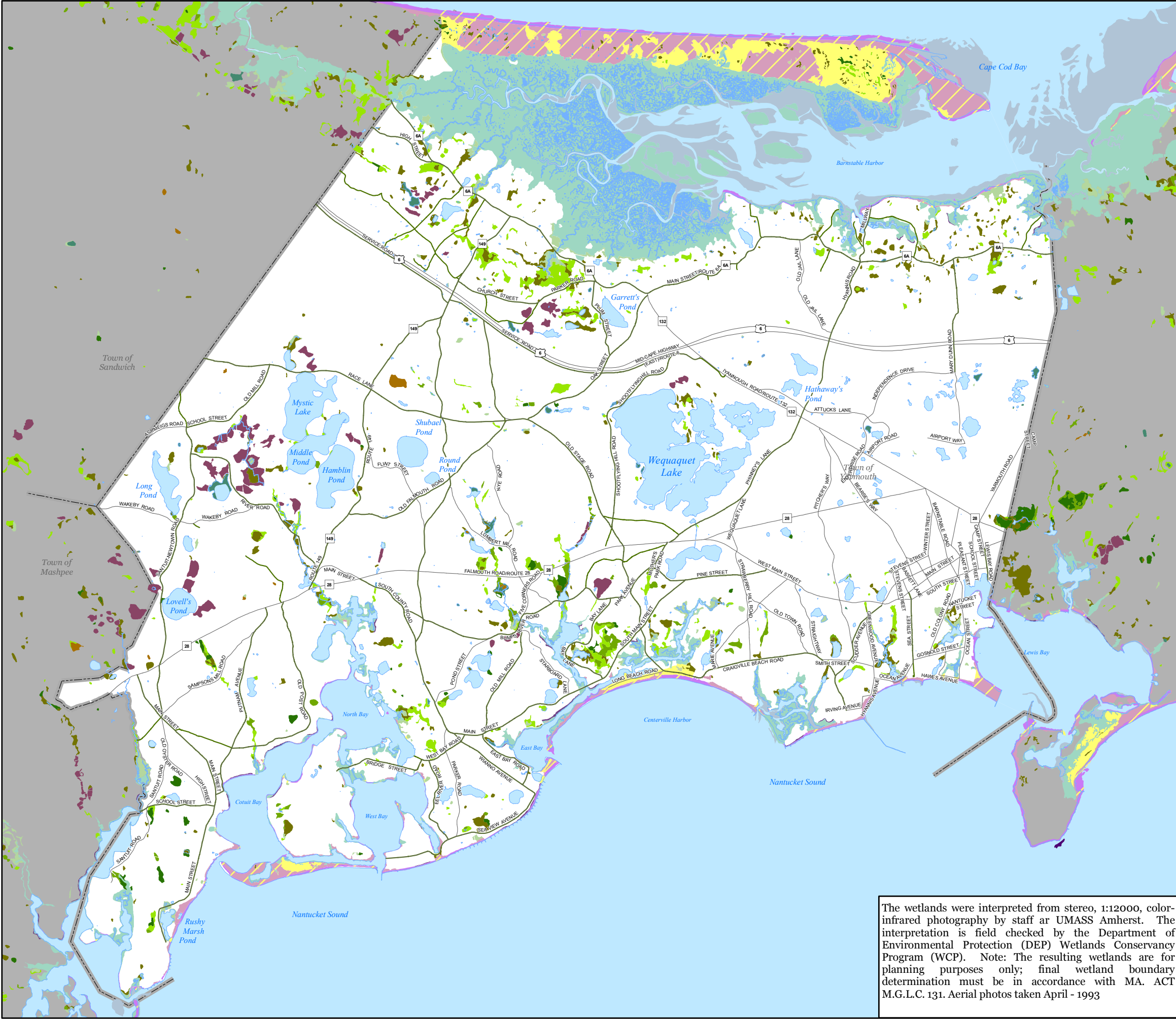
- Fire District / Village Lines
- Major Roads
- Town Boundary
- Water Bodies

**TOWN OF
BARNSTABLE
MASSACHUSETTS**

Open Space & Recreation Plan
2010 Update

**Zones of Contribution
& Wells
Figure 6A**





MASSGIS / DEP Werlands

- Barrier Beach System
- Barrier Beach-Coastal Beach
- Barrier Beach-Coastal Dune
- Barrier Beach-Marsh
- Barrier Beach-Salt Marsh
- Barrier Beach-Shrub Swamp
- Barrier Beach-Wooded Swamp Coniferous
- Barrier Beach- Wooded Swamp Deciduous
- Barrier Beach-Wooded Swamp Mixed Trees
- Bog
- Coastal Bank Bluff or Sea Cliff
- Coastal Beach
- Coastal Dune
- Cranberry Bog
- Deep Marsh
- Rocky Intertidal Shore
- Salt Marsh
- Shallow Marsh Meadow or Fen
- Shrub Swamp
- Tidal Flat
- Wooded Swamp Coniferous
- Wooded Swamp Deciduous
- Wooded Swamp Mixed Trees

- Major Roads
- Shoreline
- Town Boundary
- Water Bodies

**TOWN OF
BARNSTABLE
MASSACHUSETTS**

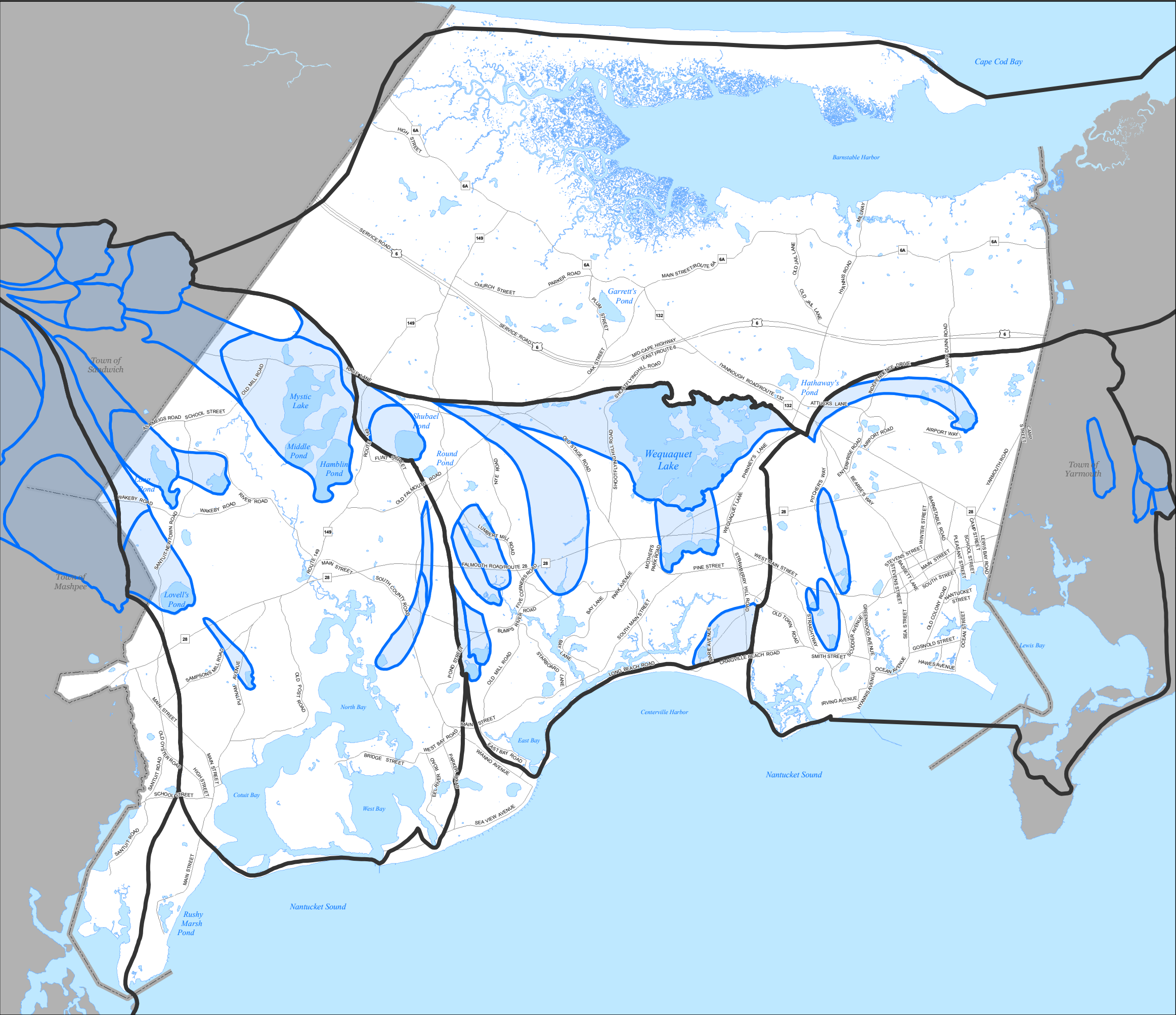
Open Space and Recreation Plan
2010 Update

