

NBP-91-65

Mount Hope Bay "Briefing Paper" and Proceedings from
Narragansett Bay Management Committee 48 pp

Narragansett Bay Estuary Program

Current Report

The Narragansett Bay Project

**MOUNT HOPE BAY
"BRIEFING PAPER"
AND
PROCEEDINGS FROM
NARRAGANSETT BAY PROJECT
MANAGEMENT COMMITTEE**

**Ms. Ann M. Dixon,
Ms. Caroline A. Karp,
Dr. Clayton A. Penniman,
and the staff of the
Narragansett Bay Project**

#NBP-91-65

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Recommendations included in this briefing paper represent preliminary decisions reached by the Management Committee and are subject to amendment prior to their incorporation into the Comprehensive Conservation and Management Plan (CCMP).



The Narragansett Bay Project is sponsored by the U.S. Environmental Protection Agency and the R.I. Department of Environmental Management.



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FOREWORD

The United States Congress created the National Estuary Program in 1984, citing its concern for the "health and ecological integrity" of the nation's estuaries and estuarine resources. Narragansett Bay was selected for inclusion in the National Estuary Program in 1984, and the Narragansett Bay Project (NBP) was established in 1985. Narragansett Bay was designated an "estuary of national significance" in 1988. Under the joint sponsorship of the U.S. Environmental Protection Agency and the Rhode Island Department of Environmental Management, the NBP's mandate is to direct a program of research and planning focussed on managing Narragansett Bay and its resources for future generations.

The NBP will develop a draft Comprehensive Conservation and Management Plan (CCMP) by December, 1991, which will recommend actions to improve and protect the Bay and its natural resources.

The NBP has established the following seven priority issues for Narragansett Bay:

- management of fisheries
- nutrients and potential for eutrophication
- impacts of toxic contaminants
- health and abundance of living resources
- health risk to consumers of contaminated seafood
- land-based impacts on water quality
- recreational uses

The NBP is taking an ecosystem/watershed approach to address these problems and has funded research that will help to improve our understanding of various aspects of these priority problems. The Project is also working to expand and coordinate existing programs among federal, state and local agencies, as well as with academic researchers, in order to apply research findings to the practical needs of managing the Bay and improving the environmental quality of its watershed.

The attached report includes a "briefing paper" prepared for consideration by the Management Committee of the Narragansett Bay Project (Section I) and Management Committee Proceedings (Section II). Section II includes a) minutes of the Management Committee meeting(s) where the issues identified in the "briefing paper" were discussed (Appendix A); b) preliminary recommendations endorsed by the Management Committee (Appendix B); and c) Management Committee attendance (Appendix C). The Narragansett Bay Project will subsequently estimate the cost of each preliminary recommendation made by the Management Committee and identify possible funding sources. This information will enable the Management Committee to develop the draft CCMP including priorities for implementation over a five year planning horizon. Upon completion, the draft CCMP will be available for public review and comment.

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SECTION I:

**MOUNT HOPE BAY
" BRIEFING PAPER "**

**Ms. Ann M. Dixon,
Ms. Caroline A. Karp,
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and the staff of the
Narragansett Bay Project**

"Hope springs eternal..."

Alexander Pope (1688-1744)

**MOUNT HOPE BAY
"BRIEFING PAPER"**

SYNOPSIS

Mt. Hope Bay drains an area of 620 miles in the northeastern portion of the Narragansett Bay watershed. Although two thirds of the Bay lies within Rhode Island, 90 percent of its drainage area is in Massachusetts. While major environmental threats to Mt. Hope Bay are presented in other briefing papers, the Bay possesses a number of unique qualities that warrant separate discussion. It is the purpose of this briefing paper to highlight the special characteristics of the Mt. Hope Bay ecosystem and to present some of the major environmental and management issues facing it.

Historically, Mt. Hope Bay has received contaminants from a wide range of industries and activities, including municipal sewage and discharges from textile, tanning, electroplating, and chemical firms. Sewage contamination is currently the most serious and immediate water quality problem in the Bay. An abatement effort now in the planning stages will address the 19 combined sewer overflows that empty into Mt. Hope Bay or its tributaries in the Fall River area. In addition to sewage contamination from point sources, pollution impacts from stormwater and nonpoint sources probably affect Mt. Hope Bay waters in both Rhode Island and Massachusetts; however, few of these inputs are well documented.

Further assessment of metal loading to the Taunton River and Mt. Hope Bay is also indicated. Limited mercury contamination has affected portions of the Taunton River. Additionally, zinc, copper, lead, and nickel concentrations have been found to increase in mid-Mt. Hope Bay between 1979 and 1985 (R. Dehart, 1990).

Although closed to routine commercial harvest, Mt. Hope Bay has in the past been used by both the States of Rhode Island and Massachusetts as a source of shellfish for transplantation programs. The potential for eventual reopening of portions of Mt. Hope Bay is under consideration in both states. A study of finfish resources found that 75 percent of the most abundant finfish species of Narragansett Bay had centers of abundance in upper Narragansett and Mt. Hope Bays (Durbin and Durbin, 1990).

All of the issues presented below could fit into the framework of an overarching approach that would entail joint planning between Rhode Island DEM and Massachusetts DEP. It is suggested that these agencies jointly develop schedules for the pollution abatement activities needed to bring shared water bodies to water quality standards. As the largest shared resource, Mt. Hope Bay merits extensive collaborative planning efforts and would serve

as an excellent model for additional dual-state environmental protection activities.

PROPOSED GOAL: Rhode Island and Massachusetts should jointly develop schedules for pollution abatement in shared water bodies, including Mt. Hope Bay, in order to meet water quality standards.

SUMMARY OF ISSUES TO BE CONSIDERED

1. FALL RIVER CSO ABATEMENT EFFORTS

ISSUE A: Should EPA Region I and the Commonwealth of Massachusetts continue activities to facilitate and expedite the Fall River CSO abatement project that is now in planning stages?

2. STATE CSO POLICIES AFFECTING MT. HOPE BAY

The briefing paper discussion outlines the Massachusetts CSO policy guiding the Fall River abatement project, and its implications for Mt. Hope Bay waters on both sides of the state line. Because this subject will be discussed in greater detail in the upcoming "CSO Briefing Paper", no Management Committee decision is requested at this time.

3. CONFORMANCE OF MT. HOPE BAY WATER QUALITY CLASSIFICATIONS

ISSUE A: Should water quality classifications in the Massachusetts and Rhode Island portions of Mt. Hope Bay be brought into conformance with one another?

4. POTENTIAL FOR RE-OPENING MT. HOPE BAY TO SHELLFISHING

ISSUE A: Should the States of Rhode Island and Massachusetts initiate and coordinate planning and activities aimed toward an eventual reopening of Mt. Hope Bay to shellfishing?

5. INTERSTATE COOPERATION IN MT. HOPE BAY MANAGEMENT

ISSUE A: Should permanent, state-funded organizations to pursue Rhode Island-Massachusetts cooperation in environmental protection of Mt. Hope Bay be supported?

ISSUE B: Should Rhode Island and Massachusetts initiate establishment of a mechanism for the two states to review activities, including permit issuance, conducted by the other state within the watershed, including Mt. Hope Bay?

ISSUE C: Should the States of Massachusetts and Rhode Island enter into interstate agreements establishing appropriate procedures for notification of wastewater treatment facility failure?

ISSUE D: Should Rhode Island and Massachusetts collaborate in the development of a joint contingency plan for response to significant Mt. Hope Bay oil spills or other "catastrophic" marine spills, nuisance algal blooms, fish kills, hurricanes, etc.?

6. RESEARCH NEEDS

ISSUE A: Should additional sources of information on causes of environmental degradation in Mt. Hope Bay and their solutions be developed?

BRIEFING PAPER

MOUNT HOPE BAY

I. INTRODUCTION

Mt. Hope Bay covers 13.6 square miles in the northeastern portion of Narragansett Bay, draining an area of 620 square miles surrounding the Taunton River in Massachusetts. (See Figure 1.) Although two thirds of the Bay lies within Rhode Island, 90 percent of its drainage area is in Massachusetts. Efforts to protect the quality of Mt. Hope Bay's waters are complicated by its long history as an industrialized, "working" bay, coupled with the split responsibilities that Massachusetts and Rhode Island hold for the Bay's health.

The Taunton River, Mt. Hope Bay's major tributary, is Narragansett Bay's largest freshwater source. The river constitutes over 25 percent of the total measured freshwater flow to Narragansett Bay (Reis, 1988) and represents the largest unaltered estuary (i.e. not dammed) remaining in the Narragansett Bay system. Tidal exchange with Narragansett Bay proper occurs at least up to Taunton, Massachusetts. Since 70 percent of the net flow from the Taunton River is discharged to East Passage (Spaulding, 1987), water quality in mid-Narragansett Bay may be, in part, dependent on pollutants discharged from the Taunton River basin.

While major environmental threats to Mt. Hope Bay are presented in other briefing papers ("Sewage Contamination/Pathogens" and "Toxics" in particular) the Bay possesses a number of unique qualities that warrant separate discussion. It is the purpose of this briefing paper to highlight the special characteristics of the Mt. Hope Bay ecosystem and to present some of the major environmental and management issues affecting it.

This paper will present policy issues in the following areas: 1) potential for reopening the Bay to shellfishing, 2) steps necessary for achievement of water quality standards, 3) opportunities for interstate cooperation for water quality protection, and 4) recommended research within Mt. Hope Bay.

