

Cape Cod Water Resources Restoration Project

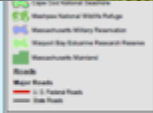
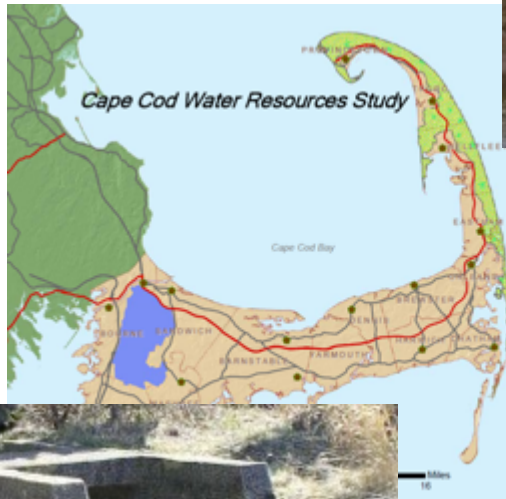
Presented By:

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USDA/NRCS District Conservationist



Cape Cod
Conservation
District



CCWRRP

Locally-led Coastal
Habitat Restoration
to Improve
Water Quality
on Cape Cod

Cape Cod Water Resources Restoration Project (CCWRRP)

- 10 year effort
- Restore 1500 Ac.
of Degraded Salt Marsh
- Improve Fish Access to 4200 Ac.
of Spawning Area
- Improve Water Quality for 7300 Ac.
of Shellfish Growing Area

Cape Cod Water Resources Restoration Project (CCWRRP)

Initial outreach to
local partners meeting at
The Assembly of Delegates Chamber Room
Barnstable Courthouse
October 11, 2001

History and Process

- Work on Plan started in 2003
- Final Plan and EIS published in 2006
- Project plan signed by towns in 2006
- Fall 2009 - CRC members update towns' projects
- State agency partners (DMF, DER) identify priorities
- December 2009 - Congress approves Plan
- Funding for first round is from ARRA [\$5 million total, divided into two categories: construction (\$3 million) and technical/design (\$2 million)]

Partners and Stakeholders

- Cape Cod Conservation District
- Barnstable County Commissioners
 - Coastal Resources Committee
 - 15 Towns of Cape Cod
- Commonwealth of Massachusetts
- Natural Resources Conservation Service
 - Mashpee Wampanoag Tribe
 - Association to Protect Cape Cod
 - Local Shellfish Aquaculture Org.
- MA Dept. Fish and Game (DER/DMF)
 - MA Office of Coastal Zone Mgt.
 - MA Highways
- National Oceanic and Atmospheric Adm.
 - U.S. Fish and Wildlife Service
- U.S. Environmental Protection Agency

Planning Process

- Identify problems & opportunities
- Determine objectives
- Inventory the resources
- Analyze resource data
- Formulate & evaluate alternatives
- Write the draft plan/EIS
- Make decisions
- Write the final plan/EIS