Wetlands
Figure 6B

wetlands.mxd 5-20-10 cse

**TOWN OF BARNSTABLE
GEOGRAPHIC INFORMATION
SYSTEMS UNIT**

The wetlands were interpreted from stereo, 1:12000, color-infrared photography by staff at UMASS Amherst. The interpretation is field checked by the Department of Environmental Protection (DEP) Wetlands Conservancy Program (WCP). Note: The resulting wetlands are for planning purposes only; final wetland boundary determination must be in accordance with MA. ACT M.G.L.C. 131. Aerial photos taken April - 1993

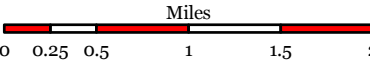


- Marine Watersheds
- Pond Sub-Watersheds
- Major Roads
- Town Boundary
- Water Bodies

TOWN OF BARNSTABLE MASSACHUSETTS

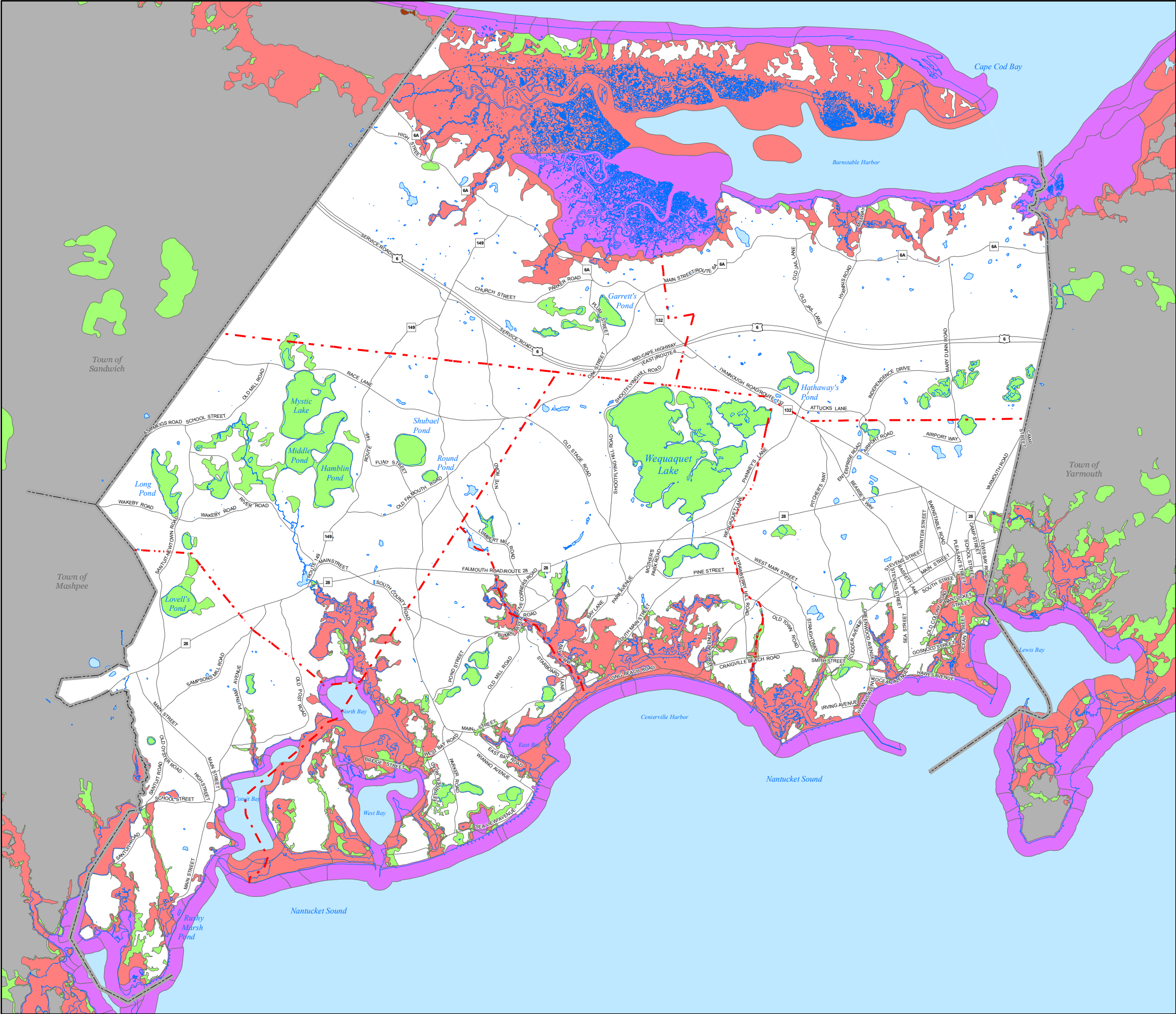
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2010 Update

Fresh & Marine Water Features
Estuarine Watersheds
Figure 6C



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**TOWN OF BARNSTABLE
GEOGRAPHIC INFORMATION
SYSTEMS UNIT**



Special Flood Hazard Areas (SFHAs) Subject to Inundation by the 1% Annual Chance Flood

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equalled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood.

- Zone AE - Base Flood Elevations determined.
- Zone AO - Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined.
- Zone AH - Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- Zone VE - Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

Other Flood Areas
Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

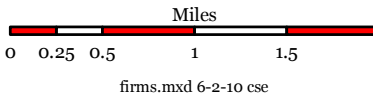
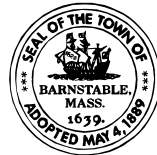
NOTE: The flood zones shown here represent the 2009 Preliminary Revised FEMA Flood Insurance Rate Maps. These maps are preliminary and have not yet been adopted. These are preliminary data that may be subject to appeal and may change before final adoption and cannot be used for making final determinations.

- Fire District / Village Lines
- Major Roads
- Town Boundary
- Shoreline
- Water Bodies (May be obscured)