II. ENVIRONMENTAL CONDITION OF MT. HOPE BAY

Mt. Hope Bay is completely closed to quahauging. The Kickamuit River, which flows into the southwestern portion of the Bay through the Towns of Warren and Bristol, was closed to shellfishing in May 1990 due to fecal coliform levels. While the shellfishing closure of Mt. Hope Bay has been in

effect for more than forty years, the Bay was used as a source of transplant stock in Massachusetts until 1987. It is possible that Mt. Hope Bay continues to play a role as a "breeder sanctuary" for shellfish (Pratt, 1988, p. 1).

Historically, Mt. Hope Bay has received contaminants from a wide array of industries and activities. In 1971, only four of the twelve municipal wastewater treatment plants discharging into the Bay or its tributaries were in compliance with federal regulations. Additionally, for many decades combined sewer overflows (CSOs) in five towns discharged into Mt. Hope Bay or its tributaries (Brubaker and Hamblett, 1989, p. 2). Numerous industries, including textile, tanning, electroplating, and chemical firms, discharged industrial process wastewater directly into the Taunton and Quequechan Rivers. Smaller discharges in Rhode Island on the western side of Mt. Hope Bay were noted in the Food and Drug Administration's (FDA) 1987 Sanitary Survey of Mt. Hope Bay; these sources are of concern because they directly impact the northern part of the area which could be conditionally approved (Rippey and Watkins, 1988, p. 45). While all of these discharges have been significantly reduced during the 1970's and 1980's, untreated sewage discharges continue to contribute to the water quality problems that prevent Mt. Hope Bay from meeting the "swimmable, fishable" standards mandated in the Clean Water Act.

A. Sewage Contamination

Sewage contamination is the most serious and immediate water quality problem in Mt. Hope Bay. Approximately three quarters of Fall River's sewer system is combined, carrying both stormwater and sanitary waste. Currently, 19 CSOs empty into Mt. Hope Bay or its tributaries in the Fall River area (Maguire, 1990). Additionally, the Taunton River receives the effluent of one CSO from the city of Taunton. A 1987 NBP-funded study conducted by the Food and Drug Administration found that CSO effluents account for more than 95 percent of the contamination entering Mt. Hope Bay as indexed by fecal coliform source strength (Watkins and Rippey, 1988, p. 62). According to this FDA study, "there is no question that the CSO problem in the Fall River area should receive the highest priority" (Watkins and Rippey, 1988; p. 62).

The Quequechan River in Fall River has been, by itself, a major source of sewage contamination. The Maguire report notes that eight CSOs discharge into the Quequechan River. The FDA study found that these discharges contributed contaminants to the Bay during both wet and dry weather. The inputs of these CSOs result in "river quality which is only slightly better than that of raw sewage" (Rippey and Watkins, p. 62). During one wet weather event, monitored by FDA, CSOs contributed 96 percent of the fecal coliform loading to Mt. Hope Bay (See Figure 2.). While wet weather CSO discharges are authorized if they are regulated and do not violate water quality standards, dry weather CSO discharges are illegal. The FDA investigators found that

CSOs, including the Quequechan River, contributed 98 percent of the total fecal coliform input in dry weather (Rippey and Watkins, 1988). [It should be noted that the FDA study did not investigate all potential sources; similar studies that included nonpoint source runoff/stormwater found that these sources contributed large quantities of fecal inputs.]

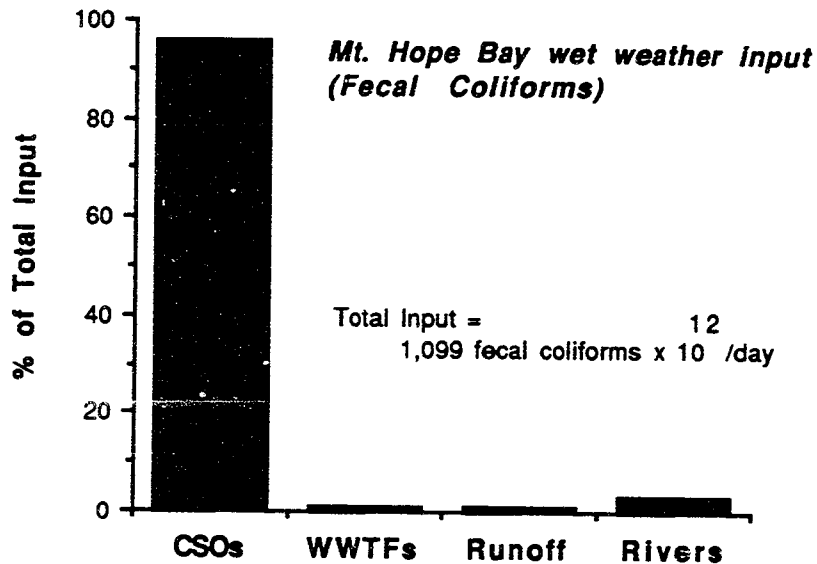


Figure 2

Since publication of the FDA report, however, Fall River has addressed its dry weather flows through improved maintenance, to the point where dry weather flows have been virtually eliminated (Sullivan, 1990; Lawrence Gil, MA DEP, pers. comm.). In contrast to fecal coliforms, Clostridium perfringens (a chlorine-resistant fecal indicator) from wastewater treatment facilities represent 23 percent of total Clostridium loading versus one percent of total loading based upon fecal coliforms. However, Clostridium perfringens indicator counts still show CSOs as the dominant source of fecal contamination to Mt. Hope Bay. These data suggest that, to the extent that current treatment facility disinfection practices are ineffective against viruses, the treatment facilities may continue to represent a significant fecal input after the CSOs have been abated. (See "Sewage Contamination-Pathogens" Briefing Paper.)

Once it became apparent that the Fall River CSOs needed addressing, the status of the CSO facilities planning process for Fall River was investigated. The NPDES permit required completion of the CSO facilities plan by October 1, 1985. However, the Draft Phase I Facilities Plan had never been completed by the City. Therefore, EPA issued an Administrative Order on September 29,

1987, that mandated completion of the Draft Phase I Plan within 45 days. After receipt and review of the Phase I Plan, the Phase II Plan was initiated after a second Order was issued by EPA on September 29, 1989. The City complied with the Order and submitted the Draft CSO Phase II Facilities Plan by the stipulated due date, November 1, 1990. This Plan will be finalized after undergoing agency and public review over the next two or three months. The CSO abatement strategy recommended by the draft plan is consolidation and satellite treatment for all Fall River CSO flows up to the one year storm. Once the final strategy is selected, a construction schedule will be implemented through an Order issued by EPA.

The major wastewater treatment facilities on Mt. Hope Bay are the Somerset and the Fall River facilities. The functioning of the Somerset facility was significantly improved through enlargement of capacity in 1989-90. The Fall River facility, which has provided secondary treatment since 1983, appears to be operating effectively as well (Save The Bay, 1989). Infiltration and inflow into the system constitute perhaps fifty percent of the flow reaching the plant on a dry day; Fall River's current maintenance efforts are focused on this problem (Sullivan, 1990). This additional influent is important because the Fall River treatment facility is operating close to or at capacity; while the plant was designed to treat an average wastewater flow of 31.3 MGD, flows currently average about 34.8 MGD (Maguire, 1990, p. VI-3).

B. Toxic Contaminants

The extent of contamination from organic chemicals and heavy metals has been studied in less detail for Mt. Hope Bay than for some other portions of Narragansett Bay. According to URI researcher Dr. James Latimer, the NBP-sponsored bay-wide cruises of 1985-86 provide the only available information on PCB's in the Taunton River. Levels found at that time were variable enough that no inferences could be drawn from the results (Latimer, 1988, p. 20). The NBP briefing paper "Health Risk from Chemically Contaminated Seafood" (Kipp, 1990) estimates the potential cancer risk from consumption of Mt. Hope Bay quahaugs. Results from three Mt. Hope Bay sampling sites indicate acceptable levels of risk from consumption of moderate amounts of quahaugs. [In the areas sampled, consumption of 1.2 g/day (about 3 meals/year) of Mt. Hope Bay quahaug meat is associated with a cancer risk of 7.7 in 1 million (Kipp, 1990, p. 16).] The analysis notes, however, that quahaug tissue data are not available from areas in closest proximity to pollution sources and that the figures may not adequately represent the risk to certain sensitive populations (e.g., pregnant women).

Prior to 1974 ICI, an industry in Dighton, Massachusetts discharged mercury-containing effluent into the Taunton River (Pratt 1988). Subsequent sediment samples from the Fall River ship channel analyzed by the U.S. Army Corps of Engineers during 1976 showed higher concentrations of

mercury from the Massachusetts than Rhode Island portions of Mount Hope Bay, i.e. maximum concentrations of 7.5 ppm versus 2.1 ppm (Pratt 1988). There do not appear to be more recent sediment mercury analyses from throughout Mount Hope Bay.

In response to the mercury contamination, the State of Massachusetts closed shellfishing in the most heavily impacted areas of the Taunton River (Nancy Ridley, MA Department of Public Health, pers. comm). Analyses published for Mount Hope Bay quahaugs collected in 1985-86 showed mercury concentrations below FDA alert values (Thibault/Bublely 1987). However, average concentrations of mercury in Mount Hope Bay shellfish were more than five times those found in samples from Greenwich Bay (Pratt 1988). These analyses seem to have considered only total mercury content and to not have discriminated between organic (i.e. methyl mercury) and inorganic fractions.

