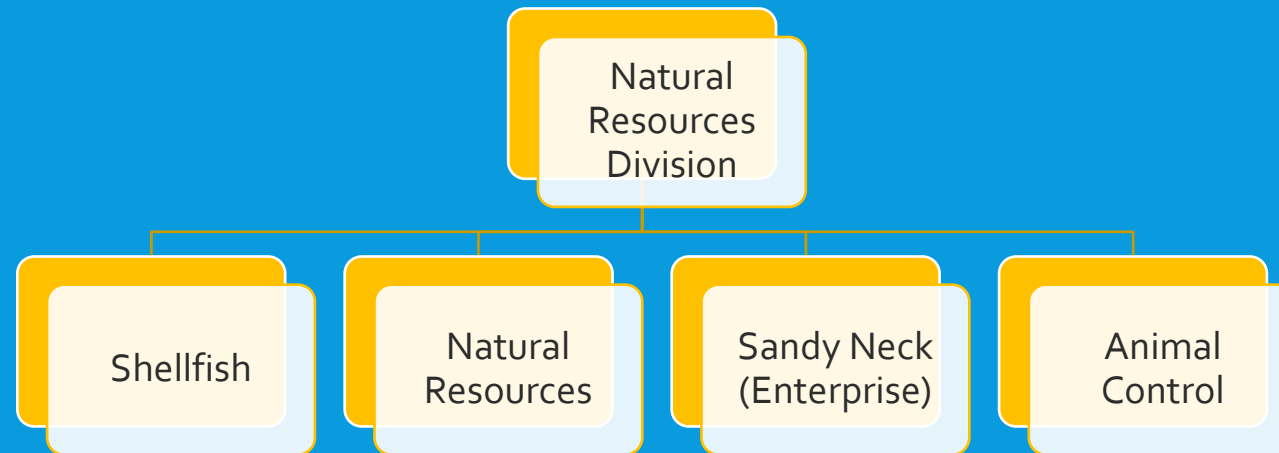


MARINE AND ENVIRONMENTAL AFFAIRS DEPARTMENT NATURAL RESOURCES DIVISION



DUTIES

Topics that NR "Owns"

- All things Shellfish
- All things Sandy Neck
- Enforcement Officers
- Herring Runs
- Hunting/ Freshwater Fishing
- Domestic Animal Control
- Wildlife Issues
- Endangered Species Protection

Topics where NR Contributes

- Water Quality Issues
- Open Space Management
- Lakes and Ponds Management
- Wetland Regulations
- Stormwater Management
- Groundwater Protection



The town of Barnstable is a destination because of its diverse natural resources.

There are a wide variety of sensitive and unique habitats that provide opportunities for recreation (boating/swimming, fishing/hunting, hiking, birdwatching)

- What have I observed in my tenure?
 - degrading water quality
 - increase in harmful algal blooms (fresh and salt water)
 - loss of fishing and swimming opportunities
 - loss of habitat (coastal and upland)
 - increase in the impacts of coastal storms
 - shift in visitors coming here for these activities.



What can we do?

Comprehensive evaluation of undeveloped municipal and private properties (upland, freshwater wetlands, coastal wetlands).

Conditions placed on building on private property to provide wildlife buffers, water retention, habitat restoration.

Town should be focused on thoughtful projects that promote biodiversity, protection of sensitive habitats and restoration of past mistakes

- Herring run restoration
- Wetland and upland preservation
- Bog restoration

Provide NR with a spot at the table when decisions are made on land acquisition (we have the specific local knowledge that can elaborate on a parcels value).

Watershed and wildlife corridor protection must be implemented.

Recognized Diadromous Fish

Runs:

- Boat Cove Creek (Mill Pond),
West Barnstable
- Red Lily Pond / Lake Elizabeth
 - Centerville River
 - Marstons Mills River
 - Santuit River

Runs under Investigation:

- Little River (still ongoing)



What are we doing?