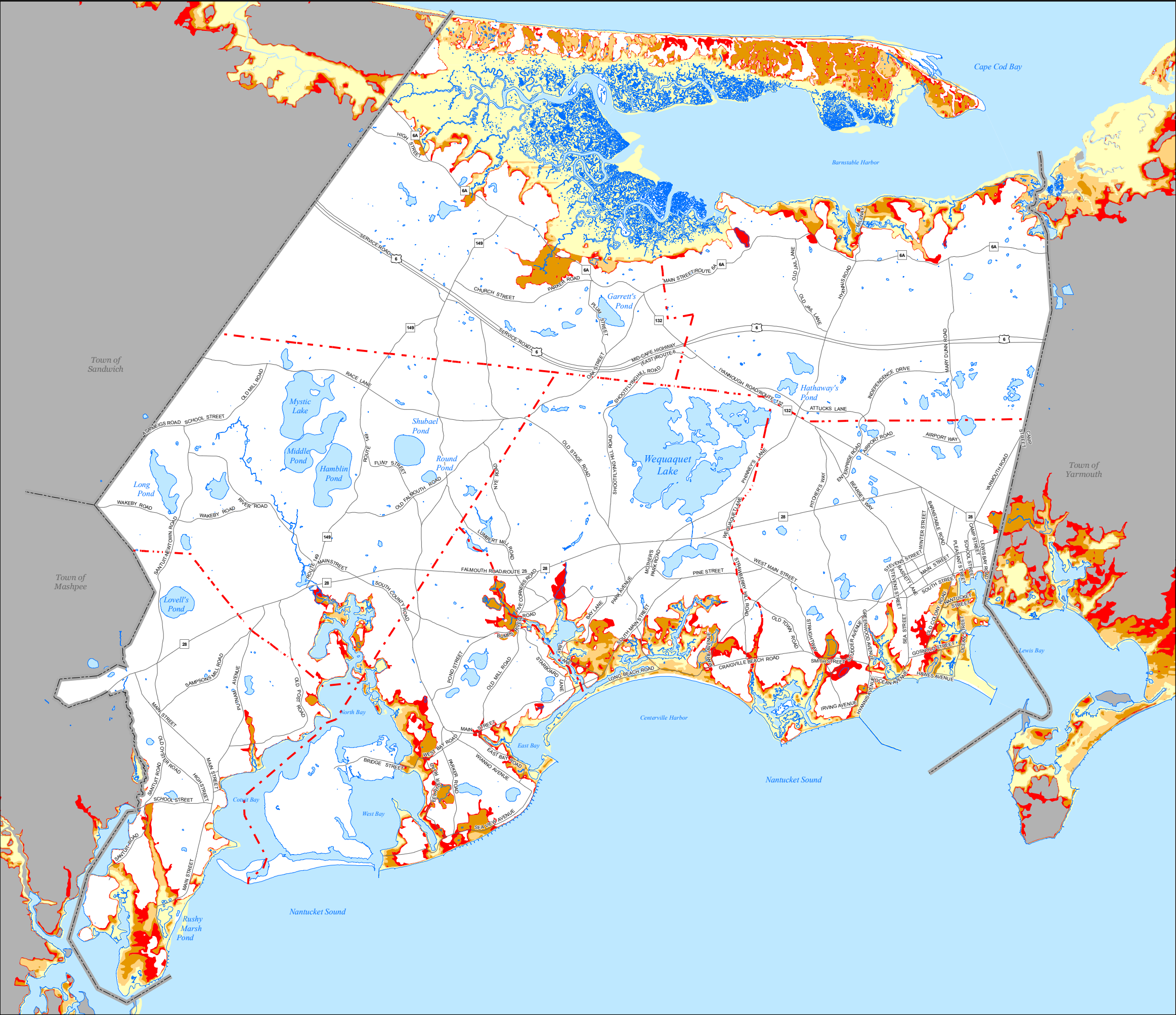
TOWN OF BARNSTABLE MASSACHUSETTS

Open Space and Recreation Plan
2010 Update

**Flood Zones
Figure 6D**



**TOWN OF BARNSTABLE
GEOGRAPHIC INFORMATION
SYSTEMS UNIT**



Hurricane Surge Inundation Areas

Note: Missing Data for Grand Island Area
Source: US Army Corps of Engineers / Cape Cod Commission

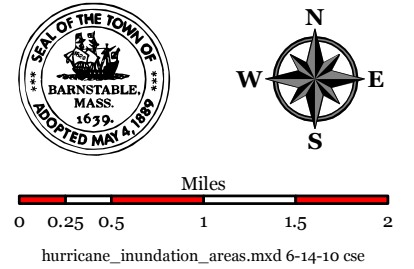
- Category 1 Hurricane
- Category 2 Hurricane
- Category 3 Hurricane
- Category 4 Hurricane

- Fire District / Village Lines
- Major Roads
- Town Boundary
- Shoreline
- Water Bodies (May be obscured)

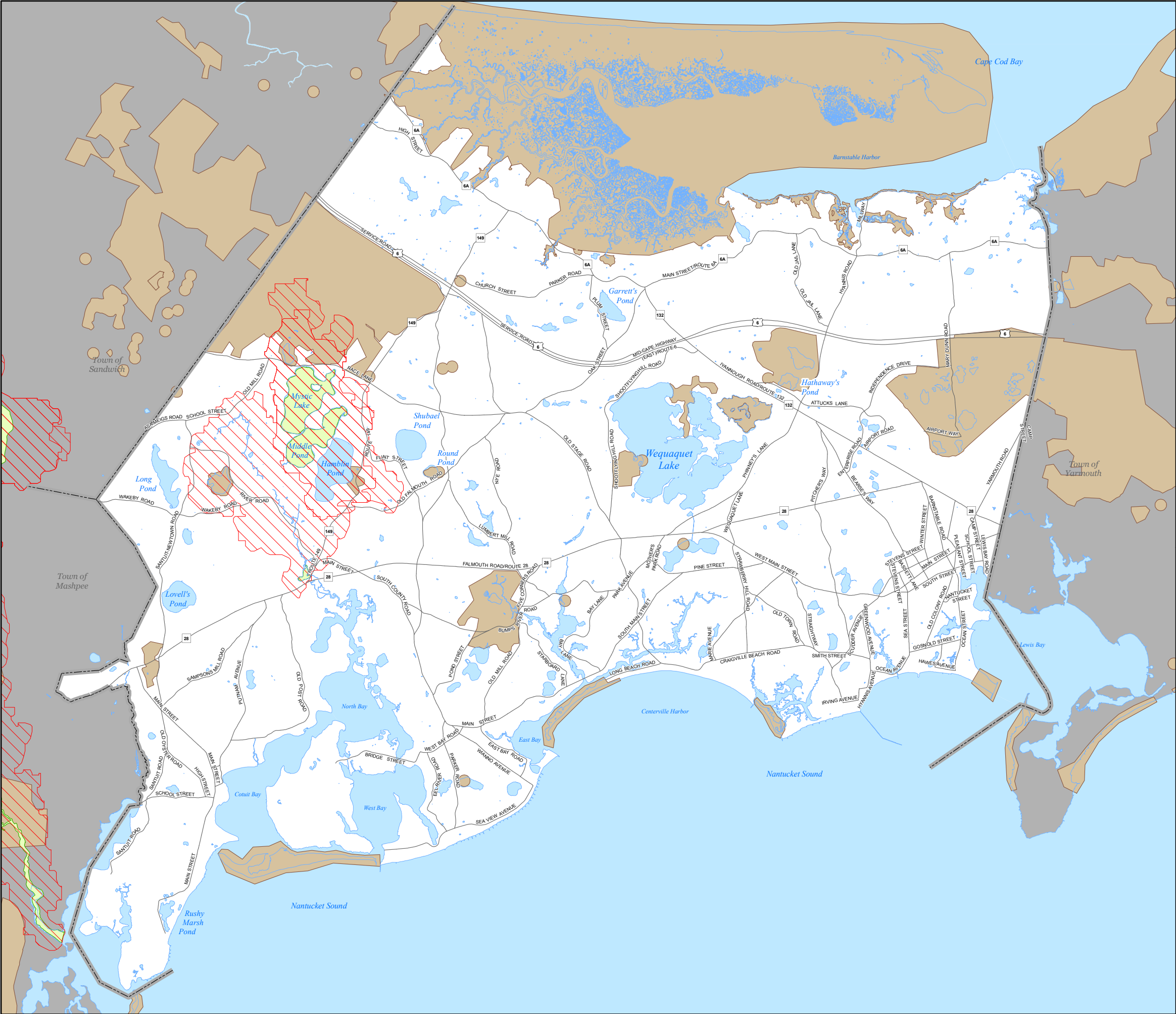
**TOWN OF
BARNSTABLE
MASSACHUSETTS**

Open Space and Recreation Plan
2010 Update




**Hurricane
Inundation Areas
Figure 6E**






**TOWN OF BARNSTABLE
GEOGRAPHIC INFORMATION
SYSTEMS UNIT**



National Heritage & Endangered Species Program (NHESP)

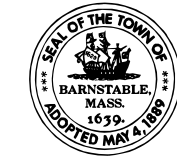
-  Biomap Core Habitat
-  Living Waters Core Habitat
-  Living Waters Critical Supporting Watershed

