# Chatham

## COMPREHENSIVE WASTEWATER MANAGEMENT PLANNING STUDY

September 2004

*Since 1997, town officials, citizens, and consultants have been working to identify long-term solutions to Chatham's wastewater disposal and nitrogen (and other nutrient) management needs. This effort will culminate in the preparation and implementation of a Comprehensive Wastewater Management Plan (CWMP). In addition to protecting public health, this plan will help preserve the Town's natural beauty and the health of its ponds, lakes and estuaries. The Project Team is writing to you now to provide a brief update and enlist your help in choosing the right options for our community. We hope that you will read this brochure and attend one of our Public Workshops on September 22 or 23 at the Chatham Town Offices for more information. Once a set of options has been recommended, following a detailed evaluation and environmental review, residents will be asked to support that recommendation through their votes and fees or taxes. We believe that learning about the options will help all of us make the best choice, then work together to implement it.*

*Photo courtesy of Kelsey Kennard Photographers, Inc., Chatham, MA.*

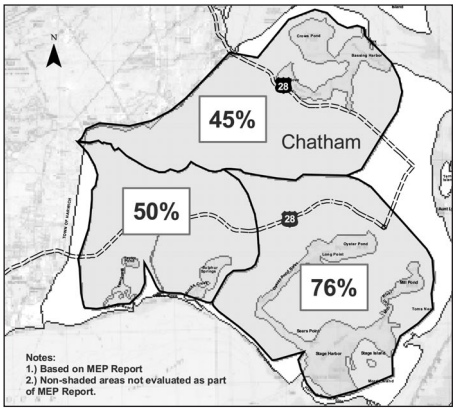
## NEXT STEPS: PUBLIC WORKSHOPS

We have scheduled public workshops to discuss the need to solve this problem and the possible solutions. The workshops will be on Wednesday, September 22 and Thursday, September 23 from 7:00 to 9:00 PM in the Town Offices (549 Main St.) downstairs meeting room.

We want your input as we continue to develop these options and alternatives. We will schedule additional workshops as we identify the most practical and cost-effective solutions.

# NITROGEN DISCHARGE TO OUR COASTAL ESTUARIES IS OUR BIGGEST PROBLEM

As many of you know, Chatham's citizen volunteers have been monitoring the Town's estuarine water quality for many years. This data has been analyzed by the Massachusetts Estuaries Project (MEP, a cooperative effort of the University of Massachusetts and the Massachusetts Department of Environmental Protection) to determine the main sources of nitrogen in our estuaries and how much needs to be removed to restore and protect them. The Estuaries Project has made the following determinations:




**Average percentage of wastewater nitrogen to be removed from consolidated watersheds.**

- **Too much nitrogen is being discharged into our estuaries from their watersheds.**
- This nitrogen is from several sources (wastewater, fertilizers, road runoff, natural sources, etc.), but **the main locally controllable source** (approximately 58%) **is from the individual septic systems that nearly all of us have in Chatham.** Of the remainder, a further 8% is also locally controllable, from fertilizer/runoff, and 34% is from sources not directly controllable at the local level.
- The amount of wastewater nitrogen that needs to be removed varies depending on the sensitivity of each estuary system and the size of its watershed. On average, 60% of this wastewater nitrogen needs to be removed town-wide to restore and protect our estuaries.
- Providing better wastewater treatment will also protect our drinking water, lakes, ponds, and public health.
- If we don't provide advanced wastewater treatment and other options to manage this nitrogen, our water resources will degrade further.
- Fortunately, this degradation can be reversed and our water resources can recover.

# HOW CAN I BECOME MORE INFORMED, OR GET INVOLVED?

✔ Several reports have been prepared for this planning project, and they are available on the Town's website (http://www.town.chatham.ma.us) and at the Eldredge Public Library for public review. The website also contains regular project updates as well as announcements of upcoming meetings.

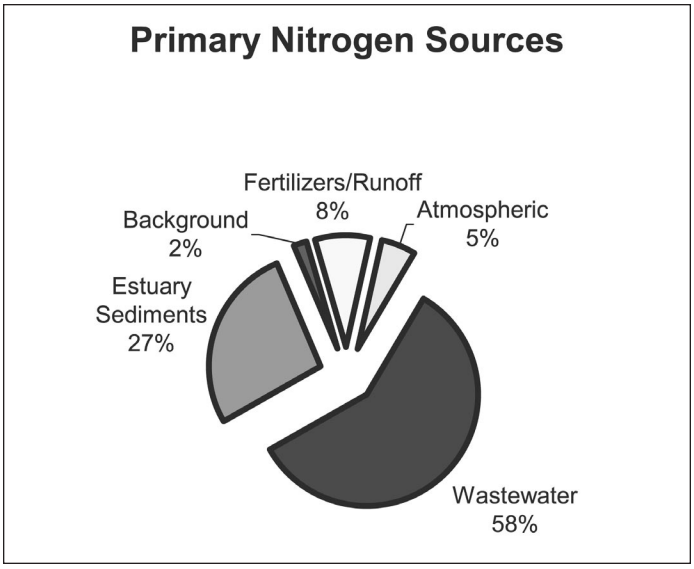
✔ Attend one of the public workshops on Wednesday, September 22 or Thursday, September 23 from 7:00 to 9:00 PM at Chatham Town Offices downstairs meeting room.