Problems & Opportunities

Fish Passages



Problems & Opportunities

Tidal Marsh Channels



Problems and Opportunities

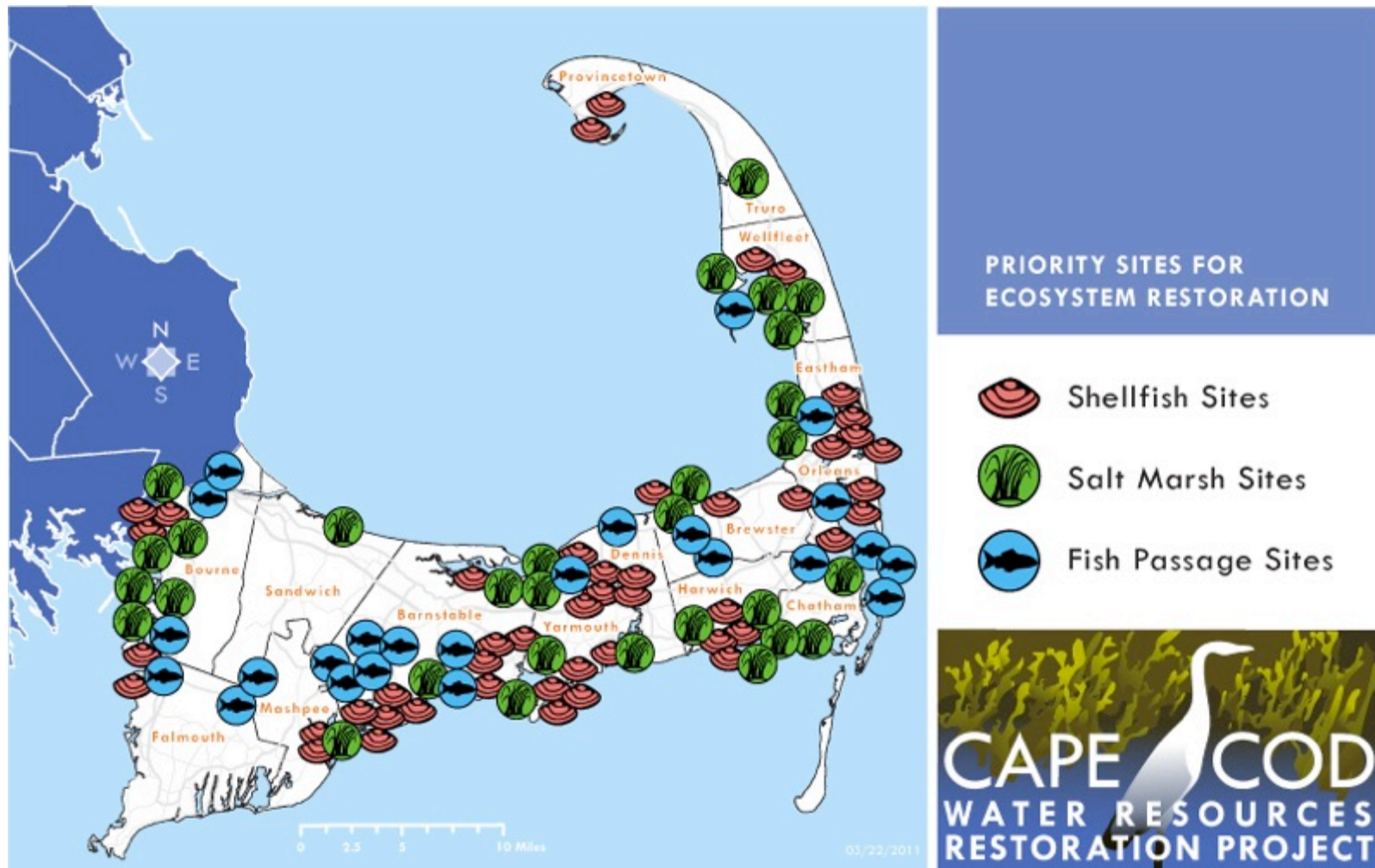
Stormwater Remediation



Inventory the Resources

- **93 fish passage restrictions**
MA DMF Survey of Anadromous Fish Passage in Coastal Massachusetts
- **182 tidal marsh restrictions**
Cape Cod Commission Atlas of Tidally Restricted Salt Marshes & Atlas of Tidally Restricted Salt Marshes in Buzzards Bay Watershed
- **160 stormwater discharges**
MA DMF Survey of Shellfish Areas

Analyze Resource Data



Formulate and Evaluate Alternatives

Stormwater Remediation Ranking Criteria

- Are other agencies or watershed groups addressing this site or conducting restoration?
- Is there a feasible solution?
- Distance from discharge site to target shellfish beds
 - Less than 50 ft 5
 - 50ft – 500 ft 3
 - Greater than 500 ft 1

Evaluate Alternatives

- Productivity of shellfish beds
 - High 5
 - Moderate 3
 - Low 1
- Aquaculture present?
 - Yes 5
 - No 1
- Outfall within Area of Critical Environmental Concern
 - Yes 5
 - No 1

Formulate Recommended Plan

- 24 Fish passage projects
 - 4,200 acres of spawning habitat
 - \$ 5 million
- 26 Tidal marsh projects
 - 1,500 acres of marsh
 - \$ 15 million
- 26 Stormwater projects
 - 7,300 acres of shellfishing areas
 - \$ 8 million

United States
Department of
Agriculture

Natural Resources
Conservation Service



Final Watershed Plan

and Areawide

Environmental Impact Statement

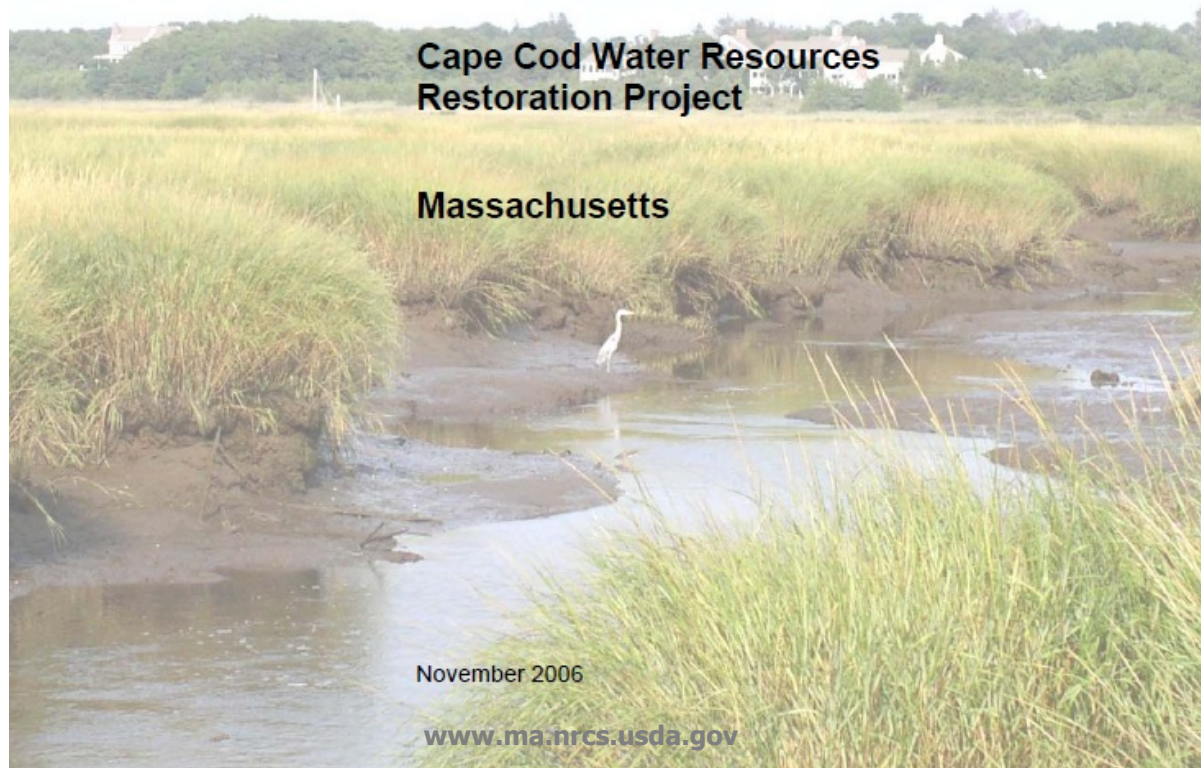
for the

Cape Cod Water Resources Restoration Project

Massachusetts

November 2006

www.ma.nrcs.usda.gov



recipient
from



Partnerships
Nationals (NAEP)

Lee Davis, CCCD Chairman receiving award on April 4, 2007 in Orlando, FL

Watershed Plan and Environmental Impact Statement

Coalition Support Members:

Association for the Preservation of Cape Cod

Cape Cod Chamber of Commerce

Cape Cod Commercial Hook Fishermen's
Association

Cape Cod Salties

Ducks Unlimited

Massachusetts Audubon Society

Trout Unlimited

United States Senate

WASHINGTON, DC 20510

June 3, 2009

The Honorable Tom Harkin
Chairman
Committee on Agriculture
Washington, D.C.