-  Major Roads
-  Town Boundary
-  Water Bodies

**TOWN OF
BARNSTABLE
MASSACHUSETTS**

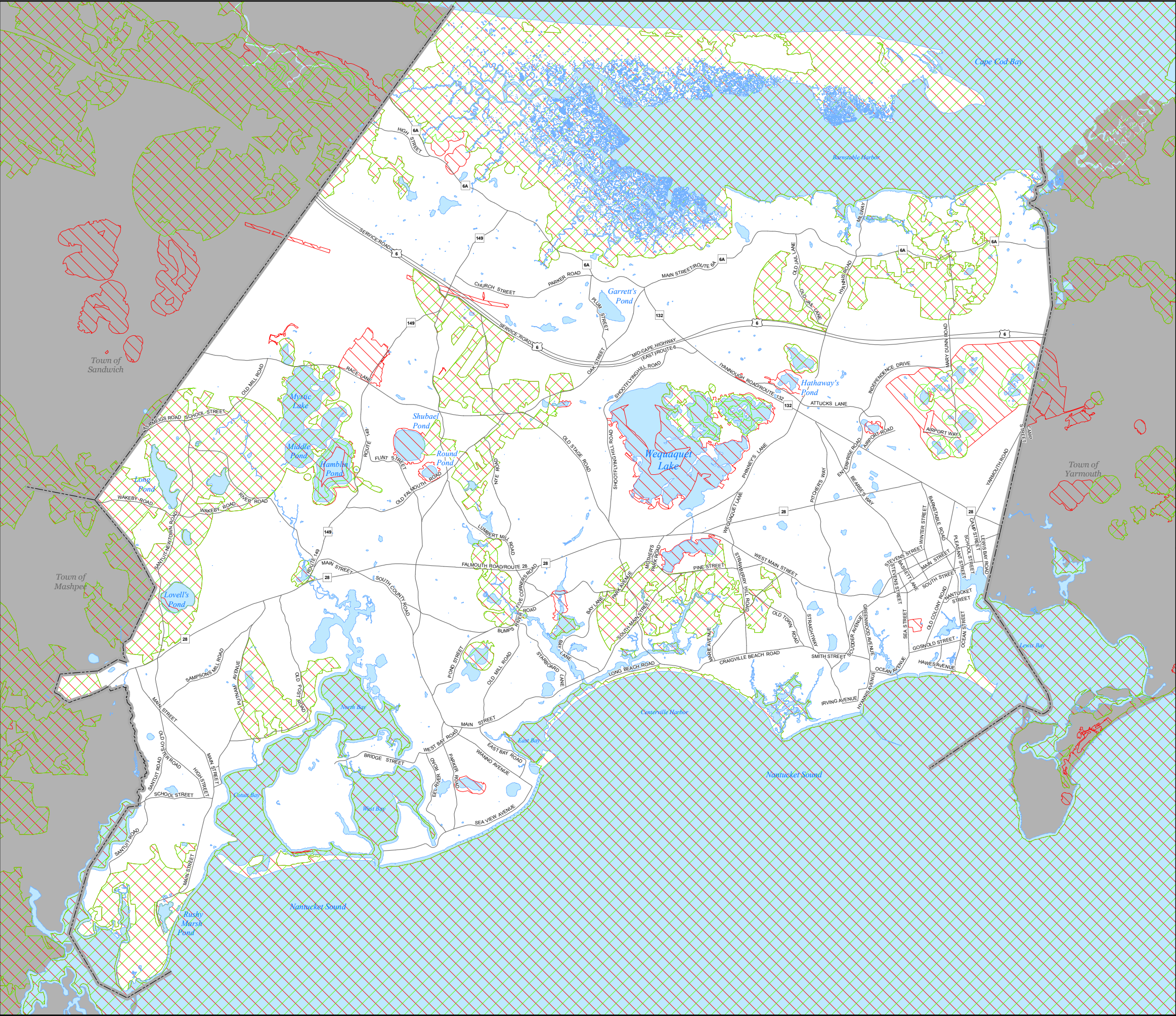
Open Space and Recreation Plan
2010 Update

**Biomap Core Habitats
(NHESP)
Figure 7A**



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**TOWN OF BARNSTABLE
GEOGRAPHIC INFORMATION
SYSTEMS UNIT**



National Heritage & Endangered Species Program (NHESP)

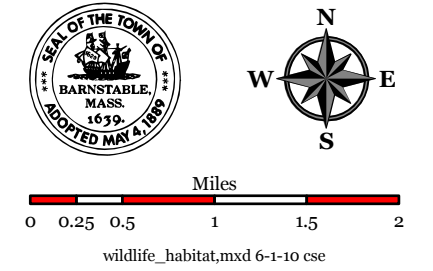
- Estimated Habitats of Rare Wildlife
- Priority Habitats of Rare Species

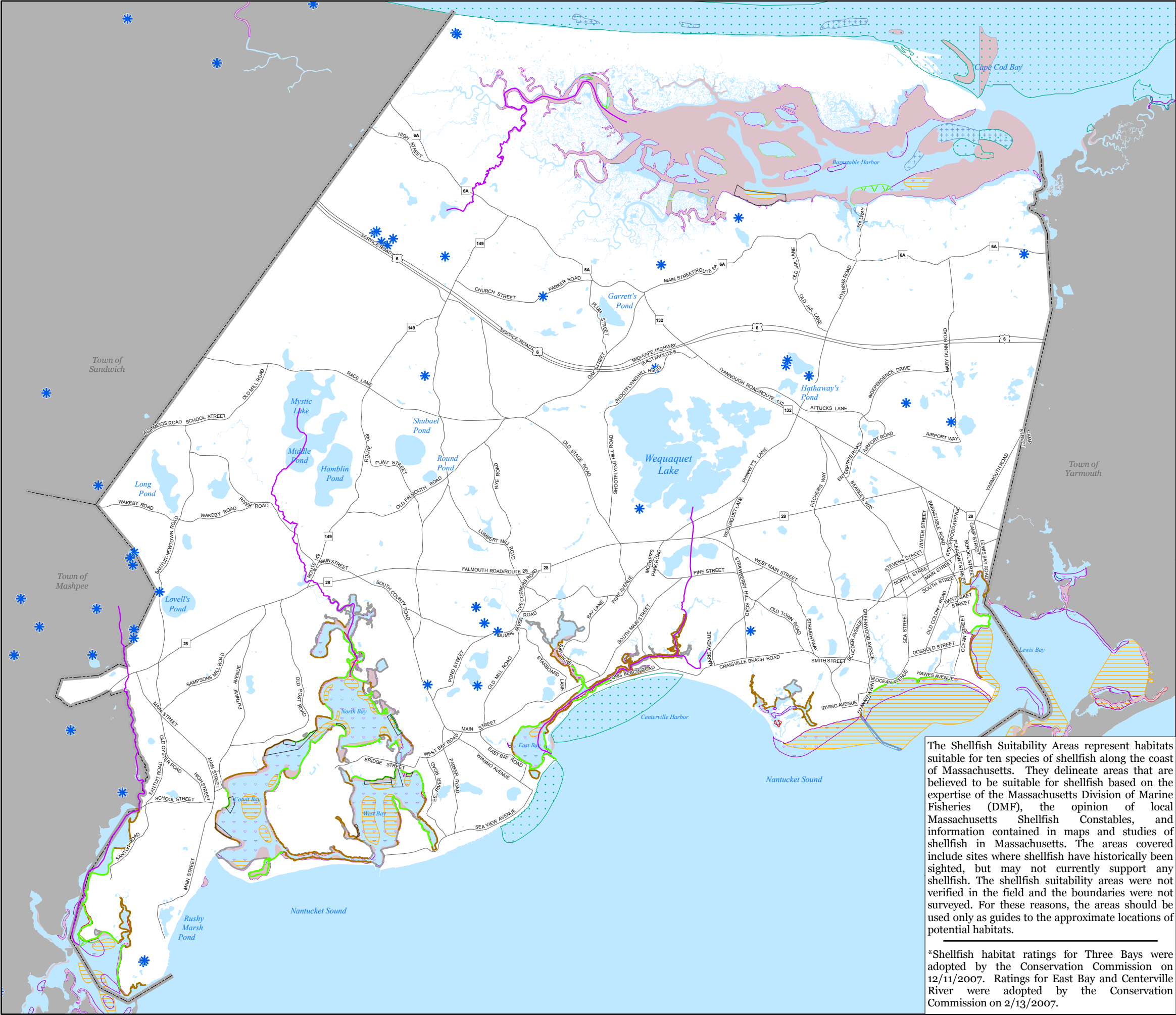
- Major Roads
- Town Boundary
- Water Bodies

TOWN OF BARNSTABLE MASSACHUSETTS

Open Space and Recreation Plan
2010 Update

(NHESP) Estimated & Priority Habitat
Figure 7B





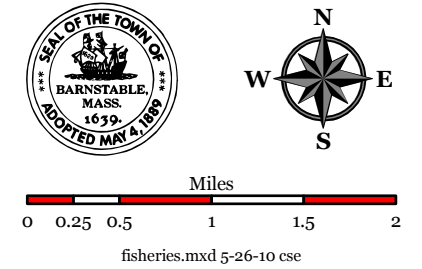
- NHESP Certified Vernal Pools
- Shellfish Relay Areas
- Anadromous Fish Runs
- Shellfish Suitability Areas**
- American Oyster
- Bay Scallop
- Blue Mussel
- European Oyster
- Ocean Quahog
- Quahog
- Razor Clam
- Sea Scallop
- Soft-shelled Clam
- Surf Clam

- Shellfish Habitat Ratings***
- Not Rated
- Ratings 1-5
- Ratings 6-10
- Major Roads
- Town Boundary
- Water Bodies

