



**Keynote Speaker**

Commissioner Kenneth Kimmell  
Massachusetts Department of  
Environmental Protection

# Ocean Outfall Symposium

## Exploring Ocean Outfalls as a Wastewater Management Alternative for Cape Cod

### REGISTRATION

[www.waquoitbayreserve.org](http://www.waquoitbayreserve.org)

#### Upcoming Events

There is no charge to attend,  
however pre-registration is required.  
*Preference given to target audience.*

#### Sponsors

**Waquoit Bay  
National Estuarine Research Reserve**

**Massachusetts Department of  
Conservation and Recreation**

**Citizens for the Protection  
of Waquoit Bay**

#### Planning Team

**Tonna-Marie Rogers, Waquoit Bay NERR**

**Jerry Potamis, Town of Falmouth**

**Rob Steen, Wright-Pierce**

**Dale Saad, Town of Barnstable**

**Nate Weeks, GHD**

For additional information please  
contact Tonna-Marie Rogers at  
508-457-0495 x110  
[tonna-marie.surgeon-rogers@state.ma.us](mailto:tonna-marie.surgeon-rogers@state.ma.us)

**Wednesday, May 25, 2011**

9:00 am - 3:30 pm

Cape Cod & Islands Realtors Conference Center  
22 Mid-Tech Drive, Yarmouth

Could ocean outfalls be part of the suite of solutions that municipalities on Cape Cod use to address wastewater management needs? This question is being explored by some municipalities as part of the process to develop comprehensive wastewater management plans and meaningfully examine all feasible treatment and management options.

This symposium will provide information on how ocean outfalls work and the implications of potentially using them as a wastewater management strategy. Information on the history of outfalls, federal and state regulations, environmental impacts, as well as policy, planning and legal issues will be presented, along with case studies.

The symposium is part of an ongoing series of wastewater workshops organized and delivered through the Waquoit Bay Reserve Coastal Training Program. It is meant to be educational in nature and is being planned to provide science-based information to decision-makers working on the wastewater problem. It is not meant to advocate for ocean outfalls.

**Target Audience:** Decision-makers working on water and wastewater management issues such as:

- DPW Directors
- Engineers
- Selectmen
- Planners
- Consultants
- Local boards-planning, conservation, health, zoning
- Water and wastewater managers
- Town Administrators
- Coastal Managers (federal, state, local)
- Environmental organizations

# A G E N D A

9:00 – 9:15 am	<b>Welcome &amp; Opening Remarks</b> <i>Tonna-Marie Rogers, Waquoit Bay NERR</i>
9:15 – 10:00 am	<b>Keynote Address</b> – <i>Kenneth Kimmell, Commissioner Massachusetts Department of Environmental Protection (MassDEP)</i>
10:00 – 10:45 am	<b>Ocean Outfall 101</b> – <i>Robert Steen, Wright-Pierce Water, Wastewater &amp; Infrastructure Engineers</i>
10:45 – 11:00 am	Break
11:00 – 11:25 am	<b>Ocean Outfalls: The Regulatory and Policy Environment and Implications for Cape Cod</b> <i>Bruce Carlisle, Massachusetts Office of Coastal Zone Management (CZM)</i>
11:25 – 12:00 pm	<b>Groundwater Hydrology of the Cape Cod Aquifer: Concepts and Considerations for Wastewater Management</b> <i>Denis LeBlanc, US Geological Survey (USGS)</i>
12:00 - 12:30 pm	<b>Possible Environmental Impacts of Ocean Outfalls</b> <i>Carlton Hunt, Battelle</i>
12:30 – 1:10 pm	Lunch (provided)
1:10 – 1:35 pm	<b>Case Study: Seabrook New Hampshire 1.5 mgd Wastewater Treatment Facility and Ocean Outfall</b> <i>Bill Hall, GHD</i>
1:35 – 2:00 pm	<b>Case Study: Where A Big Ocean Outfall Works - The Boston Harbor Project Ten Years After Completion</b> <i>Andrea Rex, Director, Environmental Quality Dept., Massachusetts Water Resources Authority (MWRA)</i>
2:00 – 2:25 pm	<b>Legal Considerations of Siting a New Ocean Outfall on Cape Cod</b> <i>John Giorgio, Kopelman &amp; Paige, P.C. Attorneys at Law</i>
2:25 – 3:25 pm	<b>Are Ocean Outfalls a Viable Option for the Cape? – Panel Discussion</b> <i>Paul Niedzwiecki, Cape Cod Commission</i> <i>Mark Ells, Town of Barnstable</i> <i>Nate Weeks, GHD (Town of Falmouth case)</i>
3:25 – 3:30 pm	Wrap-up

