

2ND ANNUAL
CAPE COASTAL
CONFERENCE

6 JUNE 2014



Linking Science with Local Solutions and Decision-Making

**Implementation
of an Innovative Tool for Cape and Island Towns –
District of Critical Planning Concern (DCPC) –**

**Protecting
Black Beach/Great Sippewissett Marsh
Falmouth**

**Elizabeth Gladfelter, Chairman
Falmouth Conservation Commission**

Jennifer McKay, Falmouth Conservation Administrator

What is a District of Critical Planning Concern (DCPC)?

**It is a planning tool of a regional government
(in our case, the Cape Cod Commission)
that enables a town (or towns) to**

**“adopt special rules and regulations that will
protect natural, coastal, scientific, cultural,
architectural, archaeological, historic,
economic, or recreational resources
or values of regional, statewide, or national
significance.”**





great sippewissett marsh

"Study nature, not books."

John James Audubon (1785-1851) was a famous 19th-century naturalist and bird painter. He wrote a book called "The Birds of America" in 1826 and "The Ibis" in 1846.

The wetland area you are now in is a **great sippewissett marsh**. It is a **marsh**, with **marshes** throughout the world. **Marshes** are **wetlands** that are **flooded** with **water** for **at least** part of the year. **Marshes** are **important** for **many** **birds**, **fish**, and **plants**. **Marshes** are **also** **important** for **the** **environment** because they **store** **carbon** and **filter** **pollutants**.

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Try this!

Swampy areas like marshes, bays, and estuaries are **important** for **many** **birds**, **fish**, and **plants**. **Marshes** are **also** **important** for **the** **environment** because they **store** **carbon** and **filter** **pollutants**. **Marshes** are **important** for **many** **birds**, **fish**, and **plants**. **Marshes** are **also** **important** for **the** **environment** because they **store** **carbon** and **filter** **pollutants**.

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Learn how the marsh works at the end of the tour.



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To the west and south you see one of Cape Cod's best-studied and least-impacted stretches of salt marsh, with vegetation dominated by Salt Marsh Cordgrass. Great Sippewissett Marsh is protected from the open waters of Buzzards Bay by a barrier beach capped by dunes. As sea level has risen, these dunes have eroded, perhaps to the point where, at some future point, there will be overwash and relocation of the tidal outlet to this marsh, and a re-shuffling of the marsh and beach.

Marsh, barrier beach, dunes

Besides the beautiful vista, salt marshes are among the most productive natural habitats on Earth. The salt marsh is a continuum of interactive living and nonliving systems, with tides and seasons imposing an imprint on the ecosystem. Flooded by saltwater twice each day, the marsh provides a spawning and nursery habitat for many fish species, some of commercial importance, such as Winter Flounder, Menhaden, and Bluefish. The productivity also nourishes a wide variety of marine invertebrates, such as Blue and Fiddler Crabs and Ribbed Mussels, and terrestrial animals, such as turtles and raccoons.

Productivity

The marsh is also used by waterfowl and seabirds and is designated an Important Bird Area by Mass Audubon. Many of the birds migrate seasonally, such as Osprey. Artificial platforms, including the platform that you can see just to the southwest of this sign, were installed to provide nesting sites for Ospreys. This practice has allowed a remarkable recovery of this species, whose populations declined dramatically during the last century due to insecticides thinning fish populations and a lack of nesting sites. Males and females spend their winters in the tropics separately, but established pairs of Ospreys return to the same nest site year after year, arriving nearly simultaneously in early spring. The male is the provider of fish for the family during the nesting season, and may travel far each day to fish.

