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The Regulation and Management of Casco Bay

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Casco Bay Estuary Partnership

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***THE REGULATION AND MANAGEMENT
OF
CASCO BAY***

A Report to
The Casco Bay Estuary Project

Prepared by
**Marine Law Institute
University of Maine School of Law
Portland, Maine**

August 1992

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EXECUTIVE SUMMARY

This report reviews the existing regulatory framework and long-term management options for Casco Bay. It is intended to assist the Estuary Project prepare a Comprehensive Conservation and Management Plan for the Casco Bay Estuary by examining the state, local and federal laws and government programs that affect the marine and coastal environment of Casco Bay, and regional watershed management approaches utilized in other jurisdictions.

Chapter One: Analysis of the Regulatory Framework

Chapter 1 examines how state, federal and local laws and regulatory programs address 15 critical issues identified by the Estuary Project. These issues and regulatory programs are summarized below:

1. Development and Land Use Controls: A number of laws are implemented at the state and local level to mitigate the impacts of development. The Mandatory Shoreland Zoning Act establishes setback and minimum lot size requirements within local shoreland areas; the Growth Management Act encourages local governments to prepare comprehensive plans to plan for orderly growth, protect the State's rural character, prevent development sprawl, and implement State goals and coastal policies; the Site Location Law regulates large-scale development, subdivisions and hazardous activities for impacts on soil erosion, natural resources, water quality and scenic character; and local governments are required to review subdivisions to prevent water pollution, undue soil erosion, and adverse impacts on waterbodies, wetlands, significant wildlife and natural areas and public access. While these laws provide a sound framework for regulating the impacts of development and land uses on estuarine resources at the state and local level, implementation is hindered by lack of sufficient technical

assistance, enforcement, oversight and regional coordination.

2. Sewage Treatment and Point Source Discharges: Effluents from point source discharges are closely regulated by both the U.S. EPA and the Maine DEP under the Clean Water Act and the Maine Protection and Improvement of Waters Law. Even so, raw sewage discharges from 67 combined sewer overflows is a major source of water pollution within Casco Bay and several municipal water districts and publicly owned sewage treatment plants are under court orders to remove or develop a plan to control such discharges. In addition, state water classification standards prepared under the Clean Water Act do not appear to provide adequate protection for the shellfish and biological resources and uses of Casco Bay.

3. Nonpoint Source Pollution: Although it is estimated that approximately 60% of water pollution nationwide comes from nonpoint sources, few regulatory programs address the impacts of nonpoint source (NPS) pollution. Most existing programs are unenforceable or fragmented at the state, local and national levels. Although there is no comprehensive management of nonpoint source pollution within the Casco Bay watershed, technical assistance to agricultural operations, local governments and private landowners is provided by

the Soil and Water Conservation District. Only the Town of Brunswick has adopted local controls to address the impacts of NPS pollution on coastal water quality.

4. Wildlife and Habitat Protection: Federal and state endangered species laws, and the Maine Natural Resources Protection Act (NRPA), provide the legal authority to protect wildlife and habitat. However, these laws are only being partially implemented until habitat mapping efforts are complete. Thus, at the present time, "significant wildlife habitats" such as deer wintering areas, waterfowl and shorebird nesting, feeding and staging areas located in Casco Bay, are not being fully protected by the DEP under the NRPA.

5. Wetlands Protection: Wetlands are regulated at the state and federal level, and by a few local governments. Activities within and adjacent to coastal wetlands, and freshwater wetlands exceeding 10 acres, fall within the jurisdiction of the Maine DEP under the NRPA. However, the regulation of smaller freshwater wetlands by the U.S. Army Corps of Engineers sometimes fails to adequately protect smaller wetlands and wetland habitat from adjacent activities, and local governments generally lack the resources and expertise to comprehensively address wetland issues.

6. Ocean Dumping and Dredging: The U.S. Ocean Dumping Act essentially prohibits the ocean dumping of all wastes except dredged spoils. There are three active ocean dumping sites located within Casco Bay. The Corps and the Maine DEP regulate dumping within those sites but lack the resources to adequately monitor dumping activities and ensure compliance with ocean dumping permit conditions.

7. Discharge from Vessels: Sewage from marine sanitation devices may not have significant impacts if discharged into open ocean waters, but may adversely affect shellfisheries and marine resources if discharged into semi-enclosed bays within the Casco Bay estuary. Although state law requires that certain marinas have pump-out facilities, enforcement is

lacking to assure that such facilities are used. Enforcement is also critical to ensure compliance with new federal laws enforcing MARPOL, the international convention prohibiting the discharge of plastics and regulating the discharge of garbage and other material into the marine environment.

8. Harbor Management: Harbor safety and navigation is controlled chiefly by the U.S. Coast Guard. However, local governments can play a vital role in managing land and water uses within harbor areas, protecting water dependent uses, preserving water quality, and promoting public uses through local harbor commissions and harbor management plans. Although several communities in Casco Bay have enacted such plans, more state and federal support is needed to encourage local planning efforts.

9. Oil Pollution: Since the revelation in 1989 that a 26 million gallon shortfall exists in oil spill cleanup capabilities, substantial progress has been made including the formation of a new local oil spill cooperative (Clean Casco Bay), the location of a regional response vessel in Portland Harbor, a thorough study by the Maine legislature on oil spill preparedness, and the enactment of the 1990 Oil Pollution Act. The new federal law establishes a National Planning and Response System, requires area and facility contingency plans, creates a new and substantially enlarged federal oil spill liability trust fund to pay for damages, and phases in requirements for double-hulled tankers.

10. Toxic and Hazardous Waste Control: The Casco Bay watershed has two EPA Superfund sites, several hazardous waste storage treatment facilities, and an unknown number of leaking underground storage tanks containing gasoline and fuel oil products. State and federal laws have been passed to deal with these facilities but resource and staff limitations require active public participation and oversight in working with government agencies to establish priorities and ensure expeditious action.

11. Shellfish and Aquaculture Regulation:

It is estimated that over 40% of the shellfish beds in Casco Bay are currently closed for harvesting. Shellfish resources within Casco Bay are regulated primarily at the local level, although shellfish closures may be ordered by the State Department of Marine Resources for a number of reasons. Primary among these are the 350 overboard discharges that currently flow into Casco Bay, combined sewer overflows (CSOs) and sewage treatment plant discharges, marinas, failed septic systems and paralytic shellfish poisoning. Citizens may work with local shellfish wardens, local plumbing inspectors, local water quality monitoring groups, and the DMR to locate and report sources of pollution that may be causing shellfish closures.

12. Septic System Regulation and Overboard Discharges:

As noted above, failed septic systems and overboard discharges are important causes for the large number of closed shellfish beds within Casco Bay. They also constitute a public health concern. The operation and installation of septic systems are regulated under the State Plumbing Code by the Department of Human Services, but enforcement is left to local plumbing inspectors and code enforcement officers who often lack the resources to thoroughly inspect and enforce septic requirements. Although new overboard discharges are prohibited under State law, existing discharges are licensed by the DEP until State funds are made available for their removal. However, the State funding program has yet to be implemented within Casco Bay.

13. Coastal Erosion: Maine's Natural Resources Protection Act and sand dune rules contain some of the nation's toughest restrictions on construction within sand dune systems and areas subject to coastal erosion. These rules are designed to ensure that new development and sea walls do not inhibit sediment from entering the marine environment and accelerate beach erosion, and to reduce the risks of property damage from storms and sea level rise.

14. Submerged Lands Uses: The use of state-owned submerged lands are regulated by

the Bureau of Public Lands (BPL) under the Submerged Lands Law. The BPL is authorized to issue leases to use submerged and publicly-owned intertidal lands for wharves, docks, marinas or other permanent structures, so long they do not interfere with fishing, the availability of commercial marine facilities, customary and traditional public uses and public trust rights (such as fishing, fowling, navigation and recreation). Although the BPL may require public compensation where such interference occurs (such as parking, boat ramps and walkways), it generally does so only in response to active public intervention.

15. Preservation and Acquisition Programs:

Since the depletion of funds for the Land for Maine's Future Board, no major State program exists for acquiring open space within the Casco Bay watershed. Thus, local land trusts, conservation commissions, green belt plans and open space programs must fill the gap. Local support is also needed to help secure federal funding to protect especially significant wildlife areas under such programs as the Land and Water Conservation Fund and the National Wildlife Refuge Act.

Interviews

The information for Chapter 1, Analysis of the Regulatory Framework, was gathered by reviewing state, federal and local laws and regulations, and by interviewing key government officials, environmental organizations, and businesses in Casco Bay (listed in Appendix B). The interviews indicate that generally state, federal and local laws are adequate to protect the marine and coastal environment of the Casco Bay Estuary. However, implementation is hindered by inefficiencies from overlapping regulatory jurisdictions, redundant reviews, and inadequate enforcement. The comments from the interviews are summarized below and are incorporated into the discussion of the individual issues in Chapter 1:

- ✓ shoreland zoning standards are not being adequately enforced due to lack of sufficient state and local staff resources, insufficient technical assis-

tance to local governments and local resistance to state mandated requirements;

✓ activities within small-scale wetlands and wetland habitats are not regulated under state law and are often left unprotected under local ordinances and the Clean Water Act;

✓ nonpoint source pollution controls are fragmented among too many different laws and programs and are not generally well-coordinated;

✓ insufficient effort is being devoted to determine whether the effluent limitations for point source discharges outside the Casco Bay watershed (in the Kennebec and Androscoggin Rivers) are adequate to prevent adverse cumulative impacts on the sediments and marine resources of Casco Bay;

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until significant wildlife habitats and essential and critical habitats for endangered species are fully mapped, they cannot be adequately protected under state law. Better State guidance to protect wildlife and habitat is needed at the local level where critical decisions are made;

✓ adequate mechanisms do not presently exist to designate and protect areas of state-wide concern within the Casco Bay watershed;

✓ although most towns in the Casco Bay watershed have prepared comprehensive plans, there is a need for better regional coordination among such plans and for ensuring that they are updated on a regular basis;

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a coherent state and federal policy for the separation and treatment of storm-water runoff and combined sewer overflows has not yet emerged;

✓ better monitoring of ocean dredging

and dumping activities is needed to fully enforce the provisions of state and federal ocean dumping laws;

✓ state water quality standards do not contain adequate biological criteria for protecting marine fish and wildlife;

Who?
✓ overboard discharges are not being expeditiously removed under the State funding program;

✓ public access policies are not being effectively implemented; and

✓ more state, federal and local programs are needed for the preservation of open space within the Casco Bay watershed.

Chapter Two: Regulatory Case Studies

To illustrate the regulatory process, Chapter 2 contains case studies of two recent development proposals in Casco Bay.

The first case study is a development proposal on Great Diamond Island that includes condominiums, commercial and retail facilities, a major single-family subdivision, a waste treatment plant, and the renovation of historic Fort McKinley. Major permit reviews were conducted by the City of Portland Planning Board and City Council, the Maine DEP, and the U.S. EPA, and a number of other state and federal agencies were consulted. Major issues presented by the project included: discharges from the proposed sewage treatment plant; visual impacts of the subdivision on Casco Bay; the preservation of historic Fort McKinley and associated gun batteries; and the preservation of old-growth trees. The case demonstrates the complexities of reviewing a major island development proposal in Casco Bay and the important role of citizen participation which resulted in the adoption of a number of significant mitigation measures including relocation of the sewage treatment outfall, zero fecal coliform and dechlorination discharge requirements, a significant reduction in project density, increased open space, and the preservation of historic gun batteries. Although the parties ex-

pressed considerable disagreement about the necessity of these mitigations, and whether they warranted seven years of review, at the very least, the case study demonstrates the importance of good early communication between government agencies, development interests and community groups.

The second case study is a recreational marina on submerged lands within the City of Portland. Key permit reviews were conducted by the Portland Planning Board, the Maine DEP, the Maine Bureau of Public Lands, and the U.S. Army Corps of Engineers. The major issues involved dredging within intertidal and subtidal wetlands, visual impacts, and the propriety of locating boat storage facilities upon the water. (The City was also concerned about traffic impacts at a nearby intersection.) Regulatory review resulted in two major modifications: the DEP prohibited intertidal dredging; and the capacity of boat storage facilities was significantly reduced and relocated to an onshore location adjacent to the marina. As in the Great Diamond Island project, citizen groups played a major role in the regulatory process and there was considerable debate whether the mitigation measures were necessary, particularly whether the productivity of the intertidal wetlands justified their preservation. Lacking the expertise to evaluate the biological productivity of wetlands, the City relied upon the DEP. Both projects demonstrate the difficulty of dealing with public access issues in Casco Bay.

Chapter Three: Management Options for the Casco Bay Estuary

Chapter 3 considers regional management options for the Casco Bay Estuary by examining four regional management agency models: (1) the Cape Cod Commission; (2) the San Francisco Bay Conservation and Development Commission; (3) the Puget Sound Water Quality Authority; and (4) the Cobbossee Watershed District. The purpose, jurisdiction, organization, size, authority and applicability of each agency to Casco Bay is described. Then a number of critical factors are considered with

respect to the propriety of a regional management approach for the Casco Bay Estuary. These factors are summarized below:

Identification of Key Issues: Each of the regional management agencies examined addressed specific concerns unique to its region such as overdevelopment, wetlands fill, public access, shellfish resources and water quality. Such concerns must be identified within Casco Bay before regional management approaches can be adequately evaluated for the estuary. This should be the role of the Casco Bay Estuary Project in developing the Comprehensive Conservation and Management Plan.

Adequacy of Existing Mechanisms: State and local government agencies in Casco Bay currently perform some of the same functions performed by the regional management agencies examined including comprehensive planning, shoreland zoning, large-scale development review, subdivision review, and wetlands regulation. However, at this time, there is no institutional mechanism to implement or enforce a regional CCMP in Casco Bay.

Regulatory and Planning Authority: The regulatory and planning authority of a regional management agency in Casco Bay should be directly related to its purpose. If the purpose of such an agency is to implement the CCMP, or a similar plan for Casco Bay, then a regional agency could be empowered with the authority to provide incentives to local governments to adopt CCMP policies or review local comprehensive plans for consistency with CCMP. A regional agency could also adopt and implement special area management plans, or review state and federal activities for consistency with the CCMP. However, these determinations can only be made after a consensus is achieved on the purpose of a regional management agency in Casco Bay.

Professional Staff and Expertise: The successes of the agencies examined were largely dependent on staff expertise in such fields as biology, engineering, planning, enforcement, economic development, waste management, etc.

Thus, any regional management agency in Casco Bay would need a professional staff with expertise in fields relevant to its mandate.

Citizen Support and Representation: The agencies examined demonstrate that the creation of a regional management agency is impossible without significant grass roots support. Furthermore, agency functions can

not be successfully fulfilled without substantial local government representation.

Funding: Mechanisms to fund regional management agencies in other jurisdictions include taxing authority, state general fund appropriations, special tax programs, federal grant programs, fees and enforcement awards, contracts for services, and donations.

INTRODUCTION

This report was prepared for the Casco Bay Estuary Project and the U.S. Environmental Protection Agency to review the existing regulatory framework and long-term management options for the Casco Bay Estuary. It is intended to assist in the preparation of a Comprehensive Conservation and Management Plan for Casco Bay. It is important to note that due to the quantity and complexity of state, local and federal government programs, and the limited funds made available for this project, the report can only provide a "screening level" study of laws and regulatory programs that impact the Bay. The entire project budget could have been allocated for the study of any one of the critical issues analyzed in Chapter 1, the case studies presented in Chapter 2, or the analysis of management options conducted in Chapter 3. Thus, this report should be viewed as background and a starting point for discussions on specific management actions evolving from the preparation of the Casco Bay CCMP.

The information for Chapter 1 was gathered by reviewing state, federal and local laws and regulations, and by interviewing key government officials, environmental organizations, and businesses in Casco Bay. The individuals interviewed and the questions posed are listed in Appendix B. The interviews focused on the coordination (or lack thereof) of permit reviews, gaps and inconsistencies in regulatory programs, and the effectiveness of laws in protecting important resources.

The report has three Chapters.

Chapter One. Chapter 1 analyzes the regulatory framework of the Casco Bay Estuary, including state, federal and local government laws and programs that affect the coastal and marine environment of the Estuary. It analyzes the effect of these laws and programs in 15 critical issues areas: (1) development and land use controls; (2) sewage treatment and point source pollution; (3) nonpoint source pollution; (4) wildlife and habitat protection; (5) wetlands protection; (6) ocean dumping and dredging; (7) discharge from vessels; (8) harbor management; (9) oil pollution; (10) toxic and hazardous waste control; (11) shellfish and aquaculture regulation; (12) septic system regulation and overboard discharges; (13) coastal erosion; (14) submerged lands uses; and (15) preservation and acquisition programs. The significance of each issue in Casco Bay is briefly described; the

agencies that regulate these issues are listed; and key regulatory standards are examined. The laws and the government agencies that administer them are listed and briefly described in Appendix A.

Chapter Two. Chapter 2 contains case studies of two recent development proposals in Casco Bay to illustrate how the regulatory framework applies in specific circumstances. The first case study is the Diamond Cove Associates proposal to renovate historic Fort McKinley on Great Diamond Island and construct condominiums, commercial and retail facilities, a subdivision of single family homes and a secondary waste treatment plant. The second case study is a recreational marina located on submerged lands within the City of Portland. The background of each case study is presented, regulatory reviews are listed, key issues are described, and a regulatory analysis of each project is presented.

Chapter Three. Chapter 3 discusses long-term management options for the Casco Bay Estuary by examining four regional management approaches utilized in other jurisdictions: (1) the Cape Cod Commission; (2) the Puget Sound Water Quality Authority; (3) the San Francisco Bay Conservation and Development Commission; and (4) the Cobbossee Watershed District. Each agency is described with respect to its purpose, jurisdiction, organization and management, size and budget, authority, and applicability to Casco Bay. Chapter 3 also analyzes the essential components of regional approaches to managing water bodies including: (1) the identification of key resources and water quality issues; (2) the adequacy of existing mechanisms and institutions to regulate and manage marine and coastal resources; (3) the regulatory and planning authority of a regional management agency; (4) the need for a professional staff and expertise; (5) the necessity of citizen support and local representation for a regional management agency; and (6) funding sources. Appendix C contains a list of reference materials utilized in conducting research for Chapter 3.

CHAPTER ONE *Analysis of the Regulatory Framework*

Chapter One analyzes how state, federal and local laws and regulatory programs apply to specific issues affecting the marine and coastal environment of the Casco Bay Estuary. The following discussion is intended to provide an overview of the regulatory framework to assist the Estuary Project in preparing the Casco Bay Comprehensive Conservation and Management Plan and to promote public awareness of government laws and programs in Casco Bay. Citations to the laws described in this Chapter, and descriptions of the functions of state, federal and local government agencies that administer these laws, are contained in Appendix A.

Development and Land Use Controls

The growth-inducing impacts of development within the Casco Bay watershed have a direct effect on water quality and the coastal and marine environment through increased sewage and industrial wastes, increased pollution from nonpoint sources such as urban runoff and sedimentation from construction, and reduction of wildlife habitat. It is estimated that approximately 14% of the Casco Bay watershed is urbanized; 150,000 people live immediately adjacent to the Bay, and almost 240,000 people live in its watershed.¹ Controlling and mitigating the impacts of development and land uses within Casco Bay is addressed primarily at the local level through zoning controls, subdivision and site review, and comprehensive planning. The state is also involved in reviewing large scale developments and enforcing shoreland zoning standards. Citizen involvement in these processes is critical to assure that development and land use controls are properly applied and impacts are minimized. The following key agencies are involved in implementing development and land use controls in Casco Bay:

- ✓ Municipal Town Councils and Planning Boards (Zoning, site review and subdivision controls);

¹ THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, AGENDA FOR ACTION 1 (1989).

- ✓ The Maine DEP, Bureau of Land Quality Control (Shoreland Zoning and Site Location of Development);
- ✓ The Maine Department of Economic and Community Development (Comprehensive planning);
- ✓ The Greater Portland Council of Governments (Comprehensive planning assistance to local governments);
- ✓ Local Code Enforcement Officers (Enforcement of development and land use controls)

1. Setback and Minimum Lot Size Requirements Within Shoreland Areas

Development setbacks, buffers, and minimum lot size requirements control density and mitigate the effects of development on coastal and marine resources within the Casco Bay watershed. Within "shoreland areas" (250 feet from all coastal waters, wetlands, rivers, great ponds and freshwater wetlands exceeding 10 acres, and 75 feet from all streams), municipalities must enforce state mandated setback and minimum lot size requirements under the Mandatory Shoreland Zoning Act. Absent special local conditions, local zoning controls within shoreland areas must at a minimum provide the following setback, buffer and minimum lot size requirements:

- ✓ development and clearing of vegetation (including timber harvesting) must be prohibited in resource protection (RP) districts (areas within 250 feet of high value wetlands and areas supporting wetland vegetation, 100 year floodplains, and areas with 20% slopes);
- ✓ only water dependent uses are permitted in areas designated by local governments as commercial fisheries/maritime districts;
- ✓ principal and accessory structures must not exceed 35 feet in height, must be setback 100 feet from the high water line of designated great pond areas and rivers flowing into such areas, and must setback 75 feet from all other water bodies, streams or wetlands (except in general development and commercial fisheries districts).
- ✓ within shoreland areas, minimum lot sizes of 30,000-40,000 square feet, minimum shoreline frontages of 150-200 feet, and maximum lot coverage of 20% are required.

The implementation of these standards suffer from a number of weaknesses. There is a shortage of state personnel. The DEP's Shoreland Zoning Unit currently has only 2 staff members to review all 450 municipal shoreland zoning ordinances for compliance with state standards and provide technical assistance to local governments. This has created a problem for state oversight. The 1991 amendments to the Shoreland Zoning Act removed the requirement that local variances be submitted to DEP for review making compliance monitoring difficult, even assuming the state had the resources to adequately monitor local implementation. Finally, a number of local governments have resisted implementation despite the state mandate, while other lack the resources to adequately inspect and enforce shoreland standards and requirements.

2. Comprehensive Plans

Growth control measures may be implemented by local governments through comprehensive plans. Although municipalities are no longer required to adopt comprehensive plans, nor submit such plans to the Maine Department of Economic and Community Development (DECD) for review, towns that wish to regulate land uses must have comprehensive plans that are consistent with the State's Growth Management Act by the year 2003 (or by the year 1998 if the town received planning and implementation grants). After that date, local land use ordinances are void unless comprehensive plans have been adopted. Most communities in the Casco Bay watershed are committed to completing their plans and, in such communities, active citizen participation is critical.

In general, comprehensive plans contain the following components:

- ✓ an **inventory and analysis** of projected growth, critical natural resources, significant water and marine related resources, recreation and open space and significant points of access to the shore;
- ✓ **policies** to specify what the community intends to achieve within a ten-year period;
- ✓ an identification of **rural and growth areas**;
- ✓ an identification of **regional issues**; and
- ✓ an **implementation strategy** including new or amended local zoning ordinances that are consistent with plan policies.

The 1988 Growth Management Act required that comprehensive plans address 10 state growth management goals including:

- ✓ encouraging orderly growth, protecting the State's rural character, and preventing development sprawl;
- ✓ protecting the State's water resources and other critical natural resources;
- ✓ protecting marine resource industries, ports and harbors and promoting access to the shore; and
- ✓ protecting agriculture, forest resources and recreational opportunities.