Osprey Nest Pole Installation, Centerville River

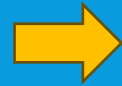
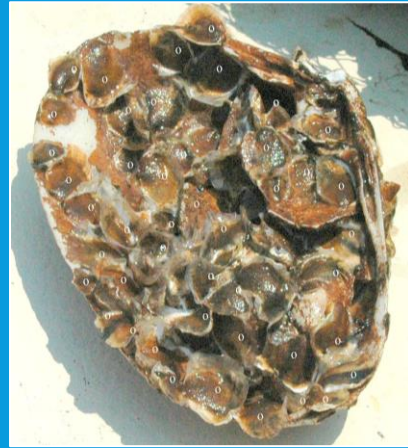
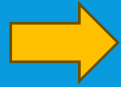
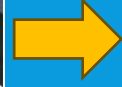


Mill Pond, West Barnstable Herring Stocking



These projects promote biodiversity which contributes to ecosystem resilience, enabling natural systems to adapt and recover from environmental pressures and disturbances.

Shellfish Propagation



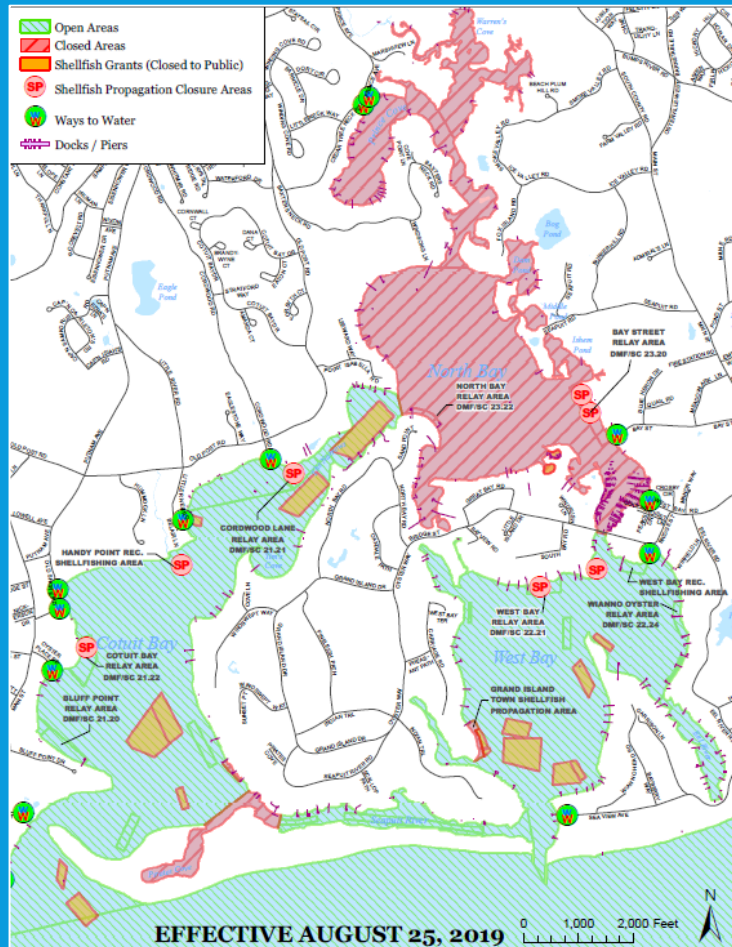
Recreational Shellfishing in Barnstable is renowned across the Commonwealth, we have seen a steady increase in the amount of permits sold and the amount of people showing up each tide to harvest from our waters

Since 2010- quahogs propagation has increased from ~800K quahogs per year to 3-4 million quahogs per year
Since 2010- oyster propagation has increased from ~650K oysters grown per year to ~1 million oysters grown per year