Birds

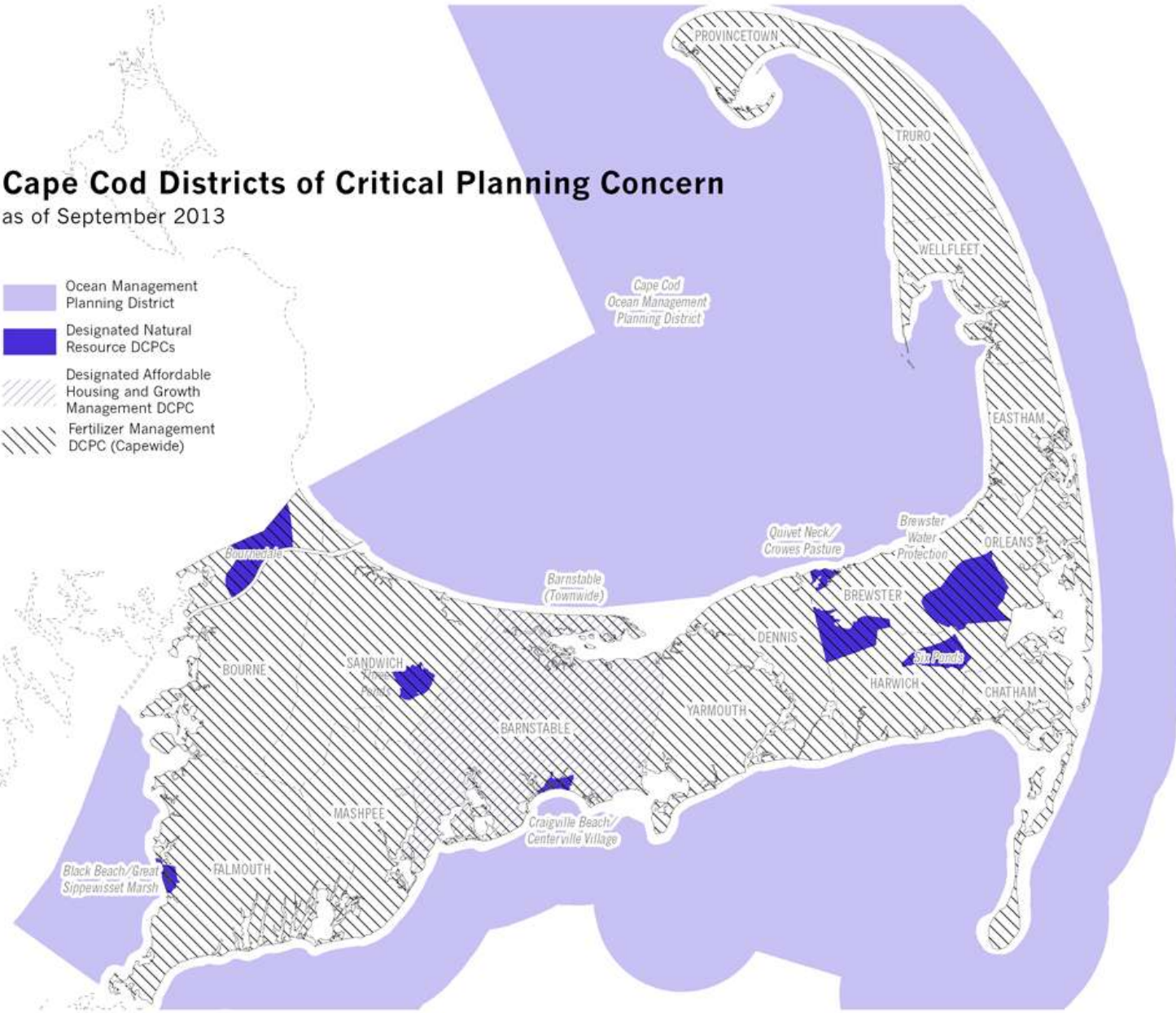
The marsh furnishes us with important environmental services, acting as a buffer between land and sea in the Buzzards Bay watershed. On Cape Cod, nutrients—particularly inorganic forms of nitrogen—deposited in a variety of ways, including by wastewater disposal, enter groundwater, which slowly travels to the coast where it discharges. Salt marshes can intercept these nutrients, thus improving water quality and protecting the coastal water quality.