Beginning in October 1979, heavy metals were analyzed in quahaug samples from several Mount Hope Bay stations to satisfy NPDES requirements for New England Power Company's Brayton Point Station. [Note: average metals concentrations from this study are similar to those listed in Table 2 of Kipp, 1990; *Health Risk from Chemically Contaminated Seafood Briefing Paper*.] Over that period various sampling stations have been utilized, in particular after 1985, when several metals concentrations exhibited increasing trends, new stations were initiated along the Taunton River. At a mid-Bay station (i.e. Spar Island), zinc, copper, lead and nickel concentrations in quahaugs increased substantially from 1979 to 1985 (R. Dehart, MRI, Inc., unpublished 1990 data report for NEP). From 1985 to 1989 concentrations of these metals in quahaugs have decreased somewhat but still remain higher than when the monitoring program was initiated in 1979. During 1988 and 1989 quahaug samples taken at five stations along a gradient extending from 5.5 miles upstream of the Braga Bridge on the Taunton River to Spar Island (2.7 miles downstream of the Bridge) showed a significant gradient (decreasing downstream) in chromium, copper, lead, nickel and zinc (at least for one of the two years sampled). These concentration gradients may indicate upstream sources or be a function of sediment-metal complex transport relationships in the Mount Hope Bay estuary. In any event, further assessment of metal loading to the Taunton River and Mount Hope Bay is indicated.

C. Other Sources

The Cole and Lee's Rivers in Swansea have both exhibited signs of serious sewage contamination. The Cole River has been closed to shellfishing since 1986. The Lee's River, closed since 1937, has periodically shown high fecal coliform levels, strong odors, and floating scum (Save the Bay, 1989). It has experienced a number of fish kills, the most recent occurring in July, 1988. A

MA Division of Marine Fisheries investigation concluded that heavy rainfall had caused one or more of the sewage disposal systems along the river to fail (Kolek, 1988, p. 5). Finally, while it is most likely that significant pollution impacts from stormwater and nonpoint sources affect Mt. Hope Bay waters in both Rhode Island and Massachusetts, few of these inputs are well documented.

D. Fishery Resources

Shellfish

Although closed to routine commercial harvest, Mount Hope Bay has in the past been used by both the States of Rhode Island and Massachusetts as a source of shellfish for transplantation programs. In 1959, 1961 and 1962 in excess of 15,000 bushels of quahaugs were transplanted from Mount Hope Bay (Pratt 1988). Massachusetts has used Mount Hope Bay as a source for shellfish transplants that included hard clams and oysters, until recent years.

Pratt et al.'s 1985 survey (Pratt et al. 1988) found average quahaug densities much lower in Mount Hope Bay than the Providence River (the two areas surveyed). Two sediment types were surveyed in Mount Hope Bay (i.e. clay/silt and sand/silt/clay). Although quahaug densities were similar for the Providence River and Mount Hope Bay in silt/clay sediments, Mount Hope Bay densities were one to two orders of magnitude lower for sites with sand/silt/clay (Pratt et al. 1988). Furthermore, Mount Hope Bay quahaug populations were dominated by large (approximately 96 mm) individuals (Figure 3). Smaller clams were significantly lacking in dredged samples; however, Pratt et al.'s sampling techniques could not effectively sample clams less than approximately 60 mm long (Pratt et al. 1988). However, the lack of clams in the 60 to 77 mm size range in Mount Hope Bay may indicate no recruitment in this area for several years. Further studies should be undertaken to better explain the lack of smaller clams particularly in the context of Mount Hope Bay being considered as a potential "breeder sanctuary" (Pratt 1988).

Finfish

Durbin and Durbin (1990) summarized data from several ichthyoplankton assessment and long-term monitoring programs that included projects in Mount Hope Bay (Hermann, 1958, 1963; Marine Research, Inc. 1972 to 1986, 1974; Bourne and Govoni 1988). While species specific patterns in spatial and temporal abundance were noted, 75% (8 of 12) of the most abundant fish species (as eggs and larvae) had centers of abundance in upper Narragansett and Mount Hope Bays (Durbin and Durbin 1990). Species exhibiting this pattern of egg and larval abundance included menhaden, anchovy, winter flounder, tautog, weakfish, windowpane, silversides and seaboard goby. Durbin and Durbin (1990) note that "the uppermost, most environmentally impacted areas of Narragansett and Mount Hope Bays also provide the major

spawning/nursery areas for most of the locally abundant fish species." The usefulness and importance of long-term databases is shown in trends documented by the Marine Research, Inc. monitoring program for the New England Power Company's Brayton Point Station. These data show three-fold variation in total fish larval numbers during 1972 to 1986 with a four to five year periodicity (Durbin and Durbin 1990). Thus, further research is required particularly for such commercially-important species as winter flounder to better characterize their use of these areas throughout Narragansett Bay.

In the context of the Narragansett Bay Project it would be particularly useful to document changes in spawning and nursery areas with actions taken as part of the Comprehensive Conservation and Management Plan.

III. GOAL FOR POLLUTION ABATEMENT EFFORTS IN MT. HOPE BAY

PROPOSED GOAL: Rhode Island and Massachusetts should jointly develop schedules for pollution abatement in shared water bodies, including Mt. Hope Bay, in order to meet water quality standards.

Most, if not all, of the management issues presented below represent specific steps geared to result eventually in full attainment of water quality standards for all Mt. Hope Bay waters. All of the issues fit into the framework of an overarching approach that would entail joint planning between Rhode Island DEM and Massachusetts DEP. It is suggested that these agencies jointly develop schedules for the pollution abatement activities needed to bring shared water bodies to water quality standards. As the largest shared resource, Mt. Hope Bay merits extensive collaborative planning efforts and would serve as an excellent model for additional dual-state environmental protection activities.

IV. ISSUES AND OPTIONS TO BE CONSIDERED

1. FALL RIVER CSO ABATEMENT EFFORTS

ISSUE A: Should EPA Region I and the Commonwealth of Massachusetts continue activities to facilitate and expedite the Fall River CSO abatement project that is now in planning stages?

BACKGROUND

As noted above, FDA surveys in Mt. Hope Bay showed that CSOs were responsible for 96% of the fecal coliform loading to the Bay in wet weather periods (Rippey and Watkins, 1988; Roman, 1990). Fall River is now in the process of planning for CSO abatement. The City has a two phase CSO abatement plan involving elimination of dry weather discharges (complete)

and abatement of wet weather discharges (draft facilities plan completed November 1, 1990). Although the newly-released CSO Facilities Plan for this project recommends satellite treatment, the potential for diverting some flows to the wastewater treatment plant could be investigated further. Upon completion of the facilities plan, ensuring that construction activities also proceed in a timely manner will involve securing adequate funds for a potentially costly project. [Capital cost estimates presented in the Draft CSO Facilities Plan of November, 1990, are \$122.4 million in real 1990 dollars (Maguire, 1990, p. XVIII-16).]

ALTERNATIVES CONSIDERED:

A-1. No action.

A-2. Yes, EPA and MA should take action to ensure the timely completion of the Fall River CSO abatement project.

RECOMMENDED ALTERNATIVE: A-2

The attention focused on the Fall River CSO cleanup since 1987 has facilitated a strong planning effort. Continued support at the Federal and State as well as local level is necessary for successful completion of this undertaking, which will have such a significant impact upon Mt. Hope Bay waters.

State monies from the Commonwealth of Massachusetts totaling \$12 million for studies and planning are currently earmarked for the Fall River project (Joseph Brady, Office of Senator Carlin, pers. comm.). Priority lists issued by MA DEP's Bureau of Municipal Facilities for the state revolving fund show Fall River receiving high priority for Fiscal Year 1991, ranking just behind the Massachusetts Water Resources Authority and New Bedford. Despite the fiscal uncertainties facing Massachusetts, the Commonwealth should commit itself to continued significant levels of state support for this project in the upcoming years. Fall River should also pursue any available Federal funds.

2. STATE CSO POLICIES AFFECTING MT. HOPE BAY

The following discussion outlines the Massachusetts CSO policy guiding the Fall River abatement project, and its implications for Mt. Hope Bay waters on both sides of the state line. Because this subject will be discussed in greater detail in the upcoming "CSO Briefing Paper", no Management Committee decision is requested at this time.

A long-term goal of Fall River's CSO abatement project is to produce waters clean enough to allow a resumption of shellfishing in portions of Mt. Hope Bay. Rhode Island and Massachusetts both have recently developed new CSO policies. It should be noted that the CSO policies of the two states differ; Mt.

Hope Bay presents one of a number of cases in the northeast in which the CSO policy of the upstream state greatly affects the waters of its downstream neighbor. A key question regarding Mt. Hope Bay's management is whether Fall River's anticipated compliance with the new Massachusetts CSO policy will correct water quality violations in Rhode Island due to Fall River CSOs.

EPA Region I issued a CSO policy statement in October, 1987. In this policy, Region I stated that "the legitimate goal of CSO abatement planning is the implementation of that treatment needed to achieve compliance with water quality standards at all times or, alternatively, the complete elimination of CSO discharges." The Massachusetts CSO policy is water-quality based; its goal is to eliminate receiving water impacts. Where elimination is impracticable, the removal of impacts to less sensitive locations is to be explored. The "target" for treatment design is to meet water quality standards for the 3 month, 6 hour storm. While Rhode Island has more restrictive design targets (effective primary treatment for the 1 year, 6 hour and more frequently occurring storms), its policy emphasizes technology/design standards.

For waterbodies shared between Massachusetts and Rhode Island, compatible CSO policies might facilitate the efforts of each state to bring waters to current standards. Alternative approaches for improving the compatibility of CSO policies include the following:

- 1) No action at the state level may be advisable: both states' CSO policies, while different, satisfy the CSO policy developed by EPA Region I. As stated above, rather than focusing on selection of alternative approaches or technological standards, EPA requires compliance with water quality standards. Rhode Island's more stringent design standards do not necessarily indicate a more stringent CSO policy overall. However, although EPA has approved these different approaches, it must ensure that the two approaches succeed in achieving comparable water quality results, or that states alter water quality classifications to accommodate occasional water quality excursions.