Comprehensive plans must also be consistent with 9 state coastal policies adopted in 1986. These policies require state and local government agencies to:

- (1) promote port and harbor development for fishing, transportation and recreation;
- (2) preserve and improve ecological integrity and diversity, and enhance the economic value of renewable marine resources;
- (3) give preference to water-dependent uses, promote public access, and consider the cumulative effects of development;
- (4) discourage development in areas subject to storms, flooding, landslides, sea-level rise and other hazards;
- (5) support cooperative state and municipal management of coastal resources;
- (6) protect and manage critical habitats and natural areas, and maintain the scenic beauty and character of the coast;
- (7) encourage recreational uses and appropriate tourism;
- (8) restore and maintain coastal water quality for diverse public uses; and
- (9) restore and maintain coastal air quality to protect health and the enjoyment of natural beauty and the maritime characteristics of the coast.

The Department of Economic and Community Development reviewed 11 comprehensive plans in the Casco Bay watershed. DECD determined that towns with plans consistent with state growth management goals include Buxton, Gray, New Gloucester, Standish, and Poland. Towns with plans not yet consistent with state goals include North Yarmouth, Phippsburg, West Bath, Freeport, Yarmouth, and Windham. The remaining towns in the Casco Bay watershed are currently revising their comprehensive plans (as of April, 1992), but these plans will be reviewed for consistency with state goals only if towns wish to secure state implementation assistance grants.

The DECD has encountered major difficulties in convincing inland watershed communities that urban, agricultural and stormwater runoff have significant adverse impacts on coastal waters, and inland communities have been reluctant to spend money for coastal water quality programs that they believe are not applicable to them. There is also a general lack of information and data at the state level to assist communities in developing effective coastal water protection ordinances and programs, little coordination among comprehensive plans and no mechanism for ensuring that they are updated on a regular basis.²

The major water quality issues identified in the comprehensive plans of communities in the Casco Bay watershed include: septic systems, open space and greenbelts, groundwater, lakes and phosphorous control, and wetlands. Only some of these relate directly to coastal water quality. Sewer system infrastructure and clam flat closures have also been identified as major issues in selected coastal communities. Some of the strategies selected to address these issues include:

- ✓ monitoring and reporting for lake and phosphorous control;
- ✓ additional research and planning for septic systems;
- ✓ improved local and state management for taxation policies for open space programs;
- ✓ ordinances and regulations to develop wetland policies, shoreland zoning and septic system controls;
- ✓ inspections and enforcement for septic systems;
- ✓ public/private infrastructure improvements for septic and storm-water controls;

² METCALF & EDDY, REVIEW OF WATER QUALITY PLANNING PROGRAMS RELATIVE TO CASCO BAY (1992) at 2-18 (prepared for EPA Region I).

- ✓ easements, development rights and donations for open space and greenbelts;
- ✓ public education for wetland and septic system controls; and
- ✓ regional/interlocal activities for groundwater management.³

Citizens interested in participating in local comprehensive planning efforts should contact their town planner, determine the status of their local plan, and review the following publications: *The Growth Management Handbook: A Citizen's Guide to Community Planning* (1990), by the Greater Portland Council of Governments; *Guidelines for Maine's Growth Management Program* (1988), and *How to Prepare a Land Use Ordinance: A Manual for Local Officials* (1990), by the Department of Economic and Community Development.

3. Subdivision Review

Subdivisions may be reviewed at both the state and local level for compliance with minimum state requirements. Municipalities may also adopt local subdivision ordinances that provide more stringent standards. State subdivision requirements are described below.

Large-scale subdivisions. (20 or more acres divided into 5 or more lots), and other large-scale development is reviewed by the DEP under the Site Location of Development Law. The law requires that subdivisions must not "adversely affect existing uses, scenic character, air quality, water quality or other natural resources in the municipality." Adequate provisions must also be made for utilities, waste disposal, and "open space." The State Board of Environmental Protection (BEP), the DEP's policy making body, may hold public hearings, and is authorized to consider the primary, secondary and cumulative impacts of development, and preserve historic sites, unusual natural areas, scenic character, fisheries and wildlife.

All subdivision of a parcel of land into 3 or more lots within any 5-year period is also reviewed by municipalities under the State Subdivision Law. Abutting property owners must be notified of applications for subdivisions and, although local public hearings are not required, most municipal planning boards

³ TAMARA RISSER AND FRANCINE RUDOFF, MAINE DEPARTMENT OF ECONOMIC AND COMMUNITY DEVELOPMENT, A REVIEW OF COMPREHENSIVE PLANS AND WATER QUALITY ISSUES FOR MUNICIPALITIES LOCATED WITHIN THE LOWER CASCO BAY WATERSHED (May 19, 1992) at 9-12.

and town councils in Casco Bay hold public hearings on subdivision proposals. State law requires municipalities to make findings that subdivisions will not cause:

- ✓ unreasonable water or air pollution;
- ✓ unreasonable burdens upon existing municipal services, water supplies, and sewage and solid waste disposal facilities;
- ✓ unreasonable traffic congestion or soil erosion;
- ✓ unreasonable adverse effects on scenic beauty, "significant wildlife habitats," natural areas, or public rights for physical or visual access to the shore; and
- ✓ unreasonable adverse effects on water quality or the shoreline of adjacent water bodies and wetlands, or groundwater quality.

State law also requires that local subdivision proposals accurately map freshwater wetlands and rivers, streams and brooks, provide for adequate storm water management, and be consistent with local land use and comprehensive plans. However, there is a need for active citizen involvement to ensure effective implementation of state subdivision requirements at the local level.

Sewage Treatment and Point Source Discharges

According to the Maine Department of Environmental Protection, malfunctioning publicly-owned sewage treatment works (POTWs) and untreated sewage and runoff from combined sewer overflows (CSOs) are major contributors to bacterial pollution in Casco Bay.⁴ In addition, point source industrial discharges may be major sources of toxic pollutants such as heavy metals and chlorine, as well as a source of nutrient enrichment or eutrophication which, in other estuaries, has caused "red tides," algae blooms and fish kills from oxygen deprivation.⁵

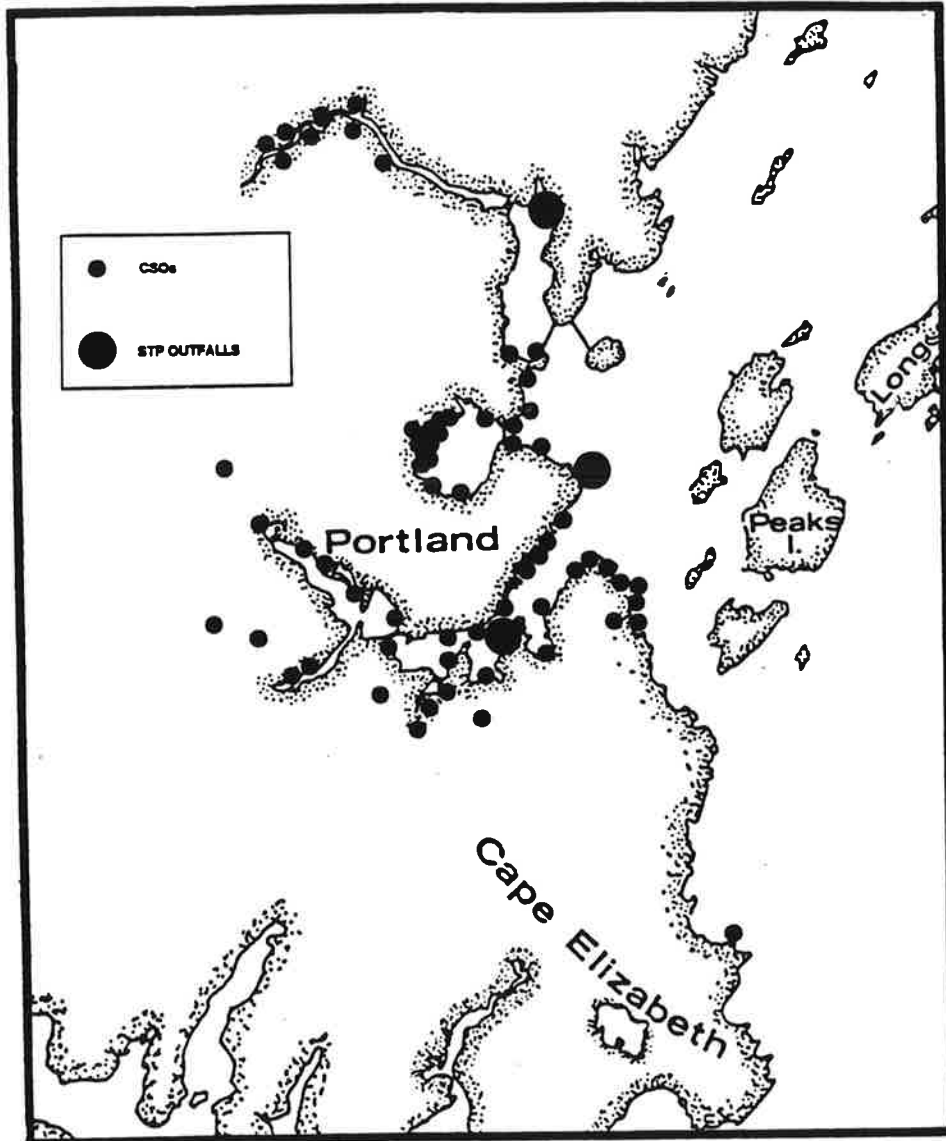
The Casco Bay watershed has 7 sewage treatment plants, 67 CSOs and approximately 130 industries discharging into those plants. (The location of the sewage treatment plants and CSOs are depicted in Figure 1.) The Bay receives

⁴ AGENDA FOR ACTION *supra* note 1, at 5-6. Other major sources of bacteria are the 350 overboard discharges located in the Bay, boating discharges and stormwater runoff.

⁵ *Id.* at 15. Faulty septic systems and nonpoint sources of pollution are other major sources of nutrients.

Figure 1

**Combined Sewer Overflow and Municipal Sewage
Treatment Plant Outfalls
in Inner Casco Bay**



Source: DEP, AGENDA FOR ACTION

nearly 35 million gallons of treated sewage daily (MGD). The largest municipal dischargers are the Portland (15.1 MGD), South Portland (5.5 MGD) and Westbrook (2.2 MGD) treatment plants. S.D. Warren (5 MGD) is the largest non-municipal discharger of sewage. Seven industrial dischargers have special pre-treatment licenses required under state and federal law before the discharges can be passed through sewage treatment plants. The S.D. Warren Company (21.6 MGD) and the Central Maine Power Company (35 MGD of cooling water) are also licensed to discharge treated industrial wastes directly into Casco Bay and the Presumpscot River. Monitoring reports indicate that over 800 gallons of raw sewage and stormwater is discharged annually from CSOs in Portland, South Portland and Westbrook.

Key agencies that regulate sewage treatment and point source discharges in Casco Bay include:

- ✓ The U.S. Environmental Protection Agency (NPDES permits, sewage treatment plant funding and licensing, and Clean Water Act enforcement);
- ✓ The Maine DEP, Bureau of Water Quality Control (certification of federal NPDES permits, state waste discharge licenses, state water quality standards, and grants, technical assistance and monitoring POTWs); and
- ✓ Town Councils and local water districts (operate publicly owned sewage treatment plants).

Although evaluating the effectiveness of government agency programs dealing with point source discharges in Casco Bay goes beyond the scope of this report, concerns identified by other estuary programs may be instructive. These include inspection and compliance monitoring of point source dischargers; reviewing regular reports on the status of NPDES permits; providing technical assistance to POTWs; reviewing permits in sensitive or impaired waters; and instream monitoring for waste load allocations.⁶

1. Effluent Limitations

All point source discharges into surface waters from residential, commercial, industrial and publicly-owned sewage treatment works require federal NPDES

⁶ Robert Nichols, Evaluation of State Environmental Management and Resource Protection Programs in the Albemarle-Pamlico Region (1990) at 30-33 (for the Albemarle-Pamlico Estuarine Study).

permits under section 402 of the Clean Water Act (CWA), as well as state waste discharge licenses from the DEP under the Maine Protection and Improvement of Waters Law. The Clean Water Act allows NPDES permit authority to be delegated to any state that demonstrates it has adequate authority to administer the program in compliance with specific CWA requirements.

Although the EPA has approved the NPDES program of over three-quarters of the states, Maine's program has not been certified and therefore licenses from both the EPA and the DEP are required for point source discharges. These licenses establish effluent limitations (ELs) that require best practicable treatment to limit the quantities, rates and concentrations of the chemical, physical, biological constituents of particular pollutants allowed to enter the water. Public hearings are conducted on waste discharge licenses by the Board of Environmental Protection where members of the public may testify with respect to effluent limitations. Public hearing requirements may also be imposed by the EPA if there is sufficient public interest. In addition, citizens may review discharge monitoring reports at DEP offices submitted by each licensee to determine whether discharges are in compliance with effluent limitations.

2. Primary and Secondary Sewage Treatment

The Clean Water Act requires that all POTWs provide for "secondary treatment" consisting of "primary" treatment (treatment by screening, sedimentation, and skimming adequate to remove at least 30% of the biological oxygen demanding material and suspended solids), followed by the removal of additional organic material through biological treatment of bacteria and other microbes, or physical/chemical treatment, to achieve 85% removal of biological oxygen demand, suspended solids and pH. All POTWs must also comply with state water quality standards for particular waterbodies.

At the present time the Portland, South Portland, Westbrook and Yarmouth treatment plants have entered into consent agreements with the EPA and DEP to ensure compliance with the Clean Water Act. These agreements call for upgrading sewage treatment plant facilities (and in some cases chlorinating discharges), and monitoring and abating CSOs.

The Portland Water District was sued by the State and environmental groups in 1989 for violating fecal coliform bacteria and total suspended solid effluent limitations in its state waste discharge license and NPDES permit at its Portland and Westbrook sewage treatment plants. As a result, the City of Portland and the Portland Water District agreed to pay fines and make \$8 million improvements to evaluate and abate CSO discharges. In addition, the City of Portland and the Portland Water District entered into an administrative consent agreement with the

Board of Environmental Protection in 1991 to develop and implement a long-term Master Plan to evaluate, monitor and abate 16 CSOs. In the interim, the City and Water District will implement best management practices to reduce CSO discharges including the prohibition of uncontaminated water into the sewer system from private sources, cleaning sewer lines, developing a high flow management plan, maintaining overflow structures in good working order, and removing five gallons of uncontaminated water for each gallon of sanitary wastewater added to the sewer system.

South Portland entered into a consent decree with the EPA in 1992 to upgrade its sewage treatment plant to achieve compliance with effluent limitations by August 1, 1995, comply with interim effluent limitations until that time, reduce infiltration into its sewer system, abate discharges from 19 CSOs and pay \$30,000 civil penalties to the state and the federal government. Five CSOs located in Westbrook and one in Yarmouth are also subject to similar abatement procedures which include the adoption of BMPs and engineering solutions to reduce the frequency and volume of CSO discharges.

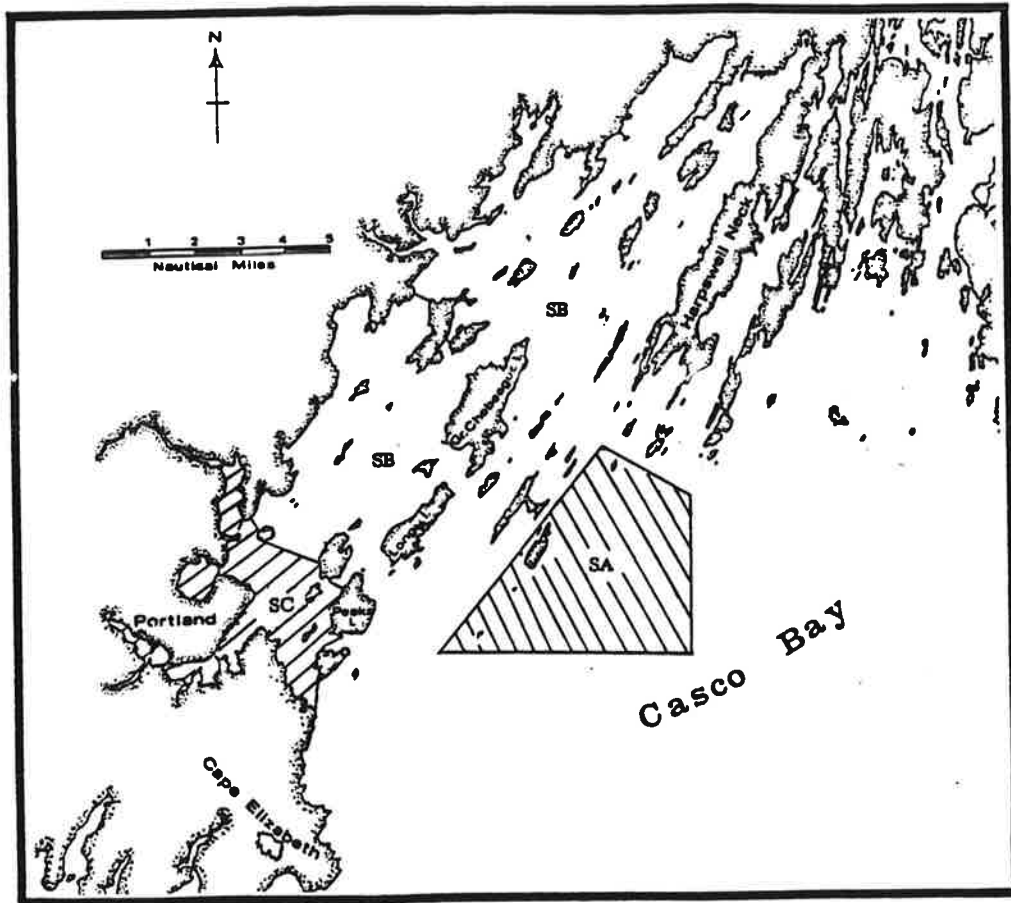
3. Water Quality Standards

In addition to technology-based controls imposed by effluent limitations, the CWA also establishes water quality-based controls based upon water quality standards (WQSS) designated within state waterbodies. EPA and DEP discharge licenses may not be issued if the discharge would cause or contribute to a violation of these state WQSS. This may occur where the discharge, by itself or in combination with other discharges, lowers the classification of a water body or lowers the existing quality of any body of water. The DEP must ensure that classifications are attained and discharges will not lower the existing quality of any body of water unless, following the opportunity for public participation, the DEP finds that the discharge is necessary to achieve important economic or social benefits, and that no other reasonable alternatives exist. Discharges also comply with the state's antidegradation policy, adopted under the Clean Water Act, which requires that discharges have no significant adverse impacts on existing in-stream uses involving plant, marine and wildlife, and their habitat, and recreational and commercial uses of the water.

The marine waters in Casco Bay are classified by the DEP as SA, SB and SC waters as indicated in Figure 2. The waters in and around Jewell and Eagle Island are classified as SA waters because of their ecological, social, scenic, economic or recreational importance. Direct discharges are prohibited in SA waters; water quality must be suitable for swimming, fishing, aquaculture and the harvesting of shellfish; and the estuarine and marine life, habitat, dissolved oxygen and bacteria content must be as naturally occurring.

Figure 2

Surface Water Classification of Casco Bay, Maine



Source: DEP, AGENDA FOR ACTION

Ninety-five percent of Casco Bay is classified SB waters, into which discharges are permitted only if they do not cause adverse impacts to estuarine and marine life; receiving water quality is sufficient to support all indigenous estuarine and marine species; and discharges would not cause the closure of shellfish areas. SB waters must also be suitable for swimming, fishing and aquaculture, habitat must be "unimpaired," and dissolved oxygen must be at least 85% of saturation.

The Portland/South Portland Harbor, Back Cove and the Presumpscot River estuary are classified SC waters. Although SC is the lowest classification and discharges may cause some changes to estuarine and marine life, the waters must still satisfy "swimmable/fishable" standards and be of sufficient quality to support all species of fish indigenous to receiving waters.⁷

Although the Clean Water Act requires state WQSs to protect fish and wildlife, Maine's standards lack criteria to determine whether the biological integrity of classified waters are being adequately protected. This is seen as a major gap in the implementation of state water quality standards.

4. Penalties and Enforcement

The EPA is authorized to take enforcement actions against violations of NPDES permit requirements with respect to ELs, water quality standards, new source standards, toxic and pretreatment standards, and monitoring and record-keeping requirements. The EPA may issue administrative compliance orders or bring civil or criminal actions in federal court. Administrative penalties may be imposed up to \$10,000 per day, and civil and criminal violations are subject to fines up to \$25,000 per day and 15 years imprisonment. Similar penalties may also be imposed for violations of state discharge licensing requirements.

The Clean Water Act also contains significant citizen enforcement provisions. Under section 505, citizens having interests which may be "adversely affected" may bring actions against any person or agency for violations of effluent standards or limitations, NPDES permit conditions, or agency orders.⁸ Violations that occur wholly in the past are not subject to the citizen enforcement provisions,⁹ nor are the provisions applicable to nonpoint sources of pollu-

⁷ Levels of dissolved oxygen may be 70% of saturation and higher levels of enterococcus bacteria of human origin are permitted in SC waters. See 38 MRSA § 465-B.

⁸ 33 U.S.C. § 1365; 40 CFR § 135.

⁹ *Gwaltney v. Chesapeake Bay Foundation*, 484 U.S. 49 (1987).

tion.¹⁰ Persons "adversely affected" may include citizens who use a water body or environmental organizations whose members use the water body.¹¹ Citizens must give 60 days notice to EPA, the state, and the polluter prior to filing any action, but may not file if the EPA or a state is commencing and diligently prosecuting a civil or criminal action. Attorneys' fees and litigation costs may be awarded to citizens where appropriate. Legislation to adopt similar citizen enforcement provisions under state law has been considered but not enacted in Maine.

Nonpoint Source Pollution

It has been estimated by the EPA that approximately 60% of all pollution sources nationwide are nonpoint related. In Maine, NPS pollution has caused 187,000 acres of groundwater aquifers to fail safe drinking water standards and threaten about 53,000 acres of lakes. The Maine Nonpoint Source Pollution Management Plan indicates that Casco Bay and the Androscoggin and Presumpscot Rivers are impaired from pollution resulting from construction and urban runoff.¹² Other critical sources of nonpoint source (NPS) pollution include fertilizers, pesticides and animal wastes from farming activities; insecticides, herbicides and fungicides from residential lawns, golf courses and parks; improper disposal of household chemicals; and motor oil, solvents, fuels, and heavy metals in stormwater runoff.¹³

There are few regulatory programs in place to address the impacts of nonpoint source pollution (with the exception of stormwater runoff and erosion from new development described further below). Furthermore, government responsibilities for NPS pollution are fragmented among a variety of state, federal and local agencies:

- ✓ The U.S. EPA (reviews NPS Management Plans under the CWA, issues stormwater permits, and reviews state water quality standards and antidegradation policies)

- ✓ The Cumberland County Soil and Water Conservation District (Best Management Practices (BMPs) and soil erosion and sedimentation control plans);

¹⁰ Oregon Natural Resources Council v. U.S. Forest Service, 834 F.2d 842 (9th Cir. 1987).

¹¹ Friends of the Earth v. Consolidated Rail Corp, 768 F.2d 57 (1985).

¹² DEPARTMENT OF ENVIRONMENTAL PROTECTION, NONPOINT SOURCE POLLUTION MANAGEMENT PLAN 18-19 (1989).

¹³ AGENDA FOR ACTION, *supra* note 1, at 12.