Environmental Services: buffer between land and sea

Cape Cod Districts of Critical Planning Concern

as of September 2013

-  Ocean Management Planning District
-  Designated Natural Resource DCPCs
-  Designated Affordable Housing and Growth Management DCPC
-  Fertilizer Management DCPC (Capewide)



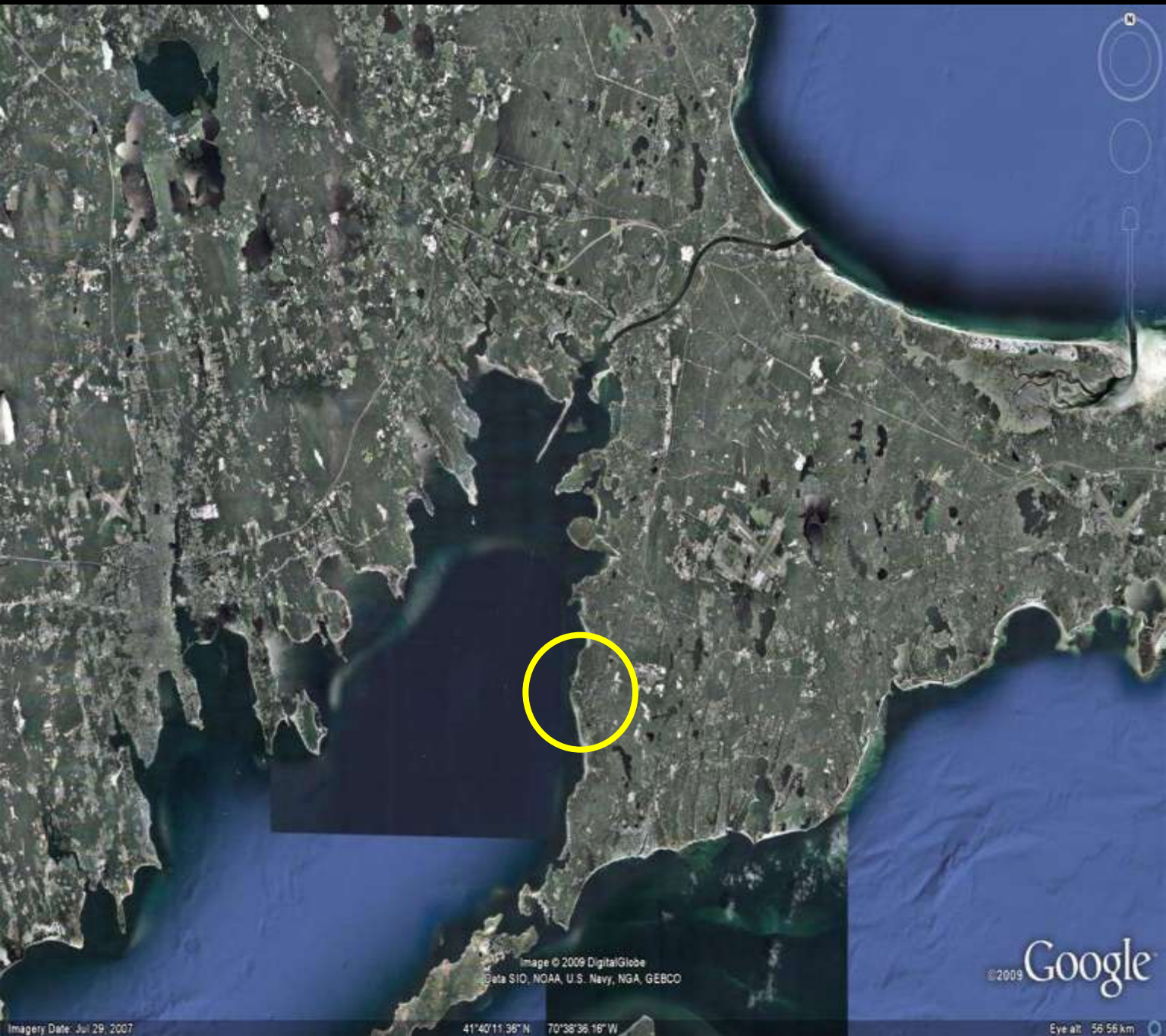


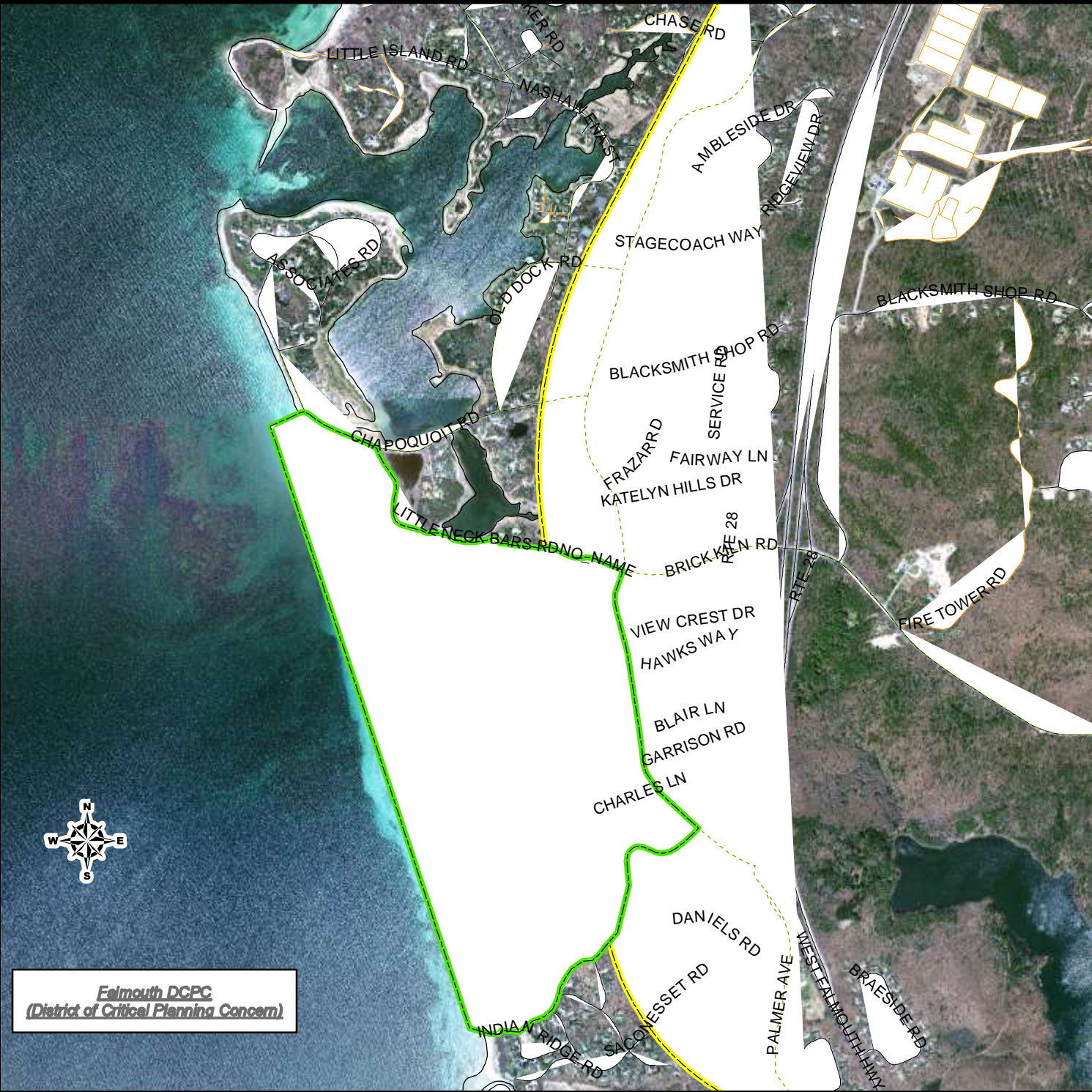
Image © 2009 DigitalGlobe
Data SIO, NOAA, U.S. Navy, NGA, GEBCO