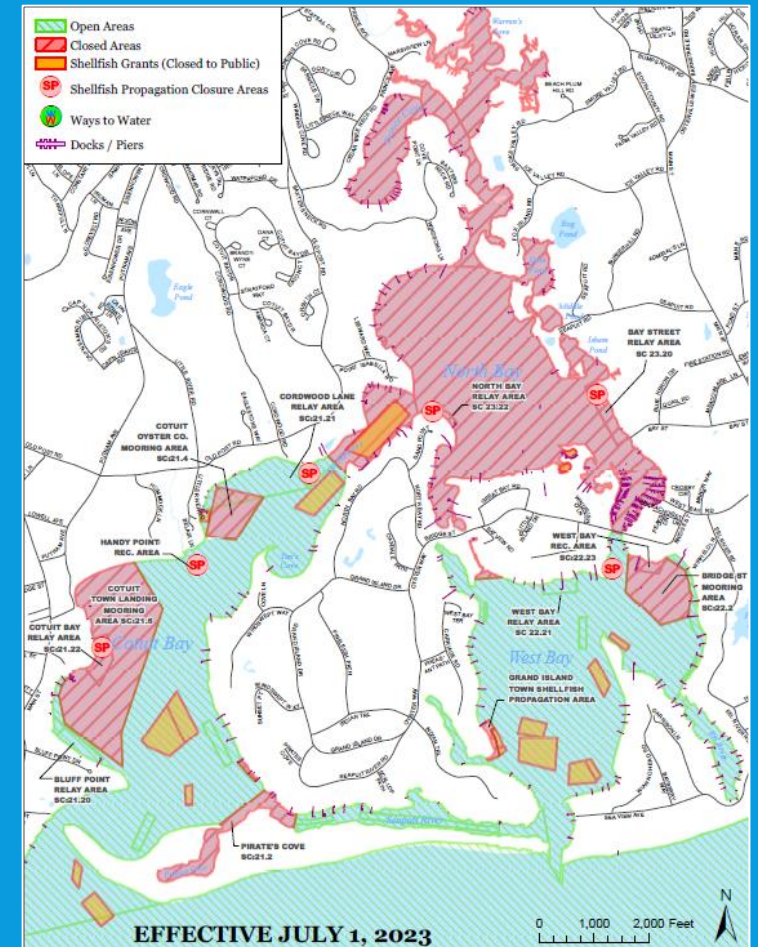
Shellfish Habitat Assessments have been completed for Three Bays, East Bay and the Centerville River, Hyannis and Barnstable Harbor since 2010 although the 2023 Three Bays and Barnstable Harbor Assessments have not yet been adopted by the Conservation Commission

Shellfish Propagation

Challenges- Current and Continuing: Water quality, habitat degradation, nutrient loading, more frequent adverse weather events, ocean acidification, sea level rise, nuisance species, invasive species and continued additions of moorings, docks and piers change what we are able to do, what numbers we can produce and where we are able to grow shellfish.



- There has been an increase of ~310 moorings added to Town of Barnstable waters since 2000 (mooring area closures)
- Approvals of docks, piers and other coastal projects have continued at a steady pace, even in areas designated as high value shellfish habitat
- Marinas leaving boats in water year round, whether they are being used or not, results in areas being designated as prohibited.
- Changes in water quality have caused some areas to change from open status to conditionally approved. This is not anticipated to change and will most likely get worse before it gets better.

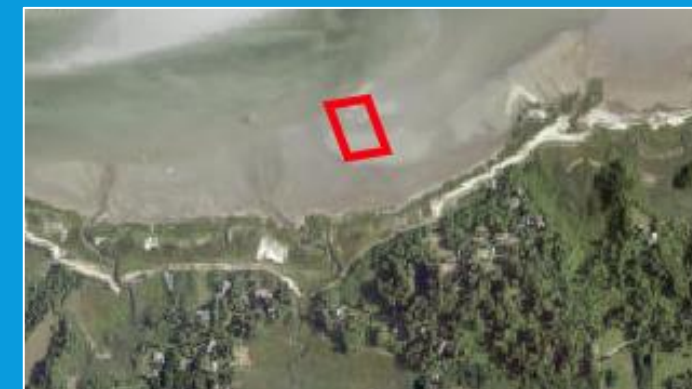


Aquaculture

The Town of Barnstable has 72 individual aquaculture sites encompassing ~156 acres between Barnstable Harbor and Three Bays. Our Blue Economy are amongst the top three producers of oysters and quahogs in the state of Massachusetts every year!

