

**ENHANCING WASTEWATER MANAGEMENT
ON CAPE COD:
PLANNING, ADMINISTRATIVE
AND LEGAL TOOLS**

REPORT

TO

BARNSTABLE COUNTY

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EXECUTIVE SUMMARY

INTRODUCTION

Cape Cod's rapid development over the past three decades has impacted the Sole Source Aquifer, the region's ponds and its coastal embayments. It is widely agreed that many areas of Cape Cod must begin a transition from traditional septic systems to more sophisticated wastewater infrastructure that provides a higher level of treatment. Cape Cod towns are struggling with the technical and administrative issues associated with that transition.

To begin to address these concerns, Barnstable County has established a regional Wastewater Implementation Committee (WIC) as a forum for sharing information, funding local planning studies, and participating in the development of a regional wastewater strategy. The WIC has set forth the general goals of protecting public health, protecting and restoring surface water quality, protecting private and public water supplies, preserving community character and supporting sustainable economic development. Within that context, the WIC has sponsored this project to address three more specific objectives:

1. Identify ways to enhance the current local, County and state programs in ways that make wastewater management more effective, less expensive and more timely;
2. Suggest near-term actions to address these goals without conflicting with the lengthy wastewater management planning process that is underway in many towns; and
3. Investigate wastewater management districts as means to comprehensively address key issues on a watershed basis.

EXISTING WASTEWATER FACILITIES AND RELATED PROGRAMS

Cape Cod has 5 "centralized" wastewater facilities (the municipal plants in Falmouth, Barnstable, Chatham and Provincetown and the federal facility at MMR), over 40 "satellite" plants (serving schools, nursing homes, commercial developments, condominium projects, etc.), a handful of "cluster" systems, and over 120,000 "individual on-site" systems. "Enhanced treatment", necessary to address nutrient issues, is provided for only a small fraction of the region's wastewater.

Towns use Title 5, the state sanitary code, to address the fundamental sanitary aspects of on-site wastewater disposal. Towns develop comprehensive wastewater management plans to assess needs; identify and evaluate options for collection, treatment and disposal; identify and acquire treatment and disposal sites; and formulate implementation plans. The Massachusetts Estuary Project (MEP) is undertaking comprehensive studies of 89 embayments that will determine their threshold nitrogen loads and serve as the basis for nutrient control programs. The DEP provides low interest loans for eligible public

wastewater facilities through its State Revolving Fund. DEP also licenses facilities with design flows over 10,000 gallons per day through its Groundwater Discharge Permit Program. The Cape Cod Commission assists towns in adapting the standards of the Regional Policy Plan into local comprehensive plans, and regulates wastewater issues at Developments of Regional Impact.

CHALLENGES TO EFFECTIVE WASTEWATER MANAGEMENT

1. Comprehensive wastewater management planning is a lengthy and expensive process. While it is underway, local boards are often uncertain about continuing their usual permitting practices for on-site systems. Often there is a desire to institute interim measures to begin to address perceived problems before planning is complete.
2. Individual enhanced treatment systems have been viewed as a panacea where nitrogen loading problems exist, and are routinely required by local boards, whose members may not be aware of their limitations. These systems generally do not provide the degree of nitrogen removal that is expected, or that collectively may be needed, to protect and restore sensitive embayments.
3. Suitable sites for wastewater facilities are rapidly being developed for residential, commercial and municipal uses. The lack of timely progress in comprehensive planning may be significantly limiting municipal options for siting wastewater facilities.
4. Many of Cape Cod's stressed embayments receive nitrogen loads from more than one town. Coordinated planning efforts among towns are needed to ensure the most cost-effective solutions and their timely implementation.
5. Many of the satellite treatment plants on Cape Cod are privately owned and managed. These facilities are typically developed outside the municipal wastewater planning process, and are potential assets as municipal infrastructure.
6. Affordable housing (Chapter 40B) projects are not subject to locally-imposed wastewater regulations that are more stringent than state requirements. Wastewater disposal from these projects may be contrary to the region's water quality needs.
7. Towns must be careful in predicting wastewater volumes and nitrogen loading at build-out conditions, particularly with respect to seasonal occupancy and how seasonality may change in the future. There is the risk of either "under-building" or "over-building" facilities if build-out projections are not carefully prepared.
8. Towns cannot deny the application of a property owner to connect to a town sewer if that property abuts the street in which the sewer is located. Without special legislation, towns are unable to implement "checkerboard" sewer systems designed to serve selected individual lots, especially those that cannot meet Title 5 requirements.
9. Towns typically recover a portion of the costs for wastewater infrastructure through betterment assessments. Betterments can be assessed only against those properties that are directly connected to the public facilities. Properties not connected to municipal infrastructure, even if they are sources of nitrogen loading in the watershed, cannot be charged betterments.

RECOMMENDED SOLUTIONS

Towns should:

1. Accelerate comprehensive planning for wastewater management.
2. Undertake planning tasks concurrent with MEP studies, to integrate wastewater issues into local comprehensive plans, plan for affordable housing and growth centers, implement interim water quality goals, and set up escrow accounts for the deferral of private infrastructure expenditures.
3. Ensure coordination among town boards in requiring enhanced treatment.
4. Adopt a bylaw or regulation related to cluster systems and satellite plants which will establish design and construction standards, mandate evaluation of cluster systems, incorporate nearby sewer needs in planning, establish a town role in oversight of operations, and allow transfer of ownership to the town where appropriate.
5. Identify prospective sites for wastewater facilities using a hierarchical approach, giving first priority to disturbed sites and joint use, and considering appropriate use of open space only if other possibilities are not feasible.
6. Participate in the WIC, support its evaluation of a County-wide wastewater entity, and consider regional solutions including wastewater management districts
7. Ensure proper handling of wastewater residuals and public education on this need.

Barnstable County should:

8. Continue to support the WIC as a regional forum.
9. Continue to participate in technical and policy aspects of the MEP studies.
10. Continue to provide regional input into DEP's new regulations and policies.
11. Continue to assist the towns in identifying nitrogen sensitive areas, and identifying where watershed-based management districts should be implemented.
12. Take the lead role with the legislative delegation in amending MGL Chapter 83, Section 3 to allow checkerboard sewer systems.
13. Expand the BCDHE program of oversight of enhanced treatment systems, and work with towns to implement a license program with annual fees.

DEP should:

14. Amend its guidance on small treatment plants related to design flows and consideration of local sewer needs.
15. Modify the groundwater discharge permit program to reduce fees and long-term costs for smaller projects, and mandate consideration of local wastewater issues.
16. Allow SRF eligibility for early planning and town acquisition of private facilities.
17. Clarify the policy on site assignment for private facilities.
18. Amend Title 5 to allow nitrogen sensitive areas as determined through local planning.
19. Support the appropriate use of innovative effluent disposal techniques.

Some of these recommendations are illustrated through case studies in Orleans, Mashpee, Falmouth and Barnstable. As this report was being reviewed and finalized, towns, the County and DEP have already taken action on some of these recommendations.