The Honorable Saxby Chambliss
Ranking Member
Committee on Agriculture
Washington, D.C.

Dear Chairman Harkin and Senator Chambliss:

We're writing to respectfully request the Committee to approve a resolution authorizing the Natural Resources Conservation Service to proceed with the Cape Cod Water Resources Restoration Project under the Watershed Protection and Flood Prevention Act (P.L. 83-566). This project will make major improvements to water quality and fishery health on Cape Cod, and we believe it deserves the Committee's strong support.

Cape Cod is a national treasure that draws visitors from across the globe each year to experience its variety of cultural, historic, and scenic resources. However, it is currently facing significant watershed challenges, including harmful stormwater runoff that impacts shellfish habitat, inadequate fish passages that block migrating fish species, and degraded salt marshes that would otherwise filter pollutants and serve as buffers to coastal storms.

The Cape Cod Water Resources Restoration Project is a comprehensive proposal that includes replacement and renovations of fish ladders, installation of stormwater filtration systems, and enlargement of road culverts to restore salt marshes. The Project is sponsored by the Cape Cod Conservation District, the Barnstable County Commission, the 15 towns in Barnstable County, and the Massachusetts Executive Office of Environmental Affairs.

It is our understanding that OMB has already approved the Project. Its \$30 million budget, however, triggers a further mandatory review by the Committee, pursuant to the resolution requirement under Title 16 USC Section 1002. This Project will restore water resources that are vital to the health of the Cape's unique coastal ecology, and which will help sustain the region's fishing, shellfishing and tourist-based industries. We urge you to review it and to approve the necessary resolution as soon as possible.

With respect and appreciation, and we thank you for considering this request.

Sincerely,


Edward M. Kennedy


John F. Kerry

Authorization of Plan

December 16, 2009

Project plan authorized by
Congress - Senate Committee on
Agriculture, Nutrition & Forestry.

Funding Allocation (Phase 1)

February 17, 2010

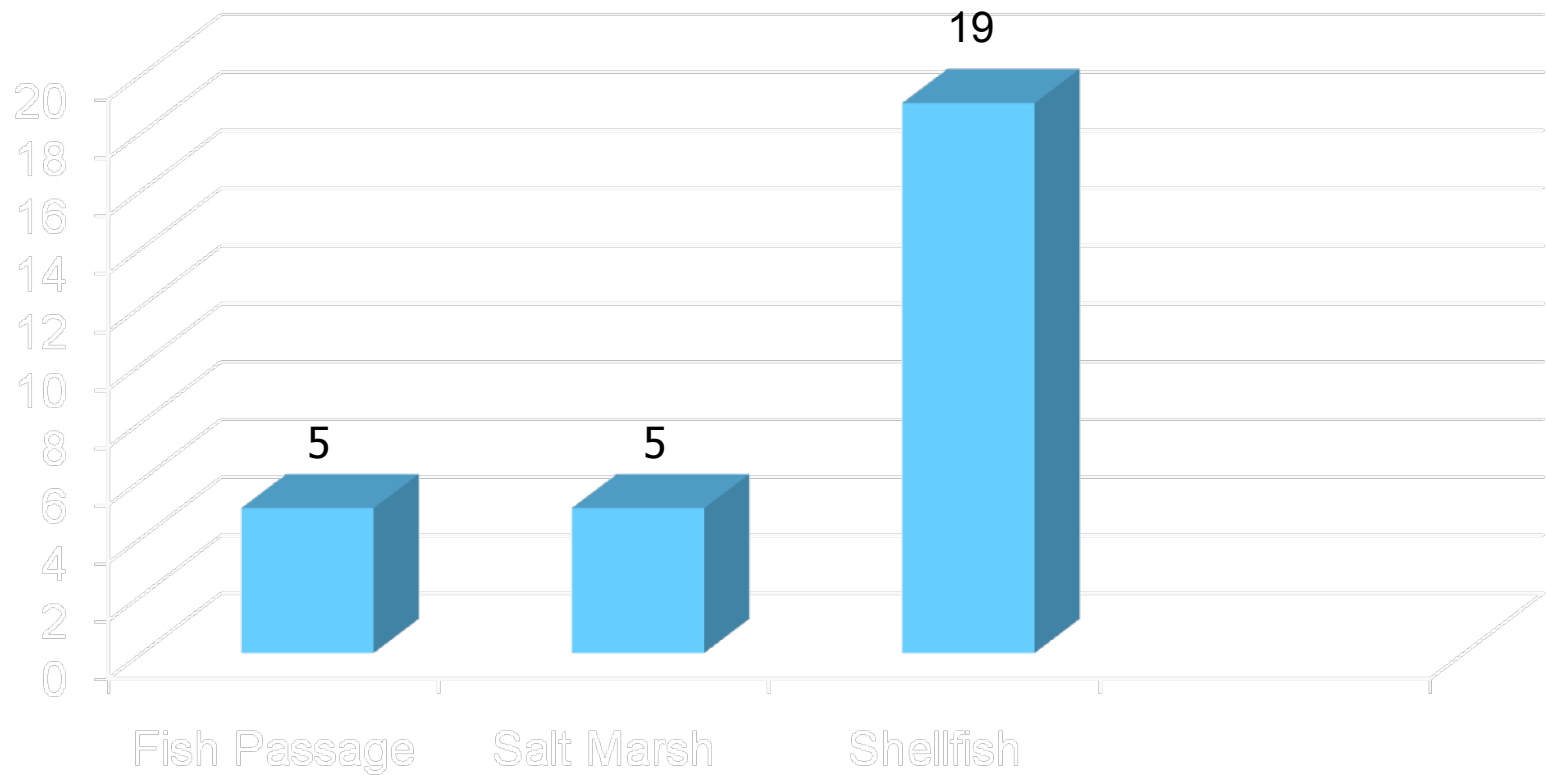
USDA Secretary Tom Vilsack announced \$6.5 million dollars in American Reinvestment & Recovery Act (ARRA) funding for Cape Cod Water Resources Restoration Project.