- ✓ Town Councils and Planning Boards (subdivision regulations and local ordinances);
- ✓ The Maine DEP, Bureau of Land Quality Control (stormwater runoff and erosion control requirements under Shoreland Zoning and Site Law requirements); and
- ✓ The Maine DEP, Bureau of Water Quality Control (BMPs, the State NPS Management Plan, and the State NPS Pollution Program).

1. Stormwater Runoff and Erosion Control Requirements

The Mandatory Shoreland Zoning Act requires that new development within "shoreland areas" minimize stormwater runoff in excess of natural pre-development conditions, and where possible, retain natural runoff features (like swales and gulleys). Development in shoreland areas must also: revegetate disturbed soil; submit soil erosion and sedimentation control plans to local governments; install and maintain temporary runoff and stabilization measures within one week of excavation and permanent measures within nine months of excavation; and design drainageways to accommodate a 25-year storm.

The State Subdivision Law requires that subdivisions approved by municipalities must not cause undue water pollution, adversely affect the quality or shoreline when located within the watershed of any pond, lake or tidal body, nor cause "unreasonable" soil erosion.

The State Site Law prohibits "unreasonable" soil erosion or sedimentation from subdivisions and large-scale development (structures exceeding 60,000 feet in ground area, development partially or fully in shoreland areas exceeding 10 units, or subdivisions dividing 20 acres or more into 5 or more lots), mining operations and hazardous activities. The DEP requires that such development:

- ✓ prepare comprehensive erosion and sedimentation plans to adequately protect adjacent water bodies from sedimentation and surface runoff;
- ✓ limit exposed areas during construction to the shortest period possible, removing sediment from runoff before leaving the site, and complete permanent soil erosion control measures within 15 days of final grading;
- ✓ not unreasonably increase flooding risks nor alter natural drainage ways; and

✓ properly engineer and maintain stormwater management systems until responsibility is accepted by the municipality. Such systems must be adequate to retain water falling on site during a 25 year storm over 24 hours, not unreasonably degrade receiving waters, and not increase peak discharges.

These standards provide significant controls for NPS pollution from construction activities within shoreland zones, subdivisions and large-scale development. However, there is also a need to assure that requirements for stormwater management and erosion and sedimentation plans, construction BMPs, and revegetation requirements are properly implemented at the local level and are applied to smaller developments upland from the shoreland zone. Citizen participation can substantially strengthen the enforcement and compliance monitoring efforts of local CEOs, the Soil and Water Conservation District, and the DEP.

Under the Clean Water Act, by October 1992, all industrial and municipal discharges consisting entirely of stormwater must receive a NPDES permit from the EPA. These permits will effectively prohibit non-stormwater discharges into municipal storm sewers and reduce the discharge of pollutants to the "maximum extent practicable." However, stormwater entering waterbodies from nonpoint sources will continue to be a problem that must be addressed primarily at the state and local government level.

2. Agricultural Activities

Agricultural activities discharge rock, sand, dirt, animal wastes, fertilizers, pesticides, or other pollutants resulting from erosion into classified waters in the Casco Bay watershed. These activities are exempt from waste discharge licensing requirements so long as the Soil and Water Conservation District prepares and submits an erosion and sedimentation control plan to the DEP for a variance. Such plans must contain measures to reduce soil losses, prevent surface and ground water contamination from animal wastes, and describe procedures for the proper use of fertilizers as prescribed by the University of Maine Cooperative Extension Service. The DEP may conduct on-site inspections to determine that the activities are in compliance with the plan and where violations occur they may be treated as violations of DEP waste discharge licenses. However, the DEP is not enforcing variance requirements unless complaints are issued. In such cases, agricultural operators are encouraged to fix discharges through the implementation of agricultural BMPs under the Maine Right to Farm Law (an agricultural

operation may not be considered a nuisance so long as it complies with BMPs issued by the Commissioner of Agriculture).¹⁴

3. Local Ordinances

Municipalities may adopt special measures to address the impacts of nonpoint source pollution. However, only the Town of Brunswick has enacted comprehensive legislation to address NPS pollution in the Casco Bay watershed. In 1991, Brunswick enacted the Coastal Protection Zone Ordinance to protect Maquoit and Middle Bay finfish and shellfish resources. The Town commissioned a study which indicated that residential septic systems, agricultural and lawn fertilizers, and stormwater runoff caused nutrient loadings, oxygen deprivation and algal blooms, which contributed to a devastating shellfish kill in 1988.¹⁵ The Ordinance was adopted within the watershed of Maquoit Bay to reduce nutrient loadings by:

- ✓ controlling stormwater runoff through wetponds, vegetated buffer strips, grassed swales, and recharge/infiltration;
- ✓ limiting the agricultural and residential use of fertilizers;
- ✓ conducting routine inspections of individual sewage disposal systems to ensure proper functioning and maintenance; and
- ✓ establishing five acre minimum lot sizes and 5% maximum coverage for impervious surfaces.¹⁶

Wildlife and Habitat Protection

Key agencies that implement and enforce wildlife and habitat protection laws in Casco Bay include:

- ✓ the U.S. Environmental Protection Agency (the Endangered Species Act);

¹⁴ 17 MRS § 2805.

¹⁵ CHRISTOPHER HEINIG AND AMY NAYLOR-DAVIS, NUTRIENT LOADING ORDINANCE: TOWN OF BRUNSWICK MAINE (June 19, 1991).

¹⁶ Coastal Protection Zone Ordinance, Brunswick, Maine (1991).

- ✓ the U.S. National Marine Fisheries Service (the Endangered Species Act and the Marine Mammal Protection Act);
- ✓ the U.S. Fish and Wildlife Service (the Endangered Species Act and the Fish and Wildlife Coordination Act);
- ✓ the Maine Department of Inland Fisheries and Wildlife (the Maine Endangered Species Act and Natural Resources Protection Act); and
- ✓ the Maine DEP, Division of Natural Resources (the Natural Resources Protection Act).

1. Endangered and Threatened Species

Endangered and threatened species are protected under both state and federal law. The following is a list of endangered, threatened and protected species within the Gulf of Maine:¹⁷

Bald Eagle	Peregrine Falcon	Piping Plover
Least Tern	Roseate Tern	Sperm Whale
Sei Whale	Right Whale	Finback Whale
Humpback Whale	Short-nose Sturgeon	Leatherback Turtle
Ridley Turtle	Loggerhead Turtle	Gray Seal
Hooded Seal	Harbor Seal	Harp Seal
Pilot Whale	Killer Whale	Harbor Porpoise
White-Sided Dolphin		Bottle-Nose Dolphin

Under the U.S. Endangered Species Act, federal agencies must use "all methods and procedures" necessary to remove the threatened or endangered classification, and are prohibited from taking any action to "jeopardize" such species or adversely modify "critical habitats."¹⁸

Under the Maine Endangered Species Act, state and local government agencies are prohibited from authorizing activities that significantly alter "essential habitats" identified by the Department of Inland Fisheries and Wildlife (DIFW). The DIFW has mapped bald eagle nesting sites and adopted guidelines prohibiting significant alternation or unreasonable harm to such sites, none of which are located in the Casco Bay watershed. However, it has not mapped or designated

¹⁷ Maine State Planning Office, Draft Policy Options for Maine's Marine Waters, at II-14 (Sept. 1991).

¹⁸ Critical habitats are for such species are listed at 50 CFR § 424.

other "essential habitats" within the watershed or the State. This has been identified as a major regulatory gap.

2. Significant Wildlife Habitats and Protected Natural Areas

The Department of Inland Fisheries and Wildlife is also responsible for mapping "significant wildlife habitats" in Casco Bay and throughout the state which are protected under the Natural Resources Protection Act (NRPA). Significant wildlife habitats include habitats for endangered or threatened species, as well as high and moderate value deer wintering areas, waterfowl nesting and feeding areas, spawning areas for Atlantic salmon, and shorebird nesting, feeding and staging areas. The NRPA also protects "natural areas" which include coastal sand dunes, coastal wetlands, fragile mountain areas and freshwater wetlands exceeding 10 acres.

The NRPA prohibits state and local government agencies from engaging in or permitting activities that substantially alter significant wildlife areas or protected areas. Any construction activities, such as dredging, bulldozing, removing vegetation, filling or draining, within significant wildlife habitats or other protected natural areas must be reviewed by the DEP and comply with rigorous habitat protection standards and mitigation measures. The DEP prohibits activities that "unreasonably harm" or "diminish the overall value" of significant wildlife habitats and "species utilization" of such habitats. The DEP also requires that activities not unreasonably affect: salt marshes and other critical habitat areas for rare and endangered wildlife and fish species; native wildlife species; shellfish beds; and the movements and lifestages of fish, shellfish and wildlife. The DEP may require conditions to time construction activities to avoid seasonal fish runs and bird nesting seasons.

Unfortunately, the stringent habitat protection provisions of the NRPA are being seriously undermined by the failure of the DIFW to designate "significant wildlife habitats" and "essential habitats" in Casco Bay and throughout the state. Until these areas are designated and mapped, the NRPA's provisions will apply to protected natural areas (wetlands) only, and will leave unprotected habitats for endangered or threatened species, deer wintering areas, waterfowl and shorebird nesting and feeding areas, and spawning areas.

Wetlands Protection

Wetlands throughout the Casco Bay Estuary perform valuable functions that include providing spawning and nursery habitats for commercially important fisheries, providing habitats for rare and endangered species, and maintaining water quality by reducing pollutant inputs into receiving waterbodies. Wetlands

converted to other uses not only eliminate these productive uses but also often replace them with polluting activities such as residential developments, marinas and agricultural activities. The U.S. Fish and Wildlife Service estimates that Maine has lost 20% of its original 6.5 million acres of wetlands since colonial times.¹⁹ It is not known how many of these acres were located within the Casco Bay Estuary.

Activities within and adjacent to wetlands in Maine are regulated by three key federal and state agencies, as well as by local governments.

- ✓ The U.S. Army Corps of Engineers (regulates activities within wetlands of all sizes under section 404 of the Clean Water Act in consultation with the USFWS and NMFS);
- ✓ the U.S. EPA (prepares wetlands guidelines and reviews Corps permits under section 404);
- ✓ the Maine DEP, Division of Natural Resources (regulates activities affecting all coastal wetlands and freshwater wetlands exceeding 10 acres under the NRPA; issues section 401 and CZMA consistency certifications); and
- ✓ Town councils, local planning boards and CEOs (may adopt local wetland ordinances).

The number of different government agencies regulating wetlands has led some redundancy and inconsistencies among wetland programs. Activities affecting small-scale freshwater wetlands under 10 acres are not regulated by the State, and sometimes small fills by-pass federal regulations due to statutory exemptions and limited staffing and enforcement capabilities at the Corps and EPA. In such cases, the burden is upon local governments to fill the regulatory "gap" by protecting small-scale freshwater wetlands from adjacent activities and land uses that may directly and cumulatively adversely affect habitat values and wetland functions.

1. Federal Clean Water Act Standards

The discharge of dredge or fill material within coastal or freshwater wetlands, streams, ponds, mudflats or wet meadows require a permit from the Army Corps of Engineers under section 404 of the Clean Water Act. The Corps

¹⁹ Dahl, T.E., *Wetland Losses in the United States, 1780's to 1980's* (1990), for the U.S. Fish and Wildlife Service.

issues a public notice to solicit information from the public, adjacent property owners, interested groups, and state, local and federal agencies, and may hold a public hearing if it feels that the issues raised are substantial. The Corps' review is intended to balance the "benefits which reasonably may be expected to accrue from the proposal . . . against its reasonably foreseeable detriments."²⁰ The Corps is also required to consult with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service to protect and conserve wildlife resources under the U.S. Fish and Wildlife Coordination Act.

"Wetlands" regulated by the Corps include areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs and similar areas. The Corps and the EPA have issued a "Federal Manual for Identifying and Delineating Jurisdictional Wetlands" that provides guidance for identifying wetlands that fall within the Corps' section 404 jurisdiction. The manual is also used by the State of Maine to delineate wetlands under the NRPA. State and federal agencies use three basic criteria to delineate wetlands: hydroptic plants, hydric soils and wetland hydrology. Controversy has recently arisen with respect to proposed revisions to the federal manual that would declassify as wetlands some areas where wet soils lie beneath the surface.

The CWA exempts from section 404 permit requirements normal farming, silviculture and ranching activities; activities on croplands converted from wetlands prior to 1985; normal maintenance and emergency repair of dikes, dams, levees, breakwaters, bridges, and transportation structures; construction or maintenance of farm or stock ponds or irrigation ditches; temporary sedimentation basins on a construction site; and farm, forest, or temporary mining roads constructed in accordance with best management practices (BMPs). However, activities are not exempt if they covert water or wetlands to dry land, impede circulation or reduce the reach or size of wetlands.²¹

EPA guidelines require the Corps to consider the following criteria when evaluating wetland permits: (1) wetland discharges are not permitted where feasible, less environmentally damaging alternatives are available (projects that

²⁰ This so-called "public interest review" is required to consider all relevant factors including cumulative effects, conservation, economics, aesthetics, general environmental concerns, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people. 33 CFR § 320.4(a).

²¹ See U.S. EPA, THE FEDERAL WETLANDS PROTECTION PROGRAM IN NEW ENGLAND: A GUIDE TO SECTION 404 FOR CITIZENS AND STATES, U.S. EPA Region I (August 1991).

are not water dependent are presumed to have less environmentally damaging alternatives); (2) discharges must not cause or contribute to significant adverse impacts, including direct, indirect and cumulative impacts, to wildlife, ecosystem integrity, recreation, aesthetics, economic values, and the aquatic environment; (3) discharges must not violate state water quality standards or jeopardize endangered species; and (4) potential adverse impacts on the aquatic ecosystem must be minimized to the extent appropriate and practicable. Unavoidable impacts may require compensatory mitigation (e.g., restoration, enhancement or creation of wetlands) after avoidable impacts are fully minimized.

The Corps and EPA entered into a Memorandum of Agreement in 1990 that sets forth mitigation measures to avoid, minimize and compensate wetland losses. The MOA notes that while mitigation measures in individual permit decisions may not always achieve the goal of "no net loss" of wetlands functions and values, an overall goal of "no net loss" of wetlands should be maintained.²²

2. State Review under the NRPA

State review of activities within and adjacent to wetlands is conducted by the DEP under the Natural Resources Protection Act. Activities regulated by the DEP include dredging, bulldozing, removing or displacing soil, sand, vegetation or other material; draining or dewatering; filling or any construction, repair or alteration of any permanent structure.

Wetlands Regulated. The DEP regulates activities in or adjacent to all coastal or tidal wetlands, freshwater wetlands and great ponds exceeding 10 acres, rivers, streams and brooks. The DEP classifies wetlands into Class I, II and III wetlands and requires compensation for loss of wetland functions in Class I and II wetlands and alterations of Class III wetlands exceeding 20,000 square feet:

✓ Class I wetlands are all coastal wetlands and great ponds, wetlands that contain endangered or threatened species, listed natural communities, Atlantic salmon spawning areas, or high or moderate deer wintering habitat, waterfowl habitat, or shorebird nesting and feeding areas;

✓ Class II wetlands are located within 250 feet of coastal wetlands, great pond areas, or rivers streams or brooks; contains at least 20,000 square feet of aquatic vegetation or open water during most of the growing season; is a bog; or is a floodplain;

²² 55 Fed. Reg. 9210 (March 12, 1990).

- ✓ Class III wetlands are all other wetlands.

Wetland Standards. The DEP applies the following standards to activities affecting wetlands:

Avoidance: Activities are prohibited that would cause a loss in wetland area, functions and values if there are less damaging practicable alternatives;

Minimal Alternation: The amount of wetlands altered must be kept to a minimum;

Compensation: Compensation is required whenever wetland functions are lost or degraded and may include restoration, enhancement, preservation or creation, depending on the kind of wetlands, size of alterations, and characteristics of the site;

No Unreasonable Impacts: Projects must be denied that have unreasonable impacts on wetlands even if there are no alternatives and alterations are minimized.

Recreational and Navigational Uses: Activities must not unreasonably interfere with established public rights of access to and use of wetlands and public recreational facilities, navigational channels, nor cause sedimentation in channels or moorings.

Interference with Natural Flow of Waters: Activities must not unreasonably alter or interfere with tidal flow, current and wave characteristics; storm wave overwash; the flow of fresh water to any coastal wetland; or the flood control functions of wetlands.

Disturbance Adjacent to Wetlands. Any grading or deposition of fill located within 100 feet of the high water line or upland edge of a coastal or freshwater wetland, river, stream or brooks, that could cause exposed material to be washed into such water body, must meet DEP permit by rule procedures. These procedures require a 25 foot undisturbed vegetated buffer, and 100 foot buffers where slopes exceed 20%. No buffers are required for negative slopes (where slopes are higher than adjacent land forms). The DEP also requires that activities adjacent to wetlands do not disturb soils when saturated, that erosion control measures be installed prior to the activity, that work be completed within 1 month, that disturbed soils be stabilized immediately upon completion, and that erosion control measures be maintained until the site is permanently stabilized.

Exceptions. These standards, as all DEP requirements under the NRPA, apply to all tidal or coastal wetlands but only those freshwater wetlands exceeding 10 acres. The NRPA also exempts from state permit requirements the deposit of treated sanitary sewage and sewage outfall lines from single family homes; snow dumps; fish weirs and boat moorings; and the maintenance and repair of existing structures.

3. Local Review

Since the Maine NRPA does not regulate activities within freshwater wetlands under 10 acres, such wetlands must be protected by the Corps or by municipal ordinance. However, except for the Town of Cape Elizabeth, few local governments in the Casco Bay watershed have adopted municipal wetland protection ordinances that exceed those standards required under the Mandatory Shoreland Zoning Act.

The Cape Elizabeth zoning ordinance was amended in 1990 to create and map two wetland zones: a Wetland Protection Zone, and a Critical Wetland Zone. Critical Wetlands include freshwater wetlands at least 1 acre in size with predominantly poorly drained hydric soils or obligate wetland vegetation.²³ Wetland Protection Zones include other areas that require protection due to their sensitivity to development or general wetland qualities.

No construction activities are permitted in Critical Wetland Zones (except utilities, footbridges and stormwater detention with a special permit from the Planning Board), and 100-250 foot buffers must be maintained from the upland edge of Critical Wetlands, in which no development may occur except for limited timber harvesting and agricultural activities (beyond 75 feet from the wetland). Construction within Wetland Protection Zones are permitted with a special permit from the Planning Board only if no adverse impacts exist to the flow of surface or subsurface water, spawning grounds, or habitat for aquatic life, birds or other wildlife. Permit applications must contain a map indicating existing wetland vegetation prepared by a botanist or wetland specialist, and a written soils report indicating the location of hydric soils. Erosion prevention control measures must be adopted in accordance with the Soil and Water Conservation District handbook and the Planning Board may impose buffers between the wetland and adjacent land uses to protect habitat or prevent flooding.²⁴

²³ Town of Cape Elizabeth, Zoning Ordinance, Ch. 19-2-8-01.

²⁴ *Id.* at 19-3-9-04.

The Cape Elizabeth zoning ordinance is a good example how local governments may fill the regulatory gap that leaves small-scale freshwater wetlands unprotected.

Ocean Dumping and Dredging

At the present time there is one active ocean dumping sites within Casco Bay, although several sites have been discontinued (see Figure 3). These sites may still contain a number of pollutants such as heavy metals and hydrocarbons that were disposed before the ban imposed under the federal Ocean Dumping Act. The State Planning Office estimates that 79 coastal towns in Maine have had some degree of dredging by the Army Corps of Engineers, as well as numerous private dredging projects. The majority of these projects use ocean and estuarine sites for disposal (77%), some in locations that are no longer known.²⁵

Key state and federal agencies regulating ocean dumping activities include:

- ✓ The U.S. EPA (site designations, standards and permitting under the Ocean Dumping Act and CWA);
- ✓ The U.S. Army Corps of Engineers (ocean dumping of dredge and fill material under the Ocean Dumping Act);
- ✓ The U.S. Coast Guard (monitoring and enforcement); and
- ✓ The Maine DEP (the Natural Resources Protection Act).

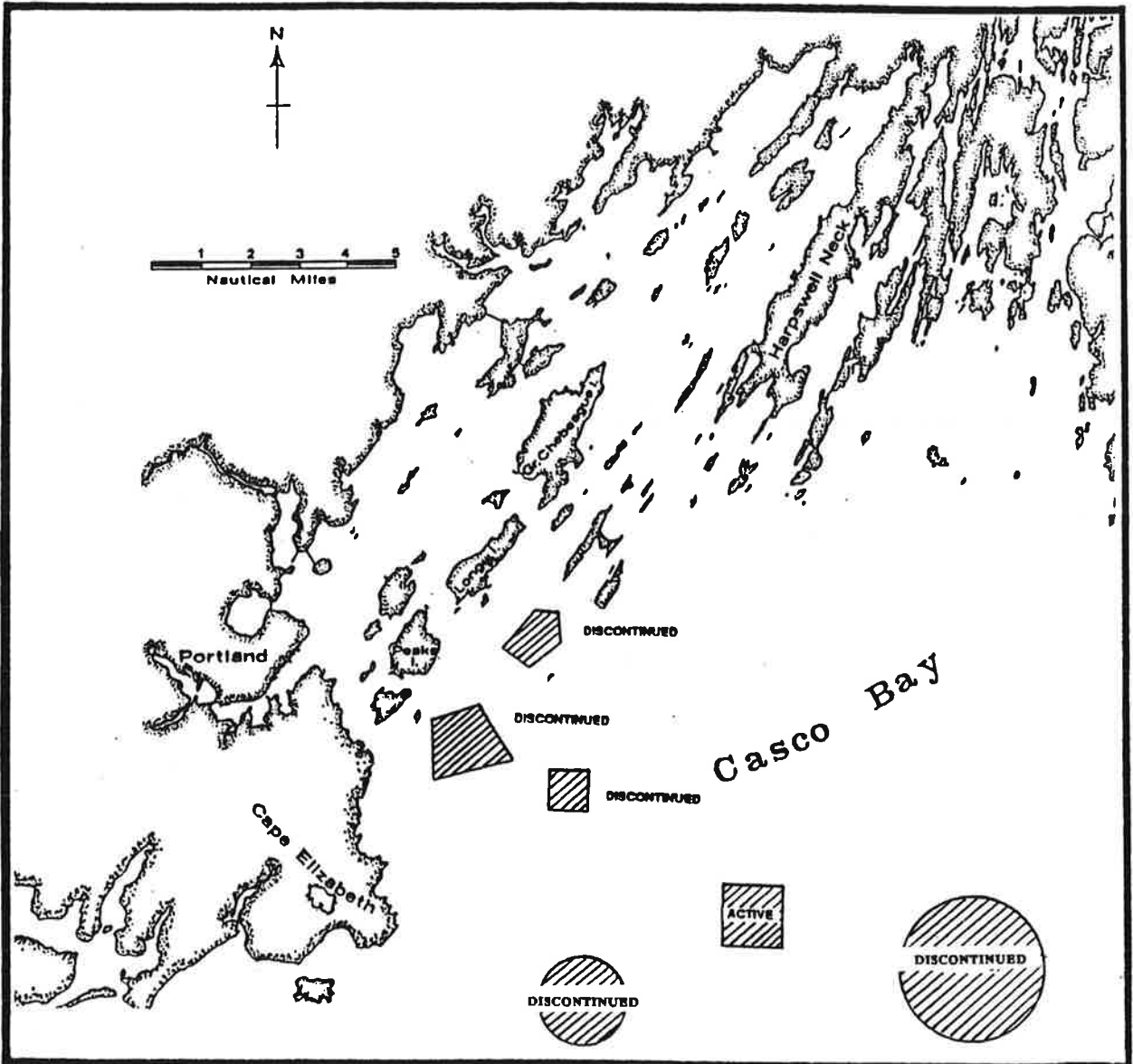
1. Federal Regulation

The U.S. Ocean Dumping Act (ODA) essentially prohibits all ocean dumping, including sewage sludge and industrial wastes, except where the EPA finds that "emergency" measures are needed to protect human health and there are no other feasible solutions. The ODA governs the dumping of all solid wastes into the ocean while the Clean Water Act governs discharges through outfalls, oil discharges and sewage from vessels. The ocean dumping of dredged and fill material regulated by the Army Corps of Engineers is permitted so long as it does "not unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological systems or economic potentialities."