✔ Tune to Channel 18 for project announcements, updates and actions as well as the Board of Selectmen's discussion on this plan.

✔ Volunteer to help monitor the Town's waters by contacting Friends of Chatham Waterways Water Watchers at (508) 945-3686 or (508) 945-2716.

✔ Support warrant articles to fund the solutions at future Town Meetings.

*Please see page 4 for a glossary and list of commonly used acronyms.*



## SEVERAL MANAGEMENT ACTIONS HAVE BEEN IDENTIFIED, AND WE ARE MOVING FORWARD

We are now developing and evaluating various options and alternatives to manage wastewater, and other sources of nitrogen and phosphorus in Chatham's watersheds.

We are already moving ahead with the following **Immediate Actions**:

- Developing a Town-wide fertilizer education and management program;
- Accelerating the Town's ongoing stormwater runoff management program by installation of appropriate Best Management Practices such as new catch basins and infiltration systems;
- Restoring freshwater wetlands that naturally remove nitrogen before it enters the marine waters;
- Investigating ways to modify our zoning regulations to better address land use issues.

The above actions will help, but they won't solve the problem completely.

## LONG-TERM WASTEWATER RELATED SOLUTIONS ARE BEING EVALUATED

The **Long-Term Actions** must be carefully planned and may include:

- Expansion and **upgrade of the Chatham Water Pollution Control Facilities (WPCF)** which already provide Enhanced Nitrogen Removal (ENR) and wastewater collection with public sewers;
- Construction of **cluster/community ENR wastewater treatment systems and sewers**;
- New **sites to return the treated water** to the groundwater system;
- **Water reuse areas** in Town where the treated water can be used for irrigation;
- **Improved septic system designs** that can now remove up to 50% of the nitrogen when they are designed, installed and maintained properly;
- Investigating the feasibility of **improving the tidal flushing** of the coastal estuaries by restoring some of the historic openings to cleaner coastal waters.

## PEOPLE TO CONTACT IF YOU HAVE QUESTIONS

The planning effort has a Citizens Advisory Committee (CAC) that was appointed by the Board of Selectmen to provide Town-Wide citizen representation and input to this planning effort. They include:

- Herbert Bernard, from Morris Island, Stage Island & Little Beach
- Philip Christophe, Co Vice-chairman, from West Chatham
- Robert Depatie, At Large
- Fred Jensen, Chairman, from Central Chatham
- Didi Lovett, from Sears Point
- David MacAdam, from Old Village
- Kevin Mikita, Co Vice-chairman, from North Chatham
- John Payson, At Large
- Charles Pollard, from sewered area
- John Randall, At Large
- Burton Segall, from South Chatham
- Scott Tappan, from Stage Neck

This CAC also contains the following Ex Officio members representing several Town interests:

- Chris Diego, from the Chamber of Commerce
- William Schweizer, from the Conservation Foundation
- Shellfish Advisory Committee
- Patricia Siewert, from the Friends of Chatham Waterways
- Sjirk van der Burg, from the Water and Sewer Advisory Board

We also have a Technical Advisory Group made up of the following Town staff:

- Robert Duncanson, Ph.D, Director of Health and Environment, Project Manager
- Judith Giorgio, R.S., Health Agent
- Kevin S. McDonald, Director of Community Development
- William Redfield, P.E., Water and Sewer Department Manager

# UNDERSTANDING THE TERMS

**Typical acronyms that are commonly used in this planning project**

- CAC – Citizen Advisory Committee
- CCC – Cape Cod Commission
- CWMP – Comprehensive Wastewater Management Plan
- DEP – Massachusetts Department of Environmental Protection
- ENR – Enhanced Nitrogen Removal
- MEP – Massachusetts Estuaries Project
- mg/L – milligram per liter
- TAG – Technical Advisory Group
- TMDL – Total Maximum Daily Load
- TN – Total Nitrogen
- WPCF – Water Pollution Control Facility
- UMASS SMAST – University of Massachusetts School of Marine Science and Technology

**Common terms and definitions**

- Estuaries: Coastal water bodies where fresh ground and surface waters combine with marine waters to form the productive and scenic harbors and bays that are characteristic of Chatham's coastline.

- Eutrophication: The degradation of the water quality in estuaries, lakes and ponds due to the excessive growth of algae resulting from too much nitrogen or phosphorus in the water.

- Locally Controllable: Those sources of nitrogen which can be affected by the action of individual residents, such as fertilizer and wastewater.

- Nutrients: Essential food for plants (such as nitrogen and phosphorus) that can produce an over-abundance of algae when too much is discharged into water bodies. Nitrogen is typically the nutrient that promotes excessive algal growth in marine waters, while phosphorus does the same thing for fresh waters.

- Watershed: The land area that contributes surface or ground water recharge to a water body such as an estuary, pond or lake.

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