- 2) The states could conduct negotiations geared toward the development of more parallel CSO policies, at least for those CSOs which impact the neighboring state's waters. EPA Region I and/or New England Interstate Water Pollution Control Commission (NEI) (See discussion of NEI below under "Interstate Cooperation in Mt. Hope Bay Management") could be involved in development of a solution.

- 3) EPA could request that the states develop more parallel CSO policies in future revisions.

3. CONFORMANCE OF MT. HOPE BAY WATER QUALITY CLASSIFICATIONS

ISSUE A: Should water quality classifications in the Massachusetts and Rhode Island portions of Mt. Hope Bay be brought into conformance with one another?

BACKGROUND

States are required by the federal Clean Water Act to establish water quality classifications and standards for all fresh and salt water bodies. The classification of waters defines the water quality goals of a water body by designating uses and setting criteria necessary to protect those uses (RI Water Quality Regulations for Water Pollution Control, 1988, p. 10). For sea water, Class SA waters are intended to be used for bathing and contact recreation, shellfish harvesting for direct human consumption, and fish and wildlife habitat; Class SB waters are intended to be used for shellfishing harvesting for human consumption after depuration, bathing and other primary contact recreational activities, and fish and wildlife habitat; Class SC waters are intended to be used for boating and other secondary contact recreational activities, fish and wildlife habitat, industrial cooling, and are intended to have good aesthetic value.

For Rhode Island and Massachusetts seawaters, class-specific criteria exist for dissolved oxygen; sludge, oils, and floating solids; color and turbidity; total and fecal coliform bacteria; taste and odor; pH; and allowable temperature increase. Additional minimum criteria apply to all waters (e.g. aesthetics, nutrients), and both states apply EPA criteria for specific chemical pollutants to all state waters. While the states' criteria are similar to one another, specific requirements differ somewhat. States are required to ensure that their waters meet water quality standards.

Figure 4 shows the water quality classifications within Mt. Hope Bay. Massachusetts and Rhode Island have assigned different classifications to Mt. Hope Bay waters, with some adjacent waters receiving lower classifications in Rhode Island than in Massachusetts. Both Massachusetts and Rhode Island classified their waters before the initiation of federal involvement in state water quality programs. The Mt. Hope Bay classifications were in conformance between the two states, and were approved in 1955 by the New England Interstate Water Pollution Control Commission. (Kumekawa, 1987, p. 115) However, since Massachusetts changed its classifications in 1967, adjacent waters have been classified differently by the two states. (Water quality standards are updated every three years.)

Differences in state water quality classifications could potentially drive different long-term management strategies for adjacent portions of the Bay.

Recommendations to remedy this situation would be useful under the following conditions: 1) if each state's management efforts would be improved by making classifications uniform; 2) if the discrepancy in water quality classification exacerbates poor water quality conditions in either state's portion of Mt. Hope Bay; or 3) if the discrepancy in water quality classification is a factor in either state's efforts to achieve water quality standards.

ALTERNATIVES CONSIDERED:

A-1. No. No major policy issues or conflicts have been identified as resulting from the discrepancies in classification schemes; therefore, no action is needed at this time.

A-2. Yes. EPA Region I and NEI both present channels for negotiating compatible classifications. Jointly-developed water quality classifications would reflect a shared vision for future management of Mt. Hope Bay waters. Management goals for adjacent waters in each state would then be expected to more closely complement one another.

RECOMMENDED ALTERNATIVE: A-2.

While the current water quality management efforts of each state have not yet confronted major obstacles presented by these discrepancies, it is likely that efforts to return Mt. Hope Bay waters to their designated uses (especially opening SA waters to shellfishing) may be less effective if they are not coordinated.

The States should be involved in one another's efforts to attain the standards required by water quality classifications. Because Rhode Island's ability to attain water quality standards in Mt. Hope Bay is dependent upon a consistent water pollution control program in Massachusetts and vice versa, the states should consider means of negotiating to ensure that planning goals and implementation of water quality protection efforts are consistent. Both NEI and EPA Region I have roles in securing cooperation between states in revising and meeting water quality classifications.

4. POTENTIAL FOR RE-OPENING MT. HOPE BAY TO SHELLFISHING

ISSUE A: Should the States of Rhode Island and Massachusetts initiate and coordinate planning and activities aimed toward an eventual reopening of Mt. Hope Bay to shellfishing?

BACKGROUND

The potential for re-opening Mt. Hope Bay to shellfishing has been examined in detail by a number of groups. Sanitary surveys conducted by FDA in 1986-87

indicated that the southwestern portion of Mt. Hope Bay could be managed as a conditionally-approved shellfish growing area (Rippey and Watkins, p. 60). The recommendations included several caveats: that a reopening be conditioned on positive results of a study to determine the time of travel for pollutants flowing from the Fall River/Taunton River area to the conditional area; that additional analyses continue to meet the sanitary standards; and that shellfish samples be analyzed for chemical contaminants and found below defined tolerances, FDA action levels as outlined on page 29 of the "Health Risk" Briefing Paper (Rippey and Watkins, pp. 60-61).

A RIDEM/FDA hydrographic study was conducted in late 1989 to help determine if a portion of the southwestern part of Mt. Hope Bay could be operated as conditionally approved according to the criteria of the National Shellfish Sanitation Program (NSSP). Two potential sources of pollution to this area were examined: the Fall River WWTF and the main channel of the Taunton River at the state line. It is crucial to know travel times for pollutants from these sources in order to facilitate necessary procedures for legally notifying harvesters to halt activity before potential pathogenic contaminants from untreated sewage reaches the harvest area.

The study found both short travel times and little dilution of dye tracer. Travel time was found to be 93 minutes for WWTF effluent and 130 minutes for the nearest major stormwater overflow (DEM/FDA, 1990, p. 9). The study concluded that "the area between Common Fence Point and the Mt. Hope Bay Bridge in the path of the dye studies should not be upgraded to conditionally approved because of short pollution source travel times and inadequate dilution." (p. 10)

ALTERNATIVES CONSIDERED:

A-1. No action. Mt. Hope Bay, including, on a seasonal basis, the Kickamuit River, will most probably remain closed until Fall River's CSO abatement project has been completed. Once CSOs in the Fall River area are satisfactorily abated, studies prerequisite to reopening the bay can be undertaken.

A-2. A series of planning activities and studies should be outlined concurrent with CSO abatement efforts in order to position the states of Rhode Island and Massachusetts to manage Mt. Hope Bay for shellfishing as soon as conditions allow.

Several conditions will be necessary before Mt. Hope Bay can be considered for a conditional opening. First, extensive research on toxics levels and potential health risks to seafood consumers will be necessary (See "Research Needs" below). Additionally, RIDEM and MA Division of Marine Fisheries must set criteria for shellfishing within the conditionally open area. These criteria must establish conditions under which the Bay would be closed and the

necessary conditions for safely resuming shellfishing activities. The information needed for setting such criteria will require an intensive monitoring effort on the part of RIDEM and MA DMF. RIDEM's Division of Water Resources should be supported in planning and undertaking this monitoring effort.

Second, RIDEM and MA DEP will have to develop a new system for notification of a closure. Due to the rapid travel time of waters and pollutants across the Bay (130 minutes), the currently required system of newspaper notification of a closure would clearly be inadequate. As an alternative, Rhode Island and Massachusetts would need to investigate use of a visual marker system used to alert shellfishermen of a closure. Such a modification would require a change in state law.

Third, in order to pursue eventual reopening of Mt. Hope Bay, Rhode Island should enter into an agreement with Massachusetts establishing a mechanism for immediate notification of RIDEM in the event of a wastewater treatment facility failure in the Massachusetts communities on Mt. Hope Bay. This agreement must provide for strict interstate enforcement of this notification requirement. (See Issue 5-C in this Briefing Paper.)

Finally, Mt. Hope Bay's suitability as an open shellfishing area should be examined by RIDEM's Division of Fish and Wildlife. The benefits of opening this area must be weighed against the significant additional sampling requirements (twelve times/year) and other necessary regulatory/management efforts. In addition, Mt. Hope Bay's role, if any, as a breeder sanctuary for other portions of Narragansett Bay is not well understood. Additionally, the potential for portions of Mt. Hope Bay to serve as part of the shellfish relocation program should be examined.

RECOMMENDED ALTERNATIVE: A-2

5. INTERSTATE COOPERATION IN MT. HOPE BAY MANAGEMENT

ISSUE A: Should permanent, state-funded organizations pursue Rhode Island-Massachusetts cooperation in environmental protection of Mt. Hope Bay be supported?

BACKGROUND

The Bay State/Ocean State Initiative is an effort to provide a mechanism for Rhode Island and Massachusetts to cooperate in preserving the environmental resources that are shared by both states. The bill providing for the creation of this commission passed the Rhode Island General Assembly in the 1990 session and is currently on the floor of the Massachusetts House. The commission is currently developing its goals and recommendations, has

begun applying for grants, and has held a conference on air emissions generated by coal and gas combustion.