**TOWN OF
BARNSTABLE
MASSACHUSETTS**

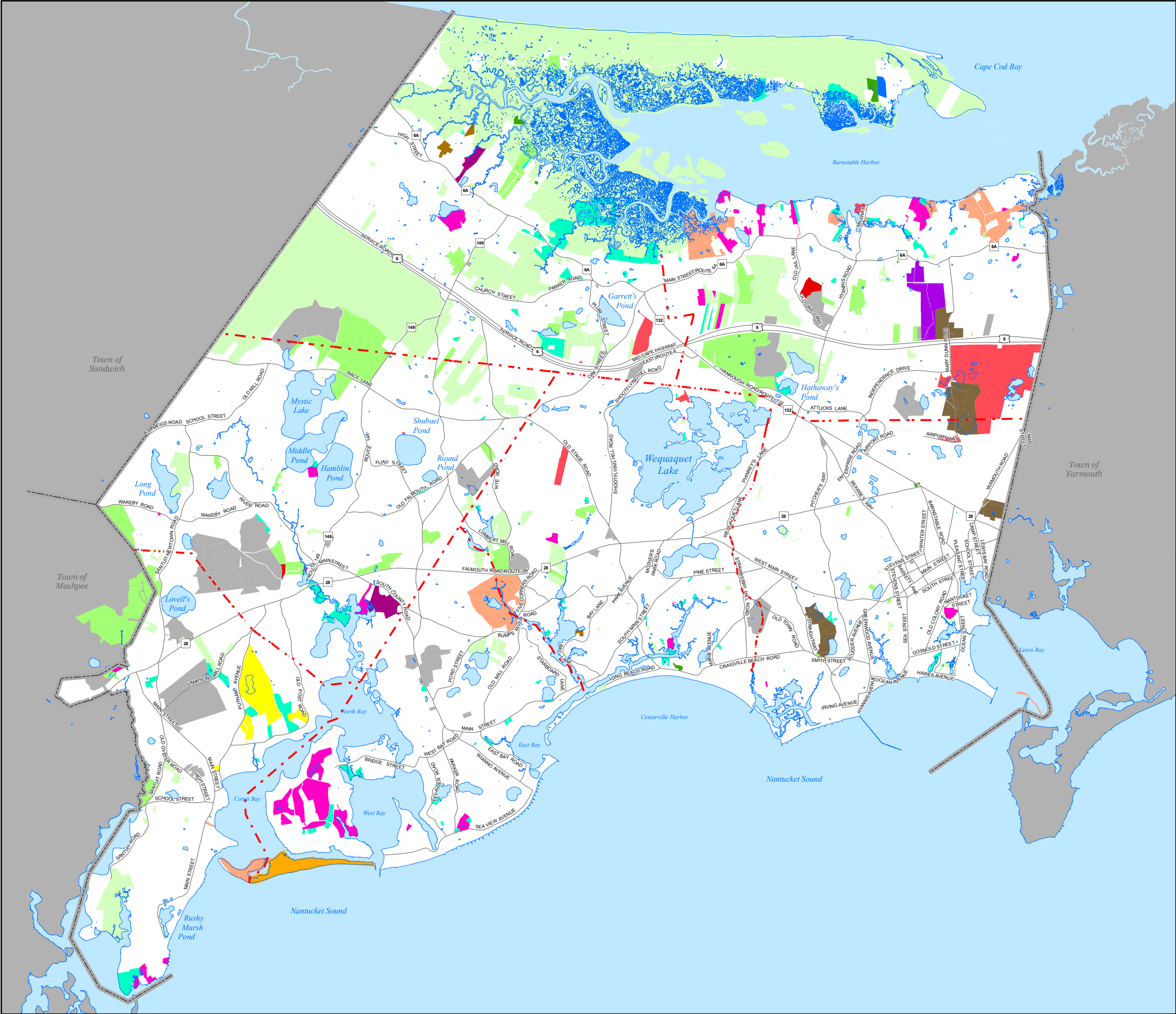
Open Space & Recreation Plan
2010 Update

**Fisheries &
Vernal Pools
Figure 8**



The Shellfish Suitability Areas represent habitats suitable for ten species of shellfish along the coast of Massachusetts. They delineate areas that are believed to be suitable for shellfish based on the expertise of the Massachusetts Division of Marine Fisheries (DMF), the opinion of local Massachusetts Shellfish Constables, and information contained in maps and studies of shellfish in Massachusetts. The areas covered include sites where shellfish have historically been sighted, but may not currently support any shellfish. The shellfish suitability areas were not verified in the field and the boundaries were not surveyed. For these reasons, the areas should be used only as guides to the approximate locations of potential habitats.

*Shellfish habitat ratings for Three Bays were adopted by the Conservation Commission on 12/11/2007. Ratings for East Bay and Centerville River were adopted by the Conservation Commission on 2/13/2007.



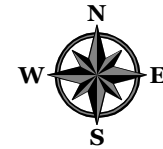
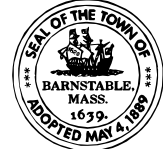
- Town Conservation
- Town Land Bank
- Town CPA Open Space
- State Owned Protected Land
- Barnstable Land Trust
- Mary Barton Conservation
- Massachusetts Audubon Society
- The Nature Conservancy
- Orenda Wildlife Land Trust
- Three Bays Preservation Inc.
- Trustees of Reservations
- Private Land with Consv. Restriction
- Town Municipal with Consv. Restriction
- Fire District with Consv. Restriction
- County with Consv. Restriction
- Fire District
- Hyannis Water Department

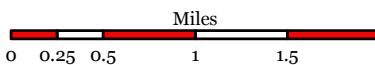
- Fire District / Village Lines
- Major Roads
- Town Boundary
- Shoreline
- Water Bodies

**TOWN OF
BARNSTABLE
MASSACHUSETTS**

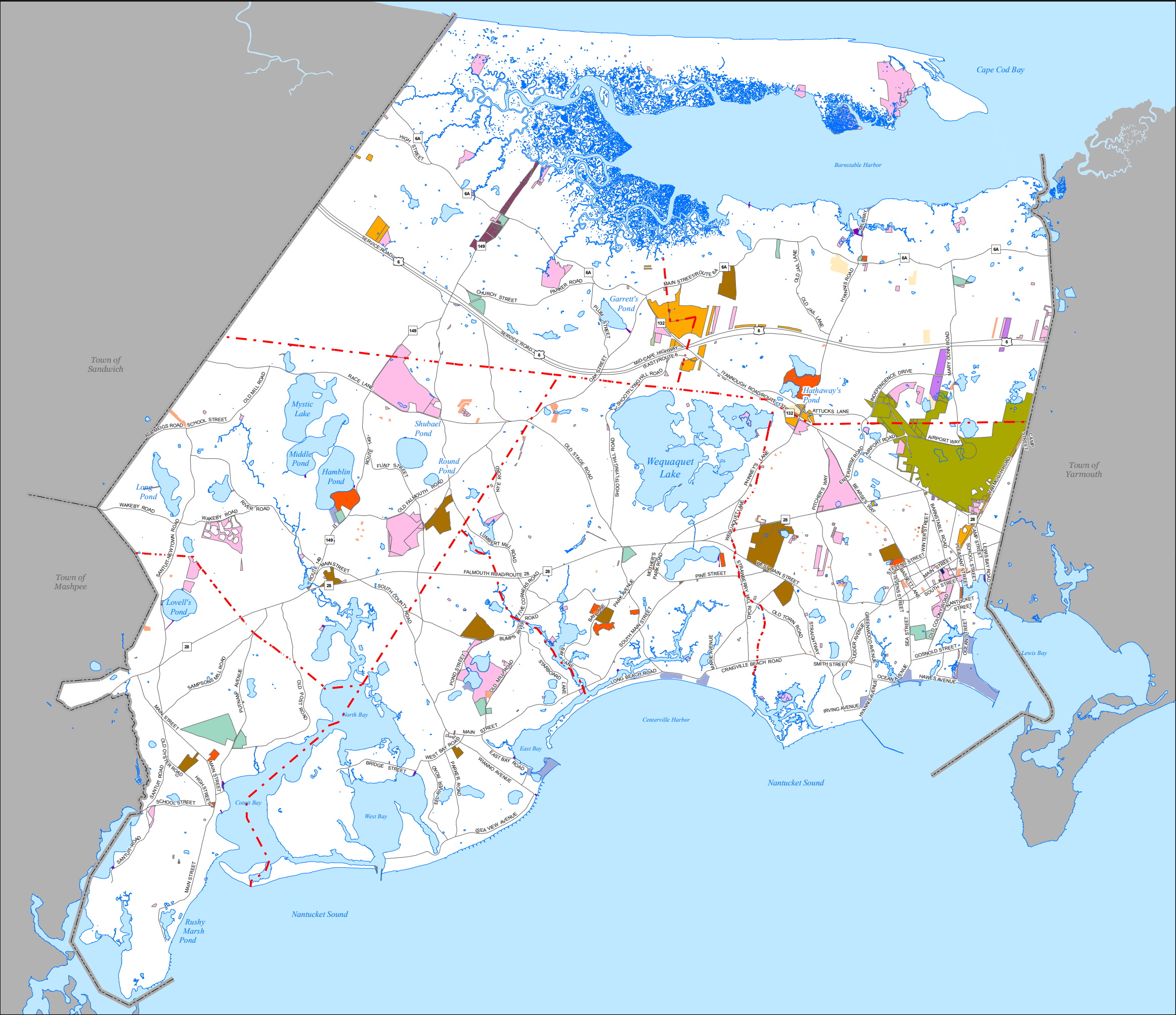
Open Space and Recreation Plan
2010 Update

