

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.

ESTIMATED POTENTIAL COST & CONTRIBUTIONS
(if plan fully implemented)

Federal funds.....\$23,960,000
Non-federal funds \$5,990,000
Total estimated cost \$29,950,000

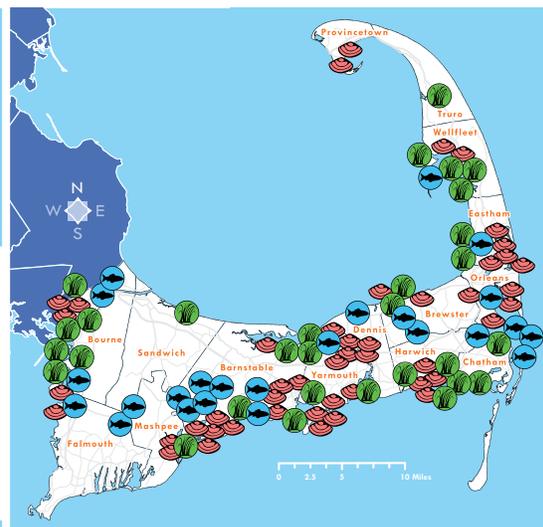
PROJECT WILL BENEFIT THREATENED SPECIES OF

- | | |
|----------------|--------------------|
| Fish | Segmented worms |
| Amphibians | Freshwater mussels |
| Reptiles | Crustaceans |
| Birds | Insects |
| Marine mammals | Plants |

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) is working in partnership with the Cape Cod Conservation District and the Barnstable County Commissioners on this project that will:

- Restore 1,500 acres of degraded salt marsh
- Improve fish access to 4,200 acres of spawning habitat
- Improve water quality for 7,300 acres of shellfish beds

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



Natural Resources Conservation Service

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 by removing barriers that interfere with normal daily tidal flow. This improves hydrology (the movement of water) through the area. 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

Cape Cod Conservation District
www.capecodconservationdistrict.com
Mark Forest, Chair
303 Main Street, Route 28
West Yarmouth, MA 02673
508-771-6476
capecodcd@gmail.com

USDA Natural Resources Conservation Service

www.ma.nrcs.usda.gov
Stephen Spear, Soil Conservationist
303 Main Street, Route 28
West Yarmouth, MA 02673
508-771-6476, x102
stephen.spear@ma.usda.gov

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