©2009 Google

Imagery Date: Jul 29, 2007

41°40'11.36" N 70°38'36.16" W

Eye alt: 56.56 km



Falmouth DCPC
(District of Critical Planning Concern)

Barnstable County Assembly of Delegates

Ord No. 96-1

Purposes of District

1. To maintain integrity of the Black Beach/Great Sippewissett Marsh barrier beach system
2. To preserve the habitat value of the marsh/beach area



3. To improve/upgrade septic systems and stormwater discharges and employ other means to alleviate shellfish closures and improve water quality of the marsh

1950



1975

K895-13-14



Brief background

A. Wildlife, Natural, Scientific, Ecological District

USFWS explored wildlife refuge status (Environmental Assessment) 1993-1994

WHOI, MBL, BUMP ecological/nutrient studies >100 publs

EPA: Buzzard's Bay - estuary of National Significance

Northeast Coastal Areas Study (1991; USFWS):

Sippewissett marshes are significant coastal habitat (1/7 in CC and Is)

MA Div Mar Fisheries Sanitary Survey Rept 1993

Development pressure: 0 NOIs '85-93; 8 NOIs 6/94-6/95

B. Hazard District (natural and man made)

Black Beach (Fm-31) and Saconessett Hills (Fm-30)

Barrier Spits: CZM 1982 Barrier Spit Beach Inventory
FEMA V and A zones



Falmouth DGPC
(District of Critical Planning Concern)