Since 2010-

- Aquaculture operations are more managed by the Natural Resources Division through the employment of an aquaculture specialist
- Responsibility for tagging of gear and for retrieval of gear that goes rogue has increased, showing investment by growers in the environment
- Regulations have and are still being formulated to evolve with the industry
- Suggestion for 208 Plan bookend was promoted but never adopted



Where do we go from here?



- Protection of shellfish and other marine species habitat should be paramount, we are beyond the tipping point and cannot wait for the effects of town wide sewer to address this, action is needed now
- Eelgrass monitoring of existing eelgrass beds in Town should continue and efforts to bolster protection of such beds should be implemented.
- An evaluation of moorings and their effects on habitat town wide should be conducted to see if a moratorium is necessary
- An evaluation of docks and piers town wide should be conducted to see if a moratorium on future developments is necessary
- Personal responsibility for property owners who can directly impact our salt and fresh water bodies with choices of septic, landscaping maintenance, etc. should be explored
- Opportunities for additional aquaculture in Three Bays and Popponesset Bay should be explored

SANDY NECK BEACH PARK

Accomplishments:

23 Year Invasive Species Removal Program

Endangered Species Protection Programs

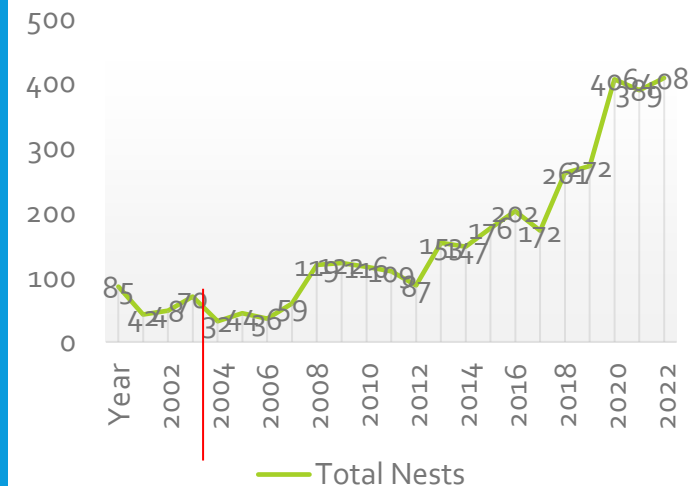
Educational Outreach

Habitat Conservation Plan (HCP) Permit

Robust Enterprise Account



Diamondback Terrapin Nests 2000-2023

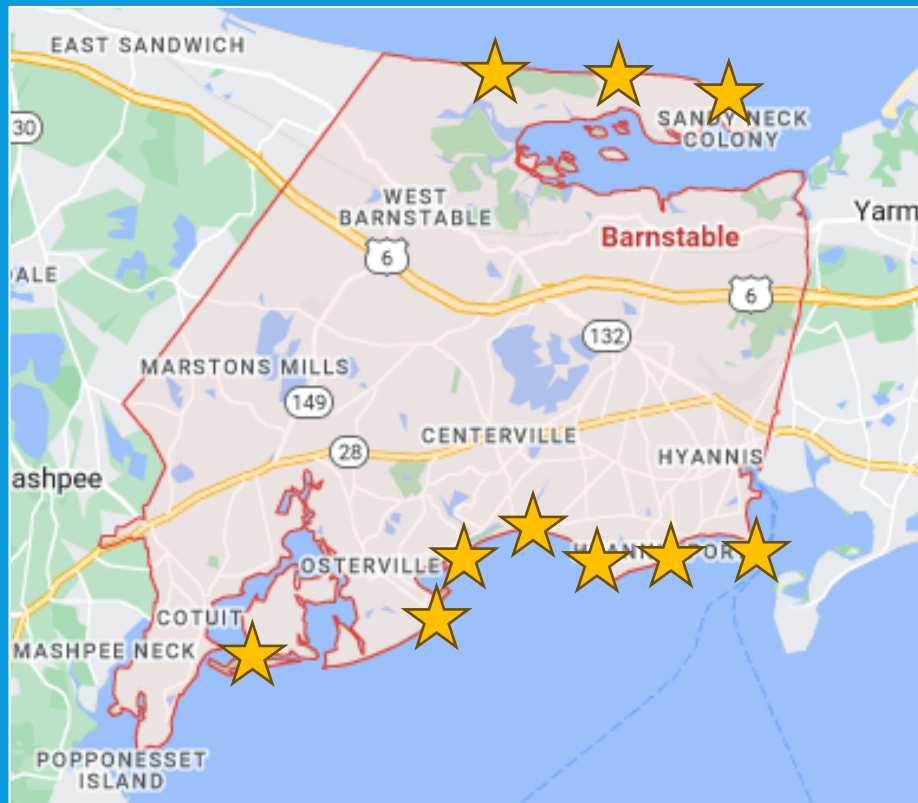


PUBLIC BEACH INFRASTRUCTURE

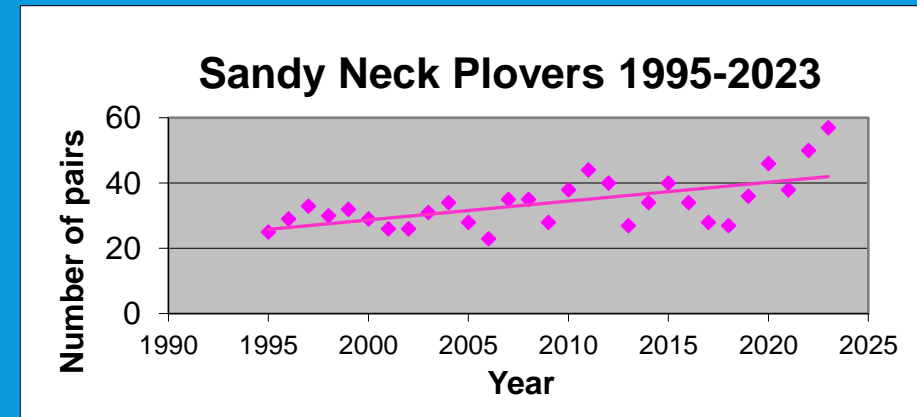
