

# CAPE COD WATER RESOURCES RESTORATION PROJECT

## FACT SHEET



Failing fish passages prevent fish from migrating past man-made barriers to their fresh water spawning sites.



Under-sized culverts are barriers to the tidal flow and migration of fish. When natural tidal flow is restricted, the salt marsh ecosystems become degraded.



Stormwater runoff is a significant source of pollution in coastal areas. Some shellfish beds are closed for extensive periods during the year because of poor water quality due to stormwater runoff.

Barnstable County, Massachusetts – also known as **Cape Cod** – is a coastal area where ecosystems have been compromised by urban development.

Water quality is a major concern on Cape Cod, particularly as it affects the salt marshes, shellfish beds and herring runs.

### Is there a plan to solve these problems?

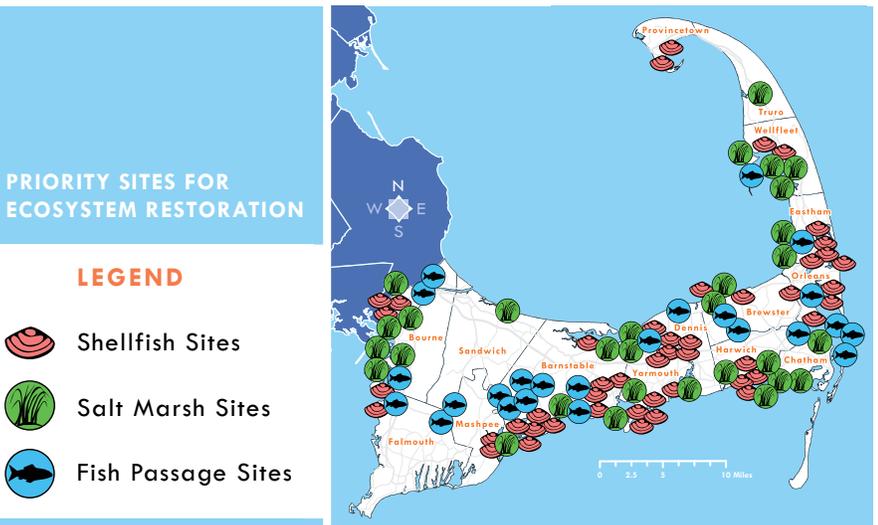
Federal, state and local agencies have partnered to identify problems and formulate solutions. The costs and benefits of various alternatives have been evaluated and sponsors' decisions are contained in a watershed plan.

The plan identifies 76 sites throughout Cape Cod for possible restoration:

- 26 storm water discharge sites
- 26 tidal-restricted salt marshes
- 24 fish passages

The watershed plan describes the work to be done, the responsibilities of each agency, financing and maintenance provisions.

<b>ESTIMATED COST &amp; CONTRIBUTIONS</b>	Total federal funds .....	\$23,960,000
	Total non-federal funds .....	\$5,990,000
	<b>Total estimated cost .....</b>	<b>\$29,950,000</b>
<b>NUMBER OF THREATENED SPECIES</b>	Fish .....	4
	Amphibians.....	3
	Reptiles.....	3
	Birds .....	21
	Marine mammals .....	1
	Segmented worms.....	1
	Freshwater mussels.....	4
Crustaceans.....	1	
Insects.....	31	
Plants .....	63	



### PRIORITY SITES FOR ECOSYSTEM RESTORATION

**LEGEND**

- Shellfish Sites
- Salt Marsh Sites
- Fish Passage Sites

The U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS), in partnership with the Cape Cod Conservation District and the Barnstable County Commissioners, has begun an estimated \$30 million project that will restore 1,500 acres of degraded salt marsh, improve fish access to 4,200 acres of spawning habitat, and improve water quality for 7,300 acres of shellfish beds over 10 years.

Short-term economic benefits are expected, as well, from the creation of construction jobs.

Some \$6.5 million in Recovery Act funding allowed work to begin in 2010 on 25 of the 76 proposed project sites.



## What work will be done?

The USDA Natural Resources Conservation Service can provide technical and federal financial assistance for the following measures that will improve water quality and restore critical ecosystems in the watershed. Local sponsors will share in the cost and other partners will provide additional technical assistance.

### 💧 Larger culverts

Goal: restore tidally-restricted salt marshes—where barriers interfere with normal daily tidal flow—by improving hydrology (the movement of water) to these areas. Fish and wildlife that depend on this type of ecosystem will benefit.



Installing larger culverts will restore normal tidal flow to salt marsh ecosystems.

### 💧 Fish ladders

Goal: restore fish passage on existing anadromous fish runs. River herring are just one of the many fish species that migrate from the ocean to fresh water to spawn. Ladders and passages allow fish to by-pass man-made barriers.



Restoring fish passages will allow many species of fish to migrate and reproduce.

### 💧 Dry wells and sand filters

Goal: restore and protect shellfish beds by treating stormwater runoff. These systems use vegetation or sand to filter contaminants from the runoff before it reaches shellfish beds.



Dry wells and sand filters protect shellfish beds from polluted stormwater runoff.

## Project Partnership

### Sponsors

- Barnstable County Commissioners Coastal Resources Committee
- Cape Cod Conservation District
- Executive Office of Energy and Environmental Affairs
- All 15 towns across Cape Cod
- USDA Natural Resources Conservation Service

### Cooperating agencies

- Mashpee Wampanoag Tribe
- Massachusetts Department of Fish and Game
  - Division of Ecological Restoration
  - Division of Marine Fisheries
- Massachusetts Department of Environmental Protection
- Massachusetts Highway Department
- Massachusetts Office of Coastal Zone Management
- National Oceanic and Atmospheric Administration
- National Park Service
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service

## Contact Information

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### Barnstable County Commissioners

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