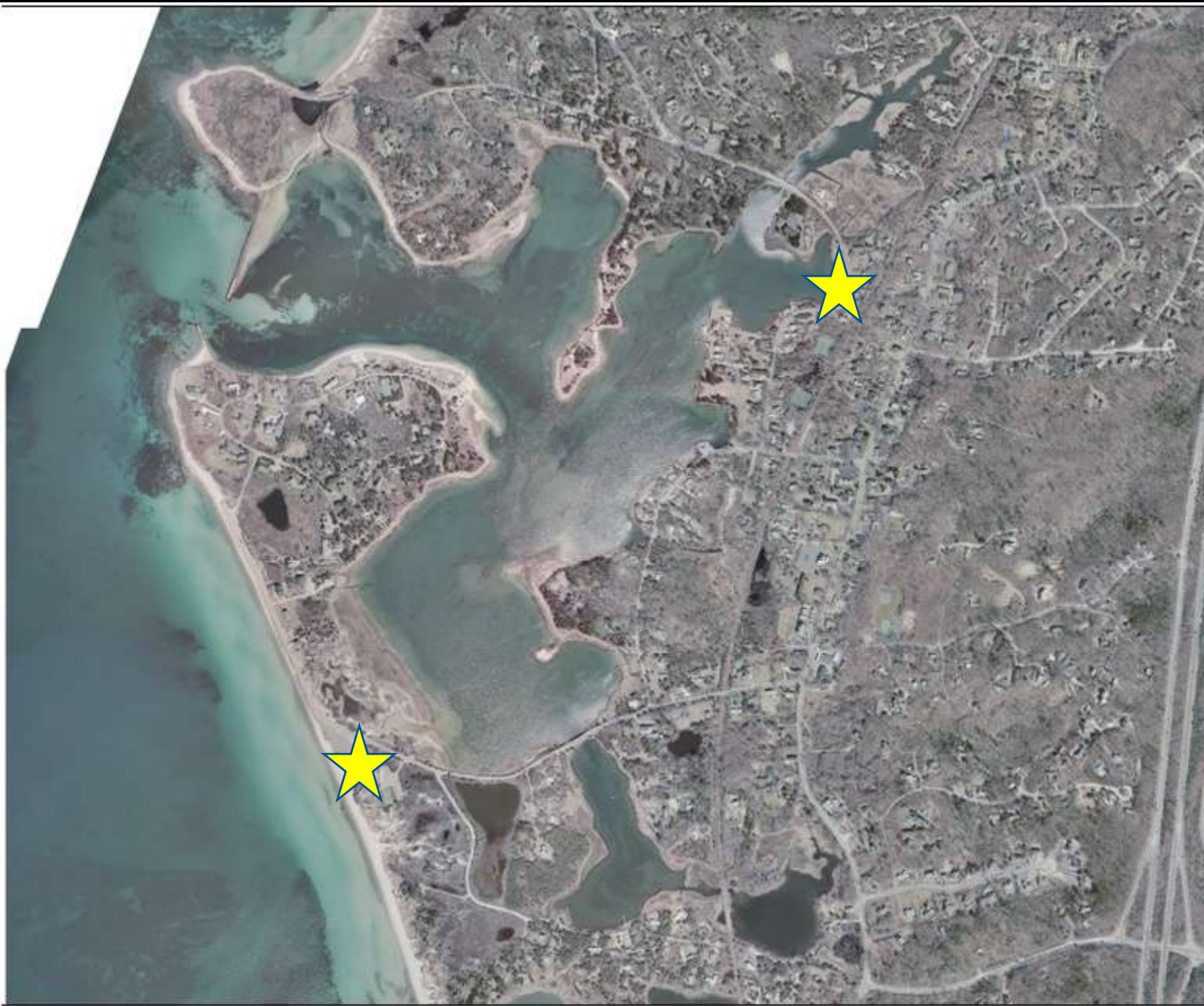






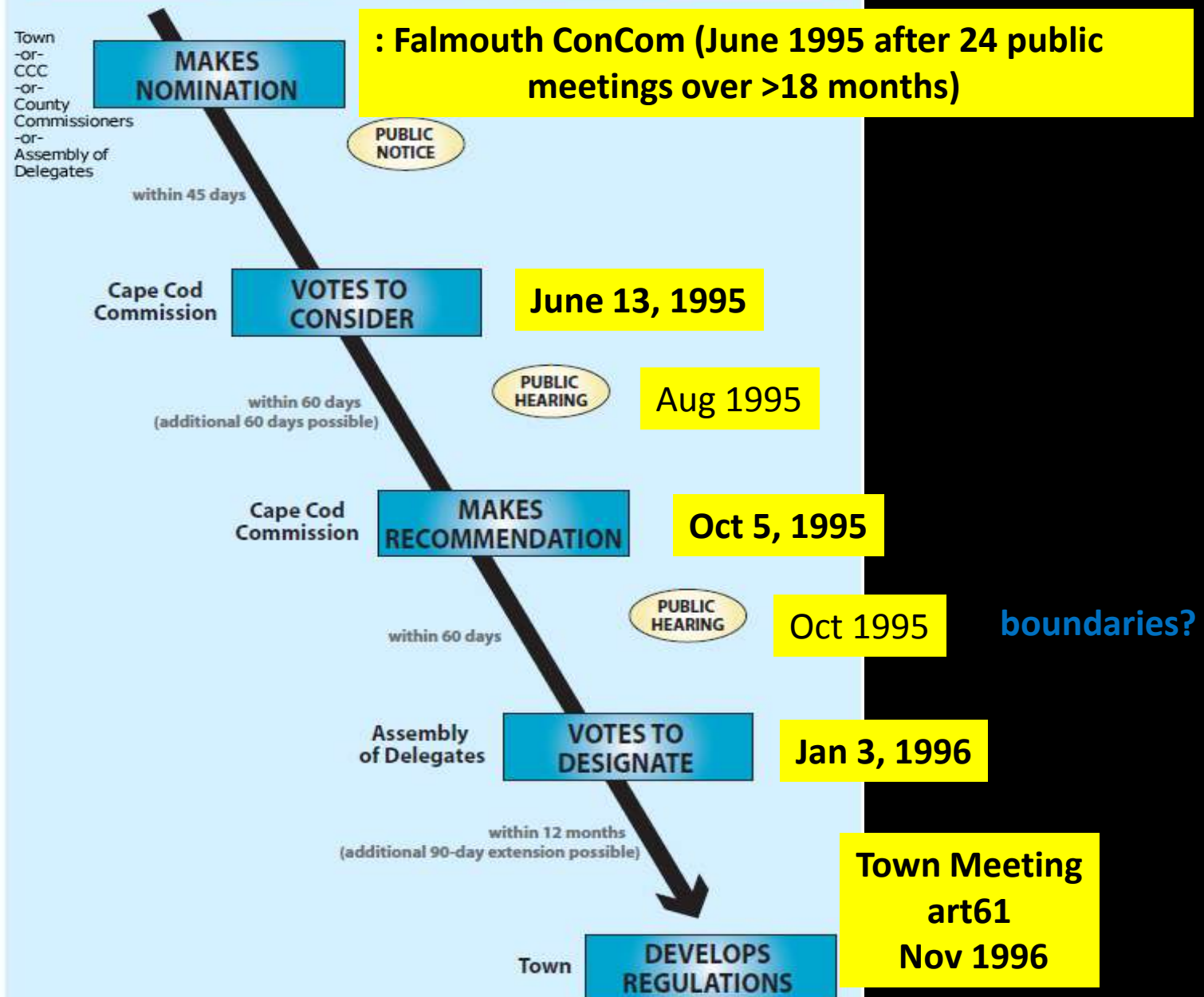






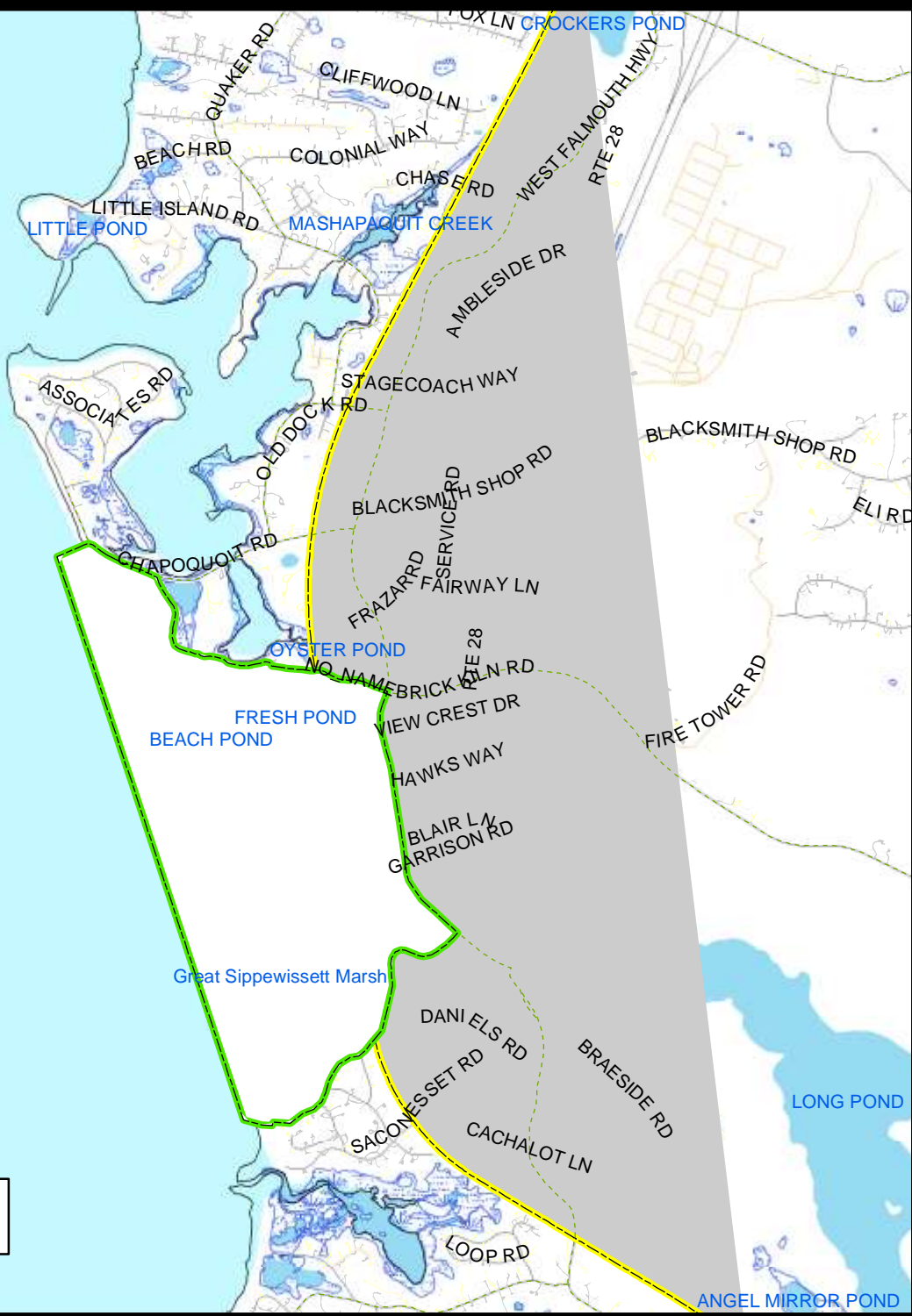


District of Critical Planning Concern MILESTONES





Falmouth DGPC
(District of Critical Planning Concern)



CODE of FALMOUTH Chapter 235-1

Town Meeting ByLaw change: Nov 18, 1996

Purpose: B. In the Black Beach/Great Sippewissett Marsh District of Critical Planning Concern, the following resource area values are expressly protected: prevention of flood damage by **limiting of development in flood hazard zones**, prevention of damage to structures and natural resources as a result of erosion, improvement of water quality, **protection and enhancement of existing vegetative cover in order to maintain water quality and wildlife habitat**, protection of wildlife, waterfowl and plant habitat and the maintenance of existing populations and species diversity, prevention of loss or degradation of