Massachusetts was one of 5 states receiving authorization from a \$9.4 million dollar allotment.

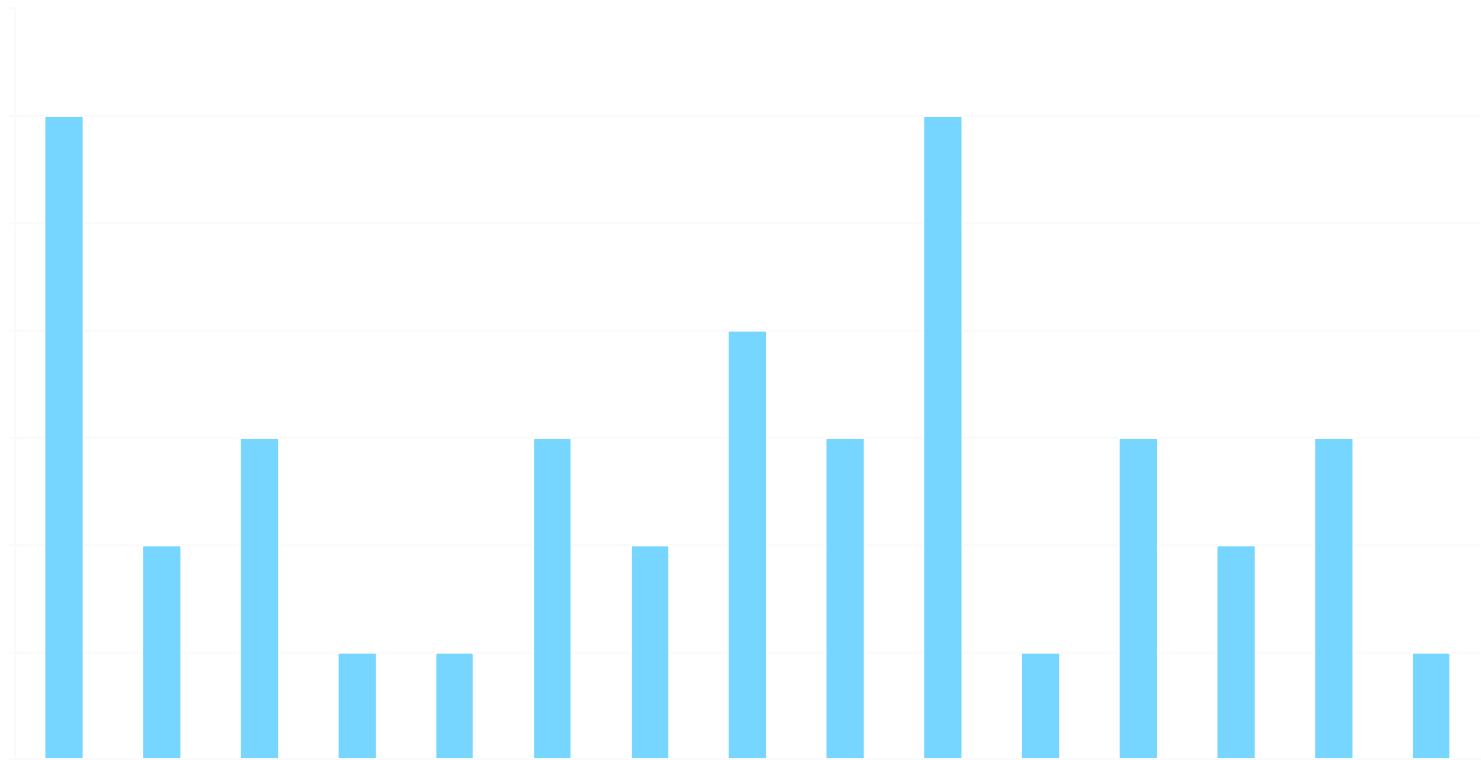
Implementation—PL 83-566

- Planning and design costs:
100 percent federal
- Permits and land rights:
100 percent sponsor
- Construction costs:
75 percent federal
25 percent sponsor

Number of Phase 1 Projects by Objective



Number of Phase 1 Projects by Town



Economic Benefit for Region

- Provides employment for approximately 230 people for ten years
- \$18 million toward construction contracting
- \$10 million toward engineering, design & analysis

Coastal Resource Economics

Bivalve Shellfish Aquaculture

- 2008 Value - \$4,500,000 (62% of Mass.)
- Number of Permits/Licenses = 290
- Acres Farmed = 605

1

Commercial Shellfishing

- Average Annual Landed Value = \$6,300,000

Recreational Shellfishing

- Average Annual Value = \$646,000

Coastal Resource Economics continued:

Salt-marsh Habitat

Provides Nursery, Feeding and/or Spawning Habitat
for these Commercial Finfish Species:

	2009 Commercial Revenue (\$)	2009 Commercial Landings (lbs)
Pollock	6.6M	11.4M
Winter Flounder	7.2M	4.3M
Striped Bass	3.0M	1.1M
Summer Flounder	1.6M	731K
Bluefish	243K	385K
Tautog	137K	54K

2009 Provincetown and Chatham Landed 16.1M lbs of finfish at \$20M in Revenue.

Coastal Resource Economics continued:

River Herring Values

Alewife and Blue-black Herring are food fish for these commercially important species:

	2009 Commercial Revenue(\$)	2009 Commercial Landings (lbs)
Atlantic Cod	20.4M	16M
Haddock	13.2M	12.5M
Bluefin Tuna	3.6M	619K

Source: National Marine Fisheries Service

Progress to Date – June 1, 2013

Stormwater Remediation

- 17 of 18 (95%) sites completed in 8 towns
- \$1,624,393.50 program funds expended on construction implementation
- 2,223 acres of shellfish habitat treated
- \$175,000 design only program funds for 2 towns

Fish Passage Restoration

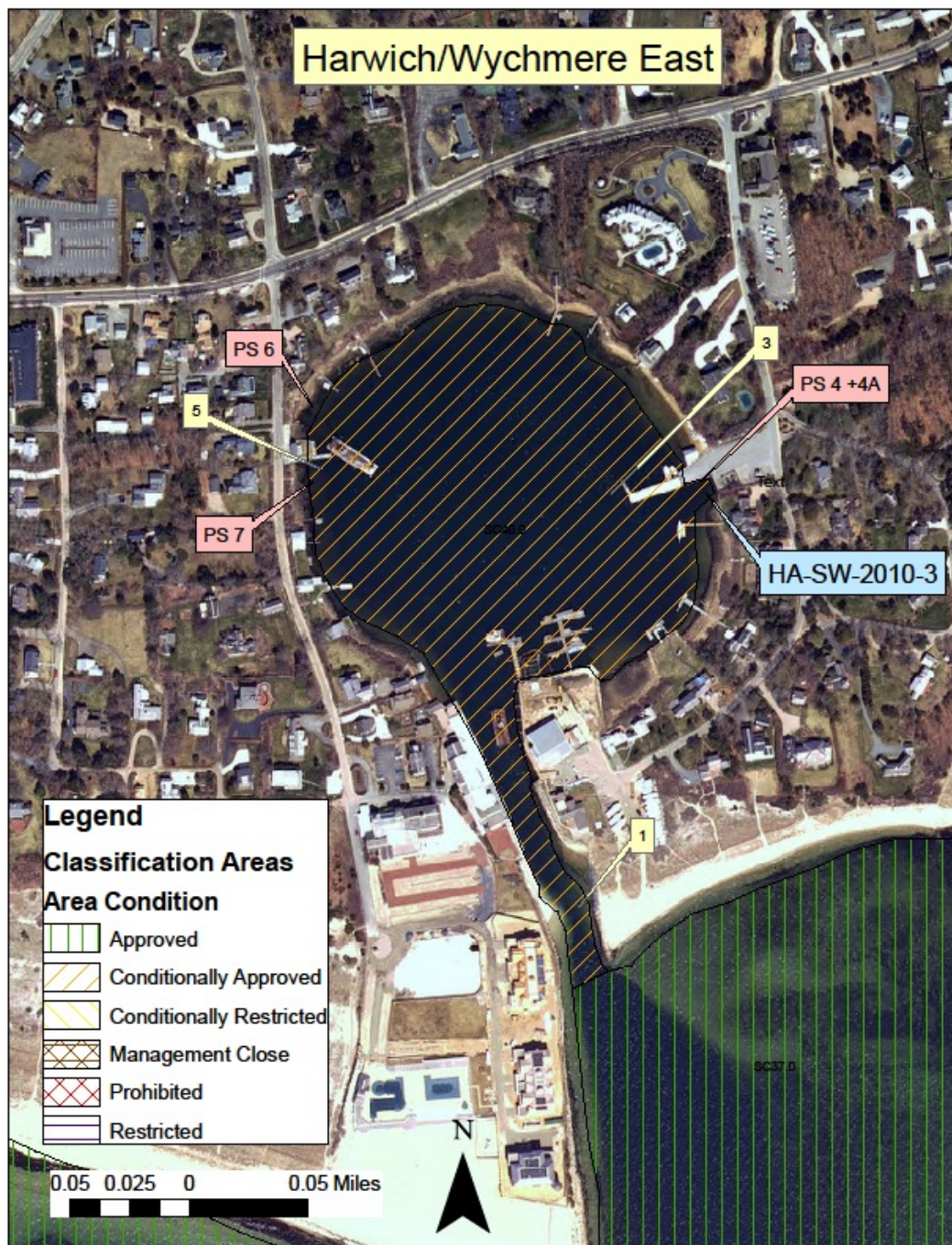
- \$467,050 program funds spent on designs and archeological work for 6 sites in 5 towns
- 4 of the sites beginning construction this spring:
 - Santuit Pond, Mashpee
 - Marstons Mills River, Barnstable
 - Carter Beal / Monument River, Bourne
 - Cedar Lake, Falmouth