²⁵ State Planning Office, Policy Options for Maine Marine Waters (1991 Draft) at II-7.

Figure 3

Ocean Disposal Areas in Casco Bay



Source: DEP, AGENDA FOR ACTION

EPA guidelines require that ocean dumping sites must be evaluated for their effects on human health and welfare including economic, aesthetic and recreational values; effects on fisheries resources, wildlife, shorelines and beaches; effects on the marine ecosystem; land-based alternatives including recycling; effects on alternative uses of the ocean such as scientific study, fishing and other resource exploitation; and appropriate locations beyond the Continental Shelf. These standards are similar to CWA standards, with the exception of the requirement that land-based alternatives must be analyzed before ocean dumping locations may be authorized. Dredging permits issued by the Corps may limit the type and amount of material to be disposed, the location and length of time such dumping may occur, and may require monitoring and other conditions deemed necessary. The public may comment on Corps' permit applications and participate in public hearings, if they are held.

2. State Regulation

Although ocean dumping of dredged material approved by the Corps are exempt from state waste discharge requirements, a certificate is required from the Maine DEP and Coastal Program that the activity is consistent with state water quality standards and coastal policies. Dredging and disposal activities must also comply with Natural Resources Protection Act provisions protecting existing recreational and navigational uses, aquatic habitat, fisheries, and state water classifications. The DEP requires that notice be published in local newspapers of approved transportation routes, and consults with the Maine Department of Marine Fisheries and Inland Fisheries and Wildlife to assist in the evaluation of impacts on the fishing industry. Conditions may be imposed on dredging activities to ensure that they are not conducted during certain fishing or spawning seasons. The DEP Water Bureau also conducts tests prior to dredging to determine whether sediments are contaminated.

3. Monitoring and Enforcement

Although the laws and standards of the Ocean Dumping Act and NRPA are designed to protect the environment from dredging and disposal activities, dump sites and permit conditions must be adequately monitored to ensure compliance with state and federal standards. Monitoring is necessary to determine whether toxic materials are properly capped with nontoxic dredged spoils, that dredged material is not dumped short of the disposal site, and that marine resources are not being adversely affected at the disposal site. The Corps requires that inspectors accompany barges to dump sites and that spoils are analyzed prior to dredging operations to determine if sediments are appropriate for ocean disposal. Public notices are issued prior to authorizing public or private dredging and disposal activities to assure adequate public participation.

Discharge from Vessels

There are approximately 5,000 boats berthed in Casco Bay and about 500 large transient vessels pass through the Bay each year.²⁶ Potential discharges from these vessels include sewage from marine sanitation devices, plastics and oily wastes, and shipboard wastes.

The following federal agencies have jurisdiction over discharges from vessels:

- ✓ The U.S. EPA (the Clean Water Act);
- ✓ the U.S. Coast Guard (marine sanitation devices and MARPOL enforcement); and
- ✓ the Department of Marine Resources Marine Patrol (marine sanitation devices).

1. Marine Sanitation Devices

Section 312 of the Clean Water Act prohibits the discharge of untreated sewage from installed toilets or marine heads (marine sanitation devices) within 3 miles of shore. However prohibitions on vessel sewage discharges into Casco Bay are not adequately enforced by the U.S. Coast Guard or the State Marine Patrol. Furthermore, marine sanitation devices (MSDs) are not required on all boats although those with installed toilet facilities must have an operable MSD on board that meets certain federal standards for treating and holding wastes. Persons operating vessels within navigable waters without operable MSDs are subject to civil fines of \$2,000 per offense.

The State requires that all commercial marinas serving coastal waters that provide slips or moorings for 18 or more vessels which exceed 24 feet in length, must provide pumpout facilities to remove sanitary waste from the holding tanks of watercraft. However, at the present time, there are only four pumpout facilities in Casco Bay and no mechanisms to ensure that such facilities are used. Although open ocean sewage or MSD discharges are unlikely to have substantial adverse impacts on water quality, cumulative effects and discharges in semi-enclosed or poorly circulated waterbodies may contribute to shellfish harvesting closures in

²⁶ AGENDA FOR ACTION, *supra* note 1, at 8 and 11.

areas where boats are concentrated.²⁷ States may create "no discharge zones" by prohibiting the discharge of all sewage, treated or untreated, into certain waters if the EPA certifies that adequate facilities for removal and treatment of sewage are reasonably available. Although the state has not sought to establish any no discharge zones within Maine, it may be utilized as an appropriate mechanism to protect especially sensitive resources in Casco Bay.

2. Plastics and Oily Wastes

The U.S. has enacted laws implementing Annexes I, II, and V of the MARPOL Protocols of 1978, the International Convention for the Prevention of Pollution from Ships. In addition, the Clean Water Act prohibits discharges of oil or oily waste that cause a film or sheen upon the surface, or sludge or emulsion beneath the surface.

The Marine Plastics Pollution Research and Control Act was adopted by the federal government in 1987 to implement the MARPOL protocols. The Act establishes civil and criminal penalties for dumping plastic garbage generated from vessels anywhere within the 200-mile EEZ and from U.S. vessels anywhere in the world, and regulates the dumping of certain non-plastic garbage as well. The laws apply to vessels of any type, commercial, recreational, and fishing vessels, as well as fixed and floating platforms, except U.S. warships and naval vessels.

All manned vessels 26 feet or more, and manned fixed or floating platforms, must display placards indicating that it is unlawful to discharge any plastic material anywhere within 200 miles of shore, or discharge any oil or oily waste in violation of the Clean Water Act. The placards must also indicate that non-plastic dunnage, lining and packing materials that float, may not be discharged within 25 miles from shore. Other unground nonfloating refuse may be discharged beyond 12 miles and garbage ground to less than one inch may be discharged beyond 3 miles.

The Act does not prevent the disposal of fresh fish or garbage picked up at sea; discharges necessary for the safety of a ship or its passengers; or the accidental loss of synthetic fishing gear or the escape of garbage due to damage to a ship provided that all reasonable precautions have been taken to prevent such loss or escape.²⁸ Violations are subject to civil penalties up to \$25,000, criminal fines up

²⁷ The DEP notes that this may be the case in the Harraseeket and Royal Rivers. AGENDA FOR ACTION, *supra* note 1, at 8.

²⁸ See Marine Law Institute, *Dumping of Plastics Prohibited: Requirements of MARPOL Annex V* (October 1990) at 3-4, a Citizens' Guide to Ocean and Coastal Law, distributed by the Maine Sea Grant Marine Advisory Program, Orono, ME.; and 56 Fed. Reg. 19577 (April 29, 1991).

to \$50,000 and up to 5 years imprisonment. Courts may award up to one-half of any penalties to a person giving information leading to convictions

3. Shipboard Wastes

All ocean going ships 40 feet or longer must have waste management plans reviewed and approved by the Coast Guard. All U.S. ports and terminals, private commercial fishing facilities, and recreational boating facilities with 10 or more vessels must provide adequate garbage reception facilities for vessels using the port. Coast Guard certificates are required for ports or terminals to ensure the adequacy of garbage reception facilities and ships may be denied entry into ports or terminals that lack such certificates.

Harbor Management

The following agencies have harbor management responsibilities within Casco Bay:

- ✓ The U.S. Coast Guard (port safety);
- ✓ Municipal Town Councils and Planning Boards (harbor management plans); and
- ✓ Local Harbor Masters and Harbor Commissions (mooring and slip management, harbor facility management and law enforcement);

1. Port Safety

Under the Port Management and Safety Act, the Coast Guard is authorized to establish procedures for handling oil and hazardous substances, designating waterfront safety zones, safety fairways, and vessel traffic separation schemes, and managing vessel traffic. In so doing, the Coast Guard considers navigational safety, environmental, fishing, and economic factors, and consults with other federal agencies, state representatives, affected users, environmental groups, and the general public. The Coast Guard may deny entry into U.S. ports and waters to foreign flag vessels not in compliance with the provisions of the Act, or any vessel with a history of accidents, pollution incidents, serious repair problems, or inadequate licensing standards.

The Coast Guard is authorized to inspect vessels, investigate violations and, if necessary, may seize vessels to effect the payment of penalties. Violations are subject to civil penalties up to \$25,000 per day and criminal fines up to \$50,000 per

day and/or up to 5 years imprisonment. Courts may award up to half of all fines and penalties to persons giving information leading to a conviction.

2. Harbor Management Plans

Towns may manage land and water uses within harbors through harbor management plans to plan improvements to harbor facilities; establish procedures to regulate mooring areas and the movement of vessel traffic; recommend land use measures to protect water dependent uses; provide mechanisms to promote public access; recommend methods for resolving water-side use conflicts; and prohibit or control refuse, toxic materials, or fish or dead animals.²⁹ Although Maine lacks specific statutory authority and guidance for harbor management planning, such as that granted to municipalities in Connecticut under the Harbor Management Act, towns in Maine may utilize their home rule powers so long as they are not preempted by state or federal jurisdiction. In addition, financial assistance may be available from the Maine Coastal Program which assisted the Town of Scarborough in planning for harbor improvements, zoning to accommodate marine-related uses, establishing recommendations for land acquisitions, and regulating marine activities.³⁰

Waterfront uses within harbors can also be protected through local zoning provisions. For example, the City of Portland responded to the proliferation of condominiums within the harbor by adopting a controversial "waterfront zone" that allows only certain water dependent uses along the waterfront such as marine, fishing-related, and public facilities.³¹ The Town of Yarmouth also adopted a "water oriented commercial district" that allows a mix of commercial uses, as well as "detached" single family homes, so long as the first floor and 65% of the square footage is reserved for marine related activities.³²

3. Harbor Masters and Harbor Commissions

Harbor activities are often supervised by local harbor masters appointed and authorized to act by municipalities. Harbor masters can play a key role in

²⁹ For further information on harbor management plans *see* MAINE DEPARTMENT OF ECONOMIC AND COMMUNITY DEVELOPMENT, COASTAL MANAGEMENT TECHNIQUES: A HANDBOOK FOR LOCAL OFFICIALS (1988); and MARINE LAW INSTITUTE, NORTH ATLANTIC WATER DEPENDENT USE STUDY, MANAGING THE SHORELINE FOR WATER DEPENDENT USES: A HANDBOOK OF LEGAL TOOLS (1988).

³⁰ Scarborough Comprehensive Harbor Plan, 1987.

³¹ Portland Zoning Ordinance, Division 18.5 W-2 Waterfront Zone, § 14-314.

³² Yarmouth Zoning Ordinance, Water Oriented Commercial District, WOC-1.

protecting marine resources by enforcing state boating, marine resource and criminal laws, reporting polluting incidents and assisting in emergencies. Harbor masters also typically allocate and regulate mooring spaces, maintain navigable channels within the harbor, control public use of launching ramps, beaches and other public facilities, and maintain contacts with federal and state agencies involved in marine activities.³³ Within Casco Bay, harbor masters have been appointed by the Towns of Cape Elizabeth, Falmouth, Freeport, Portland/South Portland, and Yarmouth.

Depending on local preferences, harbor masters may be accountable to the Town Council or to a harbor committee or commission appointed by the Council. The Town of Freeport, for example, established a Coastal Waters Commission for evaluating public usage of and access to coastal waters, planning for future uses of the waterfront, advising the Council on regulations, supervising the harbor master, maintaining Town owned waterfront facilities, implementing harbor improvements, and hearing appeals from persons aggrieved by the harbor master. In Portland and South Portland, the harbor master is appointed by and reports to the Board of Harbor Commissioners for the Harbor of Portland, created by special law in 1982. In other towns, the harbor master is a department head under the supervision of the town manager.

Oil Pollution

The ability of the State to respond to a major spill in Casco Bay, and the adequacy of state oil spill laws, was thoroughly studied by the State Legislature and summarized in a recent report by the Commission to Study Maine's Oil Spill Preparedness (1990). The Report concluded that Maine is not prepared to respond to a major spill and recommended that the State take a number of actions to improve preventive measures and response capabilities. The Report confirmed the 1989 Coast Guard Marine Safety Office estimate that there is a response shortfall of 26 million gallons of oil in Casco Bay; that is, the response capacity of the Local Contingency Plan within the first 24-48 hours is 200,000 gallons, while a worst-case spill could discharge 26 million gallons of oil.³⁴

³³ See Marine Law Institute, *Evolving Responsibilities of Maine's Harbor Masters* (1991), *A Citizens' Guide to Ocean and Coastal Law*, distributed by the Maine Sea Grant Marine Advisory Program, Orono, ME.; and Marine Law Institute, *Harbor Management: A Legal Guide for Harbor Masters and Coastal Officials* (1989).

³⁴ U.S. COAST GUARD MARINE SAFETY OFFICE, *REPORT OF THE PROCEEDINGS OF THE MAINE AND NEW HAMPSHIRE PORT SAFETY FORUM* (October 2, 1991) at 1.

This shortfall is being addressed by a number of recent actions. First, in response to the Exxon Valdez spill, Congress adopted the Oil Pollution Act of 1990, substantially strengthening federal oil spill prevention laws. In October 1991, the Maine and New Hampshire Port Safety Forum released a set of recommendations that supplement the State Oil Spill Preparedness Study. Clean Casco Bay, Inc., an oil spill cooperative consisting of the 9 terminal operators serving the Portland area, was formed in 1991 and will double existing cleanup capacity to about 400,000 gallons. In addition, the National Marine Spill Response Corporation will be locating a vessel, personnel and equipment in the Portland area to increase the capacity significantly to about 2 million gallons.

Oversight of oil pollution within Casco Bay is chiefly the responsibility of:

- ✓ the U.S. Coast Guard Marine Safety Office (the 1990 Oil Pollution Act, the Clean Water Act, the Area Contingency Plan, and spill response actions); and
- ✓ the Maine DEP, Bureau of Hazardous Materials and Solid Waste Control (licensing and inspection of terminal facilities, terminal contingency plans, vessel transfer areas, oil spill response and State Cleanup Fund).

1. Response and Removal

The 1990 Oil Pollution Act of 1990 (OPA) greatly improved federal oil spill response capability. The Act establishes a new National Planning and Response System to coordinate private and public responses to a spill. It requires the preparation of Area Contingency Plans to respond to worst-case spills and establishes a National Response Unit in Elizabeth City, North Carolina to coordinate the removal of worst case spills, administer Coast Guard strike teams and review Area Contingency Plans. The Act also requires Tank Vessel and Facility Response Plans prepared by all owners or operators of tank vessels or facilities by 1993. These plans will supplement those prepared by Casco Bay facilities pursuant to state law requirements.

Two contingency plans have been prepared for the Casco Bay region: the Marine Oil Spill Response Plan by the Portland Pipeline Corporation (1991), and the Subregional Oil and Hazardous Substance Pollution Control Plan prepared by the U.S. Coast Guard (1991). These plans list equipment and personnel available to owners, operators, state, federal and local agencies, to provide for the effective removal of discharges and mitigate damages, and identify sensitive resources, species and habitats to protect in the event of a spill. In addition, each terminal

facility has prepared contingency plans establishing procedures for responding to spills from its facilities. Under the OPA, the Area Contingency Plan will be prepared by the Coast Guard to coordinate the terminal plans and establish procedures for federalizing oil spills.

2. Liability and Compensation

The OPA creates a uniform federal system of strict liability and compensation in the event of an oil spill for the owners and operators of vessels and facilities for all removal costs and damages, including harm to natural resources. It raises the maximum liability of vessels and offshore facilities, and provides for unlimited liability for gross negligence, willful misconduct, the violation of federal standards, and the failure to report a spill or cooperate in cleanup activities.³⁵

Under Maine's unlimited liability law, vessel operators and terminals are liable for all costs for removal and remedial measures, payments to third parties and reimbursement for state cleanup costs. Terminals may also be held liable for spills caused by vessels within 12 miles from shore destined to their facilities (vicarious liability) and negligence need not be proven. Persons who provide cleanup assistance or attempt to prevent spills are exempt from civil liability unless their actions are grossly negligent or intentional.

Under the OPA, up to \$500 million per incident is available from a \$1 billion federal oil spill liability trust fund, supported by a 5-cent-per-barrel tax on oil. Compensable damages include those to natural resources, real or personal property, subsistence use, revenue losses, profits and earning capacity, and public services. Cleanup and restoration costs and third party damages may also be paid under the Maine Coastal and Inland Surface Oil Clean-up Fund paid through licensing fees and fines. The state fund is limited to \$6 million but in recent years has fallen to \$3.5 million.

3. Prevention

The OPA requires that nearly all newly-built tank vessels have double hulls when operating in U.S. waters. Single-hulled vessels are scheduled to be gradually phased-out of service beginning in 1995 and ending in 2015. The Coast Guard is authorized to conduct background checks, random drug tests, and limit the number of hours a licensed individual may work within a 24-hour period. Currently, the Coast Guard requires that tankers entering and departing Portland Harbor be

³⁵ Vessels over 3,000 gross tons have a maximum liability of \$1,200 per ton or \$10 million, whichever is greater. Offshore facilities may be liable up to \$75 million and deepwater ports may be liable up to \$350 million. 33 U.S.C. § 2704(a).

escorted by at least 2 tugboats. During periods of holiday congestion and adverse weather conditions Coast Guard escorts are also required.

State regulations prohibit tankers from entering or leaving port when visibility is less than one nautical mile (the Coast Guard requires one-half mile visibility in the inner harbor), unless equipped with radar or propelled by a vessel with radar. This does not preempt more stringent municipal rules for speed or visibility. Vessels anchored for more than 7 days require a license from the DEP and oil transfers must be protected by boom devices that encircle the vessel to catch and contain spilled oil.

Toxic and Hazardous Waste Controls

Toxic and hazardous substances may threaten the ground and surface waters of the Casco Bay watershed in a number of ways. Spills of hazardous substances from transportation accidents or storage facilities may contaminate water quality if not cleaned up quickly and thoroughly. The DEP has identified 116 suspected hazardous waste sites throughout the State, many of which have been confirmed as potential sources of groundwater contamination. EPA has designated 2 Superfund sites in the Casco Bay region (the Brunswick Naval Air Station and the McKin disposal site in the Town of Gray); both have resulted in groundwater contamination the extent of which is unknown at the present time. The State also licenses hazardous waste storage and treatment facilities, and industries that generate and store hazardous wastes on-site, which may also provide potential sources of groundwater contamination. In addition, there are approximately 6,500 sites throughout the State - including many private wells - that have been contaminated by leaking underground storage tanks containing gasoline and fuel oil products.³⁶

Two agencies are primarily responsible for regulating and managing the use of toxic substances within the Casco Bay region:

- ✓ The U.S. Environmental Protection Agency (Superfund); and
- ✓ The Maine DEP, Bureau of Hazardous Materials and Solid Waste Control (Hazardous Matter Control Law, Solid Waste Law, Toxic Use Reduction Law, and the Underground Oil Storage Facilities Law)

³⁶ DEPARTMENT OF ENVIRONMENTAL PROTECTION, STATE OF MAINE NONPOINT SOURCE POLLUTION ASSESSMENT REPORT 64-65 (1989).

1. Accidental Releases

Releases of hazardous wastes must be reported to the EPA and the DEP. The EPA is authorized to respond to and clean up releases pursuant to the National Contingency Plan, and designates high priority sites for cleanup (Superfund sites) under the Comprehensive Environmental Response Compensation and Liability Act. The Act imposes strict, joint and severable liability, for response costs, cleanup costs, and damages (including damages to natural resources) up to a limit of \$50 million. There are no liability limits for willful misconduct or willful negligence.

The DEP is also authorized to remove or order the removal of any discharge of oil, petroleum products or their by-products into the ground or surface waters of the State by designating an area as an "uncontrolled hazardous substance site." The DEP also administers a hazardous waste fund for the removal and monitoring of hazardous wastes. The Division of Response Services within the DEP responds to nearly 1000 reports of hazardous spills per year and plans and initiates the cleanup activities sites with leaking underground storage tanks.

2. Licensed Hazardous Waste Facilities

Transporters and facilities for the disposal of hazardous wastes must be licensed by the Maine DEP. Although there are currently no hazardous waste disposal sites within the State, the DEP has licensed about 28 hazardous waste storage facilities and a number of waste oil transporters. Industrial facilities that generate hazardous wastes and store them aboveground for less than 90 days are not required to obtain a license from the DEP. Under Maine's Hazardous Matter Control Law, licensed facilities must not pose a hazard or nuisance to public health, safety and welfare, and the volume of wastes and risks must be reduced to the "maximum practical extent by treatment and volume prior to disposal." Hazardous waste facilities must not be located in wetlands, within 300 feet of a 100 year floodplain, over an aquifer, or such that it may threaten fisheries, wildlife or other natural resources.

3. Underground Storage Tanks

All owners of underground storage tanks, which are more than 10% buried, must register such tanks with the DEP and the local fire department. Underground tanks and facilities that have been out of service for a period of more than 12 months must be removed by the owner. A State Board of Underground Oil Storage Tank Installers certifies and assures the competence of persons installing underground tanks. The DEP has established tank design standards and a 10 year schedule to replace tanks that are not constructed of noncorrosive material. Over

2,000 unprotected underground storage tanks have been removed under this program.³⁷ Substantial penalties (treble damages) may be assessed against persons who fail to undertake prompt removal or remedial action ordered by the DEP where it detects leaking underground tanks.

Aquaculture and Shellfish Regulation

Although many of the shellfish beds are closed within Casco Bay -- about 44% in 1990 -- due to pollution from various sources (See Figure 4), the Bay's shellfisheries remain an important use. It has been estimated that the market value of shellfish landed in Casco Bay, including lobster, was \$65 million in 1988, about one-third of which were harvested in the Bay.³⁸ Shellfish harvesting licenses are required from local governments, with local shellfish conservation programs, or the Department of Marine Resources. The DMR also issues leases for shellfish and finfish aquaculture.

1. Local Shellfish Regulation

Municipalities may assume the responsibility for licensing and leasing the intertidal area under their jurisdiction for shellfish harvesting by adopting a shellfish conservation program approved by the DMR. Local shellfish ordinances may charge nonresidents more than residents, but in no case may licensing fees for nonresidents exceed \$150, or 10 times resident fees, and at least 10% of the number of resident licenses must be reserved for nonresidents. These provisions are intended to ensure local compliance with constitutional equal protection and commerce clause considerations. Municipalities may restrict areas to be harvested, the amount of shellfish taken, the number of harvesters, the time of harvesting, and the species taken, but may not lease more than 25% of their intertidal area. Local shellfish restrictions are enforced by certified municipal shellfish conservation wardens. Within Casco Bay, local shellfish ordinances are currently enforced in Harpswell, Brunswick, West Bath, Freeport and Yarmouth.