## P R O G R A M

### **Ocean Outfall 101 - Robert Steen**

This presentation will cover the history of ocean outfalls in Massachusetts and New England and the basic science concerning them.

### **Ocean Outfalls: The Regulatory and Policy Environment and Implications for Cape Cod** *Bruce Carlisle*

In order to protect Cape Cod's coastal waters and the critical ecosystems and human services they support, a range of management options for reducing nitrogen in wastewater are being explored and evaluated. In the assessment of a management strategy which seeks to redirect wastewater loads from current groundwater discharges to new ocean outfalls, there are policy, planning and regulatory issues and contextual elements that must be understood and considered. This presentation will cover some of the key issues that are implicated by such authorities as the Massachusetts Environmental Policy Act, Federal Clean Water Act, Federal Coastal Zone Management Act, with a special focus on the Massachusetts

Ocean Sanctuaries Act. The presentation will also describe changes made by the Oceans Act of 2008, and summarize some of the key next steps for the CZM and the MassDEP.

### **Groundwater Hydrology of the Cape Cod Aquifer: Concepts and Considerations for Wastewater Management - Denis LeBlanc**

Successful protection and management of Cape Cod's freshwater resources should be based on sound scientific understanding of the groundwater system. This presentation will review the current understanding of how groundwater occurs and moves in the Cape Cod aquifer system. It will also cover the geohydrologic structure of the glacially formed aquifer, the hydrologic boundaries to flow, and the inflows and outflows to the system, such as recharge from precipitation and discharge to wells, ponds, and streams. These concepts will be tied together with a discussion of the Cape's water budget and the dynamic balance between inflows and outflows and how that balance is reflected in groundwater and pond water levels. This balance is a consideration when evaluating options such as outfalls for disposal of treated wastewater.

### **Possible Environmental Impacts of Ocean Outfalls - Carlton Hunt**

This presentation will address the major environmental concerns related with sewage outfalls and speak to the importance of water use/reuse to help set the stage for holistic, sustainable planning (water quality, energy, fisheries, climate change and adaptation). It will also discuss key factors such as tradeoffs, ecosystem services and valuation that towns must consider in trying to find the right solution(s) across the range of possible management options.

### **Case Study: Seabrook New Hampshire 1.5 mgd Wastewater Treatment Facility and Ocean Outfall - Bill Hall**

The Seabrook, NH Wastewater Treatment Facility and Ocean Outfall was built in the 1990s. It was a complex project with much regulatory involvement and marine engineering. The talk will highlight the regulatory approvals needed to implement the outfall, the long project delays as the outfall was challenged by the Commonwealth of Massachusetts, and considerations for Cape Cod communities that are looking at this type of effluent discharge technology as part of comprehensive wastewater management planning.

### **Case Study: Where a Big Ocean Outfall Works: The Boston Harbor Project Ten Years After Completion - Andrea Rex**

Planning for the MWRA treatment works and discharge outfall began in the mid 1980's. The rationale, planning process, and design of MWRA's 9.5-mile-long outfall-diffuser system will be presented. Examples of the effect of wastewater treatment on effluent quality will be followed by a brief overview of MWRA's harbor and outfall ambient monitoring program, as well as lessons learned.

### **Legal Considerations of Siting a New Ocean Outfall on Cape Cod - John Giorgio**

This presentation will review the regulatory procedures needed for a variance to the Ocean Management Act (Ocean Sanctuaries Act) in Massachusetts. It will also cover possible claims that could result after a variance approval and the resulting adjudicating legal process to address a claim.