Another important organization exists for the purpose of facilitating interstate cooperation in pollution abatement. The New England Interstate Water Pollution Control Commission (NEI) is an interstate compact among the six New England states. Both Rhode Island and Massachusetts are members. The NEI compact, which has been in existence since 1947, applies to "streams, ponds and lakes which are contiguous to two or more signatory states...and...tidal waters ebbing and flowing past the boundaries of two states." (R.I. General Laws 46-16-1)

NEI has specific authority for involvement in the waterbody classification process. The law states that, "Each signatory state agrees to submit its classification of its interstate waters to the commission for approval. It is agreed that after such approval all signatory states...will work to establish programs of treatment of sewage and industrial wastes which will meet standards established by the commission for classified waters."

The law includes provisions for enforcing interstate compliance with water quality requirements. If waters at or near a state boundary do not meet standards, NEI has the authority to require any necessary remedial action. If remedial action is not taken, NEI may hold a public hearing to ascertain relevant facts, "issue an order directed to the source or sources of waste discharge causing or contributing to the deteriorated water quality" prescribing remedial action and schedules for meeting abatement measures based upon evidence shown at the public hearing, and enforce this order judicially.

ALTERNATIVES CONSIDERED:

A-1. No action.

A-2. The environmental agencies of Rhode Island and Massachusetts should more fully utilize the authority of the New England Interstate Water Pollution Control Commission to address disputes arising over the management of Mt. Hope Bay.

The legislation establishing NEI clearly provides a potentially powerful mechanism for securing interstate cooperation in efforts to improve Mt. Hope Bay's water quality in a timely manner. According to NEI's Executive Director Ron Poltak, NEI's enforcement authority has not been utilized in recent years but the Commission is in a good position to become involved in dispute resolution between states.

A-3. The States of Rhode Island and Massachusetts should support the development and full utilization of a Bay State/Ocean State Compact.

Successful activity on the part of a Bay State/Ocean State Commission will require adequate funding for staffing from both states. In its planning stages, it will be crucial for the Commission to outline a range of key issues and goals for improving the dual-state management of shared resources; technical guidance from each state's environmental agencies will also be necessary. Recommended priorities include oil spill response planning, shared enforcement and permit review, industrial pretreatment in Fall River and Taunton, and support for Fall River's CSO abatement activities.

RECOMMENDED ALTERNATIVE: A-2 and A-3.

ISSUE B: Should Rhode Island and Massachusetts initiate establishment of a mechanism for the two states to review activities, including permit issuance, conducted by the other state within the watershed, including Mt. Hope Bay?

BACKGROUND

As a part of its work on "consistency" the Bay Project is developing information concerning both the legal authority and actual use of mechanisms for securing inter- and intra-jurisdictional cooperation. Within the watershed there are numerous government agencies with some responsibility for assuring consistent action. For example, both states have mechanisms under Presidential Executive Order 12372 to review proposed federal activity or funding that would occur within the state's borders. Both states also have CZMA agencies and nonpoint source pollution programs with federal consistency authority. In addition, the EPA has authority to develop consistent watershed action through its direct regulatory and oversight authority. Alternatives for improving the overall system for coordinated reviews and actions will be presented to the Management Committee at a future meeting. However, specifically with respect to Mt. Hope Bay, a general approach can be considered at this time.

ALTERNATIVES CONSIDERED:

B-1: No action.

B-2: Yes, Rhode Island, Massachusetts, and EPA Region I should initiate establishment of a permit review mechanism for activities affecting resources of shared concern. Because NPDES permits in Massachusetts are issued by EPA Region I, EPA must be equally involved in coordination of permit reviews.

RECOMMENDED ALTERNATIVE: B-2.

Currently, no formal system exists for agencies in Massachusetts and Rhode Island to review and comment upon permit applications filed in each other's state. Such a system is essential for unified management of Mt. Hope Bay's natural resources. Agency staff members have indicated that such a mechanism would be useful in their own attempts to assess impacts of projects which clearly will effect both jurisdictions. Currently, any expert opinion from an agency counterpart in a neighboring state is dependent upon a staff member's ability and initiative to personally contact a counterpart.

ISSUE C: Should the States of Massachusetts and Rhode Island enter into interstate agreements establishing appropriate procedures for notification of wastewater treatment facility failure?

ALTERNATIVES CONSIDERED:

C-1: No action.

C-2: The States of Massachusetts and Rhode Island should enter into interstate agreements establishing appropriate procedures for notification of wastewater treatment facility failure.

RECOMMENDED ALTERNATIVE: C-2.

As discussed above, a system of notification of wastewater treatment facility failure will be essential to any potential reopening of Mt. Hope Bay to shellfishing. This system must include strong incentives and enforcement authority to ensure that wastewater treatment facilities to comply with notification requirements. EPA Region I's involvement and support, in addition to that of the two states, is necessary.

ISSUE D: Should Rhode Island and Massachusetts collaborate in the development of a joint contingency plan for response to significant Mt. Hope Bay oil spills or other "catastrophic" marine spills, nuisance algal blooms, fish kills, hurricanes, etc.?

ALTERNATIVES CONSIDERED:

D-1: No action.

D-2: The States of Rhode Island and Massachusetts should collaborate in the development of a joint contingency plan for response to significant Mt. Hope Bay oil spills or other "catastrophic" marine spills, nuisance algal blooms, fish kills, hurricanes, etc.

RECOMMENDED ALTERNATIVE: D-2.

Oil spill response efforts in this region can include a range of entities--the U.S. Coast Guard, NOAA, EPA, MA DEP, RI DEM, MA CZM, RI CRMC, RI Emergency Management Agency, and local fire departments and boards of health. In order to ensure that this network is able to operate efficiently in the case of a spill involving Rhode Island and Massachusetts waters, coordination between the states should be undertaken.

Rhode Island and Massachusetts are both currently updating their oil spill response plans (Massachusetts for Mt. Hope Bay/Buzzards Bay only). An effort to share information has begun, and this cooperation should be encouraged and systematized. This could be accomplished simply by including a section in each state's plan for information regarding the other state's plan. This information would include general response plans for Mt. Hope Bay and key contact people at the state and local levels. In addition, NOAA's Region I office in Boston is preparing to update its "Oil and Hazardous Substances Planning and Response Considerations". This plan should explicitly address emergency cleanup and scientific response in the event of a major spill in Mt. Hope Bay or the Taunton River.

6. RESEARCH NEEDS

ISSUE A: Should additional sources of information on causes of environmental degradation in Mt. Hope Bay and their solutions be developed?

BACKGROUND

Compared to other portions of Narragansett Bay, investigations into sources of Mt. Hope Bay pollution and mitigation of problems have been limited in number. Major sources of sewage contamination have been well-studied due to the significance of the problem. However, questions remain regarding nonpoint sources of pathogen inputs, historic and contemporary nutrient and toxics loadings to the Bay, and the status of finfish and shellfish resources.

ALTERNATIVES CONSIDERED:

A-1: No action.

A-2: Yes, several specific initiatives targeted toward improving our knowledge of key sources of contamination should be supported. Priority recommendations include the following:

a. The recently-awarded CZMA Section 309 grant for a Taunton River basin study should be seen as an opportunity for key state agencies to cooperate in design and oversight of research.

The Urban Harbors Institute of the University of Massachusetts at Boston, in collaboration with MA CZM and RI CRMC, has recently been awarded CZMA Section 309 funds to conduct a study of the Taunton River and to develop a preliminary "action plan" of recommendations for protection of the river. The project will compile existing data and possibly undertake a modest monitoring program to fill in data gaps. It will then develop an action plan of recommended mitigation measures to reduce significant sources of pollution and restore impaired resources. Urban Harbors proposes to coordinate a steering committee to include MA DEP, MA DMF, RIDEM, RI CRMC, MA CZM, URI-GSO/CRC, NBP, UMass Boston, USEPA, City of Fall River, and Save the Bay. Southeastern Massachusetts University should also be considered as a potential participant.

Several conditions within Massachusetts and Rhode Island will be necessary to ensure the success of this undertaking. First, the opportunity must be presented for the above-mentioned groups, particularly each state's key environmental agencies, to fully participate in guiding the project. Second, additional research that will continue to provide adequate data on the Mt. Hope Bay basin must be a priority for each state's environmental agency. While efforts to develop an action plan for this area are needed at this point, it is clear that significant research needs remain, and MA DEP's Division of Water Pollution Control should be particularly supported in continuing its ongoing problem assessment in Mt. Hope Bay.

Finally, a centrally important aspect of this project is the potential for building on this relatively modest grant for eventual development of a Special Area Management Plan (conducted by RI CRMC and MA CZM) or other basin-wide water quality plan. The Steering Committee for the current project should evaluate mechanisms for initiation of a more comprehensive research/planning effort.

b. EPA and Massachusetts should encourage New England Power, Brayton Point to participate in analysis of historical data collected in Mt. Hope Bay.

As a condition of its NPDES permit, the Brayton Point electric power plant has been required to collect extensive water quality and living resource data on Mt. Hope Bay for close to 20 years. However, this data has not been compiled and assessed. The potential to utilize existing long-term data is particularly important in Mt. Hope Bay, because it has received relatively little attention as a site for other water-quality monitoring efforts.

MA DEP, Division of Water Pollution Control expects to receive a \$40,000 grant to begin compiling this data. Additionally, Brayton Point fisheries data have been compiled and partially analyzed by URI researchers funded by the NBP. However, more extensive efforts to assess this wealth of information should be encouraged. Finally, the Brayton Point plant has not been required to monitor for mercury levels despite concern over mercury contamination in the Taunton River-Upper Mt. Hope Bay area. The Brayton Point Technical Advisory Group should consider adding mercury to the list of contaminants currently monitored.

c. Additional information on metal and organic contaminants in MHB should be developed.