Protected Open Space
Figure 9A





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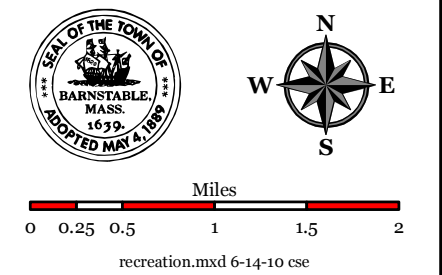
- Barnstable County
- Barnstable Housing Authority
- Commonwealth of Massachusetts
- Town Airport
- Town CPA Historic
- Town CPA Housing
- Town Cemetery
- Town Municipal (Cobb Trust)
- Town Municipal (Lombard)
- Town Municipal
- Town Recreation
- Town School
- U.S. Government
- Town Beach
- Town Landing

- Fire District / Village Lines
- Major Roads
- Town Boundary
- Shoreline
- Water Bodies

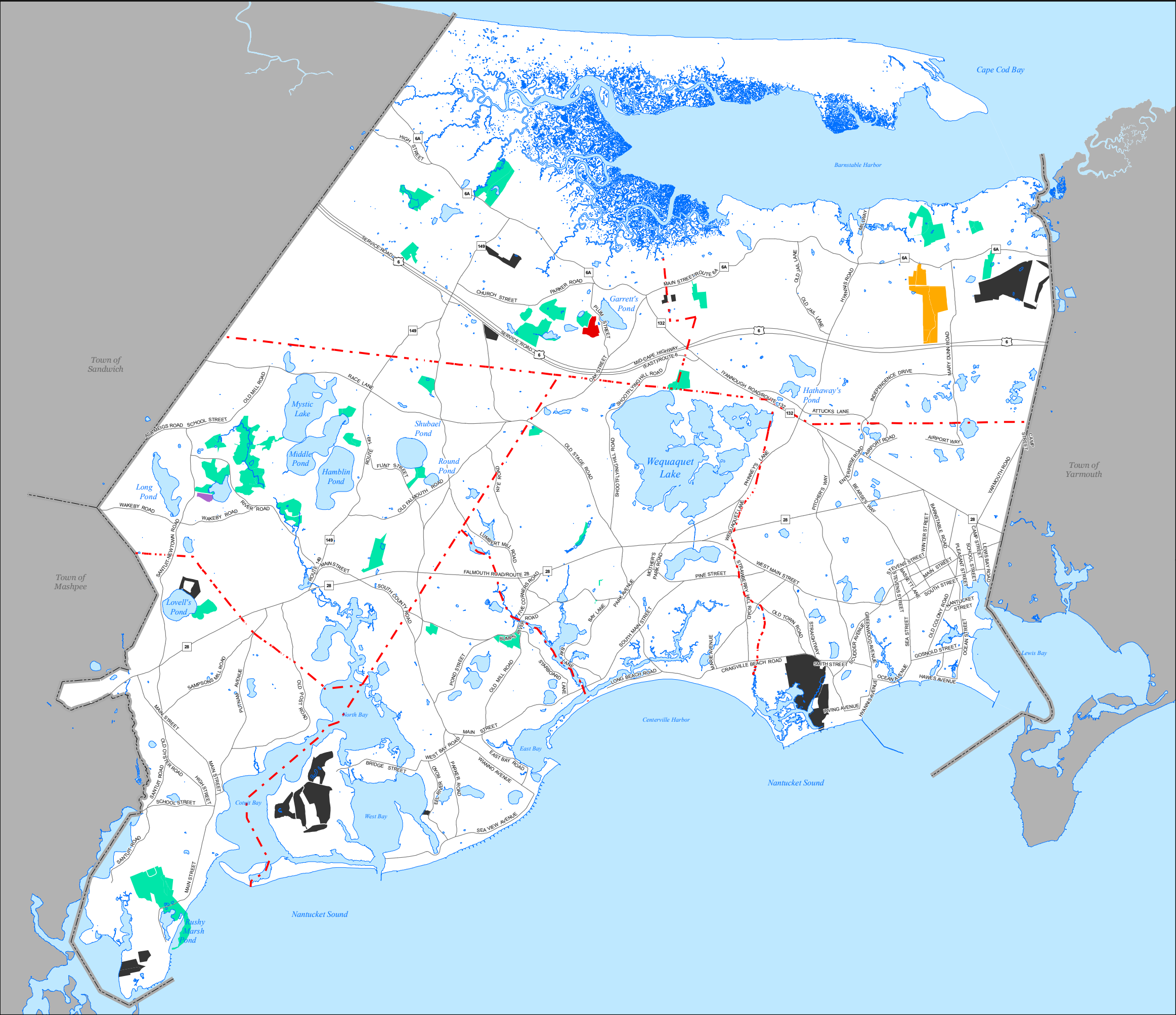
**TOWN OF
BARNSTABLE
MASSACHUSETTS**

Open Space and Recreation Plan
2010 Update

**Recreation Land
Other Open Space
& Public Land
Figure 9B**



**TOWN OF BARNSTABLE
GEOGRAPHIC INFORMATION
SYSTEMS UNIT**





- County Farm
- Cape Abilities Farm
- Chapter 61
- Chapter 61A
- Chapter 61B

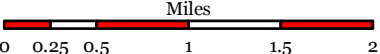
- Fire District / Village Lines
- Major Roads
- Town Boundary
- Shoreline
- Water Bodies

**TOWN OF
BARNSTABLE
MASSACHUSETTS**

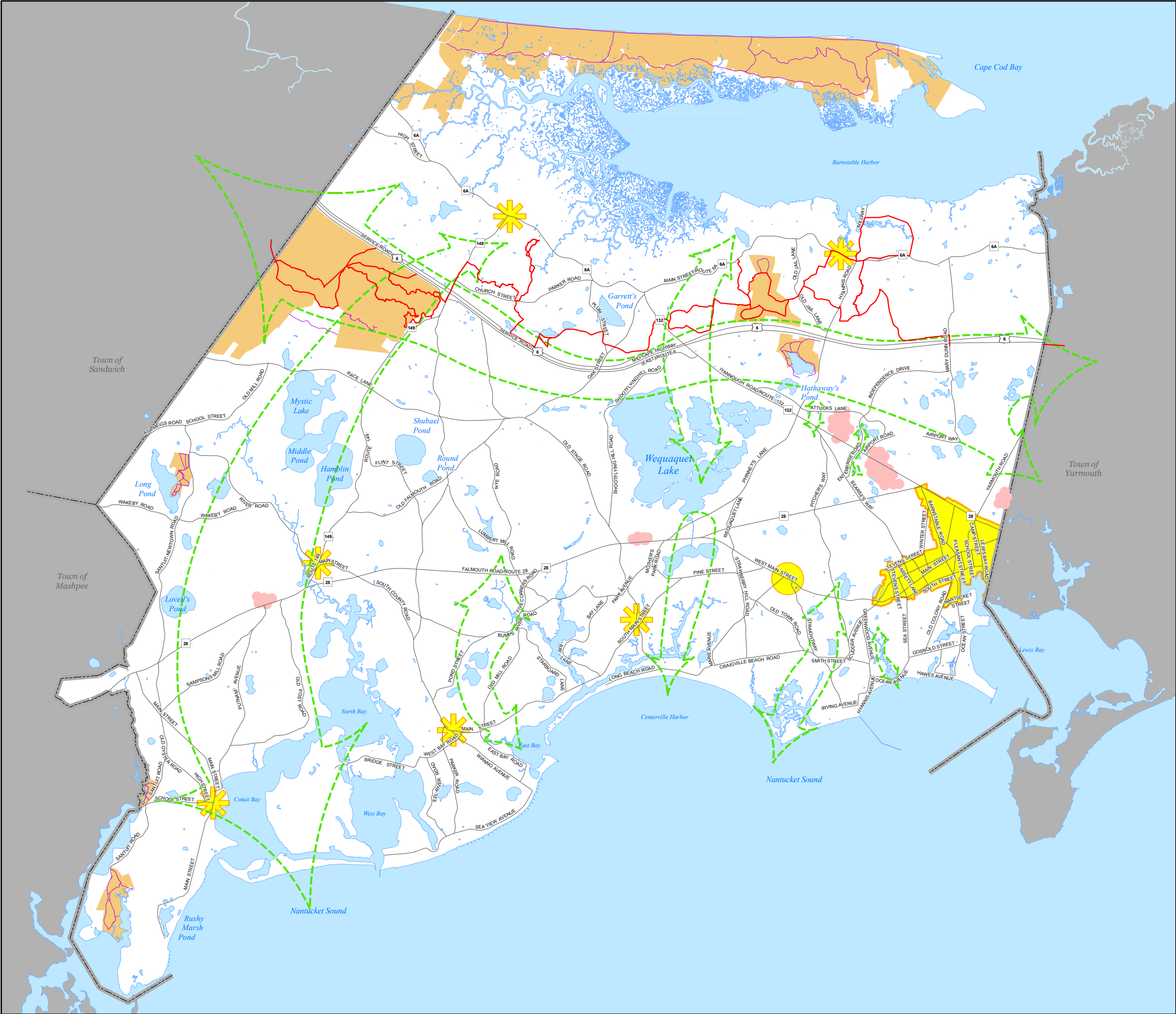
Open Space and Recreation Plan
2010 Update