2. Shellfish Closures

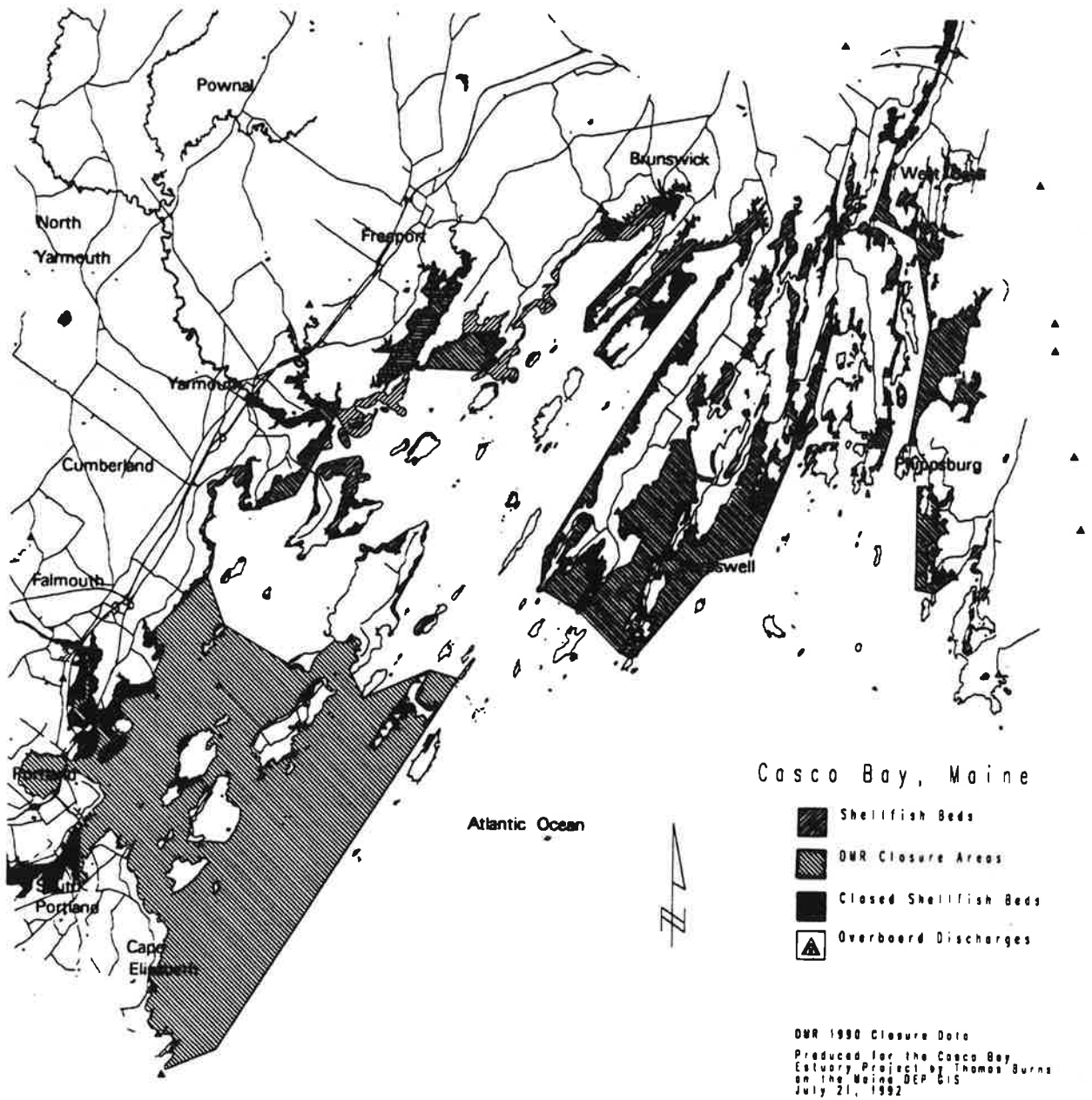
The closure of shellfish beds may be ordered by the State Department of Marine Resources because of bacterial contamination or because the beds are located too close to known, continuous discharges of other pollutants. Closures are ordered by the DMR near overboard discharges, sewage treatment plants or

³⁷ *Id.* at 74.

³⁸ Charles Colgan, *The Economic Value of Casco Bay* (1990) at 21 (prepared for the Maine Coastal Program).

Figure 4

Closed Shellfish Areas and Overboard Discharges in Casco Bay



SOURCE: Tom Burns, Maine DEP

marinas, where failures and discharges could pollute shellfish growing areas or where samples indicate excessive coliform bacteria or Paralytic Shellfish Poisons. Closures may also be ordered by local governments as conservation or management measures to reduce harvesting in particular areas or as part of a clamflat rotation plan.

Frequent testing of closed flats does not necessarily enhance the chances of opening such areas unless the source of the contamination is identified and corrected. However, routine testing may identify periodic sources of contamination which could allow areas to be open on a "conditional" basis.³⁹ Shellfish may be taken in closed areas in conjunction with approved depuration or shellfish cleansing procedures. Any harvester, buyer or seller of shellfish taken from closed areas must obtain a shellfish sanitation or depuration certificate from the DMR to ensure that the shellfish pose no threat to the public health.

3. State Aquaculture Leases

Although there are few aquaculture operations within Casco Bay, leases for the use of submerged and publicly-owned intertidal lands for the commercial cultivation of shellfish or finfish must be obtained from the Maine Department of Marine Resources. DMR permits and public hearings are also required for the importation or introduction of live marine organisms into Maine waters, such as fish, oysters, or clams, in order to protect indigenous marine life and its environment from the effects of infectious or contagious diseases, pest or parasites. In addition, leases for floating fish pens used for finfish aquaculture require a water quality certification from the Maine DEP and permit from the Army Corps of Engineers under Section 10 of the Rivers and Harbors Act.

Environmental evaluations of sites to be leased for aquaculture operations must be conducted between May 1 - September 30. Sites may not be located within "essential habitats" for endangered species, or within waters designated SA by the DEP. Federal rules also prohibit finfish aquaculture sites within 1,500 feet of seal nursing areas or 1,320 feet from endangered species areas.

The DMR conducts an adjudicatory hearing for all aquaculture leases at which the public may present testimony and the applicant may cross-examine witnesses. Prior to issuing the lease, the Commissioner of the DMR must find that the project will not unreasonably interfere with:

- ✓ the ingress and egress of riparian owners;

³⁹ Personal Communication, Christopher Heinig, Intertide Corporation, March 9, 1992.

- ✓ navigational uses;
- ✓ the ability of the area to support ecologically significant flora and fauna;
- ✓ fishing and other uses of the area; and
- ✓ public uses within 1,000 feet of public beaches, parks or docking facilities.

The state does not recognize aesthetic concerns or the potential impacts of aquaculture leases on private property values.⁴⁰ Leases may be revoked if conducted in a manner "substantially injurious to marine organisms," or if lease conditions are violated.

Septic System Regulation and Overboard Discharges

The DEP estimates that there are at least 230,000 septic systems in the State of Maine, and many of these are located within the Casco Bay watershed. Although the State has had a modern plumbing code since 1974, with design flow requirements and treatment tank specifications, many substandard systems installed prior to that time in densely clustered shorefront developments pose a threat to public health and ground, surface and marine water quality. Even properly functioning septic systems may have adverse cumulative effects in densely populated unsewered areas.

There are also an estimated 350 licensed overboard discharges in Casco Bay that discharge about 300 gallons of sewage per day each,⁴¹ and an undetermined number of unlicensed overboard discharges. These overboard discharges are directly responsible for shellfish closures and may also be violating local swimming standards.

Septic systems and overboard discharges within the Casco Bay region are regulated by:

- ✓ the State Department of Human Services (State Plumbing Code);
- ✓ the Maine DEP, Bureau of Water Quality Control (overboard discharges); and

⁴⁰ *Harding v. Commissioner of Marine Resources*, 510 A.2d 533 (Me. 1986).

⁴¹ AGENDA FOR ACTION, *supra* note 1, at 6.

✓ local code enforcement officers and plumbing inspectors (licensing septic systems and enforcement).

1. Septic System Regulations

The Maine Department of Human Services (DHS) has adopted a State Plumbing Code for the operation and installation of "subsurface waste water disposal systems" (septic systems). Municipalities and local plumbing inspectors (LPs) have the primary responsibility for enforcing the Plumbing Code. Where the Plumbing Code is not being properly enforced at the local level DHS may, on its own initiative or pursuant to a complaint, instruct the municipality to comply and enforce minimum state rules.

Local plumbing inspectors, certified by the DHS, issue licenses for the installation of septic systems and also approve the conversion of seasonal dwellings located within shoreland zones. The transfer of shoreland property must be accompanied by a written statement disclosing whether the septic system has failed within 180 days of the date of transfer. However, a report on the general condition of the septic system is not required.

The Plumbing Code requires that tests ("test pits") must be conducted indicating that suitable soils and site conditions exist prior to municipal approval of septic systems. New systems may not be installed in 10-year flood plains, on slopes exceeding 20%, on lots with less than 20,000 square feet, or on lots with less than 100 feet of frontage on any lake, pond, stream, river or tidal area. Systems with design flows of less than 2,000 GPD must be set back at least 100 feet from potable water supplies and perennial waterbodies (6 months), and 50 feet from intermittent waterbodies. Disposal of residential septage on private property must be located at least 300 feet from property boundaries and fresh or tidal waters. However, variances may be granted by the LPI and the DHS for new systems and seasonal conversions where water quality will not be lowered and the public health will not be endangered.

Malfunctioning septic tanks, cesspools, sewers or drainage beds are declared a nuisance under State law.⁴² Municipalities must serve an order upon the owner to remedy or abate malfunctioning septic systems when a complaint is filed and, if the nuisance is not abated within 10 days, the plumbing inspector may enter the premises and have the malfunction remedied. The municipality may recover any expenses including attorney fees upon filing a civil action against the owner.

⁴² 30-A MRSA § 3428.

2. Overboard Discharges

The State of Maine prohibits the licensing of new "overboard discharges" (subsurface waste water disposal systems that do not meet state plumbing code standards), but allows existing overboard discharges to be relicensed if they provide "best practicable treatment" until such time as state funds are made available to help remove the discharge. The State Legislature appropriated \$1.5 million to assist property and business owners and in removing overboard discharges in 1990. Although no discharges have been removed in Casco Bay as of June, 1992, under this program, the DEP and DMR are beginning to establish priorities for removal based upon discharges into redeemable shellfish beds in Harpswell, Yarmouth and Brunswick. Other sources of funding include the State's small community grants program (\$1 million annually) for the removal of straight pipe discharges (unlicensed discharges), and the U.S. EPA, which is funding the removal of 20 overboard discharges in Mere Point, Brunswick.

Licensed overboard discharges must be inspected at least twice a year by the DEP or by a private contractor. However, many private systems are not properly maintained and shellfish beds in the proximity of such discharges are closed as a matter of policy (See Figure 4). Consequently, the removal of overboard discharges may be the single most effective tool in opening shellfish beds presently closed to harvesting in Casco Bay.

Coastal Erosion

Controlling structures in areas subject to coastal erosion, and limiting the construction of sea walls -- which tend to accelerate coastal erosion -- are chiefly the role of the Maine Department of Environmental Protection, Division of Natural Resources under the Natural Resources Protection Act.

1. Sand Dune Rules

The State of Maine has adopted stringent restrictions on construction within sand dunes and other areas subject to coastal erosion. The DEP sand dune rules prohibit structures and roadways within the V-zone (land subject to wave action), or seaward of the frontal dune (except for elevated boardwalks and open fences). The DEP also imposes the following restrictions on construction within sand dune areas:

- ✓ projects are prohibited that would be reasonably expected to be damaged as a result of changes in the shoreline including, changes from sea-level rise, during a 100 year period;

- ✓ structures and debris must be removed if the shoreline recedes to any part of the structure for a period of 6 months or more;
- ✓ new structures must be elevated 1 foot above areas of special flood hazard (subject to a 1% chance of flooding in any given year) and new structures must be constructed to withstand an 100 year storm (except for storage sheds and garages);
- ✓ a structure damaged to the extent of 50% or more must be removed and no permit will be granted for its reconstruction;
- ✓ buildings over 35 feet in height or covering more than 2,500 square feet in area are prohibited unless it can be demonstrated that the site will remain stable assuming a 3 foot rise in sea level over an 100 year period; and
- ✓ where development in sand dune areas are permitted, no more than 40% of a lot may be covered by development, and no more that 20% may be covered by buildings.

In at least one case, the State sand dune rules have been used to prevent persons from rebuilding structures destroyed by severe beach erosion. In *Hall v. Board of Environmental Protection*,⁴³ the Maine Supreme Court upheld a decision by the BEP denying the right to rebuild a home substantially damaged by a winter storm on Hunnewell Beach in Phippsburg. The Court upheld the Board's findings that the project would unreasonably interfere with the natural supply or movement of sand, and increase erosion and flood hazards, even though the house was proposed 40 feet landward from its original location and was to be constructed on pilings 4 feet above the existing dune surface. When the case was then remanded for a hearing on whether the BEP's decision constituted an unconstitutional taking of the Hall's property, the Maine Supreme Court again upheld the BEP decision on the grounds that beneficial and valuable uses of the property remained available.⁴⁴ Thus the sand dune rules provide substantial authority for

⁴³ 498 A.2d 260 (Me. 1985).

⁴⁴ *Hall v. Board of Environmental Protection*, 528 A.2d 453 (Me. 1987). The Court found that the Hall's could still use their lot to park and live in their 27 foot motorized camper. In June 1992, the U.S. Supreme Court, in *Lucas v. South Carolina Coastal Council*, upheld trial court findings that if the South Carolina Beachfront Management Act, which prohibited construction within eroding ocean-front sand dunes, deprived the owner of two ocean front lots all economically beneficial use of his property, the statute effected an unconstitutional taking. However, the ruling does not appear to disturb the Hall decision nor the Maine sand dune rules so long as a viable use of the property remains. The Court does, however, adopt a narrow view of what kind of harm a state may seek to prevent under its police

prohibiting the construction and reconstruction of homes and structures within sand dune areas.

2. Sea Walls

The DEP prohibits the construction of new seawalls within dune systems due to the acceleration of beach erosion caused by sea wall construction. Existing seawalls may be repaired, but not enlarged, to protect buildings, roads or sewers from unreasonable flood hazards. However, if buildings are severely damaged, reconstruction of seawalls will not be permitted since new structures must be redesigned to withstand flooding without the existence of seawalls. The DEP also prohibits the removal of sand from sand dune systems.

Submerged Lands Uses

Submerged lands in Casco Bay and elsewhere in the State of Maine are owned by the State and managed by the Bureau of Public Lands (BPL), in the Department of Conservation. BPL leases are required to make more than temporary use of state-owned submerged or intertidal lands. Permits to place structures within navigable waters must also be secured from:

- ✓ the U.S. Army Corps of Engineers (the Rivers and Harbors Act);
- ✓ the Maine DEP (the Natural Resources Protection Act); and
- ✓ local governments (under local land use or harbor management laws).

1. Ownership of Submerged and Intertidal Lands

The State owns submerged lands from the mean low-water mark seaward to the three-mile limit, the beds of tidal rivers to the farthest reaches of the tide below the mean low-water line, and the land under ponds of 10 acres or more (Great Ponds). However, most intertidal lands are privately owned by riparian land owners to the mean low-water mark, or 1,650 feet seaward of the mean high-water mark, whichever is further seaward. The public may make use of privately owned intertidal lands only for the public trust purposes of fishing, fowling and

powers if regulation deprives land of all economic value. In such cases, the activity that the state seeks to prevent must be analogous to a common-law nuisance; *i. e.* the state may regulate private property to prevent its use in such a manner as to injure that of another. This determination will depend heavily on a state's particular common-law nuisance doctrine.

navigation. Legislation adopted by the State in 1985 attempting to extend public uses of the intertidal zone for footpaths and other recreational purposes was declared unconstitutional by the Maine Supreme Court in 1989.⁴⁵

The State released all interest and extinguished public trust rights in all submerged or intertidal lands that were filled prior to 1975. It also granted 30-year "constructive easements" to all structures which existed on or over submerged lands as of 1975, so long as the use remains unchanged. After the year 2005, or after any change in use, new leases must be obtained for these structures.

2. Submerged Lands Leases

Persons wishing to use State-owned submerged and intertidal lands to dredge, fill or erect permanent structures such as wharves, docks, marinas, or pilings, must secure a lease from the Bureau of Public Lands. Leases may be issued for up to 30 years. The Director of the BPL must find that the proposed lease will not unreasonably interfere with customary or traditional public access ways to, or public trust rights in, on or over intertidal or submerged lands and the waters above such lands; will not unreasonably interfere with navigation, fishing or other marine uses, the availability of services and facilities necessary for commercial marine activities, and the ingress and egress of riparian owners; and will meet other standards addressing safety, designated marine habitats, coastal policies, the public interest, and other local, state and federal requirements.

BPL rules establish substantial protection for the commercial fishing industry. Submerged lands leases must not unreasonably:

- ✓ diminish the economic opportunity of displaced commercial fishing vessel operators;
- ✓ diminish access to existing commercial fishing grounds or commercial fishing facilities;
- ✓ reduce repair and maintenance services essential for commercial fishing operations; or
- ✓ result in the loss of fish buying, processing or handling facilities.

⁴⁵ Bell v. Town of Wells, 557 A.2d 168 (Me. 1989). See Marine Law Institute, Public Shoreline Access and the Moody Beach Case (1990), a Citizens' Guide to Ocean and Coastal Law, distributed by the Maine Sea Grant Marine Advisory Program.

The Bureau consults with the Departments of Conservation, Marine Resources, Inland Fisheries and Wildlife, and local governments when issuing leases to determine that leases are in the public interest and will not conflict with protected marine habitats, the State's coastal management policies and other state, federal or local requirements. If it determines that traditional and customary public uses will be adversely affected, the BPL may condition leases to provide for walkways, boat launching ramps, parking spaces or other facilities. Leases for upland uses or filling of submerged lands will not be granted unless the applicant demonstrates that there is no other reasonable alternative site, and that the proposed upland use or fill is an essential but subsidiary part of a commercial fishing use, water dependent use, or shoreland stabilization project. Upon receipt of a completed application, the BPL will notify interested parties such as abutting land owners, local officials, local fishermen or persons who have notified the Bureau of their interest. Although public hearings are not required, the Bureau may schedule a public informational meeting if deemed appropriate.

In 1990 the State revised its leasing fee schedule to allow the free use of submerged lands for nonprofit or publicly owned facilities. Facilities serving commercial fishing activities pay only 1% of the assessed value per square foot of adjacent upland parcels. Other water dependent commercial or industrial uses pay 2% of the assessed value; upland uses that do not require waterfront sites to operate must pay 10% of the assessed value.⁴⁶ Lease fees for slip space are assessed according to a different formula than other uses. Lessees pay 2% of the total annual income from slip space for commercial fishing boats and 4% of the total annual income for recreational boats. After a submerged lands lease is issued, the lessee does not have the right to exclude lobstering, commercial fishing, navigational, recreational or other public trust uses within the leased area unless such activities interfere with the use for which the area was leased.

3. Corps' Jurisdiction

The U.S. Army Corps of Engineers also regulates the construction of wharves, breakwaters or jetties, mooring structures, marinas, outfalls and other projects within navigable waters under the Rivers and Harbors Act. In reviewing such activities, the Corps considers not only navigational issues but also public and private needs, reasonable alternative locations and methods, and the beneficial and detrimental effects on public and private uses. The Corps issues a public notice to solicit information from the public, adjacent property owners, and government agencies and may hold a public hearing.

⁴⁶ See Marine Law Institute, *Public Submerged Lands Lease Fees Revised (1991)*, a Citizens' Guide to Ocean and Coastal Law, distributed by the Maine Sea Grant Marine Advisory Program, Orono, ME.

Preservation and Acquisition Programs

Maine established a \$35 million bond program under the Land for Maine's Future Law to acquire land for recreational and conservation purposes. The program gave special priority to acquiring lands with high recreational and scenic values, undeveloped shorelands, wetlands, habitats for endangered or threatened plant and animal species, and lands that provide public access. However, the initial funds are nearly exhausted and a bond measure to add an additional \$18 million to the fund was rejected in 1990. The failure of the bond measure ended South Portland's hopes for using the fund to acquire 14 acres in the Spring Point area for public access and recreational uses.

Other state programs for acquiring lands for public recreation are administered by the Bureau of Public Lands (public recreation, wildlife and timber); the Bureau of Parks and Recreation (state parks); the Department of Economic and Community Development (community parks and recreation programs); and the Department of Inland Fisheries and Wildlife (habitat restoration, wetlands, and boat access).

However, the State's financial crisis is limiting the amount of funds available for acquiring lands for new recreational opportunities. Therefore, key federal acquisition programs, such as the Land and Water Conservation Fund and the National Wildlife Refuge Act, provide some of the few remaining public avenues for acquiring and protecting natural resource areas and recreational opportunities within the Casco Bay.

Additional opportunities for acquiring and preserving land in and around Casco Bay are available through local subdivision ordinances, land trusts, and Conservation Commissions. The Cape Elizabeth Land Trust, for example, accepts land dedicated through open space requirements in the local subdivision ordinance and is currently implementing a Green Belt Plan devised through the Open Space Element of the Town's Comprehensive Plan. Other local Conservation Commissions, and private nonprofit land trusts such as the Maine Coastal Heritage Trust, the Nature Conservancy and the Trust for Public Lands, may be contacted to work with local citizens and land donors to protect, acquire and manage natural areas in the Casco Bay watershed through land dedications and conservation easements.

CHAPTER TWO

Regulatory Case Studies

Two case studies have been selected to illustrate the regulatory process in Casco Bay; one a land-based and the other a water-based project. The background of each project is described, key permitting reviews are listed, key issues are addressed, and the outcome is analyzed. These case studies are presented to achieve a better understanding of the state, federal and local regulatory framework in Casco Bay. The information utilized for the case studies was derived from reviewing state, local and federal permit files and from interviews with government officials, project proponents, and some of the citizens' groups who were involved.

The first case study is a complex development project located on the northern end of Great Diamond Island in Casco Bay involving the construction of condominiums and commercial uses in historic Fort McKinley, a 74-lot subdivision, and a secondary waste water treatment facility. The second case study is a proposal for a 250-slip marina in Portland just north of Back Cove, next to the Burnham and Morrill baked bean factory, including a floating boat storage building, a parking area, an office/retail building, and the dredging of 28,000 cubic yards of intertidal and subtidal wetlands.

Great Diamond Island Development

1. Background

Diamond Cove Associates (DCA) purchased the 192 acre Fort McKinley property on Great Diamond Island in Casco Bay in 1984. The Fort was constructed in 1904 by the U.S. government as a shore battery and storage area, and during World War II it accommodated several thousand Army and Navy personnel with hospital facilities, a power station and food services. In 1950, operations at the Fort were discontinued. The federal government offered the Fort to the City of Portland in 1953 for a nominal amount, but the City declined, and in 1961 it was sold to a private developer. The south end of the Island currently contains about 80 single family homes.

As originally approved by the City of Portland, Phase I of the project consisted of rehabilitating Fort McKinley's 44 existing buildings into 134 condominiums, a 75-seat restaurant, 6 retail shops, an 18-room bed and breakfast and a maintenance building. Phase II of the project sought to subdivide 102 acres into lots for 74 single-family homes. The project also proposed the construction of a secondary sewage treatment plant to treat 60,000 gallons per day of sewage from the condominiums, commercial development, and 34 of the 74 single-family residences. The remaining single-family homes were to utilize individual septic systems.