As noted earlier in this briefing paper, while available information does not suggest higher health risks from consumption of Mt. Hope Bay seafood, sampling stations have not been located in likely areas of high toxics contamination. The "Health Risk from Chemically Contaminated Seafood Briefing Paper" notes, "It would be necessary to collect and analyze quahaugs from (these areas) before any decision could be made about reopening all of Mt. Hope Bay (Kipp, 1990, p. 32).

d. Additional information on nonpoint sources of pollution should be developed.

Based upon the promise of State reimbursement, the Town of Swansea committed \$50,000 to investigate sewage contamination and historical fish kills in the Lee's River. Unfortunately, these funds were diverted for other purposes and the study was postponed. Swansea and the Commonwealth of Massachusetts should be encouraged to cooperate in identifying funds for this important study and conducting it in a timely manner.

Additionally, specific portions of Mt. Hope Bay communities contributing untreated septage should be identified. Swansea, Tiverton, Warren, and the Taunton River communities of Freetown, Dighton, and Berkley are all at least partially dependent upon septic systems. Systematic investigation of documented or potential contamination from septic systems in these areas should be considered. These and other potential nonpoint source problems in the Mt. Hope Bay basin should be given high priority consideration in each state's CWA Section 319 grants and in Soil Conservation Service activities. Information concerning existing or potential nonpoint source problems will be increasingly useful given the significance of projected growth rates in Mt. Hope Bay communities in upcoming years. [Between 1985 and 2010, the RI Administration Department's Division of Planning projects population increases of 8 percent, 10 percent, 15 percent, and 27 percent, respectively, for the Mt. Hope Bay communities of Bristol, Warren, Tiverton, and Portsmouth (Division of Planning, 1989, p. 4.8).]

Finally, a study to identify potential upstream sources of fecal contaminants in the Kickamuit River should be considered by RIDEM. Such a study would help to indicate the extent to which the Fall River CSO abatement project will result in the water quality improvements necessary for a reopening of this area.

e. Further study of the potential for and causes of hypoxic events in the Lower Taunton and Mt. Hope Bay should be supported.

Surveys conducted over the summer of 1990 by MA DEP's Division of Water Pollution Control have found seasonal low levels of dissolved oxygen (Lawrence Gil, MA DWPC, pers. comm.). A comprehensive cooperative dissolved oxygen survey should be given high priority by MA DWPC and RIDEM.

RECOMMENDED ALTERNATIVE: A-2.

Each of the investigations noted above will provide information needed for specific resource management decisions anticipated over the next several years. Additionally, a future research focus on Mt. Hope Bay would enable this relatively small system to be used as a model for other parts of Narragansett Bay. An analogy is the Buzzards Bay Project's focus on Buttermilk Bay; by targeting limited resources on study of this small, sensitive embayment, knowledge of its characteristics and responses were used to make informed resource management decisions in other portions of Buzzards Bay. As an important system within Narragansett Bay that is more manageable in size, Mt. Hope Bay would serve as an excellent focus for study of water quality protection efforts that would be transferable to other parts of the Bay.

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SECTION II:

**PROCEEDINGS FROM
NARRAGANSETT BAY PROJECT
MANAGEMENT COMMITTEE**

NOVEMBER 26, 1990

APPENDIX A:

MANAGEMENT COMMITTEE MEETING MINUTES

NOVEMBER 26, 1990

**NARRAGANSETT BAY PROJECT
MANAGEMENT COMMITTEE MEETING**

November 26, 1990
1:00 p.m. - 3:30 p.m.

Meeting Minutes

I. Announcements

Ms. Caroline Karp (NBP) distributed a memo from NBP staff regarding institutional arrangements for the implementation of the CCMP and invited written comments and suggestions from the Management Committee.

Mr. Malcolm Grant (Chair) raised the possibility of the need to limit the time spent discussing noncontroversial issues, and noted that future meetings would be at least one hour shorter.

II. Mount Hope Bay

ISSUE 1. A: Should EPA Region I and the Commonwealth of Massachusetts continue activities to facilitate and expedite the Fall River CSO abatement project that is now in planning stages?

Alternative A-1: No action.

Alternative A-2: EPA and MA should take action to ensure the timely completion of the Fall River CSO abatement project.

Mr. Roger Greene (RIDEM) said that the NBP can not accomplish its goals without this timely completion.

Mr. Juan Mariscal (NBC) said that the word "facilitate" in the issue statement needs to be clarified.

Ms. Ann Dixon (NBP) noted that the staff intentionally had made the recommendation general in order to cover types of support that might go beyond funding support.

Ms. Gwen Ruta (EPA Region I) suggested using the words "continue enforcement activities."

Mr. Grant suggested including technical support in this recommendation.

Ms. Katrina Kipp (EPA Region I) suggested including recommendation that EPA continue to enforce Fall River's compliance with CSO abatement once the Fall River facilities plan is approved.

Mr. Mariscal suggested listing examples of the type of actions EPA and MA should take.

ISSUE 2. State CSO policies affecting Mt. Hope Bay.

Because this subject will be considered in the "CSO Briefing Paper," no Management Committee decisions were required at this time and no discussion took place.

ISSUE 3. A: Should water quality classifications in the Massachusetts and Rhode Island portions of Mt. Hope Bay be brought into conformance with one another?

Alternative 3.A-1: No action.

Alternative 3.A-2: EPA Region I and NEI both present channels for negotiating compatible classifications. Jointly-developed water quality classifications would reflect a shared vision for future management of Mt. Hope bay waters. Management goals for adjacent waters in each state would then be expected to more closely complement one another.

Dr. Walter Combs (RIDOH) asked if there were any reason why the two states' classifications should be different.

Ms. Dixon said that the classifications were the same at one time, and then later diverged, but that she did not know of any reason to keep them different.

Dr. Christopher Deacutis (RIDEM) expressed concern about the ramifications of changing classifications, noting that some changes would require a policy change in RI. He noted that RI uses classifications as a goal, not a statement of current conditions on which decisions can be made.

Mr. Steven Halterman (MA DEP) commented that MA recently clarified and revised its water quality standards. He offered to obtain information about these revisions from Mr. Warren Kimball.

Mr. Grant asked if these revisions meant that the ramifications of conforming the two states' classifications are not as great as they appear.

Mr. Halterman said yes.

Dr. Jan Prager (EPA ERL-N) asked if MA had a calculable zone for shallow water.

Mr. Halterman said that he believed MA had followed EPA guidelines for zones of initial dilution.

Ms. Karp noted that, in general, the states' water quality classifications agree, but the differences on specific issues potentially can create major problems. For example, MA's CSO policy requires abatement to meet MA water quality standards but these standards are potentially less stringent than RI's requirements for reopening shellfish beds.

Mr. Kevin Brubaker (Save the Bay) noted that MA has flexibility in choosing among three different water quality standards. He suggested that MA adopt a policy decision to use *Gold Book* criteria for Mt. Hope Bay because RI uses it.

Mr. Joe Migliore (RIDEM) noted that the RI Shellfish Program adheres to ISSC standards that have been adopted by both states. For shellfishing purposes, he said, the states do not use the water quality classification.

Mr. Mariscal suggested that perhaps using ISSC classification standards could provide a broader solution.

Dr. Deacutis noted that any change in criteria for RI SA-SB-SC classifications would require that RIDEM measure those waters and determine if they were meeting their new goal. He also noted that one potential approach for bringing the Mt. Hope Bay water quality classifications into conformance would be for RI to shrink its SC zone, use the SB classification for a buffer zone around the SC, and declare a portion of the current SB zone an SA zone.

Ms. Karp noted that RI and MA ISSC criteria for fecal coliform were different.

Mr. Migliore said that the difference was small; MA and FDA use 14, RI uses 15.

Mr. Mariscal said he'd like to see a comparison between RI and MA SA-SB-SC standards and ISSC criteria before making a decision.

Dr. Prager asked if we could resolve this issue by having all sides adhere to the more stringent standard.

Mr. Grant concluded that there was consensus on the need for consistent standards. He suggested that the Management Committee endorse this statement as a policy goal and ask the NBP staff and other concerned agencies to develop specific alternatives for achieving consistency.

Mr. Al Beck (Narragansett Bay - National Estuarine Research Reserve) said he'd like to narrow down the issue more first. He said this recommendation should go beyond pathogens to include all water quality standards, and to explicitly link these standards to an action program for achieving consistency and conformance.

Mr. Grant directed staff to present a comparison of water quality criteria for the two states.

Ms. Ruta suggested that throughout the briefing paper, the Committee should flush out more specifically the roles of different agencies and entities in reaching conformance.

Mr. Grant agreed and directed the staff to develop specific recommendations regarding agency responsibilities.

ISSUE 4.A: Should the States of Rhode Island and Massachusetts initiate and coordinate planning and activities aimed toward an eventual reopening of Mt. Hope Bay to shellfishing?

Alternative 4.A.1: No action.

Alternative 4.A.2: A series of planning activities and studies should be outlined concurrent with CSO abatement efforts in order to position the States of Rhode Island and Massachusetts to manage Mt. Hope Bay for shellfishing as soon as conditions allow.

Mr. Richard Sisson (RIDEM) said this recommendation would create new management alternatives needed to obtain optimal results from Mt. Hope Bay shellfish beds. He said that the NBP should pursue cleanup and possible unconditional reopening of Mt. Hope Bay shellfish beds.

Mr. Migliore, noting the complexity of the issue, suggested that it calls for rigorous cost-benefit analysis. He doubted that the costs of cleanup as well as agency monitoring, enforcement, and administrative activities would be offset by the benefits of increased shellfishing, and he cautioned that guaranteeing safe shellfish would prove extremely difficult.

