

Chapter 2

INTRODUCTION

The Watershed Plan and Areawide Environmental Impact Statement (EIS) for the Cape Cod Water Resources Restoration Project are combined into this single document. The purposes of the Project^{1/} are to restore degraded salt marshes, restore anadromous fish passages, and improve water quality for shellfishing areas. Specifically, sponsors wish to:

- Improve tidal flushing in salt marshes where man-made obstructions (i.e., road culverts) have restricted tidal flow. This will help restore native plant and animal communities in salt marshes, and improve biotic integrity.
- Restore fish ladders and other fish passages that have deteriorated. This will allow greater numbers of anadromous fish (which spend most of their adult lives in salt water and migrate to freshwater streams, rivers, and lakes to reproduce; for example, alewife, blueback herring) to gain access to spawning areas, and support greater populations of other species (for example, striped bass, bluefish, weakfish, largemouth bass, chain pickerel) that depend on them for food.
- Maintain and improve water quality affecting shellfish beds by treating stormwater runoff. This will help ensure that shellfish beds which are threatened with closure remain open, and maintain or extend the current shellfishing season for beds whose use is restricted during certain times of year.

This Project is needed because human activity on Cape Cod has degraded its natural resources, including salt marshes, anadromous fish runs, and water quality over shellfish beds. The development of Cape Cod has required the construction of extensive road and railroad networks. Along the coast, culverts or bridges were needed for these networks to cross tidal marshes, and many of the openings through these structures are not large enough to allow adequate tidal flushing. When the culverts or bridges constrict flow, the tidal regime changes, which results in vegetation changes over time; what was once a thriving salt marsh can become a brackish or fresh water wetland dominated by invasive species. Together with funding from the Massachusetts Office of Coastal Zone Management (CZM), the Cape Cod Commission and the Buzzards Bay Project National Estuary Program identified over 182 sites where salt marshes have been altered by human activity. Through this Project we expect to improve tidal flushing at 26 sites. Current design guidelines prevent or minimize road or railroad construction from causing the same hydrological restrictions that occurred in the past.

Human activity on Cape Cod has also resulted in damming or diverting streams, causing anadromous fish to lose access to spawning grounds. In addition, water flow may have been altered by cranberry growers and other farmers. Fish ladders and other fish passage facilities have been built to help ensure that fish get access to spawning areas, but these structures deteriorate over time (end of design life), or they may be of obsolete design and need replacement to function properly. The Massachusetts Division of Marine Fisheries (DMF) identified 93 fish passage obstructions on Cape Cod; through this program we expect to restore 24 fish passages on Cape Cod to full function.

^{1/} We use “Project” in this Plan-EIS to refer to the areawide Cape Cod Water Resources Restoration Project and “project” to refer to individual site restoration or remediation activities; the Project comprises 76 projects.

Cape Cod's economy depends on good water quality. Shellfishing, a multi-million dollar industry on the Cape, is only allowed in areas with excellent water quality. As land is developed, and more areas are paved, stormwater runoff may become contaminated with nutrients, metals, fertilizers, bacteria, etc. This runoff may carry enough fecal coliform bacteria to affect water quality in shellfishing areas, thus leading to closure of shellfishing areas, or restrictions on the periods when the beds can remain open. DMF and town officials identified over 160 stormwater discharge points into shellfishing areas. By controlling sources of runoff, separating clean water from contamination sources, and capturing and treating the most heavily contaminated runoff through a variety of measures (e.g., infiltration, constructed wetlands), this Project will help to maintain or improve water quality in up to 26 shellfish areas affecting 7,300 acres of shellfish beds. Current laws and regulations require stormwater management for all new developments, which prevents or minimizes new development from causing the same water quality impairments that occurred in the past.

The Cape Cod Conservation District, Barnstable County Commission, all 15 towns in Barnstable County, and the Executive Office of Environmental Affairs (EOEA) are the Project sponsors. They represent the local residents who requested the assistance from the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS), to address the problems described above. Within EOEA are CZM and DMF, which are the lead state agencies for regulating shellfishing and anadromous fisheries. Both CZM and DMF provided technical data, information, and guidance in preparing this plan. The Cape Cod Conservation District and the Barnstable County Commission took the lead in public participation and outreach.