2. Regulatory Reviews

The project was reviewed by the following federal, state and local government agencies:

- ✓ **Portland Planning Board and City Council:** rezoning to planned unit development; subdivision review; site plan review; and shoreland zoning requirements;
- ✓ **Maine DEP:** waste discharge license; certification of state water quality standards and coastal management program policies; Natural Resources Protection Act review; and Site Location of Development review;
- ✓ **U.S. EPA:** NPDES Clean Water Act discharge permit; and historic preservation.
- ✓ **The Maine Department of Marine Resources:** reviewed impacts of proposed waste discharges on marine fisheries;
- ✓ **The Cumberland County Soil and Water Conservation District:** approved erosion control measures;
- ✓ **The U.S. Army Corps of Engineers and the Maine Bureau of Public Lands:** reviewed proposed piers;
- ✓ **The Maine Historic Preservation Commission:** reviewed impacts on historic Fort McKinley;
- ✓ **The National Park Service:** reviewed the Fort's eligibility for the National Register of Historic Places; and

- ✓ The Maine Department of Inland Fisheries and Wildlife: reviewed wildlife impacts (deer wintering habitat).

In December 1986, the DEP approved the construction of Phase I under the Site Law, and issued a waste discharge license for the discharge of 40,000 gpd of treated sewage. However, the DEP denied Phase II in February 1990 based upon impacts on water quality, historic resources, the scenic character of the Bay, and the preservation of old-growth trees. DCA challenged the DEP's denial and findings in Kennebec County Superior Court and alleged an unconstitutional taking under the 5th Amendment. In October 1990, the Court upheld the DEP denial (Docket # CV-90-18). The legal issues were left unresolved when the parties, including the intervenors, the Island Institute, the Maine Audubon Society, and the Casco Bay Island Development Association, filed a Stipulation of Dismissal in April 1991 negotiating mutually acceptable amendments to the plan.

3. Key Issues

Water Quality: The project proposed discharges into SB waters which, under Maine water classification standards, must be suitable for the propagation and harvesting of shellfish, aquaculture and habitat for estuarine and marine life. The receiving waters were in nonattainment status for shellfish harvesting (due largely to daily discharges from POTWs and overboard discharges unrelated to the project). Furthermore, shortly after the Phase I wastewater treatment license was issued by the DEP (December 1986), the Maine Legislature banned "new" overboard discharges of domestic pollutants into surface waters not conveyed and treated in a municipal or quasi-municipal sewage facility (which the DCA plant was not) because such discharges were forcing shellfish closures throughout the State. Although the Phase I waste discharge license was issued prior to the ban, and was therefore "grandfathered" by the DEP, the DEP refused to allow DCA to connect the 39 lots proposed in Phase II to the treatment plant, even though the total volume of discharges would have been unaffected.

Authorized discharges from the treatment plant were therefore reduced from the 60,000 gpd initially requested to 40,000 gpd approved for Phase I. In addition, to satisfy EPA NPDES permit requirements, the discharge outfall was relocated from the western side of the Island facing Portland Harbor, to Hussey Sound on the eastern side of the Island, which provided better flushing capacity, met state water quality standards for SB waters, and was not located near shellfish habitat. The EPA also modified the waste discharge requirements of the DEP to require zero discharges of fecal coliform bacteria and full dechlorination.

Visual Impacts: To satisfy the concerns of the DEP staff and intervenors regarding the visual impact of the project, the number of single family homes was

reduced from 74 to 39 (all served by septic systems). The DEP noted that the original configuration of 65 single family homes, in 2 tiers along the full length of the Fort McKinley shoreline, was too conspicuous on the steep, sparsely vegetated slopes of the Island, increased rather than minimized the visual impacts of the project, and did not avoid the most visually sensitive portions of the project site. Consequently, 10 shorefront lots were eliminated, and several others were merged and reconfigured, to reduce the visual impacts on Casco Bay.

Historic Preservation: The DEP found that the Memorandum of Agreement (MOA) between the DCA, the EPA, the U.S. Advisory Council on Historic Preservation, and the State Historic Preservation Officer, did not adequately protect the historic integrity of Fort McKinley, in particular, the historic gun batteries. As a result, the placement of the homes were modified to avoid interference with the gun batteries. The public will be allowed reasonable access to view and study the military components of Fort McKinley, but will not have access to the gun batteries.

Preservation of Old-Growth Trees: The DEP found that a 25 acre stand of large, old-growth hemlock and pine trees located on the project site constituted an "unusual natural area" which, under DEP site location rules, must be protected against unreasonable adverse effects. DCA developed a forest management plan and operations manual for activities adjacent to and within the old growth stand, and agreed to delete plans to develop 3 of the original 74 lots which were located within the stand. About 6.75 acres of the stand were located within the subdivision, 3 acres of which were to be within the boundaries of 7 of the subdivided lots.

The Island Institute submitted testimony to the DEP that: (1) a septic system located within the stand would adversely affect the trees; (2) that DCA's proposed 20 foot road within the stand was too wide; and (3) that the construction of a home on lot 37 within the interior of the stand would detract from the stand's value as a scenic resource and set a harmful precedent for squeezing buildings into recognized natural areas. The DEP's February 1990 denial of Phase II was partially based upon the finding that building within lot 37 would detract from the botanical education, recreational and scenic significance of the old-growth trees. After DCA lost its appeal in Superior Court, it modified the subdivision merging lot 37 into lot 18 to provide a building envelope that did not disturb the trees. The revised application was approved by the DEP in June 1991.

4. Analysis

The Great Diamond Island development demonstrates the complexity of the regulatory process in Casco Bay. One of the parties noted that it was "one of the most complicated and controversial developments in the State of Maine." Phase

II of the project achieved final approval nearly seven years after the initial filing of the application.

Active citizen and citizen group participation in the DEP review process had a demonstrable effect on the ultimate design of the project, and the mitigation of adverse impacts on scenic and historic resources and water quality. The Casco Bay Island Development Association, the Island Institute, the Great Diamond Island Association, and the Maine Audubon Society intervened in the site location application and challenged the EPA's NPDES permit; the Island Institute submitted expert testimony on the effects of the development on the historic resources of Fort McKinley; and Maine Audubon presented testimony that the proposed lots had not been located to minimize their visual impacts to the "fullest extent possible" as required by DEP regulations.

The project's island location generated a good deal of opposition. The review of the project was also complicated by the change in the overboard discharge law, overlapping DEP and EPA waste discharge license requirements (the EPA public hearings may have been the first ever held in Maine on a NPDES permit), and the delay in the State water quality certification. Since Maine is not a delegated state under the Clean Water Act, separate state and federal waste discharge licenses were required, and there was a three year delay between the issuance of the state waste discharge license and the EPA NPDES permit.

Although the state and federal discharge license reviews are somewhat duplicative, the EPA permit went beyond state requirements. The federal EPA permit requires that discharges be free from fecal coliform bacteria, be dechlorinated, and the discharge outfall be moved to Hussey Sound to satisfy receiving water classification and antidegradation standards, and to protect shellfish habitat. Shellfish flats in the region have been historically closed. The zero fecal coliform bacteria discharge standard exceeds state discharge requirements and is stricter than the fecal coliform standard required for shellfishing recommended by the U.S. FDA National Shellfish Sanitation Program.

Although the applicant agreed to these changes to move the project forward, it viewed as excessive the zero fecal coliform requirement. DCA questioned the propriety of the EPA's 1989 waiver to the Peaks Island sewage treatment plant for the secondary treatment of 200,000 gpd located less than one mile from Great Diamond Island, which it charged were likely to pose a greater threat to the Bay's water quality than DCA's discharges. However, even with primary treatment, the treatment plant at Peaks Island will improve overall water quality since many of the Island's existing discharges are untreated. The applicant also questions whether the denial to allow the 39 single-family homes to be connected to the treatment plant on Great Diamond Island may ultimately prove more harmful to

the water quality of Casco Bay because it necessitates subsurface septic treatment. The DEP's denial of the mixing of the Phase I and II discharges was largely based on the issue of the density of the subdivision, rather than the increased discharges, and raises questions about the way in which the waste discharge license was handled.

The project also illustrates the difficulty of providing public access to projects within Casco Bay. The City negotiated an agreement that provided a density bonus to the developer as part of the rezoning to planned unit development (IR-3), in exchange for public access, sewage treatment, police and fire protection, and restrictions on the use of cars. The City deleted the public access elements of the package upon the advice of the Corporation Counsel but the developer retained the density bonus. The intervenors were unable to get additional access during the DEP review due the lack of adequate access standards in the Site Law and the failure of the State to fully implement the public access provisions of the Coastal Management Policies. Thus, as approved, the public will have access to the commercial facilities and the Fort, but not to the beaches, gun batteries and trails to this portion of Great Diamond Island.

It is a matter of debate among the parties whether these modifications justified the lengthy reviews and permitting costs. One citizens' group's representative concluded that "the regulatory process worked" because "it protected all the islands on the entire coast from such a threat of inappropriate development." The project also galvanized support for the State's ban of over-board discharges -- which should improve the quality of coastal waters and open previously closed shellfish areas -- support for improvements to Casco Bay treatment facilities, and support for the designation of Casco Bay as a National Estuary. It produced a unique agreement between the parties that allows for private enforcement of conditions adopted to mitigate impacts, and helped develop Maine BEP's analysis of scenic impacts under the Site Location Act, which have been hampered by the lack of discernible standards and regulations. Scenic issues played an important role in the denial of the Phase II discharge license, and the increased open space and reconfiguration of the lots will substantially reduce project's visual impacts. In addition, the preservation of the batteries and the historic portions of the Fort, give to Casco Bay a unique public/private historic resource.

The Yacht Haven Marina

1. Background

The Yacht Haven Marina was initially proposed in Fall, 1989 in Portland on the Webber Oil facility, an industrial site dating back to the turn of the century.

The project will be located north of the entrance to Back Cove, next to the Burnham and Morrill baked-bean plant. The project originally consisted of 250 boat slips, a floating 40,000 square foot rack storage building for 400 boats, two parking lots containing 55 and 162 spaces each, a vessel fuel and sewage pumpout facility, a 2,160 square foot building for a store and dockmaster's office, and 28,000 cubic feet of dredging within 2.75 acres intertidal and subtidal wetlands.

As finally approved by the Maine DEP, dredging will be limited to 14,000 cubic yards of subtidal wetlands, and intertidal dredging is eliminated; the number of slips is reduced to 230 accessed by 3 floating piers resting on tidelands; the floating boat storage rack is eliminated and boat storage is incorporated within the onshore office/retail building; boat storage capacity is reduced from 400 to 140; and the size of the parking area and number of spaces is reduced from 217 to 174.

2. Regulatory Reviews

The following agencies supplied key regulatory reviews:

- ✓ The Portland Planning Board: I-2 Industrial Zoning; shoreland zoning regulations; site plan review; and flood plain review;
- ✓ the Maine DEP: the Natural Resources Protection Act; and water quality certification;
- ✓ the Maine Bureau of Public Lands (BPL): State submerged lands lease; and
- ✓ the U.S. Army Corps of Engineers: section 10 of the Rivers and Harbors Act; and section 404 of the Clean Water Act (wetlands).

The marina was approved by the City of Portland in January 1990, on the condition that the applicant fund major improvements to the intersection at Veranda and Kensington Streets. The DEP denied the wetlands permit in June 1990, chiefly because of the impacts to intertidal wetland habitat, but approved the application in August 1990 when it was modified to delete dredging in the intertidal zone.

3. Key Issues

Dredging and Wetlands: The project originally proposed dredging 28,000 cubic yards of intertidal and subtidal wetlands to a depth of 6 feet below mean low water. The dredged area would have encompassed a wetland area of about 2.75 acres, including 53,300 square feet of intertidal wetlands and 66,400 square feet

of subtidal wetlands. The DEP denied the wetlands alteration permit in June 1990 because of adverse impacts to estuarine and marine fisheries. The denial was supported by testimony from the DMR and the Maine Audubon Society that the site contained a productive intertidal zone for marine habitat. The applicant's consultants disagreed, pointing out that the tidelands were on an historic industrial site and the dredging would only replace nonproductive intertidal wetlands with more productive subtidal habitat.

In August 1990, the DEP approved a modified proposal eliminating the intertidal dredging by the use of a pile-supported pier over the intertidal zone for access to the boat slips. The floating boat storage building was brought onshore to eliminate the need for intertidal dredging and remove a non-water dependent use from a water site.

Analysis of the dredged material by the DEP yielded no levels of heavy metals above acceptable limits. Therefore the DEP approved dredging the subtidal wetland area so long as the dredge spoils are disposed at the approved federal dump site off Cape Elizabeth, the spoils are capped as needed, and prior to dredging a marine biologist surveys and certifies that the area is free of anadromous fish runs, lobster migration and shedding, shellfish spawning, and inshore feeding of schooling fish.

Visual Impacts: Although the storage rack was not located on land, the City's shoreland zoning review gave the Planning Board authority to ensure that docks, wharves and marinas over 20 feet in length, and uses projecting into water bodies, are no longer in dimension than necessary, and are consistent with existing conditions, use and character of the immediate area. The City was concerned that the views of the water would be obscured by the floating storage building, and that the development was not adequately screened from adjacent properties.

Public Access: The marina is located adjacent to the Canadian National Railway trestle, an area frequented by fishermen and hikers. There was little or no public testimony before the City with respect to public access and the City and the BPL approved the project without a public access easement or dedication. The City was satisfied by the developer's assurances that during normal hours of operation the public would be allowed to enter the property, except in the slip and dock areas, and walk along the tidelands. The BPL submerged lands lease was also issued without a public hearing or public access requirements. One reason may have been the proximity of public boat launching facilities on the Eastern Prom.

Water Quality: There was some concern by the City with respect to the runoff from the parking areas. These concerns were addressed by the applicant's

use of grass parking areas and an existing catchbasin to convey stormwater into the Bay. These measures also were adequate to address DEP standards under the Site Law and NRPA.

4. Analysis

There was considerable disagreement with respect to the biological productivity of the intertidal habitat. The DEP accepted DMR's evaluation that the intertidal zone was biological productive despite historic industrial uses on the site and the contrary opinion of the applicant's consultants. Although the issue of the biological productivity of these intertidal wetlands cannot be resolved here, the decision does raise some interesting questions: Should all intertidal wetlands be protected from dredging? Can intertidal habitat be traded for subtidal habitat? These questions are probably best left to site-specific determinations conducted by the DEP, with the assistance of active public participation.

The DEP revised the project to protect water dependent sites by eliminating the floating boat storage rack, which did not require a location over the water. The visual impacts of the storage rack were also significantly mitigated by reducing the capacity from 400 to 140 boats, and incorporating it into the onshore commercial/retail building. However, visual impacts may also have been increased by requiring walkways across the intertidal area to reach the subtidal zone where the boat slips will be located.

The critical regulatory decisions of the Yacht Haven Marina project were rendered by the City of Portland and the DEP. Little substantive review was conducted by the Bureau of Public Lands (BPL) when it issued a submerged lands lease for the project. The State Submerged Lands Law prohibits interference with navigation, fishing, commercial marine activities, and traditional and customary public access to submerged and intertidal lands, and the BPL is authorized to require public parking, boat launching ramps, walkways and other public compensation to facilitate access. Although the BPL rarely holds public hearings, it does notify abutters, interested persons and local governments of lease applications and frequently attends local hearings. Because these issues were not raised before the City, the BPL did not impose any specific public access conditions (such as a fishing pier). The public will retain the right to use the subtidal and intertidal area for fishing, shellfishing (when and if flats are open), navigation and recreation so long as such use does not interfere with the lease.

CHAPTER THREE
Management Options for the Casco Bay Estuary

One of the key observations to emerge from the analysis of the regulatory framework of Casco Bay is that, while laws are generally adequate to protect the marine and coastal resources of Casco Bay, greater coordination is needed among state, local and federal government agencies and programs to give full effect to these laws. One reason for the lack of coordination among government regulations and programs is the absence of a single agency with overall responsibility for managing and protecting the environment and water quality of the Casco Bay watershed. The current regulatory structure is typified by single-purpose agencies, or departments within agencies, each with jurisdiction over separate resource issues (e.g., wetlands, dredging, habitat protection, sewage treatment, oil pollution, etc.). In some cases, these jurisdictions overlap causing redundant and inefficient regulation, while in other cases (nonpoint source pollution and water quality), no one agency has overall responsibility.

To determine whether a more uniform regulatory or management approach would be appropriate for Casco Bay to protect coastal and estuarine resources and water quality, we examine four regional management models in use in other jurisdictions. Each regional approach was established to address one or two key management issues, which may or may not be analogous to issues facing Casco Bay. Therefore, the first question we address is the purpose and mandate of the agency and the reason it was created. We then address each agency's jurisdiction, organization and membership, size and budget, authority and functions, and assess the applicability of each agency to Casco Bay.

The four regional management approaches selected for analysis are:

- ✓ The Cape Cod Commission;
- ✓ The San Francisco Bay Conservation and Development Commission;
- ✓ The Puget Sound Water Quality Authority; and
- ✓ The Cobbossee Watershed District.

Of course the most critical consideration in determining the suitability of a regional management approach is: what are the key resource issues in the Casco Bay Estuary, and is a new regional agency necessary to implement measures to protect these resources? It is important that such a determination evolve from a consensus through the Casco Bay Estuary Project and be addressed in the Comprehensive Conservation and Management Plan (CCMP). If it is determined that Casco Bay presently lacks an appropriate structure or agency to protect critical resources and implement the CCMP, then the development of a regional management agency containing some of the attributes of the agencies analyzed below may be appropriate.

The Cape Cod Commission

1. Purpose

The Cape Cod Commission was created to address the rapid population growth and development of Cape Cod during the 1980s. The Commission was established by the Massachusetts legislature in 1989, but did not take effect until ratified by the voters of Barnstable County in 1990 by a 53%-47% margin. Because the Commission was created to address issues related to growth, it was granted a very broad mandate: to further conservation and preservation of natural undeveloped areas, wildlife and flora; preserve coastal resources; protect groundwater, surface water and ocean water quality; support balanced economic growth; provide affordable housing; provide adequate solid, sanitary and hazardous waste disposal facilities; and preserve historical, cultural, archeological and recreational values.

2. Jurisdiction

The Commission has jurisdiction over land uses within Barnstable County and the entire Cape Cod area. It is similar to the Martha's Vineyard Commission, except that the Cape Cod Commission has been granted additional planning functions.

3. Organization and Management

The Commission consists of 19 members: 15 representatives are appointed by the Board of Selectmen of each municipality in the County; 3 are appointed by the Board of County Commissioners; and 1 ex-officio member is appointed by the Governor.

4. Size and Budget

The Commission has a staff of 30, including an executive director, an affordable housing specialist, 4 planners, an economic development officer, 4 transportation professionals, 4 water resource professionals, 2 waste management professionals, and 5 regulatory officers. The Commission may generate its own funds through permitting fees and public and private grants, and may raise up to \$2 million annually through county taxes levied by the Board of County Commissioners.

5. Authority and Functions

The Commission has 3 basic functions: (1) it prepares a regional land use policy plan for Barnstable County; (2) it designates Districts of Critical Planning Concern; and (3) it reviews and regulates Developments of Regional Impact.

The Regional Policy Plan was prepared by the Commission and approved by the County Commissioners in September 1991. It is both a planning and regulatory document. It establishes review and regulatory criteria applied by the Commission to Developments of Regional Impact through minimum performance standards to protect public access and barrier beaches, and prevent flood plain hazards and coastal erosion. The Plan also provides a growth policy for the preparation and review of town comprehensive plans, identifies critical resources and management needs to assist in the designation of Districts of Critical Planning Concern, and outlines a strategy for coordinating regional and local planning efforts.

The Regional Plan establishes regional goals and performance standards with respect to land use and growth management, public access, coastal erosion, coastal water quality, agricultural preservation, sewage treatment, wetlands, wildlife and plant habitat, transportation, solid and hazardous waste management, affordable housing, energy conservation, open space and recreation, economic development, and historic preservation. Municipal comprehensive plans must be reviewed by the Commission and found to be consistent with the Regional Plan. Although there is no requirement that municipalities prepare or adopt comprehensive plans, towns that have plans certified by the Commission may impose impact fees. The Commission also ensures that state agency actions are consistent with the Regional Plan.

The Regional Plan identifies areas that may qualify for Districts of Critical Planning Concern (DCPC). The Plan lists 12 types of Districts with significant natural, coastal, scientific, cultural, architectural, historic or economic resources including districts for: water resources, shellfish resources, agricultural resources, wildlife or ecological resources, historic resources, economic development, public

investment, hazards, waterfront management or watersheet zoning, downtown revitalization, transportation management, and affordable housing. These areas are unsuitable for development due to their sensitivity or contain sites with existing or proposed major capital public facilities. The Commission's designation of DCPC must be approved by the County, after which a moratorium is imposed on development until the municipality in which the District is located adopts regulations approved by the Commission to protect significant resources. Thereafter, development is reviewed by the municipality pursuant to those regulations.

The Commission is also authorized to regulate developments of regional impact (DRIs) pursuant to standards established in the Regional Plan and the original legislation creating the Commission. The Commission has direct permit authority over DRIs including the demolition or substantial alteration of historic structures; bridges and roads that provide access to the coast; subdivisions exceeding 50 acres; and developments with more than 30 residential or 10 commercial units.

6. Applicability to Casco Bay

The broad functions and mandate of the Cape Cod Commission limit its applicability because Casco Bay has not yet experienced the intensity of development that led to the creation of the Cape Cod Commission. Furthermore, many of the regulatory, planning and land use functions of the Cape Cod Commission are already performed by agencies in Maine. For example, the Maine DEP reviews development with regional impacts (20 acre subdivisions and developments exceeding 60,000 square feet and 10 units) under the Site Law; it administers the mandatory shoreland zoning program; and the DECD administers the comprehensive planning program (the Growth Management Act). To the extent these programs are being performed adequately, the creation of a separate agency to assume the same regulatory and planning functions may be redundant.

However, some elements of the legislation creating the Cape Cod Commission are worthy of consideration. Use of incentives (such as impact fees and development agreements) could provide a mechanism to encourage consistency with the Estuary Project's CCMP, once it is completed. Furthermore, the designation of Districts of Critical Planning Concern could be an appropriate function for a regional agency in the Casco Bay watershed to protect especially sensitive areas that may not be adequately protected under current local ordinances and government programs.

The Puget Sound Water Quality Authority

1. Purpose

The Puget Sound Water Quality Authority was established in 1983 by the Washington State Legislature to identify threats to Puget Sound marine life, evaluate pollution threats to human health, and investigate the need for coordination among agencies responsible for protecting Puget Sound water quality. The Sound was experiencing high concentrations of toxic contaminants in sediments associated with adverse biological effects in fish, the loss of shellfish beds to nonpoint source pollution, and the loss of over half of its original wetlands. The Legislature determined that the large number of governmental entities affecting the water quality of the Sound "have diverse interests and limited jurisdictions which cannot adequately address the cumulative, wide-ranging impacts which contribute to the degradation of the Puget Sound." A "single entity" was therefore created "with adequate resources to develop a comprehensive plan for water quality protection . . . to be implemented by existing state and local agencies."

2. Jurisdiction

The planning area for the Authority includes 12 counties and the waters of the Puget Sound, the Strait of Juan de Fuca, and all lands draining into these waters.

3. Organization and Management

The Authority was originally created with a 21-member board appointed by the Governor. Currently the Authority has 11 voting members: 9 appointed by the Governor and confirmed by the State Senate from each of the 6 congressional districts and cities, counties and tribes located around the Puget Sound; and 2 ex-officio members, the Director of the Department of Ecology (who also serves as the Chair) and the Commissioner of Public Lands. The Authority is an independent agency supervised and managed by an executive director appointed by the Governor.