Mr. Brubaker disagreed, noting that while CSO abatement will indeed prove very expensive, these costs are nonetheless inescapable and necessary regardless of the shellfish concerns. The real issue, he said, is solving the problems of managing the shellfish beds. He added that we should try to maximize the public benefit (via shellfish) from the unavoidable costs of CSO abatement.

Mr. Grant clarified that the intent of this recommendation is to prepare the states to take advantage of water quality improvements.

Mr. Ernest Julian (RIDOH) expressed concerns about the impact on water quality of shellfishermen stirring up sediments contaminated with mercury and other toxics.

Ms. Karp clarified that the recommendation calls for the two states to start meeting now to prepare for the future.

Ms. Ruta asked if we wanted to limit Mt. Hope Bay shellfish beds to breeding purposes.

Mr. Sisson said it would be better to broaden our options to improve management of the resource there and elsewhere.

Dr. Prager suggested that cost-benefit analyses be linked to parameters beyond shellfishing. He noted that there are other costs and other benefits to cleanup.

Mr. Grant clarified that the cost-benefit analysis suggested by Mr. Migliore related to the *additional* costs and benefits of establishing a shellfish program in the area.

ISSUE 5.A: Should permanent, state-funded organizations to pursue Rhode Island-Massachusetts cooperation in environmental protection of Mt. Hope Bay be supported?

Alternative 5.A-1: No action.

Alternative 5.A-2: The environmental agencies of Rhode Island and Massachusetts should more fully utilize the authority of the New England Interstate Water Pollution Control Commission (NEI) to address disputes arising over the management of Mt. Hope Bay.

Alternative 5.A-3: The States of Rhode Island and Massachusetts should support the development and full utilization of a Bay State/Ocean State Compact.

Ms. Susan Morrison (RI Division of State Planning) asked if the agencies on the Management Committee felt that they were represented on the Compact.

Mr. Brubaker said that the Compact resembles a legislative caucus more than an agency or compact.

Mr. Grant asked what the purpose would be of funding the Compact.

Ms. Dixon said that this recommendation was intended to ensure adequate staffing for coordination with state agencies and to recommend priorities for Compact activity.

Mr. Grant suggested that if the Committee is planning to recommend supporting and funding the Compact, the Committee should also recommend functions for it.

Ms. Karp said she foresaw a role for the Compact in negotiating and facilitating interstate agreements.

Mr. Grant expressed concern about funding a group to do what other groups are already doing.

Dr. Prager expressed concern about funding a legislative entity.

Dr. Deacutis, noting that the Compact is not yet well established, suggested working exclusively through NEI.

Mr. Brubaker said that we need to bring the legislative Compact to the table now to lay the groundwork for implementing the CCMP. We need to use the Compact as a mechanism for forwarding CCMP recommendations.

Ms. Ruta observed that the Compact will be a necessary player to obtain state funding. For this reason, she suggested that the Committee endorse the Compact as a source of funding for implementation, not as a group to be funded by the States.

Dr. Deacutis agreed and suggested advising the Compact's decisionmakers through RI and MA environmental agencies.

Dr. Combs expressed concern about recommending funding for an as yet unestablished entity.

Mr. Grant suggested endorsing but not funding the Compact while recommending the use of existing agencies wherever possible.

Mr. Brubaker suggested inviting representatives from the Compact to attend the Management Committee meetings.

Mr. Mariscal suggested that Representative Ferguson's Study Commission be invited also.

Mr. Grant suggested that NBP staff invite members of both groups.

ISSUE 5. B: Should Rhode Island and Massachusetts initiate establishment of a mechanism for the two states to review activities, including permit issuance, conducted by the other state within the watershed, including Mt. Hope Bay?

Alternative 5.B-1: No action.

Alternative 5.B-2: Rhode Island, Massachusetts, and EPA Region I should initiate establishment of a permit review mechanism for activities affecting resources of shared concern. Because NPDES permits in Massachusetts are issued by EPA Region I, EPA must be equally involved in coordination of permit reviews.

Mr. Greene suggested the "Good Neighbor" policy signed by New England Governors as a good mechanism for implementing this recommendation.

Dr. Deacutis said that this recommendation unevenly burdens RI as the downstream state, and expressed concern about the increased permit reviews, staff, and funding required.

Mr. Bob Ensor (Soil Conservation Service) commented on the need to define the level of projects subject to review. Alternatively, he said, we could avoid permits and focus on water quality instead.

Mr. Migliore disagreed, noting that a single subdivision can be a significant source of water quality degradation through stormwater alone.

Mr. Ensor said that such a possibility was precisely the reason for setting water quality criteria that all projects need to meet and not allowing them if they fail to meet these criteria.

Mr. Grant asked if the Committee could agree with this recommendation as a goal and devise specific requirements later.

Ms. Ruta said yes and that EPA, as MA NPDES reviewer, would help develop these specifics.

ISSUE 5.C: Should the States of Massachusetts and Rhode Island enter into interstate agreements establishing appropriate procedures for notification of wastewater treatment facility failure?

Alternative 5: C-1: No action.

Alternative 5: C-2: The States of Massachusetts and Rhode Island should enter into interstate agreements establishing appropriate procedures for notification of wastewater treatment facility failure.

Ms. Ruta asked what the specific agreements would look like and suggested that the NBP staff offer ideas to the states for developing them.

Ms. Karp said that NBP had nothing written yet and that ideally representatives from agencies in both states would meet to initiate and develop agreements.

Mr. Migliore noted that these agreements are imperative if shellfishing beds were to be reopened.

Mr. Grant concluded that there was consensus on this recommendation.

ISSUE 5.D: Should Rhode Island and Massachusetts collaborate in the development of a joint contingency plan for response to significant Mt. Hope Bay oil spills or other "catastrophic" marine spills, nuisance algal blooms, fish kills, hurricanes, etc.?

Alternative 5.D-1: No action.

Alternative 5.D-2: The States of Rhode Island and Massachusetts should collaborate in the development of a joint contingency plan for response to significant Mt. Hope

Bay oil spills or other "catastrophic" marine spills, nuisance algal blooms, fish kills, hurricanes, etc..

Mr. Greene noted that, since we have already agreed on joint management, joint protection is a logical requirement.

Mr. Sisson agreed but noted that we might need to place some limits on this requirement and to define responsibilities.

Ms. Karp and Mr. Grant noted that we already share these responsibilities, without an agreement.

Mr. Sisson noted that in the past EPA took the lead on oil spill response.

Mr. Migliore noted that the U.S. Coast Guard has jurisdiction over all but inland waters.

Mr. Grant concluded that there was consensus on this recommendation.

ISSUE 6.A: Should additional sources of information on causes of environmental degradation in Mt. Hope Bay and their solutions be developed?

Alternative 6. A-1: No action.

Alternative 6. A-2: Several specific initiatives targeted toward improving our knowledge of key sources of contamination should be supported.

Mr. Grant suggested considering the specific recommendations point by point.

A. The recently awarded CZMA Section 309 grant for a Taunton River basin study should be seen as an opportunity for key state agencies to cooperate in design and oversight of research that could lead to the development of a Mt. Hope Bay basin plan.

Dr. Combs suggested that RIDOH and MA DPH be approached for input on any research into the health of fisheries.

Ms. Karp asked if the Committee supported urging MA and RI to develop a Special Area Management (SAM) Plan for Mt. Hope Bay.

Mr. Beck asked if we would have a CCMP for Mt. Hope Bay and, if so, how it would interact with the SAM Plan.

Ms. Karp said there would be no separate CCMP for Mt. Hope Bay. For this reason, she said, we need the level of detail that a SAM Plan provides.

Mr. Greene asked if this bay's watershed was an exceptionally large area for such a plan.

Ms. Dixon said it would be the largest SAM Plan area we have had.

Mr. Greene suggested that we recommend developing a basin plan rather than specifically suggesting a SAM Plan.

Mr. Grant suggested that we should reconsider the "SAM" wording.

Ms. Karp noted that this wording was chosen because the staff supported use of the SAM Plan model.

Mr. Grant suggested that the model for the Mt. Hope Bay basin plan should be the NBP's CCMP, with enforcement authority specifically provided.

B. EPA and Massachusetts should encourage New England Power, Brayton Point to participate in analysis of historical data collected in Mt. Hope Bay.

Mr. Halterman has been trying to earmark \$50,000 to analyze that data.

Ms. Karp noted that this recommendation directs EPA to require data analysis and interpretation in Brayton Point's new NPDES permit.

Dr. Prager noted that New England Power has a large amount of useless data accumulated, that no interpretations exist for the last 20 years of data, and that there is no long-term baseline prior to this.

Mr. Halterman and said that New England Power's data collection procedures need to undergo more rigorous quality assurance (QA) and quality control (QC). He added that despite the historical data's drawbacks, MA DEP intended to get whatever value it could out of it.

Ms. Karp noted that it is useless to collect data without interpreting it. She reiterated that there should be a permit requirement to analyze collected data.

Ms. Kipp, noting that the facility's permit is up for review next year, said that EPA will examine the possibility of adding this requirement.

Ms. Ruta noted that this recommendation should require that EPA, MA DEP and the Technical Advisory Group (TAG) should review and revise QA and QC, and should identify necessary analyses and reporting schedules.

C. Additional information on metal and organic contaminants in Mount Hope Bay should be developed.

Mr. Grant asked to whom this recommendation was addressed.

Ms. Karp said that because of the expense of implementing this recommendation, staff did not recommend a specific agency; however, the Brayton Pt. Power Plant permit and two pending Sea Grant proposals present some possibilities. Over the long term, the recommendation should generally be directed toward EPA, FDA, NOAA, and the MA and RI environmental agencies and departments of health.