Progress to Date – June 1, 2013

Saltmarsh Restoration

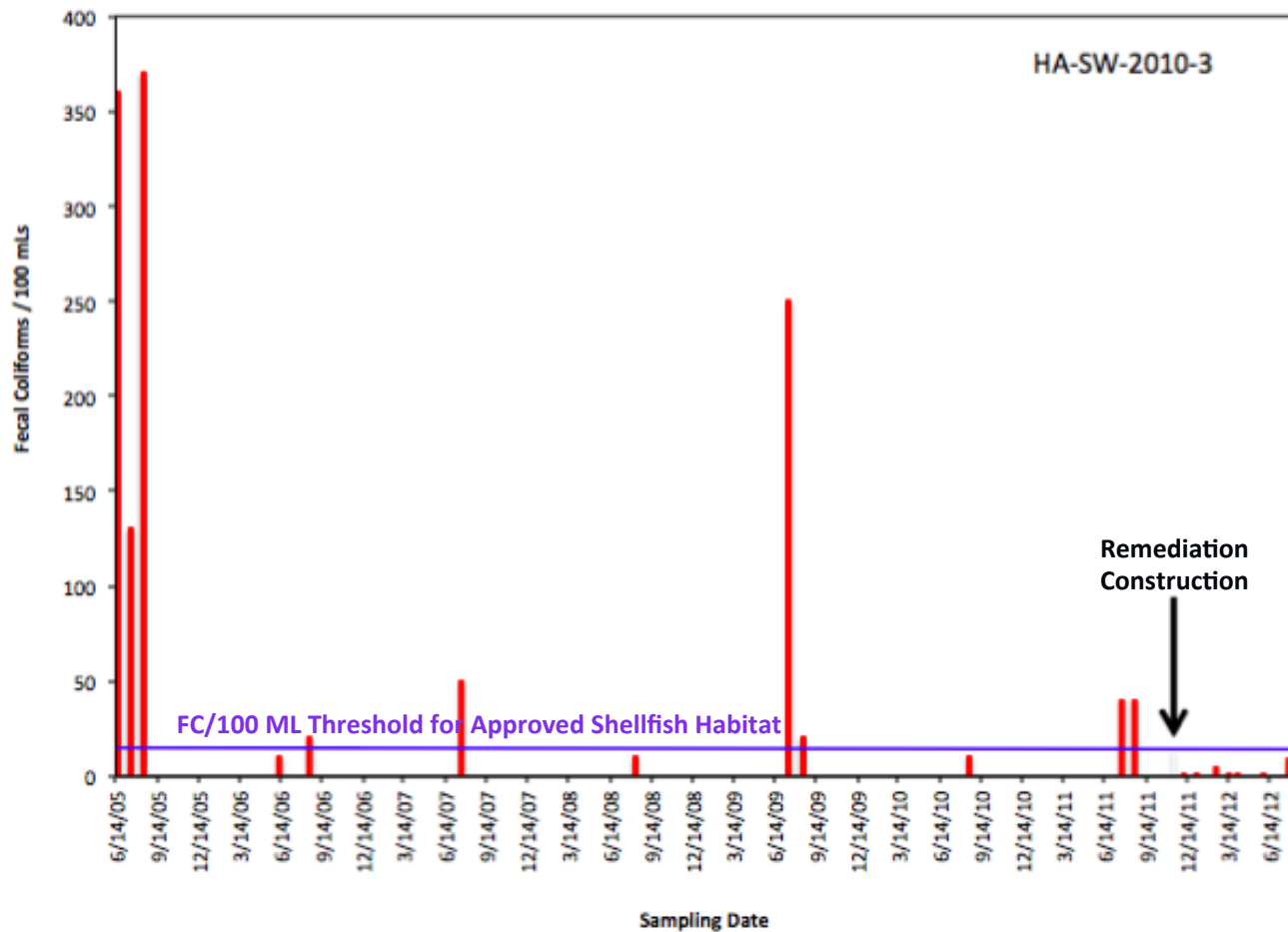
- 2 of 4 (50%) sites completed in 2 towns
- \$436,740 program funds expended
on construction implementation
- 26 acres of saltmarsh restored to tidal flow
- Hydrologic and feasibility studies conducted on 6 sites
 - Parkers River, Yarmouth
 - Eagle Neck, Truro
 - Mill Pond, Truro
 - Muddy Creek, Harwich / Chatham
 - Herring River, Wellfleet
 - Mill / Maraspin Creeks, Barnstable/Yarmouth

On going monitoring being conducted on all implementation sites to measure resource improvements.