The original legislation establishing the Authority contained a 1991 sunset provision, after which the Authority was to terminate. However, the Authority was extended until 1995 in order to update the Plan.

4. Size and Budget

The Authority was originally created as a volunteer commission without a dedicated staff or funding. However, the Authority's 1984 Annual Report, which led to the passage of the Puget Sound Water Quality Act, provided for the hiring of a professional staff and directed the Authority to prepare a comprehensive water quality management plan. The Authority currently has a staff of 40: 28 (19 professionals) are employed by the Authority and the remainder are on loan from other state agencies.

The Authority itself is funded from the State's general fund and from the Centennial Clean Water Fund, financed by cigarette taxes. However, since the first Puget Sound plan was adopted in 1986 (and revised every two years thereafter), it has suffered from major funding shortfalls. The Authority estimated that implementing the 1987 plan during the 1987-89 biennium would cost about \$37 million, but only \$27 million was provided; it estimated that \$88 million was needed for implementation between 1989-91, but only \$36 million was provided. A special Puget Sound Finance Committee was convened to study long-term funding options and concluded in 1989 that about \$39 million/year in additional funding for state and local governments was needed through 1994 to fund the implementation of the Plan. However, in 1989, only \$15 million was provided. The Committee's Report indicated that these funding shortfalls have put on hold research and education programs; sediment, shellfish, water quality and wildlife monitoring programs; additional staff to adequately inspect for discharge permit compliance; identification of toxic sediment hot spots; stormwater improvement programs; and wetland acquisitions and restorations.

5. Authority and Functions

The principal responsibility of the Authority is to develop, adopt and oversee the implementation of the Puget Sound Water Quality Management Plan. The Authority has little regulatory authority, no permitting authority, and no authority to impose Plan policies on local governments. Nevertheless, it has been quite effective in getting other agencies to adopt its agenda and in promoting worthwhile water quality issues.

In 1985, the Authority was given rule-making powers consistent with its planning mission, and the mandate to "review the budgets, and regulatory and enforcement activities of state agencies with responsibilities for water quality and related resources in Puget Sound." The Authority may also recommend appropriate actions by such agencies to remedy any deficiencies in current practices related to the water quality of the Sound. The 1990 amendments to the Act also direct the Authority to implement an ambient monitoring program to develop a baseline for

environmental conditions, natural resources, and contaminants in seafood in the Sound against which future changes can be measured.

The Authority's limited regulatory functions have been somewhat controversial. Although it is authorized to adopt regulations for the Washington Department of Ecology, the Authority has had limited success at getting Plan elements implemented by local governments. It developed regulations for wetlands protection, nonpoint source pollution, and stormwater management, but the State Attorney General rendered an opinion concluding that the Authority lacks the power under State law to require local governments to develop programs that incorporate these regulations. Thus, without additional authority, these programs may not be properly implemented at the local level.

In 1988, the Puget Sound was formally designated as a National Estuary by the EPA. The Authority, EPA Region 10, and the Washington Department of Ecology co-manage the Puget Sound Estuary Project, and the 1991 Puget Sound Water Quality Management Plan adopted by the Authority also serves as the Comprehensive Conservation Management Plan for the Estuary Project.

The Authority has acted largely through volunteer committees in developing positions on various water quality issues. The 1991 Plan lists 5 committees with over 100 members representing state, local and federal government agencies and governments, the academic and scientific community, Indian tribes, environmental groups, and industry. The Committees include the Estuary Project Management Committee, the Estuary Project Technical Advisory Committee, the Monitoring Management Committee, the Ambient Monitoring Program Steering Committee, and the Research Committee.

The 1991 Regional Plan establishes 15 programs:

- (1) estuary management and implementation;
- (2) fish and wildlife habitat protection;
- (3) spill prevention and response;
- (4) monitoring;
- (5) research;
- (6) education and public involvement;
- (7) the Puget Sound Foundation;
- (8) household hazardous wastes;
- (9) shellfish protection;
- (10) wetlands protection;
- (11) municipal and industrial discharges;
- (12) contaminated sediments and dredging;
- (13) stormwater and combined sewer overflows;

- (14) laboratory support; and
- (15) Plan costs.

The Plan also establishes priorities for: assessing environmental conditions; cleaning up and controlling toxic contamination; protecting shellfish beds; protecting wetlands and aquatic habitat; controlling nonpoint source pollution; preventing and enhancing spill response capabilities; and promoting and public education.

6. Applicability to Casco Bay

The Authority's purposes and functions relate directly to similar water quality concerns that have been expressed for Casco Bay with respect to nonpoint source pollution, stormwater management and shellfish protection.

The Regional Plan prepared by the Authority adopts a comprehensive program to reduce threats to water quality from nonpoint source pollution through a cooperative process of local watershed planning and implementation. Each local government evaluated the effectiveness of their existing water quality-related programs, policies and ordinances; each watershed in the 12 Puget Sound counties was ranked and watershed management committees prepared 25 watershed action plans funded by the Department of Ecology. Guidelines for the watershed management program were adopted as regulations by the Authority and a nonpoint source handbook was prepared to assist local governments.

The Plan's stormwater and combined sewer overflow program contains a uniform set of policies for Puget Sound communities, and encourages the development and incorporation of local stormwater programs into local comprehensive plans. The program includes the adoption of local ordinances requiring stormwater controls for new development, maintenance of public and private stormwater systems, and the adoption of comprehensive urban stormwater management plans that must meet minimum standards established by the Authority. The Authority also produces technical manuals and provides technical assistance for stormwater planning to local jurisdictions.

The Plan also contains a shellfish protection and restoration policy to monitor commercial and recreational shellfish areas and implement the goal of reopening at least one contaminated shellfish bed each year. The Authority is considered a leader in researching and regulating contaminated sediments and the State legislature is funding a long-term ambient monitoring program for the Sound. The Authority also established the Puget Sound Foundation as a nonprofit corporation to coordinate strategies and funding for research and education with

respect to water quality issues in the Sound. These initiatives have also been noted as priority needs in Casco Bay.

The Authority does not attempt to preempt local land use authority. It relies almost exclusively on existing state agencies and local governments for program implementation. The fact that the Authority works through and with local governments, and does not create additional state mandated obligations, has created a strong local constituency for the Authority and its programs. These characteristics could be compatible with a regional management approach in the Casco Bay estuary, although additional and more innovative approaches for implementing water quality programs at the local level should be considered.

The San Francisco Bay Conservation and Development Commission

1. Purpose

The San Francisco Bay Conservation and Development Commission (BCDC) was established as a temporary agency in 1965 by the McAteer-Petris Act in response to the rapid filling of San Francisco Bay. Between 1940-1975, 3.6 square miles of the Bay were being filled per year to provide land for development. The Commission prepared a Bay Plan for the conservation and development of the Bay which was adopted by the Legislature in 1969, at which time the BCDC was also established as a permanent agency. In addition to preventing the further filling of the Bay, BCDC has also been mandated to provide public access, reserve certain shoreline areas for priority water-dependent uses, and develop a long-term management strategy for dredging within the Bay.

2. Jurisdiction

The Commission has jurisdiction over the entire San Francisco, San Pablo and Suisun Bays, the mouths of specified streams and rivers that flow into these Bays, diked wetlands and salt ponds, extending landward 100 feet of the mean high tide line.

3. Organization and Management

BCDC is an independent state agency within the California Resources Agency. It has a 27-member Commission; 5 are appointed by the Governor; 2 are appointed by the Legislature; 13 are appointed by local governments; 2 represent federal agencies; and 5 represent state agencies. Although the large size of the Commission caused initial concern, commentators have observed that it ensures diversity of views, full representation of interests and deters special interests.

4. Size and Budget

BCDC has 25 full-time employees, including a professional staff of planners, permit analysts, lawyers, engineers and architects. The Executive Director is appointed by the Commission. The Commission's annual operating budget is \$2.1 million; 80% provided by the State general fund and bulk of the remaining are federal funds provided under the Coastal Zone Management Act. The Commission also recoups some of its expenses from permitting fees and enforcement awards.

5. Authority and Functions

The McAteer-Petris Act provides regulatory authority for BCDC and includes policies on filling and public access. BCDC's San Francisco Bay Plan establishes policies on the Bay's water quality, ecological resources, economic interests, fish and wildlife, wetlands, fresh water inflow, dredging, public access, scenic views, transportation, water-related industries, and recreation. The Plan is regularly updated and guides the Commission's permit decisions, particularly where the Commission has developed Special Area Plans, such as the San Francisco waterfront. BCDC meets once a month, makes about 30-35 major permitting decisions per year and processes about 150 administrative permits. BCDC is also part of the California Coastal Management Program and, consequently, it reviews federal and federally-permitted activities that affect the Bay for consistency with BCDC policies and regulations.

BCDC is authorized to review all development projects that extract material, fill, or make substantial changes in use of water, land or structures. The Act allows fill projects only where public benefits clearly exceed public detriments; only for water-oriented uses or to improve public access or shoreline appearance; only where no alternative upland locations are available; only to the extent necessary to achieve the purpose of the fill; and only if harmful effects are minimized. The constitutionality of the Commission's authority to deny fill permits was tested in the courts and found to be a valid use of the police power.⁴⁷ Consequently, BCDC and the McAteer-Petris Act have essentially halted the unnecessary filling of the Bay.

The Commission is also authorized to reserve shoreline areas within its jurisdiction for water-oriented priority land uses, such as ports, water-related industries, airports, wildlife refuges, water-oriented recreation and utilities requiring large amounts of water. Projects located outside the these priority use areas can only be denied by the Commission if the project fails to provide

⁴⁷ *Candlestick Properties, Inc. v. BCDC*, 11 Cal. App. 3d 557, 89 Cal. Rptr. 897 (1970) (denial of a permit to fill was not an unconstitutional taking).

"maximum feasible public access" to the Bay. Under these provisions, BCDC has increased the open shoreline of the Bay from 4 to over 100 miles.

The Commission has also been granted cease and desist authority to halt projects undertaken without a permit or in violation of permit conditions. It may impose civil penalties of up to \$1,000 per day to a maximum of \$20,000 for each violation. BCDC may also petition the court for an injunction and civil penalties up to \$6,000 per day, and criminal fines and penalties are also available. Moneys collected are available to implement a Bay Fill Clean-up and Abatement Fund to remove fill, enhance resources, or perform any other remedial cleanup or abatement actions within the Commission's jurisdiction.

6. Applicability to Casco Bay

BCDC was created to halt the filling of San Francisco Bay, and was also directed to improve public access, protect water oriented use areas, and coordinate dredging activities. It also regulates houseboats moored within the Bay and takes enforcement actions on illegal dumping activities. By all accounts it has been largely successful in fulfilling these mandates. Although BCDC's limited land use and statutory authority prevents it from effectively addressing water quality issues, water quality is chiefly the responsibility of the State Water Resources Control Board. Thus, BCDC successes provide some insights for developing and implementing a comprehensive plan for the Casco Bay Estuary Project.

The Commission's strategy for preparing the Bay Plan was oriented to mobilizing public support and understanding. Technical studies on 25 management issues in the Bay were prepared by BCDC staff and consultants, ranging from the importance of marshlands to waterfront industrial development. These studies were presented at public hearings at which the public, the Commissioners and experts interacted. Through this process the Commission gained knowledge and experience in significant issues affecting the Bay and a consensus was created supporting tentative Plan policies.

In addition, BCDC, unlike the California Coastal Commission, has been careful not to tread on the toes of local governments. BCDC restricted its efforts to regional policies and water use issues, and left basic land use issues (except those within 100 feet of the Bay) to local governments. Even within its narrow jurisdiction, BCDC has a limited role of providing public access and protecting water dependent uses. Furthermore, many of BCDC's Commissioners are local government representatives. These factors have fostered a relatively cooperative relationship with local governments.

In contrast, the California Coastal Commission has had a stormy and nearly fatal relationship with local governments. The Commission generally has jurisdiction to review all development within 1000 yards of the coastline throughout the State, and also reviews local coastal plans (LCPs) prepared by local governments for consistency with California Coastal Act policies. LCPs contain critical land use policies and zoning controls for development within the coastal zone and are required to protect sensitive coastal resources, control coastal growth, provide public access and protect water dependent uses. After 15 years, only about 60% of the LCPs have been certified by the Commission, mostly because of conflicts with respect to consistency with state coastal policies, and lack of local government incentives to complete the plans. Fortunately, until local plans are complete, the Coastal Commission retains permit authority in the coastal zone to protect coastal resources; but the LCP process has taken its toll. Political support for the Commission has been undermined, budget cuts have significantly reduced the staff's effectiveness, and local cooperation with Commission staff and Coastal Act policies has been lackluster.

BCDC "special area plans" may be applicable to the Casco Bay region. Special area plans have been prepared by BCDC within Richardson Bay, the City of Benicia, the San Francisco Waterfront and the Richmond Waterfront. These plans must be jointly adopted by the Commission and local governments and provide more precise policies with respect to providing public access and protecting water dependent uses within waterfront areas. Thus a state/local partnership is established utilizing the technical resources of BCDC implemented and enforced at the local level. BCDC's San Francisco Bay Area Seaport Plan considers regional needs in planning and developing Port facilities. Working with the Metropolitan Transportation Commission (MTC), BCDC conducted an inventory of potential terminal sites, cargo inflow projections and estimates of existing and planned cargo handling capacity. It conducted an economic impact analysis, selected and ranked the most appropriate sites for new or expanded terminal facilities, and prepared a unified regional port plan. Since the Port of Portland has no single port agency responsible for coordinating planning and development of terminal facilities, such an approach may be an appropriate function for a regional agency within Casco Bay.

BCDC also prepares guidelines to assist development review. For example, the Bay Shoreline Landscape Guide recommends plants, planting methods, and landscaping techniques for projects located on the shoreline. BCDC's Public Access supplement to the Bay Plan provides a comprehensive advisory guide for agencies to implement the Commission's policy of providing maximum public access to and along the San Francisco Bay through permit decisions, local park and open space agencies. Similar guidelines may be appropriate within Casco Bay.

The Cobbossee Watershed District

1. Purpose

The Cobbossee Watershed District was created in the Southern Kennebec Valley region by the Maine legislature in 1971 "for the purposes of protecting, improving and conserving the lakes, ponds, and other major waterways within the . . . Cobbossee watershed." It was ratified by referendum by a 90% vote held by member municipalities within the District. One town rejected membership but has since joined. As one of its first projects, the District prepared a regional assessment and guidelines for the control of nonpoint sources of pollution within the watershed (March 1976). Since then, the District has concentrated on agricultural pollution and has constructed 40-45 devices to control agricultural wastes funded through the EPA's Clean Lakes Grant Program such as manure storage facilities, barnyard runoff controls and retention ponds. The District also manages a few conservation areas; conducts lake restoration projects to reduce phosphorus levels with chemical treatment; works with planning boards to review subdivisions and stormwater management plans; inspects and monitors erosion control devices and timber harvesting operations; and provides technical assistance to property owners for timber cutting and road ditching activities.

2. Jurisdiction

The Cobbossee Watershed District has jurisdiction within a 217 square mile watershed in the Kennebec Valley including the towns of Mount Vernon, Readfield, Winthrop, Wayne, Monmouth, Manchester, Litchfield, West Gardiner, Gardiner and Richmond, and all the lakes, ponds and other major waterways within these municipalities.

3. Organization and Management

The Cobbossee Watershed District is run by a board of trustees appointed by the member municipalities and water districts. The District also has 4 professional staff members including a director, lake scientist/biologist, land use planner and office manager/enforcement specialist.

4. Size and Budget

The Cobbossee Watershed District submits its budget for approval to the voters at a District budget meeting. It is funded by the towns in proportion to the value of their property within 600 feet of lakes, ponds, and waterways. The annual operating budget of the District has been approximately \$200,000 per year, although recent cuts reduced the budget to \$175,000 in 1992.

5. Authority and Functions

The Cobbossee Water District has no real regulatory, planning or permitting authority within the watershed. However, it is authorized to tax participating municipalities and has the right of eminent domain. State law permits watershed districts to acquire and hold property, conduct research, adopt restoration, protection and management plans, lobby state and local governments, and adopt programs to manage water uses. The District was initially authorized to acquire, construct, operate and repair dams and facilities, control the collection and discharge of water in dams, and improve the quality and purity of water by treatment or otherwise. However, in reality, water level management is only about 10% of the District's functions and it does not aggressively seek to purchase or manage property within the watershed (it owns about 2,200 feet of water frontage). That function is left to active land trust groups in the region.

6. Applicability to Casco Bay

Considerable benefits could be derived from establishing a watershed district within the Casco Bay watershed. Although watershed districts have no real regulatory, permitting or planning authority, a Casco Bay watershed district could assist local governments, help secure federal grants to implement water quality projects in the region, and provide a single purpose agency to focus on improving the water quality in Casco Bay. It could assist municipalities prepare water quality elements in comprehensive plans, help draft and review stormwater management plans, monitor erosion controls devices, assist local enforcement and water quality monitoring efforts, and provide technical assistance to property owners in the Casco Bay watershed.

However, State law presents some significant obstacles to forming watershed districts. First, unlike lake watershed districts, coastal watershed districts are not authorized to levy taxes on participating local governments. This limits its funding capabilities. Second, the formation of districts requires substantial effort and local support. Lake and coastal watershed districts may be formed by municipalities, residents or unorganized territories, or by local referendum to protect, restore and maintain water quality and aquatic resources, and manage and conserve land and water resources. Applications to form watershed districts must also be filed with and approved by the Board of Environmental Protection after a public hearing. The application must demonstrate the need for a coordinated approach to watershed management within the proposed district. BEP approval must be ratified by a vote within the municipalities forming the District. A recent (1991) referendum to establish a watershed district within the Long Lake/Bridgton/-Naples region failed by a 2-to-1 margin because of the opposition of municipal officials.

Thus, an effort to establish a watershed district within the 24 towns in the Casco Bay watershed would require a massive grass roots campaign and years of planning and public meetings. On the other hand, it could be formed incrementally and the large number of towns in the watershed make it less critical that all towns participate. The lack of regulatory and planning authority may improve such a district's likelihood of approval since it would not be perceived as redundant bureaucracy.

Findings and Conclusions

In considering whether a regional management approach is appropriate within the Casco Bay watershed, a number of critical factors should be weighed. These factors are discussed below:

1. Identification of Key Issues

Each of the regional management agencies discussed above was created for a specific purpose related to the needs of the region and the protection of resources critical to that region. For example, the Cape Cod Commission was created to address the impacts of growth and overdevelopment; the Puget Sound Authority was created to address deteriorating water quality and shellfish resources; the Bay Commission was formed to halt the filling of and improve access to San Francisco Bay; and the Cobbossee Watershed District was established to improve water quality and manage water levels in the Southern Kennebec Valley.

It is premature for this report to identify key resource and water quality issues for Casco Bay. This is the appropriate function of the Casco Bay Estuary Project and the Comprehensive Conservation and Management Plan. Once a consensus is developed with respect to the critical resources that need protection in Casco Bay, it may be better determined whether existing institutions adequately address such issues.

2. Adequacy of Existing Mechanisms

An assessment of regional management mechanisms for Casco Bay must also evaluate existing institutions and mechanisms to determine whether they are capable of managing critical resource issues within the Bay watershed. It has already been observed that state and local government agencies in Casco Bay currently perform some of the functions delegated to regional management agencies in other jurisdictions. Examples include local comprehensive planning and shoreland zoning requirements, DEP regulation of large scale developments and subdivisions under the Site Law, and DEP regulation of activities affecting

coastal wetlands, large freshwater wetlands (exceeding 10 acres) and significant wildlife habitats. It would be redundant to create a regional agency that would duplicate these functions unless they were not being adequately implemented or addressed through existing mechanisms. Although there may be some debate on this point, especially with respect to small-scale freshwater wetlands and significant wildlife habitats, a consensus is not evident at the present time that a new agency is necessary to perform these functions. Such a consensus would be necessary to generate the political support to delegate any functions not being adequately performed to a new Casco Bay regional management agency.

However, it is apparent adequate mechanisms are currently lacking to comprehensively coordinate programs in the Casco Bay watershed. This has been demonstrated by the lack of regional coordination among comprehensive plans and the failure to implement other regional plans, such as Vision 2000 and Section 208 regional water quality management plans. Institutional mechanisms are needed to implement a Comprehensive Conservation and Management Plan for Casco Bay, and update the CCMP after it is completed. A coordinated program for water quality monitoring and nonpoint source pollution controls could be delegated to and implemented by a regional management agency with jurisdiction within the Casco Bay watershed.

A regional agency in Casco Bay would be more likely to generate local support if it worked with existing programs at the local level. For example, by implementing stormwater management, combined sewer overflow, nonpoint source pollution, shellfish protection, and other programs at the local government level, the Puget Sound Authority developed a powerful local constituency that promoted effective and cooperative implementation and helped support state funding requests. Furthermore, linking or networking with existing programs would give a regional agency the benefit of using ongoing programs (such as shoreland zoning and growth management) and expertise. A key function for a regional management agency might therefore be to provide technical assistance and guidance to local governments in reviewing projects that impact the Bay, similar to the special area plans and development guidelines prepared by BCDC but implemented by willing municipalities at the local level.

3. Regulatory and Planning Authority

The primary consideration for evaluating the applicability of a regional management approach to Casco Bay would be its functions. The agencies discussed above display a full range regulatory and planning authority. For example, the Cape Cod Commission contains permitting authority (for developments of regional impact), planning authority (the Cape Cod Regional Plan), and regulatory authority (approves local regulations in critical areas); BCDC relies

heavily on its permitting authority for activities within San Francisco Bay and 100 feet landward to prevent fill, encourage and protect water dependent uses, and provide public access; and the Puget Sound Authority prepares and revises a Regional Water Quality Plan for the Sound and has limited regulatory authority to ensure that state and local agency actions are consistent with the Plan. Although the Cobbossee Watershed District has less regulatory and planning authority than the other agencies examined, it has enjoyed success by working with existing state and local government agencies and conducting water quality related projects funded by federal grants.

The question of the regulatory and planning authority of a Casco Bay regional management agency is directly related to its perceived purpose. If the purpose of such an agency in Casco Bay is to implement the Casco Bay CCMP, or develop a regional water quality plan for Casco Bay, then some planning authority may be appropriate. This could take the form of reviewing local comprehensive plans for consistency with the CCMP or regional plan, providing incentives to local governments to implement CCMP policies or programs, or providing technical assistance to local governments to implement CCMP policies. A regional authority could also designate critical areas within the Casco Bay watershed that need special protection through special areas management plans, and provide additional state or local regulation or development controls. A regional agency could also review state and federal activities that affect the Bay's water quality and ecological resources for consistency with the CCMP, and could assist state and local agency enforcement efforts (like BCDC).

Some or all of these functions could be delegated to an existing state agency, such as the DEP, DECD or SPO; an existing regional agency such as the Greater Portland Council of Governments or the Soil and Water Conservation District; or they could be delegated to a regional management agency created especially for this purpose within the Casco Bay watershed.