- Relocation of infrastructure is imperative at Sandy Neck in order to continue to provide public access
- Where possible use nature base “soft solutions” at SNK and other public beaches.



RARE AND ENDANGERED SPECIES PIPING PLOVERS



Barnstable Piping Plover nesting locations



- Increase in Piping Plovers nesting pairs statewide.
- Decrease in nesting habitat due to storm damage/erosion
- More human pressures from development and recreation
- Need to be proactive in planning and permitting to ensure recreational opportunity as balanced with Plover protection.

DRAFT ACTION PLAN

Accomplish the Sandy Neck Beach Park coastal resiliency project.

Use natural solutions to improve resiliency to our public beaches and ways to water.

Evaluate proactive planning and permitting to protect endangered species habitat while still providing recreational opportunity to the public.

Maximize the ecological health of the town's 5 herring runs.

Focus on protection and restoration of the town's open space wildlife corridors and sensitive habitats.

Protect the town's remaining eelgrass beds.

Explore opportunities to increase aquaculture on the south side.

Consider moratoriums on new docks and moorings while a study is conducted that evaluates the effects of these structures on shellfish habitat.

NR Div. be more involved at the planning level of development and land acquisition.

Evaluate mechanism for SF habitat protection.

Consider regulations that place more responsibility on property owners regarding environmentally sound practices

- Ecological landscaping/reduce lawns
- Vegetated buffer zones/wildlife corridors.
- Fertilizer bans
- Irrigation restrictions

Questions