**Private Agriculture
& Recreation
Figure 9C**





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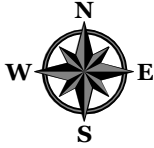


- Hiking Trails
- Cape Cod Pathways
- Conservation Hiking Area
- Green Infrastructure Connectors
- Compact Commercial Centers
- Growth Incentive Zone
- Village Centers
- West Main Street Area
- Major Roads
- Town Boundary
- Water Bodies

TOWN OF BARNSTABLE MASSACHUSETTS

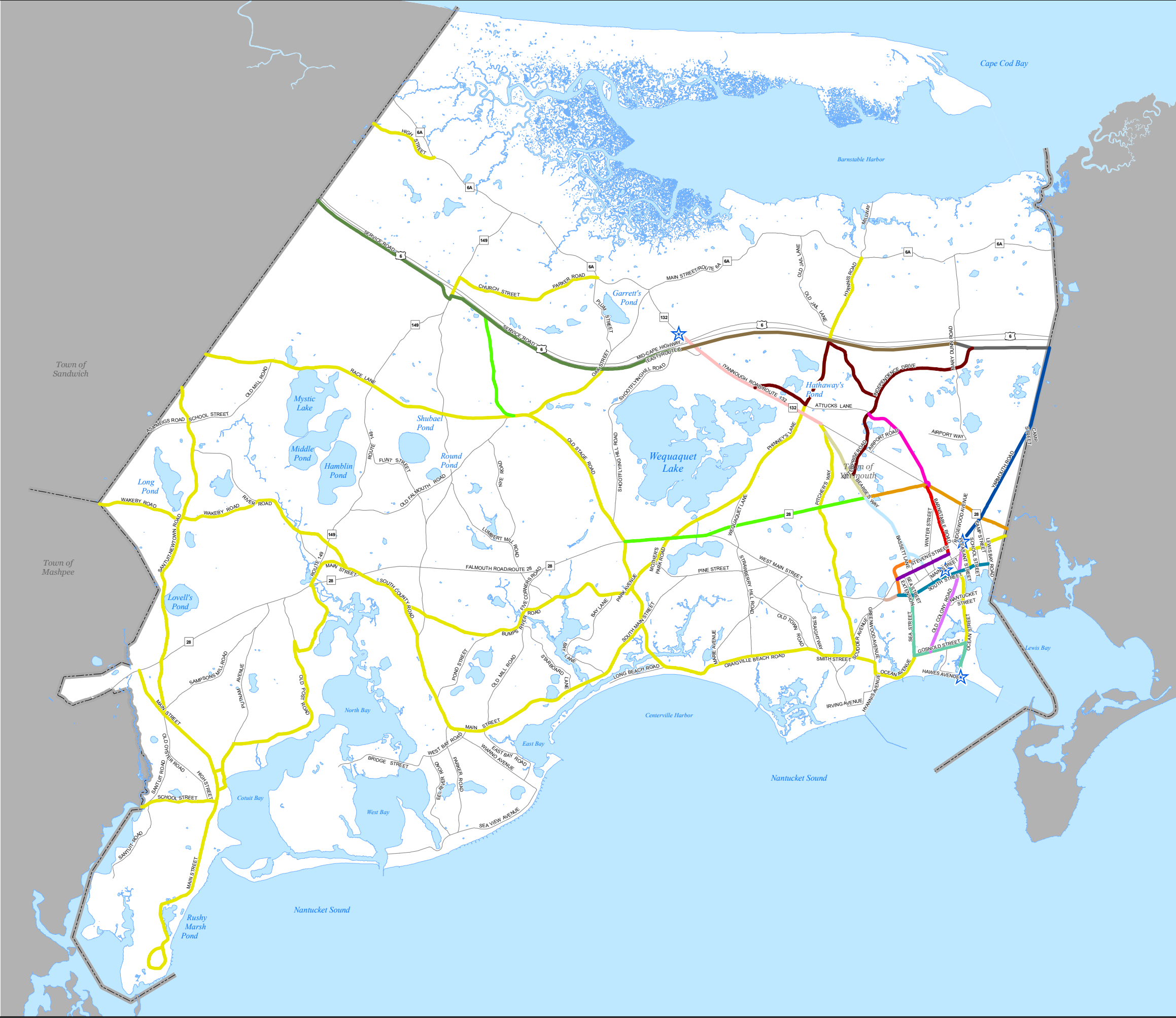
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Green Infrastructure
Figure 10A



green_infrastructure.mxd 6-14-10 cse

TOWN OF BARNSTABLE
GEOGRAPHIC INFORMATION
SYSTEMS UNIT



- Cape Cod Bike Path Expansion**
- ★ Cyclist Services (Racks, Facilities)
 - Existing Bike Path
 - Recommended Roadway Bike Routes
 - Mass. Fisheries & Wildlife
 - Yarmouth to Mary Dunn
 - Alternate Road Route
 - Exit 6 to Mary Dunn
 - Exit 6 to Mary Dunn Road
 - Service Road, Sandwich to Exit 6

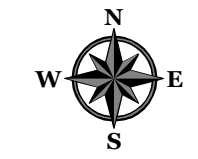
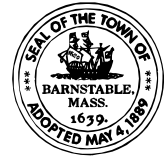
- Proposed Multimodal Path Improvements**
- Airport Expansion (New Road)
 - Railroad Route to RTA
 - North Street
 - South Street
 - Stevens Street
 - Bearses Way South of Route 28
 - Main Street
 - Barnstable Road
 - Route 28 Near Airport
 - Bearses Way, North of Route 28
 - Old Colony
 - Sea Street Connection to Kalmus Beach
 - Route 132