The plan was prepared under the authority of the Watershed Protection and Flood Prevention Act, Public Law 83-566, as amended (16 U.S.C. 1001-1008) and in accordance with Section 102(2)(c) of the National Environmental Policy Act of 1969 (NEPA), Public Law 9-190, as amended (42 U.S.C. 4321 et seq.). Responsibility for compliance with NEPA rests with NRCS as the implementing federal agency. The innovative scope of the project required NRCS to approve several adaptations of agency policies to fit the scope within the requirements of Public Law 83-566 and the agency's implementing regulations (7 CFR 622) as follows:

- Define the project area not by typical topographic watershed delineation, rather, it includes all of Barnstable County except the Massachusetts Military Reservation (Figure 2-1).
- Determine that improvements to shellfish beds would provide agricultural benefits and, therefore, NRCS could provide technical and financial assistance for installing measures on non-agricultural lands to address non-agricultural stormwater discharges to treat runoff prior to entering shellfish areas.
- Determine that NRCS could provide technical and financial assistance for installing measures to restore existing anadromous fish runs, which increase the food fish for other species for sport and commercial harvesting.
- Determine that NRCS could provide technical and financial assistance for installing measures to restore tidal flow to restricted salt marshes, which restore plant and finfish ecosystems in salt marshes.
- Determine that NRCS could assist in addressing the stormwater issues if the sponsors addressed the on-site septic system issues in areas where the pollutant source affecting shellfish beds is a combination of stormwater and on-site septic systems. Also determine that the sponsors' costs to

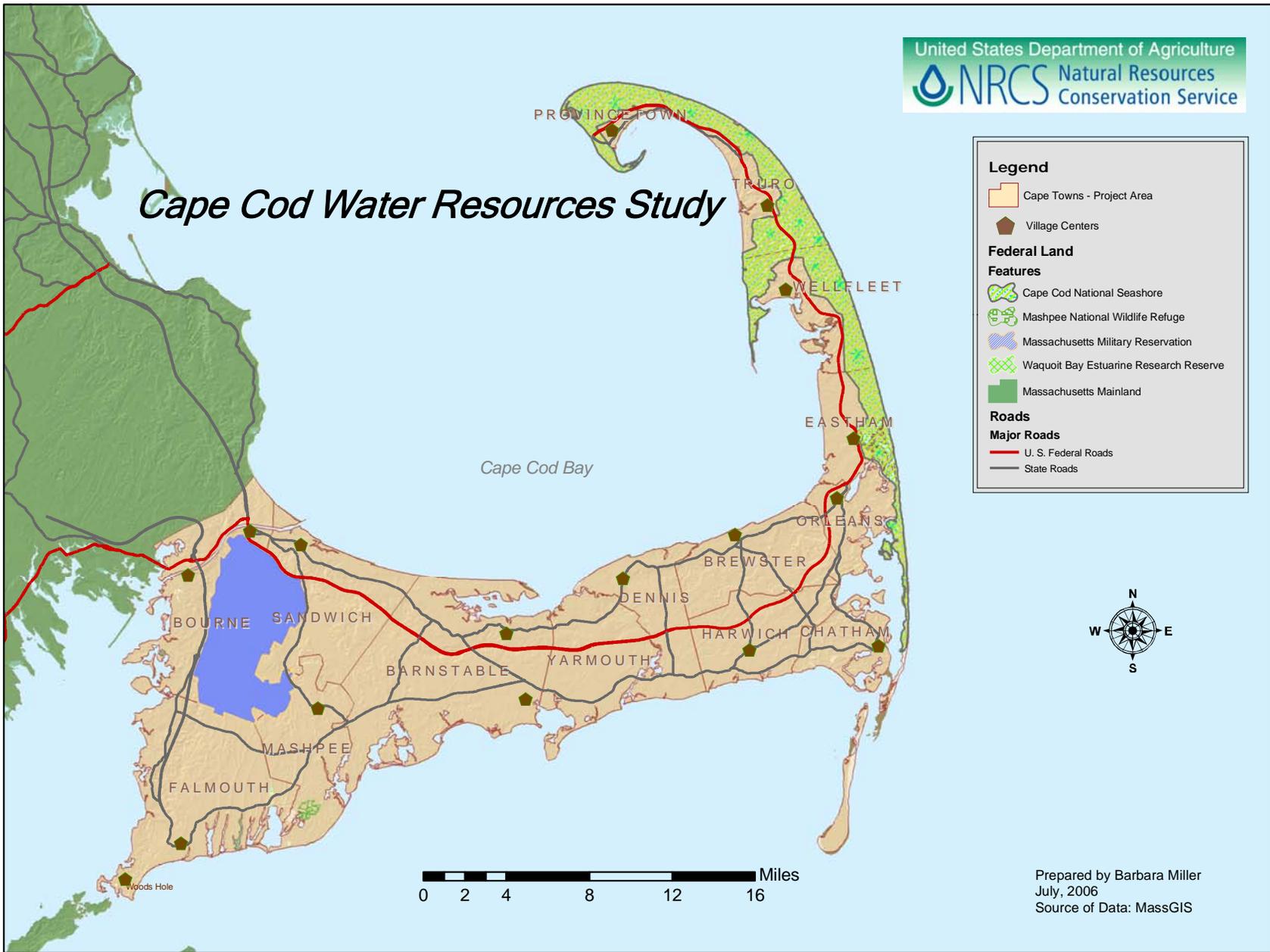


Fig. 2-1 Project location map

address the on-site septic system issues would be an acceptable in-kind contribution towards their cost share for addressing the stormwater issues.