Source: Massachusetts Division of Marine Fisheries, Shellfish Management Program

Water Quality Before and After Stormwater Mitigation: Wychmere Harbor, Harwich

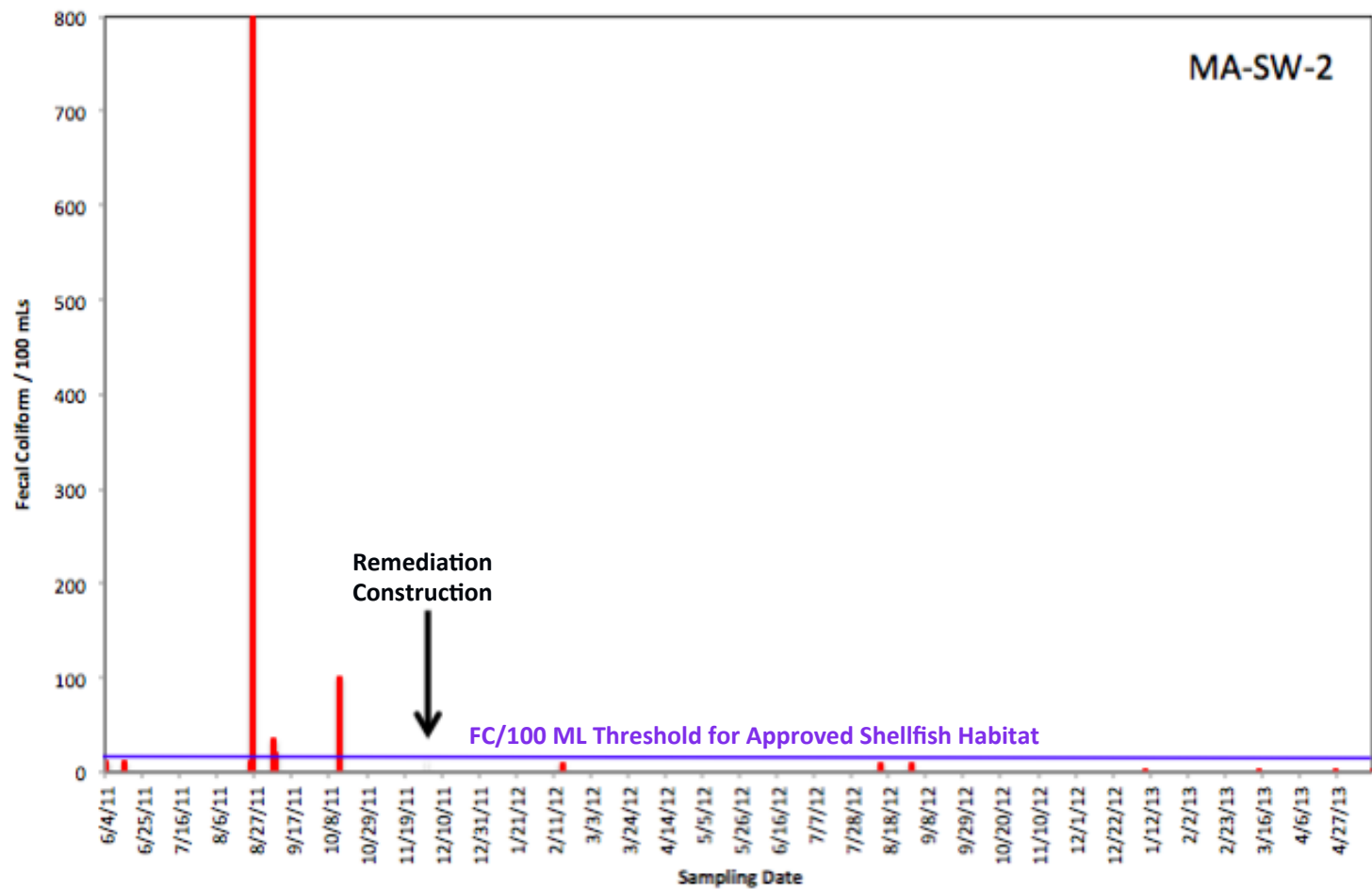


Source: Massachusetts Division of Marine Fisheries, Shellfish Management Program



Source: Massachusetts Division of Marine Fisheries, Shellfish Management Program

Water Quality Before and After Stormwater Mitigation: Shoestring Bay, Mashpee

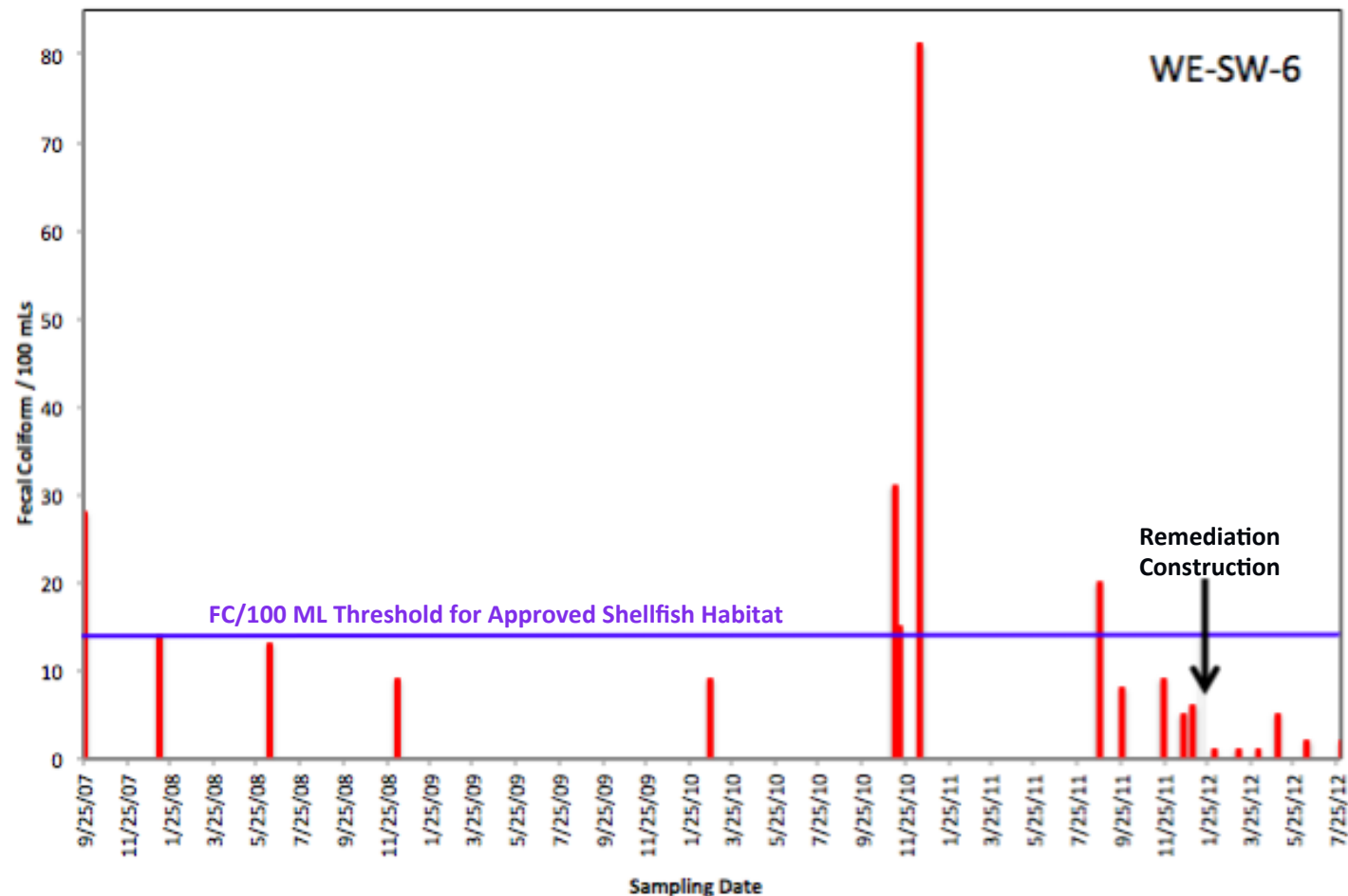


Source: Massachusetts Division of Marine Fisheries, Shellfish Management Program



Source: Massachusetts Division of Marine Fisheries, Shellfish Management Program

Water Quality Before and After Stormwater Mitigation: Wellfleet Harbor

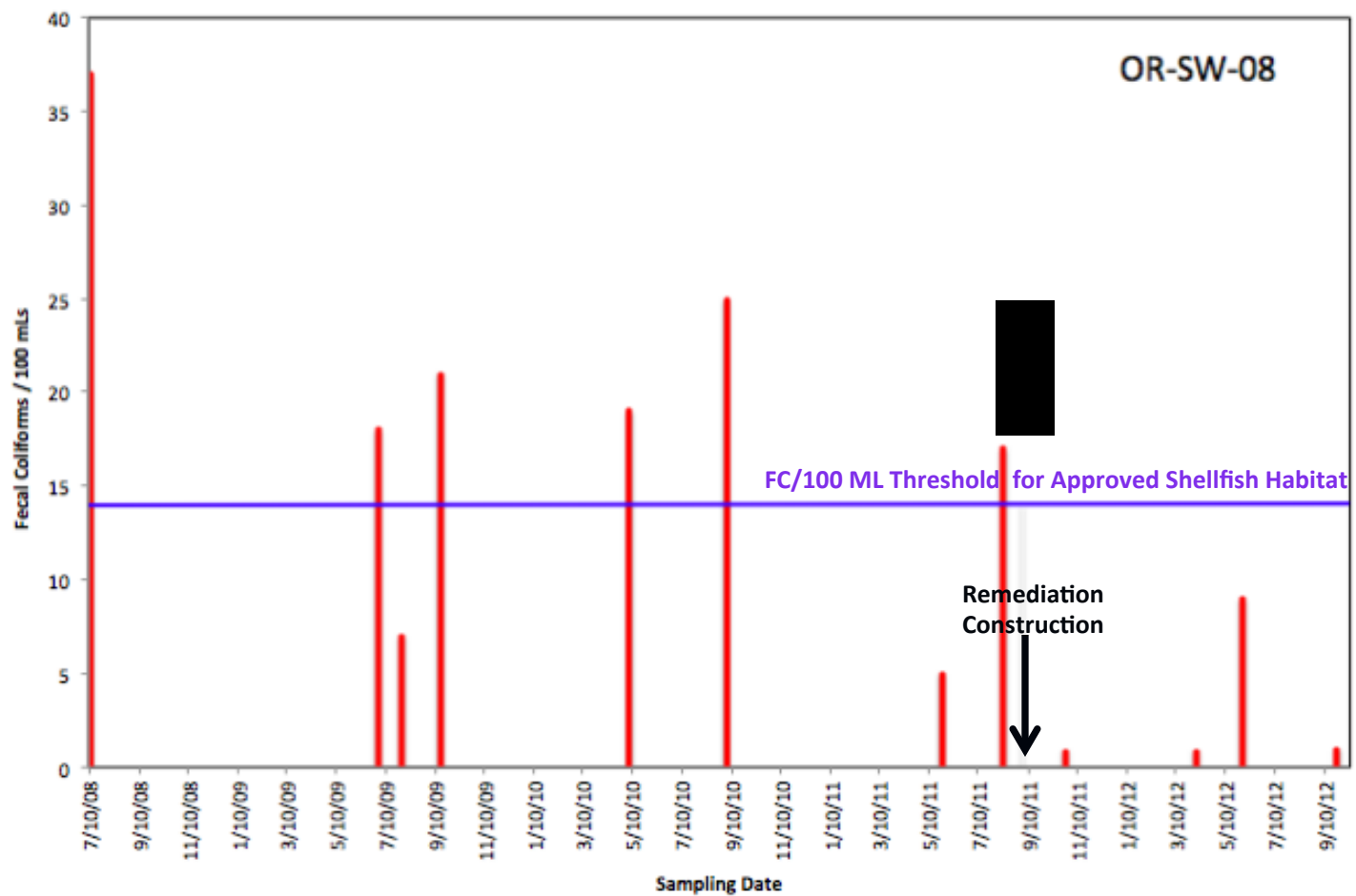


Source: Massachusetts Division of Marine Fisheries, Shellfish Management Program



Source: Massachusetts Division of Marine Fisheries, Shellfish Management Program

Water Quality Before and After Stormwater Mitigation: Orleans



Source: Massachusetts Division of Marine Fisheries, Shellfish Management Program

A photograph of a coastal marsh landscape. In the foreground, there is a small stream or tidal channel with dark, silty water. The banks are covered with tall, green and yellow marsh grasses. A white egret stands in the water near the center. In the background, a line of trees and some buildings are visible under a clear blue sky.

Questions

Natural Resources Conservation Service

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