Mr. Greene asked if this information was necessary for shellfish reopening.

Ms. Karp said yes.

Mr. Halterman asked if the testing would accordingly be focussed on areas proposed for reopening.

Ms. Karp said yes.

Mr. Halterman noted that several agencies in MA and RI had agreed to this recommendation two years ago.

Mr. Grant concluded that there was consensus on this agreement.

D. Additional information on nonpoint sources of pollution should be developed.

Mr. Grant and Ms. Dixon listed the specific types of information that should be developed.

Ms. Ruta suggested that the implementing authorities would be the Town of Swansea, the States of Rhode Island and Massachusetts, and the Soil Conservation Service.

Mr. Topher Hamblett (Save the Bay) suggested including the Town of Somerset as an implementing authority.

Ms. Morrison suggested including the other towns where appropriate.

E. Further study of the potential for and causes of hypoxic events in the Lower Taunton and Mt. Hope Bay should be supported.

Mr. Grant noted that the Committee had already addressed this issue and concluded that there was consensus on supporting it.

The next meeting will take place on December 19, from 1:00 p.m. to 4:00 p.m. in Conference Room A at the Department of Administration Building. The following two meetings will take place on January 17 and January 24, from 1:00 p.m. to 4:00 p.m.

APPENDIX B:

SUMMARY OF MANAGEMENT COMMITTEE DECISIONS

NOVEMBER 26, 1990

SUMMARY OF MANAGEMENT COMMITTEE DECISIONS

Decisions made at the management Committee meeting on November 26, 1990:

MOUNT HOPE BAY

PROPOSED GOAL

The States of Rhode Island and Massachusetts should jointly develop schedules for pollution abatement in shared water bodies, including Mt. Hope Bay, in order to meet water quality standards.

1. FALL RIVER CSO ABATEMENT EFFORTS

ISSUE A: U.S. EPA and the State of Massachusetts should take action, including financial support, technical assistance and enforcement measures where necessary, to ensure the timely completion of the Fall River CSO abatement project.

2. STATE CSO POLICIES AFFECTING MT. HOPE BAY

No Management Committee decisions were required at this time and no discussion took place. This subject will be considered in the "CSO Briefing Paper."

3. CONFORMANCE OF MT. HOPE BAY WATER QUALITY CLASSIFICATIONS

ISSUE A: The States of Massachusetts and Rhode Island should bring water quality classifications in both States' portions of Mt. Hope Bay into conformance with one another.

The Management Committee directed NBP staff and other concerned agencies to develop specific alternatives for achieving consistency and conformance.

The Management Committee directed NBP staff to develop specific recommendations regarding the responsibilities of involved agencies for this and other recommendations.

4. POTENTIAL FOR REOPENING MT. HOPE BAY TO SHELLFISHING

ISSUE A: The States of Rhode Island and Massachusetts should outline a series of planning activities and studies concurrent with CSO abatement efforts in order to position the States to manage Mt. Hope Bay for shellfishing as soon as conditions allow.

5. INTERSTATE COOPERATION IN MT. HOPE BAY MANAGEMENT

ISSUE A: The environmental agencies of Rhode Island and Massachusetts should more fully utilize the authority of the New England Interstate Water Pollution Control Commission (NEIWPC) to address disputes arising over the management of Mt. Hope Bay.

The Management Committee decided to endorse, but not recommend funding for the Bay State/Ocean State Compact while recommending the use of existing agencies wherever possible.

The Management Committee directed NBP staff to invite members of both groups to participate in future Management Committee meetings.

ISSUE B: The States of Rhode Island and Massachusetts and U.S. EPA Region I should initiate establishment of a permit review mechanism for activities affecting resources of shared concern.

The NBP staff and other involved agencies are in the process of developing alternatives for the specific consistency review requirements necessary to meet this goal.

ISSUE C: The States of Massachusetts and Rhode Island should enter into interstate agreements establishing appropriate procedures for timely notification of wastewater treatment facility failure.

ISSUE D: The States of Rhode Island and Massachusetts should collaborate in the development of a joint contingency plan, including protocols for responsibility for response to significant Mt. Hope Bay oil spills or other "catastrophic" marine spills, nuisance algal blooms, fish kills, hurricanes, etc.

6. RESEARCH NEEDS

The Management Committee decided to support several specific initiatives targeted toward improving knowledge of key sources of contamination Mt. Hope Bay.

A. The recently awarded CZMA Section 309 grant for a Taunton River basin study should be seen as an opportunity for key state agencies to cooperate in design and oversight of research that could lead to a Mt. Hope Bay basin plan.

The Management Committee recommends that the model for the Mt. Hope Bay basin plan should be based on the NBP's CCMP, with enforcement authority specifically provided.

B. The U.S. EPA and the State of Massachusetts should encourage New England Power, Brayton Point to participate in analysis of historical data collected in Mt. Hope Bay. The U.S. EPA, MA DEP and the TAG should review and revise quality assurance and quality control procedures, and should identify necessary analyses and reporting schedules for future monitoring in Mt. Hope Bay under the Brayton Point permit. The U.S. EPA and the State of Massachusetts should include requirements for specific analyses, review of existing QA/QC procedures, and data analysis and interpretation in the facility's 1991 NPDES permit.

C. The U.S. EPA, MA DEP, RIDEM and other federal and state agencies should develop additional information on metal and organic contaminants in Mount Hope Bay.

D. Additional information on nonpoint sources of pollution should be developed. Specific studies should focus on the Lee's River, Kickamuit River and communities with septic failure. Implementing authorities should include the States of Rhode Island and Massachusetts, the Soil Conservation Service, and other towns where appropriate.

E. Further study of the potential for and causes of hypoxic events in the Lower Taunton and Mt. Hope Bay should be supported.

APPENDIX C:

MANAGEMENT COMMITTEE ATTENDANCE

NOVEMBER 26, 1990

Management Committee Attendance at November 26, 1990 Meeting

Attended:

Mr. Allan D. Beck
Reserve Manager
Narragansett Bay-National Estuarine Research Reserve

Mr. Malcolm J. Grant (Chair)
Assistant Director for Administration
RI Department of Environmental Management

Ms. Caroline A. Karp
Project Manager
Narragansett Bay Project

Ms. Katrina V. Kipp
Project Officer
Region I
US Environmental Protection Agency

Mr. Dennis B. Ledbetter
Vice President
Armbrust Chain Company

Ms. Susan P. Morrison
Chief, Office of Systems Planning
Division of Planning
RI Department of Administration

Sent Alternate:

Mr. Roger Greene for
Mr. David Abedon
Cooperative Extension Specialist
University of Rhode Island

Mr. Steven Halterman for
Mr. Alan N. Cooperman
Environmental Engineer
MA DEP-Water Pollution Control
Technical Services Branch

Mr. Ken Kubic for
Ms. Holly A. Desrosiers
Executive Director
RI Marine Trade Association

Dr. Christopher Deacutis for
Mr. James W. Fester
Assistant Director for Regulations
RI Department of Environmental Management

Ms. Gwen Ruta for
Mr. David A. Fierra
Director, Water Management Division
Region I
US Environmental Protection Agency

Mr. Juan Mariscal for
Mr. Eric R Jankel
Executive Director
Narragansett Bay Commission

Dr. Jan Prager for
Dr. Norbert A. Jaworski
Director
Environmental Research Laboratory-Narragansett
US Environmental Protection Agency

Mr. Robert Ensor for
Mr. Robert Klumpe
State Conservationist
US Department of Agriculture-Soil Conservation Service

Mr. Kevin Brubaker for
Mr. H. Curtis Spalding
Executive Director
Save The Bay

Mr. Richard Sisson for
Mr. John A. Stolgitis
Chief, Division of Fish & Wildlife
RI Department of Environmental Management

Did Not Attend:

Mr. Eddie Agin
Board Member
RI Shellfishermen's Association

Mr. Roy B. Anderson
Director of Utilities
Newport Water Department

Mr. Robert L. Bendick, Jr.
Deputy Commissioner
NY Department of Environmental Conservation

Mr. Matthew Benedict
RI Builders' Association

Mr. Thomas E. Bigford
Division Chief
National Marine Fisheries Service
National Oceanic and Atmospheric Administration

Senator David Carlin
RI Senate Majority Leader
Rhode Island State Senate

Ms. Priscilla Chapman
Executive Director
New England Chapter
Sierra Club

Mr. David C. DePetrillo
Director of Tourism
RI Department of Economic Development

Mr. Grover J. Fugate
Executive Director
RI Coastal Resources Management Council

Mr. Thomas Hall, III
President
Ocean State Fishermen's Association

Ms. Virginia Lee
Coordinator of Domestic and Environmental Programs
Coastal Resources Center
University of Rhode Island

The Hon. Robert J. McKenna
Representative
RI League of Cities and Towns

Mr. Thomas E. Mulhearn
Executive Vice President
RI Association of Realtors

Mr. Lawrence R. Oliver
Environmental Resources Specialist
Environmental Resources Branch
US Army Corps of Engineers, New England Division

Dr. Judith Pederson
Principal Policy Analyst
MA Coastal Zone Management Program

Ms. Anna Prager
Senior Policy Analyst
RI Governor's Office

Mr. R. Daniel Prentiss, Esq.
Attorney-at-Law

Mr. Gary S. Sasse
Executive Director
RI Public Expenditure Council

Dr. Harold R. Ward
Director
Center for Environmental Studies
Brown University

Mr. Eric Weiner
Assistant Executive Director
Manufacturing Jewelers and Silversmiths of America, Inc.