- Concur in the use of the U.S. Army Corps of Engineers' (USACE's) methodology to determine project benefits in non-monetary terms of habitat units. This benefit is displayed in the National Ecosystem Restoration (NER) Account in lieu of the traditional National Economic Development (NED) Account. The Office of Management and Budget has accepted USACE projects justified using an NER account.
- The scope of the Cape Cod Water Resources Restoration Project falls under the purpose of Watershed Protection, conservation & proper utilization of land, land treatment. The proposed measures to address project objectives are all land treatment measures under watershed protection and can be cost shared at rates commensurate with other programs.
- The proposed measures to address project objectives will be installed by sponsoring towns or sponsoring state agency. Implementation will be through cooperative and or contribution agreements.
- Measures to restore the salt marsh ecosystems include replacing culverts with larger culverts and enlarging bridges, although associated with transportation infrastructure (roads, bridges, culverts, railroads, etc.), are eligible for PL 83-566 technical and financial assistance.

Tiering to the Plan-EIS

The Cape Cod Water Resources Restoration Project is in the planning stage. Through the process described in this Plan-EIS, and with considerable support from local and state agencies, NRCS has developed a list of 76 projects that will meet the sponsors' objectives. All of these projects have received a planning-level analysis to ensure that they appear feasible and capable of providing the habitat benefits sought through this areawide Project. When the Project is authorized and funded, the sponsors will propose specific projects to NRCS. NRCS will review each project in more detail to determine the best practice for that site and to verify that the habitat objectives will be achieved.

To satisfy the requirements of NEPA yet minimize the redundancy of evaluations, NRCS has adopted a tiered approach for implementing NEPA. The regulations of the President's Council on Environmental Quality, the primary federal agency responsible for implementing NEPA, encourage the use of tiering:

Agencies are encouraged to tier their environmental impact statements to eliminate repetitive discussions of the same issues and to focus on the actual issues ripe for decision at each level of environmental review. Whenever a broad environmental impact statement has been prepared (such as a program or policy statement) and a subsequent statement or environmental assessment is then prepared on an action included within the entire program or policy (such as a site specific action) the subsequent statement or environmental assessment need only summarize the issues discussed in the broader statement and incorporate discussions from the broader statement by reference and shall concentrate on the issues specific to the subsequent action. (40 CFR 1502.20)

Tiering refers to the coverage of general matters in broader environmental impact statements (such as national program or policy statements) with subsequent narrower statements or environmental analyses (such as regional or basinwide program statements or ultimately site-specific statements) incorporating by reference the general discussions and concentrating solely on the issues specific to the statement subsequently prepared. Tiering is appropriate when the sequence of statements or analyses is: (a) From a program, plan, or policy environmental impact statement to a program, plan,

or policy statement or analysis of lesser scope or to a site-specific statement or analysis... (40 CFR 1508.28)

NRCS regulations implementing NEPA (7 CFR 650) provide for the use of tiering as defined by the Council on Environmental Quality.

This Areawide EIS, then, serves as the planning-level analysis of environmental impacts and benefits from the commitment of NRCS technical and financial assistance funds and technical assistance for ecosystem restoration on Cape Cod. Discussions focus on the Cape Cod-wide environmental setting, preliminary project designs and cost estimates, and general areawide impacts. NRCS will complete an Environmental Evaluation tiered to this Plan-EIS for each specific project that is brought forward for funding. Each of these Environmental Evaluations will assess the impacts and benefits of constructing that specific project, focusing on the issues determined to be important for site-specific consideration through this Plan-EIS.

Organization of the Plan-EIS

This Plan-EIS follows the format recommended for such documents in the NRCS National Watershed Manual. NRCS developed this format to meet the water resources planning requirements of Public Law 83-566 and the environmental analysis required by NEPA. The elements of the plan are:

<u>Section</u>	<u>Description</u>
1. Summary	A brief version of the plan, suitable for use at meetings and presentations to describe the project
2. Introduction	An overview of the Cape Cod Water Resources Restoration Project and NRCS and NEPA policies pertinent to the areawide Plan-EIS.
3. Project setting	A description of those physical, social, economic conditions in the watershed that are pertinent to the project
4. Watershed problems and opportunities	A summary of the problems that need to be solved and the opportunities for enhancing the quality of life in the project area, based on public concerns and desires
5. Scope of the EIS	A summary of public concerns raised in the scoping process required by NEPA
6. Formulation and comparison of alternatives	A description of the rationale of plan formulation, from the development and comparison of alternatives to the selection of the recommended plan
7. Consultation and public participation	Documentation of the opportunities provided to the public for participating the planning process from the initial request for NRCS assistance to the preparation of the final plan

<u>Section</u>	<u>Description</u>
8. Recommended plan	A summary of the recommended plan, including descriptions of the projects selected for implementation and the purposes achieved by those projects in compliance with Public Law 83-566
9. References	A list of references used to prepare the technical descriptions of project setting and environmental effects
10. List of preparers	A list of the primary preparers of the Plan-EIS and their credentials
11. Index	A list of key terms and the sections in which they are discussed.