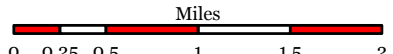
- Roads
- Town Boundary
- Water Bodies

TOWN OF BARNSTABLE MASSACHUSETTS

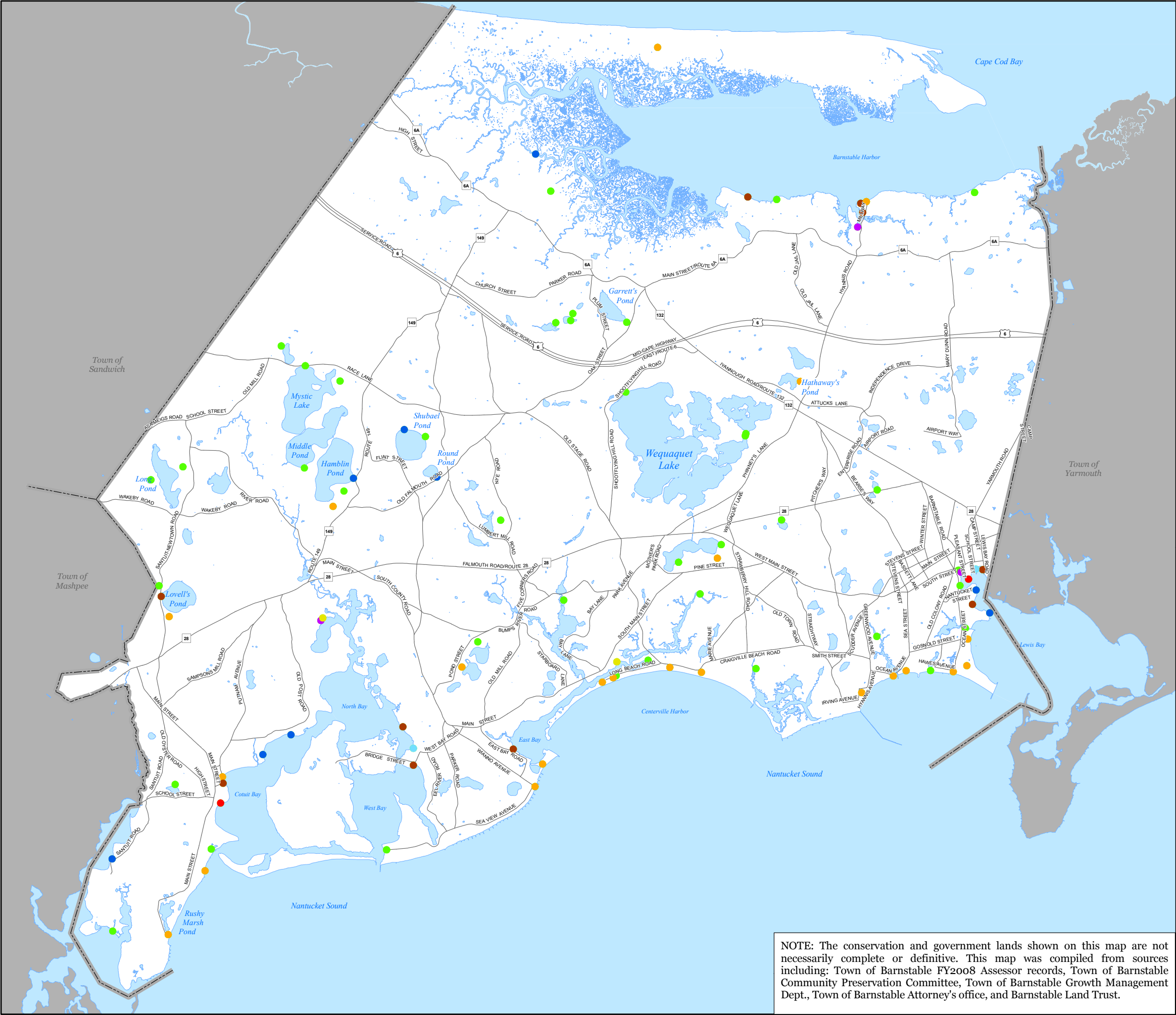
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**Bikeways
Figure 10B**





bikeways.mxd 6-14-10 cse



Town Owned Ways to Water by Access Type

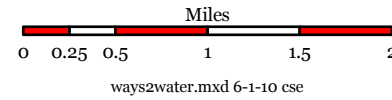
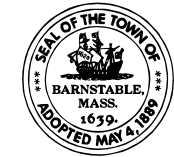
- Beach
- Boat Ramp
- Boat Ramp / Dock
- Bulkhead
- Dock
- Landing
- Marina
- Way To Water

- Major Roads
- Town Boundary
- Water Bodies

**TOWN OF
BARNSTABLE
MASSACHUSETTS**

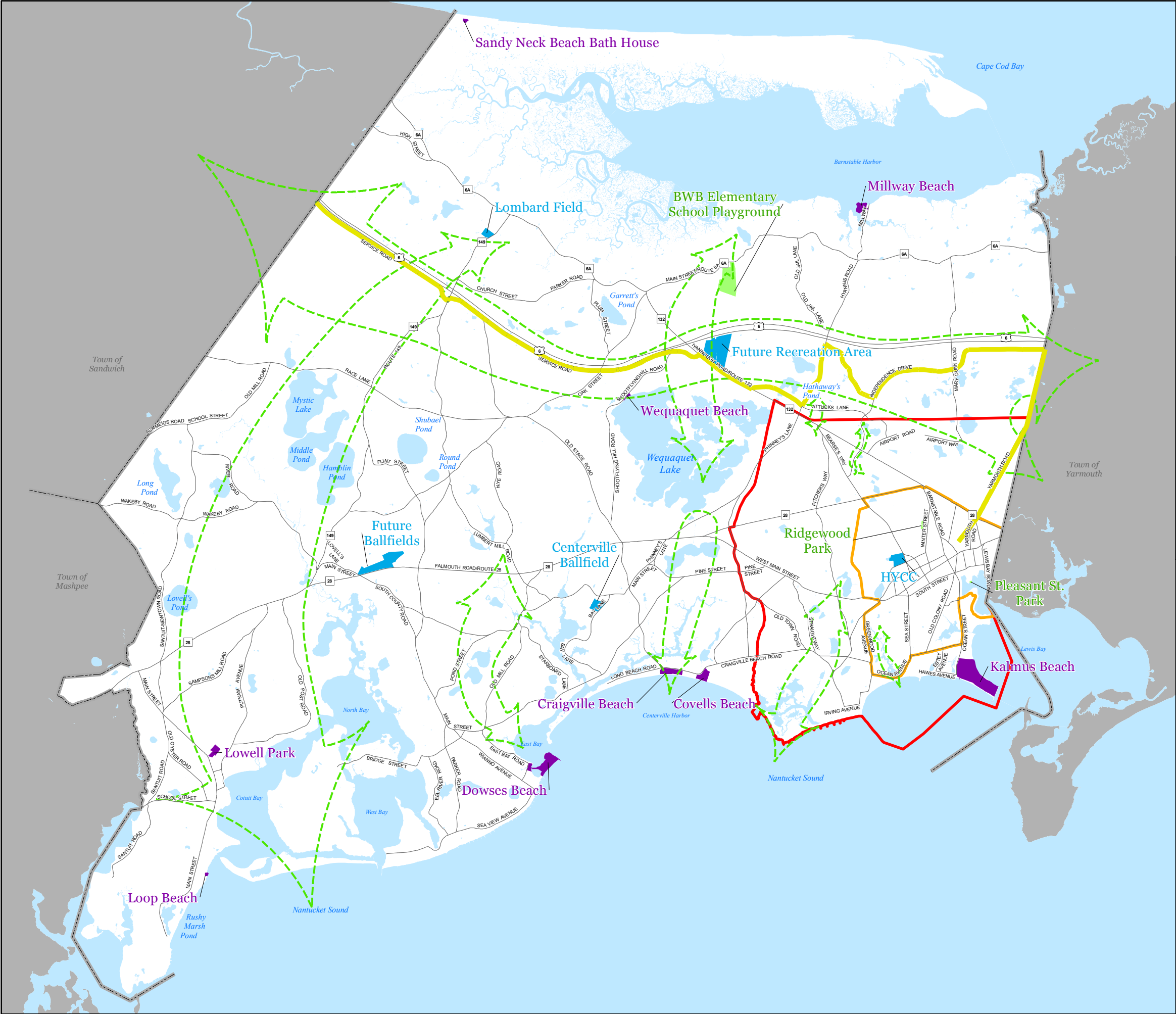
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**Town Owned
Ways To Water
Figure 11**



**TOWN OF BARNSTABLE
GEOGRAPHIC INFORMATION
SYSTEMS UNIT**

NOTE: The conservation and government lands shown on this map are not necessarily complete or definitive. This map was compiled from sources including: Town of Barnstable FY2008 Assessor records, Town of Barnstable Community Preservation Committee, Town of Barnstable Growth Management Dept., Town of Barnstable Attorney's office, and Barnstable Land Trust.



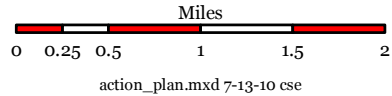
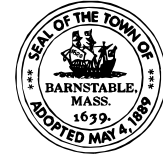
- Parks & Open Spaces
- Recreation Areas
- Accessibility Improvements
- Green Infrastructure Connectors
- Water Quality Protection Area
- Environmental Justice Planning Area*
- Trans-Barnstable Bikeway
- Major Roads
- Town Boundary
- Water Bodies

*Area delineated based on population density, assessed home values, & GIZ smart-growth planning strategy.

TOWN OF BARNSTABLE MASSACHUSETTS

Open Space & Recreation Plan 2010 Update

Actions Figure 12



TOWN OF BARNSTABLE
GEOGRAPHIC INFORMATION
SYSTEMS UNIT