### **Panel Discussion - Paul Niedzwiecki, Mark Ells, Nate Weeks**

Panelists will draw on information shared earlier in the day to discuss the viability of ocean outfalls on Cape Cod. Nate Weeks will discuss the ocean outfall (Nobska Point) evaluation completed for Falmouth and how it has compared with other alternative management plans and been incorporated into the town's planning process. Mark Ells will discuss how the Town of Barnstable is considering this option, and Paul Niedzwiecki will share perspectives from the Cape Cod Commission on the regional implications of this approach.

**Keynote Address –  
Kenneth Kimmell, Commissioner  
MassDEP**

Mr. Kimmell will talk about MassDEP's commitment to evaluating and improving the quality of the water resources on Cape Cod, the future commitment to continuing this work, and the importance of partnerships to achieve the best environmental and cost-effective solutions.

**Kenneth L. Kimmell** was appointed Commissioner of the MassDEP by Secretary of Energy and Environmental Affairs Richard K. Sullivan Jr.

Mr. Kimmell joined the Patrick Administration in January 2007 as general counsel of the Executive Office of Energy and Environmental Affairs. On an interim basis, he also served as general counsel to the Massachusetts Clean Energy Center. He has focused on:

- legislation to merge energy and environmental agencies into one secretariat;
- major legislative initiatives such as the Green Communities Act, the Global Warming Solutions Act, and the Oceans Act;
- permit streamlining initiatives;
- wind energy siting reform;
- the Massachusetts Ocean Plan;
- state and federal permitting of the Cape Wind project, the nation's first off-shore wind project; and
- development and early implementation of policy initiatives such as the MEPA Greenhouse Gas policy, a first-in-the-nation policy that requires developers of major projects to identify, avoid, and mitigate greenhouse gas emissions.

Prior to joining the Patrick-Murray Administration, Mr. Kimmell was in private practice where he focused on environmental and land use law and litigation, and argued numerous cases dealing with issues such as home rule powers of municipalities, zoning, and solid waste permitting.

Mr. Kimmell graduated from Wesleyan University and UCLA School of Law. He lives in Newton, where he has served on the Newton Community Preservation Act Committee. He is also a former Board Member of the Massachusetts Association of Conservation Commissions.



**P R E S E N T E R S**

**Robert Steen** is a Project Manager at Wright-Pierce, a New England based engineering firm specializing in water, wastewater, and infrastructure services.

**Bruce K. Carlisle** is the Acting Director for the Massachusetts Office of Coastal Zone Management providing oversight and administration of the agency since 2005.

**Dr. Carlton Hunt** is a Research Leader with Battelle in Duxbury, Massachusetts and has extensive knowledge of coastal water and sediment quality issues.

**Denis LeBlanc** is a groundwater hydrologist with the Massachusetts-Rhode Island Water Science Center of the U.S. Geological Survey with extensive experience working with Cape Cod groundwater studies.

**Bill Hall** is the Project Principal for GHD's Hyannis office where he oversees GHD's wastewater and water-resources planning, design, and construction projects in Massachusetts and New Hampshire.

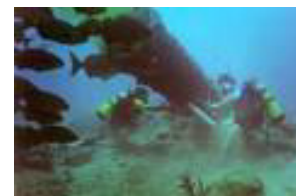
**Dr. Andrea Rex** is Director of the Environmental Quality Department at the Massachusetts Water Resources Authority.

**John Giorgio** is a Principal at Kopelman and Paige, P.C. Attorneys at Law in Boston, Massachusetts.

**Paul Niedzwiecki** is the Executive Director of the Cape Cod Commission, the regional land use planning and regulatory agency which serves the citizens and the towns of Barnstable County.

**Mark Ells** currently directs the Department of Public Works in Barnstable.

**Nate Weeks, P.E.**, is a Senior Project Manager with GHD in Hyannis.



**S P O N S O R S**