critical wildlife and plant habitat, prevention of new stormwater runoff discharges and **the improvement of existing stormwater runoff discharges**, protection of coastal ecosystems which support the continued viability of harvestable shellfish and finfish habitat, public access to water and land, improvement of groundwater recharge, and the **minimization of the impact of new development, reconstruction and/or expansion on the resource area values** protected by this bylaw.

after ca. 15 public meetings working with a DCPC
Advisory Committee,
the Falmouth ConCom voted on Apr 17, 1997:

FWR 10.39 Black Beach/Great Sippewissett Marsh
Regulations

these were revised again in 1998



FWR 10.39 DCPC Regulations

“Additions which exceed 25% of Total Gross Floor area are subject to the provisions of FWR 10.39. Single-family dwellings constructed after July 1, 1989, multifamily dwellings, and nonresidential structures are subject to the provisions of FWR 10.39 regardless of the size of the expansion or alteration.

Exemption from FWR 10.39 does not exempt the Applicant from any other provision of FWR 10.00 or any other local bylaw, or state and federal statutes.”

Limiting area to be permanently altered to 6000 SF or 10% lot size, whichever greater (if altered area greater than this value, then 10% “dcpc planting” required)

Increased buffer widths:

- “land under the Ocean; Land underwater bodies; salt Marsh; Land under a Salt pond; land containing species that are endangered, rare, threatened, or of special concern; Freshwater wetlands; Land under water bodies; or Vernal pool.

A buffer width of at least 200 and no more than 300 feet is required unless otherwise specified in FWR 10.39.”



LITTLE NECK BARS RD

GILBERT LN

BLACK BEACH HILLS RD

DRIFT RD





Thanks to folks involved in this process from >20 yrs ago,
...and to Bob Shea, Falmouth GIS Dept