

Nitrogen From The Air:

How Important is This Source to Coastal Pollution on Cape Cod?

8:30 am Registration & Continental Breakfast

9:00 am Welcome & Introductions
Tonna-Marie Rogers, Coordinator
Massachusetts Coastal Training Program

Solving Coastal Nitrogen Pollution: The Need to Consider Atmospheric Deposition

9:15 am - 10:15 am

This session will provide an overview of atmospheric deposition and examine data from Chesapeake Bay – one of the first areas where this issue was studied. We will look at sources of nitrogen to the air (vehicles, power plants, etc), estimating wet and dry deposition, current research being done in Waquoit Bay, and actions communities can take to address air pollution.

Dr. Robert Howarth, Cornell University, NY

10:15 am - 10:30 am Break

Quantifying Atmospheric Contributions to Coastal Water Quality

10:30 am - 11:00 am

How do we better understand the contribution of atmospheric deposition to overall nitrogen pollution of Cape Cod waters? Using examples from Chesapeake Bay this presentation will emphasize the importance of models and monitoring networks and the need to expand these areas on Cape Cod.

Margaret Kerchner, NOAA Air Resources Laboratory

Case Study: The Role of Atmospheric Deposition in the Tampa Bay Nitrogen Management Strategy

11:00 am - 12:00 pm

This case study will highlight challenges faced by Tampa Bay due to decades of pollution from wastewater, fertilizer and recreational usage. Through focused management and research efforts of the Tampa Bay Estuary Program (TBEP) a nitrogen management strategy is being implemented that is focused on restoring seagrass populations. Under this strategy the TBEP is also tackling air pollution from industry and automobiles which contributes excess nitrogen to the Bay. Data collected show that atmospheric deposition sources contribute *more than half* of the new nitrogen entering Tampa Bay. Ms. Greening will describe the nitrogen airshed, specific sources of atmospheric deposition of nitrogen, as well as approaches and lessons learned from ongoing efforts to manage atmospheric deposition in Tampa Bay.

Holly Greening, Senior Scientist, Tampa Bay Estuaries Program, FL

12:00 pm - 1:00 pm Lunch (provided) & Poster Displays

Management & Policy Implications for Cape Cod: Panel Discussion

1:00 pm - 2:00 pm

Panelists will discuss atmospheric deposition as an important coastal management issue on Cape Cod and why it requires more focused attention even in the face of other pressing problems such as wastewater management. Panelists will represent a range of perspectives and will include local representatives from town government and policy and planning communities. (*Panelists TBA*)

This workshop will:

- expose participants to new information and research on atmospheric deposition of nitrogen (eg. Waquoit Bay),
- examine case studies for Chesapeake and Tampa Bays,
- highlight the implications and challenges of atmospheric deposition for coastal managers,
- recommend actions to better understand and reduce this nitrogen source on Cape Cod.

Friday, April 7, 2006

8:30 am - 2:00 pm

Cape & Islands Realtors Assoc. Conference Center
22 Mid Tech Drive, W. Yarmouth

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Register Today!



Call Laurie Tompkins at (508) 457-0495 ext.108



FAX (617) 727-5537



laurie.tompkins@state.ma.us



Waquoit Bay NERR
P.O. Box 3092, Waquoit, MA 02536

There is no charge for the workshop.

Pre-registration is preferred,
but walk-ins are welcome.

For additional information or questions please call
Tonna-Marie Rogers at (508) 457-0495 ext. 110.

ABOUT THE TOPIC

Nitrogen enrichment is one of the major causes of pollution of coastal and estuarine ecosystems and is one of the most pressing environmental issues facing Cape Cod today. The health of our waters and economic vitality of the region continue to be threatened by this problem. As such, much emphasis has been placed on understanding the various **sources** of nitrogen to coastal areas in order to better control nitrogen loading and protect precious coastal resources.

Wastewater from septic systems and fertilizer use have both been shown to be the main sources of nitrogen to bays and ponds on Cape Cod. Recent studies show that for the entire United States nitrogen deposited from the atmosphere either directly or indirectly through run-off from the land is also a major source accounting for 40% of the nitrogen entering coastal waters (*Howarth and Reilinger, 2003*). Also, the atmospheric nitrogen deposition rates in southeastern New England are among the highest found in North America (*Howarth and Reilinger, 2003*). This information and other studies show that if coastal and estuarine eutrophication is to be addressed in a holistic manner, all major sources must be taken into account including the atmospheric deposition component.

Understanding the importance of atmospheric deposition of nitrogen in any coastal ecosystem and what steps can be taken to address it pose significant challenges. For example, sources of atmospheric nitrogen can be near or distant and long term monitoring is needed to determine exact contributions to different bays. Nevertheless, there is much known about the issue upon which we can begin to act.

DIRECTIONS

The Cape and Islands Association of REALTORS
Conference Center
22 Mid Tech Drive, West Yarmouth

FROM THE WEST:

Route 6 East to Exit 7 Willow Street. Turn Left onto Willow Street. Left onto Higgins Crowell Road. Left onto Mid-Tech Drive. The Conference Center is the first Right.

FROM THE EAST:

Route 6 West to Exit 7 Willow Street. Turn Left onto Willow Street. Left onto Higgins Crowell Road. Left onto Mid-Tech Drive. The Conference Center is the first Right.

Coastal Training Program Partners



WAQUOIT BAY
NATIONAL ESTUARINE
RESEARCH RESERVE



P.O. Box 3092, Waquoit, MA 02536

Attention: Coastal Decision Makers



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How Important is This Source to
Coastal Pollution on Cape Cod?

A Workshop for:

- Municipal Officials
- Town Planners
- Conservation Commissioners
- DPW Representatives
- Federal & State Agency Staff
- Researchers
- Consultants
- Watershed Protection Groups

Friday, April 7, 2006

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Waquoit Bay
National Estuarine Research Reserve

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