4. Professional Staff and Expertise

A regional management agency is only as good as its staff. One of the strengths of the regional agencies examined above are the expertise of their professional staffs. For example, in addition to its 18 professional staff members, the executive director of the Puget Sound Authority is authorized to request the assignment to the Authority of members from state departments of ecology, community development, fisheries, wildlife, agriculture, natural resources, parks and recreation, and health. BCDC's effectiveness to fulfill its mission has been attributed to a large extent to its professional staff of planners, permit analysts, lawyers, engineers and architects. The legislation creating the Cape Cod Commission specifically authorizes the director to hire a professional staff

including an affordable housing specialist, planners, an economic development officer, and regulatory officers. The Commission has also hired transportation, water resource, and waste management professionals who will play a key role in implementing its permitting and planning functions. Likewise, the success of the Cobbossee Watershed District has been attributed to its professional staff of biologists, land use planners and enforcement specialists.

Consequently, to be successful, any regional agency in Casco Bay would need a professional staff. The exact expertise of these professionals would depend upon the mandate of the agency and could include, in addition to those listed above, persons trained in alternative dispute resolution techniques to help groups work together effectively.

5. Citizen Support and Local Representation

A regional management approach in Casco Bay must attain significant grass roots support. This need was illustrated when a watershed district in the Bridgton/Long Lake was recently defeated in a referendum by a 2-to-1 margin. It would also be a mistake to attempt to create a regional management agency for Casco Bay through state legislation without significant local support. The ideal mechanism to determine whether such support exists, or would be forthcoming, is through the Estuary Project's CCMP process, discussions at Management, Technical Advisory and Citizen Advisory Committee meetings, and through public forums.

If a regional management entity is ultimately created, it should strongly reflect local representation. This may be accomplished by creating a board consisting chiefly of local government representatives such as town councilors and water district representatives. However, a mix of other interests should also be included for balance and expertise, such as members of the academic, environmental and business communities, and state and federal agency representatives (as ex officio members). Local representation on the board will ensure that the agency will adequately reflect local interests and that it will enjoy the support of the local community.

Public involvement with regional management agency activities is also critical. This may be accomplished through citizen advisory boards, educational activities and by providing a role for nongovernmental organizations.

6. Funding

Last, but certainly not least, a regional management agency must be able to raise adequate funds to implement its program. Some of the funding mechanisms

utilized by regional agencies in other jurisdictions are worth considering. The most obvious is the taxing authority utilized by the Cobbossee Watershed District, based upon the value of property within each member town and its proximity to lakes, ponds, and waterways in the watershed. The budget of the District must be approved in an annual budget meeting by the voters.

If local taxing authority is infeasible, other funding mechanisms could include: state general fund appropriations; appropriations from special tax programs (such as the cigarette tax in Washington State); federal funds from specific grant programs (such as those provided under the Coastal Zone Management Act and Clean Water Act); fees and enforcement awards where permitting authority is conferred; contracts for services rendered to local governments (such as planning or code enforcement contracts); or formation of a nonprofit corporation to accept donations for acquisitions, educational programs, research, monitoring and conferences.

Obviously, without adequate funding there can be no regional management mechanism unless its functions are subsumed within an existing state agency. State and local governments are currently strapped for funds, making problematic any additional funding requests. Thus, adequate funding for a regional management mechanism will be a real test of local and political support for the improvement of the environmental and water quality resources of Casco Bay.

APPENDIX A:

**State, Federal and Local Government Agencies and Laws
Regulating the Resources and Water Quality
of the Casco Bay Estuary**

APPENDIX A
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**State, Federal and Local Government Agencies and Laws
Regulating the Resources and Water Quality
of the Casco Bay Estuary**

The marine and coastal resources of the Casco Bay Estuary are regulated and managed by a complex array of state, federal local laws and agencies. The following description provides an overview of the regulatory framework to assist effective citizen participation in the management and regulation of Casco Bay resources.

Federal Agencies, Laws and Responsibilities

Key federal agencies operating in the Casco Bay Estuary include:

- the Environmental Protection Agency;
- the U.S. Army Corps of Engineers;
- the U.S. Coast Guard;
- the National Oceanic and Atmospheric Administration;
- the National Marine Fisheries Service.
- the U.S. Department of the Interior;
- the U.S. Fish and Wildlife Service; and
- the U.S. Soil Conservation Service;

The Environmental Protection Agency

The EPA administers a number of laws and programs of critical importance for Casco Bay including the Clean Water Act, the National Environmental Policy Act, the Comprehensive Environmental Response, Compensation and Liability Act, and the Ocean Dumping Act.

1. The Clean Water Act

Under the Clean Water Act (CWA), formally known as the Federal Water Pollution Control Act, the EPA is charged with the following responsibilities:

Point Source Discharges The EPA issues National Pollutant Discharge Elimination System (NPDES) permits for all "point source" discharges from pipes, ditches, tunnels, or other discrete conveyances under section 402 of the Clean Water Act.¹ Although the EPA's NPDES permit authority may be delegated to states, consolidating Clean Water Act permit reviews, Maine has chosen not to seek delegation. Therefore, in Maine, both EPA NPDES permits and State waste discharge licenses are required for point source discharges. Effluent limitations (ELs) are established for point source discharges, restricting the quantities, rates and concentrations of the chemical, physical, biological constituents discharged.

Sewage Treatment The EPA regulates and funds the construction and operation of publicly owned sewage treatment works (POTWs). POTWs must provide "primary" and "secondary" sewage

¹ 33 U.S.C. § 1311(a) and 33 U.S.C. § 1342.

treatment, and comply with water quality standards for particular water bodies established by states.² Industrial facilities discharging pollutants into POTWs are also subject to CWA "pretreatment standards."³

Water Quality Standards The EPA administers state water quality standards (WQS) for particular waterbodies which must: properly define CWA water quality goals and EPA anti-degradation policies; designate appropriate uses and establish criteria to protect those uses; and protect fish, shellfish, wildlife and recreation.⁴ All waterbodies must meet minimum fishable/swimmable standards and discharges that would lower WQS established for particular waterbodies are prohibited.⁵

Nonpoint Source Pollution The EPA approves and funds state Nonpoint Source (NPS) Assessment Reports and Management Programs required under section 319 of the Clean Water Act.⁶ NPS Management Programs must identify: sources of NPS pollution; waterbodies unable to meet applicable water quality standards; best management practices (BMPs) to control NPS pollution;⁷ regulatory programs to enforce and achieve BMPs; and implementation strategies. Maine's NPS Management Plan was approved by the EPA in 1989.

The National Estuary Program The EPA, on its own initiative or upon the nomination of a state, may designate national estuaries under section 320 of the Clean Water Act.⁸ The EPA has designated 17 national estuaries, including Casco Bay, for which federal research money and assistance is provided to prepare comprehensive conservation and management plans (CCMP).⁹ The Casco Bay Estuary Program will allocate about \$500,000 per year between 1990-1995 for research, monitoring, enforcement and the development and implementation of its CCMP.

² 33 U.S.C. §§ 1311 and 1314.

³ 33 U.S.C. § 1317(b) and (c).

⁴ 33 U.S.C. §§ 1311, 1313(c)(2) and 40 CFR §§ 130-131.

⁵ 33 U.S.C. § 1341.

⁶ 33 U.S.C. § 1329.

⁷ BMPs are defined as "[M]ethods measures or practices selected by an agency to meet its nonpoint source control needs. BMPs include but are not limited to structural and nonstructural controls and operation and maintenance procedures. BMPs can be applied before, during and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters." 40 CFR § 130.3(m).

⁸ 33 U.S.C. § 1330.

⁹ The Act authorizes up to \$12 million per year for administration of the program and research grants.

2. The National Environmental Policy Act

The EPA and the Council for Environmental Quality administer the National Environmental Policy Act (NEPA).¹⁰ NEPA requires environmental impact statements (EISs) for all legislative proposals and major federal actions that significantly affect the quality of the human environment. EISs must describe the environmental impacts of a proposed action, any adverse environmental impacts that cannot be avoided, alternatives to the proposed action, the relationship between local short-term uses and the maintenance and enhancement of long-term productivity, and any irreversible and irretrievable commitments of resources.¹¹ Copies of EISs must be distributed to appropriate federal, state and local agencies, and members of the public, and comments must be reviewed and addressed prior to final agency action.

3. The Ocean Dumping Act

Title I of the Marine Protection Research and Sanctuaries Act of 1972,¹² also called the Ocean Dumping Act, requires that the EPA license and designate sites for the dumping of all material into ocean waters. The Act prohibits the dumping of all radiological, chemical and medical wastes, and the ocean dumping of all industrial wastes and sewage sludge must be phased out by 1992, except in emergency situations. Thus, after 1992, all ocean dumping except dredged material (which is regulated by the Army Corps of Engineers) is essentially prohibited.

4. The Comprehensive Environmental Response, Compensation, and Liability Act

The EPA administers the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund.¹³ CERCLA compels private parties to abate imminent and substantial dangers caused by releases or threatened releases of hazardous substances; imposes liability on site owners, operators and others for response costs; and creates a Superfund to finance cleanup and remedial action by the government where responsible parties cannot be found.

The U.S. Army Corps of Engineers

The Army Corps of Engineers administers the federal wetlands program under section 404 of the Clean Water Act, construction projects within navigable waters under section 10 of the Rivers and Harbors Act, and the disposal of dredged and fill material under section 103 of the Ocean Dumping Act.

¹⁰ 42 U.S.C. §§ 4321-4370.

¹¹ 42 U.S.C. § 4332(C).

¹² 33 U.S.C. §§ 1401-1445.

¹³ 26 U.S.C. §§ 4611-4682; 42 U.S.C. §§ 9601-9657.

1. Section 404 of the Clean Water Act

The Corps regulates activities within wetlands under section 404 of the Clean Water Act.¹⁴ Section 404 requires Corps' permits for any alterations within coastal and freshwater wetlands, streams, ponds, mudflats or wet meadows. The EPA retains veto authority over the issuance of Corps' permits and has adopted wetland guidelines that the Corps must administer. States must certify that section 404 permits will not violate state water quality standards adopted under the Clean Water Act,¹⁵ and that Corps' permits are consistent with the state's coastal management program.¹⁶ Although the authority to issue section 404 permits may be delegated to states, this has not been done in the State of Maine.¹⁷

2. Section 10 of the Rivers and Harbors Act

The Corps licenses the construction of any structure or work within navigable waters under section 10 of the Rivers and Harbors Act of 1899.¹⁸ This includes the construction of wharves, breakwaters or jetties; finfish aquaculture projects; bank protection or stabilization projects; permanent mooring structures; marinas; intake or outfall pipes; canals; boat ramps; aids to navigation; or other modifications affecting the course, location condition or capacity of navigable waters. The Corps' jurisdiction under the Act is limited to "navigable waters," or waters subject to the ebb and flow of the tide shoreward to the mean high water mark.

3. The Ocean Dumping Act

Section 103 of the Ocean Dumping Act gives special authority to the Corps to issue permits for transporting and dumping dredged and fill material into ocean waters.¹⁹ The Corps regulates the ocean dumping of dredged material pursuant to EPA guidelines,²⁰ and the EPA is authorized to override Corps' permits where dumping results in "unacceptable adverse impacts."²¹

The U.S. Coast Guard

The Coast Guard is responsible for enforcing MARPOL, managing U.S. ports and waterways, and administering the 1990 Oil Pollution Act.

¹⁴ 33 U.S.C. § 1344; 40 CFR § 232.

¹⁵ 33 U.S.C. § 1341.

¹⁶ 16 U.S.C. § 1465(c)(3)(A).

¹⁷ 33 U.S.C. § 1344(g) and (h). Thus far only the State of Michigan has exercised this option. Davis, *Making No Assumptions*, 13 NATIONAL WETLANDS NEWSLETTER 6 (1991).

¹⁸ 33 U.S.C. §§ 401 and 403.

¹⁹ 33 U.S.C. § 1413(a); 33 CFR § 324.4(b).

²⁰ 33 U.S.C. § 1412(A)-(I); 40 CFR § 227.

²¹ 33 U.S.C. § 1413(d).

1. MARPOL

The Coast Guard administers the Marine Plastics Pollution Research and Control Act of 1987,²² which implements the MARPOL Protocol of 1978, more formally known as the International Convention for the Prevention of Pollution from Ships. The Act prohibits the discharge of plastics anywhere in the U.S. 200-mile Exclusive Economic Zone and the discharge of other unground garbage within 12 miles of shore.

2. Port Tanker and Safety Act

The Port and Tanker Safety Act authorizes the U.S. Coast Guard to protect navigation and vessel safety within navigable waters and the nation's ports and waterways.²³ The Coast Guard enforces procedures for handling oil and hazardous substances, prescribes safety standards, designates waterfront safety zones, manages vessel traffic, and establishes vessel traffic separation schemes and safety fairways.

3. The Oil Pollution Act

The Oil Pollution Act (OPA) of 1990 establishes new federal financial responsibility requirements for tankers carrying oil, new liability standards for oil spills, a new federal oil spill and liability fund to pay for removal costs and uncompensated damages, and requires that by the year 2015 all tankers operating in U.S. waters have double hulls.²⁴ The Act authorizes the Coast Guard to coordinate a new National Planning and Response System, prepare Area Contingency Plans, and oversee the preparation of Tank Vessel and Facility Response Plans by all owners or operators of tank vessels and facilities.

The National Oceanic and Atmospheric Administration

The National Oceanic and Atmospheric Administration (NOAA), within the Department of Commerce, administers several programs with relevance to the management of Casco Bay: the Coastal Zone Management Act, the National Marine Sanctuaries Program, the National Estuarine Research Reserve System, and the National Sea Grant College Program.

1. The Coastal Zone Management Act

Under the Coastal Zone Management Act (CZMA),²⁵ NOAA has approved and funded 29 state Coastal Management Programs (CMPs), including the Maine Coastal Program. These programs must identify permissible land uses in the coastal zone, establish priorities of uses, designate areas of particular concern, protect and provide access to public beaches, control coastal erosion, and control

²² 33 U.S.C. §§ 1901-1912.

²³ 33 U.S.C. §§ 1221-1236; 33 CFR §§ 160-170.

²⁴ 33 U.S.C. §§ 2701-2761; 43 U.S.C. §§ 1642, 1651, 1653, 1656; 26 U.S.C. §§ 4612 and 9509.

²⁵ 16 U.S.C. §§ 1451-1464.

nonpoint source pollution. Maine has received over \$21 million since its program was approved in 1979.²⁶

States with federally-approved CMPs are also entitled to review federal, federally-funded, and federally-permitted activities that affect their coastal zone for consistency with state program policies.²⁷ This "federal consistency" authority provides states with a significant mechanism to influence federal and federally-permitted projects, both within and outside state coastal boundaries, including dredge and fill projects, harbor construction, offshore oil and gas leasing, exploration and development, federal highway projects, EPA discharge permits and offshore dump site designations, and military construction projects.

2. The National Marine Sanctuaries Program

Title III of the Marine Protection, Research, and Sanctuaries Act²⁸ authorizes the Secretary of Commerce, through NOAA, to designate and protect discrete areas of the marine environment of national significance as national marine sanctuaries. Prior to designating marine sanctuaries NOAA must conduct a resource assessment, prepare an EIS, conduct public hearings, prepare a sanctuary management plan and regulations, obtain Congressional approval and consult with state and local governments. As of 1991, 7 of the 100 potential sanctuary sites initially listed by NOAA have been designated as marine sanctuaries.²⁹

3. The National Estuarine Reserve Research System

NOAA is also authorized to establish National Estuarine Reserves under the CZMA.³⁰ Estuarine reserves must be nominated by the Governor of a State in which the reserve is located, be a representative estuarine ecosystem suitable for long-term research, enhance public awareness and provide suitable opportunities for public education. Federal funds are available for site selection, the preparation of a management plan, the implementation of research, educational, and administrative programs, and the acquisition of lands and waters necessary to ensure the long-term management of the area. NOAA has designated 17 reserves including the Wells Reserve in southern Maine.

4. The National Sea Grant College Program

NOAA also administers the National Sea Grant College program which distributes annually about \$40 million to 300 academic and nonprofit institutions around the United States to fund research, education and advisory (extension) services to promote the wise use, conservation, and development of

²⁶ H.R. REP. NO. 535, 101st Cong., 2d Sess. (1990).

²⁷ 16 U.S.C. § 1456(c) and (d).

²⁸ 16 U.S.C. §§ 1431-1439.

²⁹ Existing sanctuaries include Fagatele Bay (American Samoa); Gulf of the Farallones (CA); the Channel Islands (CA); the U.S.S. Monitor (NC); Gray Reef (GA); Key Largo (FL); and Looe Key (FL). Stellwagen Bank in the Gulf of Maine has been nominated and is under active review. See *Special Issue on U.S. Marine Sanctuaries*, OCEANUS, Vol. 31, No. 1 (Spring 1988).

³⁰ 16 U.S.C. § 1461; 15 CFR § 921.

marine resources. The Maine and New Hampshire University systems have merged their programs to form the UM/UNH Sea Grant College Program and have prepared a joint Long Range Plan to address research needs and strategies over the next five-to-ten years. Sea Grant funds are used to conduct research related to resource management and development, commercial fisheries, recreation and tourism, marine education and communications.

The National Marine Fisheries Service

The National Marine Fisheries Service (NMFS), within NOAA and the Department of Commerce, administers the Marine Mammal Protection Act (MMPA) and is responsible, along with the U.S. Fish and Wildlife Service (USFWS), for the enforcement of the Endangered Species Act (ESA).

1. Marine Mammal Protection Act

The Marine Mammal Protection Act³¹ imposes a moratorium on the taking and importation of marine mammals and marine mammal products, and establishes a federal permitting and regulatory scheme administered by the NMFS to allow takings incidental to commercial fishing and other activities.³² The NMFS and the USFWS jointly manage the Marine Mammal Commission to develop regulations and conduct independent research.

2. Endangered Species Act

The Endangered Species Act³³ prohibits the "taking" of endangered or threatened species, including the harassment, harming, capturing or collecting of any such species. "Endangered species" are species in danger of extinction throughout all or a significant portion of its range; "threatened species" are species likely to become endangered within the foreseeable future. The designations of species as "endangered" or "threatened" are made by the Secretaries of Interior or Commerce, through the NMFS and the USFWS.³⁴ Federal agencies must use "all methods and procedures" necessary to remove the threatened or endangered classification, and must not take any action to "jeopardize" such species or adversely modify their "critical habitats."³⁵

³¹ 16 U.S.C. § 1361-1407.

³² 16 U.S.C. §§ 1371(a)(2)-(5) and 1373-1374. The MMPA also requires foreign nations to submit data to the Department of Commerce demonstrating that incidental kills of marine mammals are comparable to the U.S. rate and in no case exceed 1.25 percent. An embargo on foreign imports is authorized if US rates are exceeded. 16 U.S.C. § 1371(a)(2). *See Earth Island Institute v. Mosbacher*, 929 F.2d 1449 (9th Cir. 1991) ordering an embargo on yellowfin tuna from Mexico.

³³ 16 U.S.C. §§ 1531-1543.

³⁴ 16 U.S.C. § 1533. Endangered and threatened species are listed by the USFWS at 50 CFR § 17, and by the NMFS at 60 CFR § 227.

³⁵ 16 U.S.C. § 1532(5). Critical habitats are listed at 50 CFR § 424.

The Department of the Interior

The Department of the Interior administers the Outer Continental Shelf Lands Act (OCSLA) which regulates the leasing, exploration and development of submerged lands beneath federal waters (beyond 3 miles) for offshore oil and gas.³⁶ Interior's OCS oil and gas leasing and development program is implemented in five phases: (1) a 5-year schedule of proposed lease sales; (2) lease sales; (3) pre-lease permits for geological and geophysical explorations; (4) post-lease exploration plans; and (5) development and production of offshore oil and gas resources. Areas in the North Atlantic, including the Georges Bank, have been deferred from the OCS leasing program until the year 2000.³⁷

The U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service, within the Department of the Interior, assists the NMFS in implementing the MMPA and the ESA. The USFWS also administers the Fish and Wildlife Coordination Act,³⁸ which requires that federal or private agencies consider fish and wildlife values when planning federal or federally-permitted projects that affect navigable waters. The USFWS, and the head of the relevant state wildlife agency, must be "consulted" to assure that fish and wildlife resources and their habitats are adequately considered in determining the impacts of federal projects, that negative impacts on wildlife are mitigated, and that fish and wildlife values receive "equal consideration." Consultation requirements are applied to such federal projects as hydroelectric projects, NPDES permits and section 404 dredge and fill permits.³⁹

U.S. Soil Conservation Service

Within the U.S. Department of Agriculture, the Soil Conservation Service (SCS), along with the Agricultural Stabilization and Conservation Service and the Cooperative Extension Service, are responsible for federal efforts to reduce soil erosion and improve water quality from agricultural activities.⁴⁰ The SCS prepares technical guides and provides financial assistance to states for establishing voluntary Soil and Water Conservation Districts (SWCDs) to assist farmers in designing and applying BMPs to reduce soil erosion, stormwater runoff, and agricultural wastes.⁴¹

³⁶ 43 U.S.C. §§ 1331-1356, 1801-1866.

³⁷ The White House, Office of the Press Secretary, *Fact Sheet: Presidential Decisions Concerning Oil and Gas Development on the outer Continental Shelf*, June 26, 1990.

³⁸ 16 U.S.C. §§ 661-666(c).

³⁹ See *Sun Enterprises, Ltd. v. Laird*, 359 F. Supp. 404 (W.D. Va. 1973); *Sierra Club v. Alexander*, 484 F. Supp. 455 (N.D.N.Y. 1980), *aff'd*, 633 F.2d 206 (1981).

⁴⁰ See Thompson, *Poison Runoff: A Guide to State and Local Control of Nonpoint Source Water Pollution*, NATURAL RESOURCES DEFENSE COUNCIL (1989).

⁴¹ See USDA, A NATIONAL PROGRAM FOR SOIL AND WATER CONSERVATION: THE 1988-97 UPDATE (undated).

State Agencies, Laws and Responsibilities

Key state agencies responsible for managing the marine and coastal resource of Casco Bay include:

- the Department of Environmental Protection;
- the Department of Marine Resources;
- the Department of Inland Fisheries and Wildlife;
- the State Planning Office;
- the Department of Economic and Community Development;
- the Department of Human Services;
- the Bureau of Public Lands;
- the Department of Parks and Recreation;
- the Maine Soil and Water Conservation Commission; and
- the Board of Pesticide Control.

1. The Department of Environmental Protection

The Department of Environmental Protection (DEP) is the primary environmental agency in Maine. The Department acts through the Board of Environmental Protection (BEP) which consists of 10 members appointed by the Governor for 4 year terms. The DEP has over 300 employees and is organized into 4 separate Bureaus: Air Quality; Land Quality; Hazardous Materials and Solid Waste; and Water Quality. The DEP implements the following laws:

The Mandatory Shoreland Zoning Act

The DEP reviews and approves all municipal shoreland zoning ordinances under the Mandatory Shoreland Zoning Act.⁴² The Act requires each municipality to adopt zoning ordinances that meet minimum state standards within "shoreland areas." Shoreland areas include areas within 250 feet of all coastal waters, wetlands, rivers, great ponds, and freshwater wetlands exceeding 10 acres, and within 75 feet of all streams. Shoreland zoning ordinances may be imposed upon local governments that fail to satisfy minimum state standards. These standards require municipalities to create 5 zoning districts and specify permitted uses within such districts; provide minimum lot size and shoreline frontage requirements within shoreland areas; provide development setbacks from waterbodies and wetlands; and restrict timber harvesting activities.⁴³

The Site Location of Development Act

The DEP reviews development permits for all structures exceeding 60,000 feet in ground area, development exceeding located wholly or partially in the shoreland zone containing 10 or more residential units, the division of 20 acres or more into 5 or more lots, and mining and hazardous activities under the Site Location of Development Act.⁴⁴ The Site Law contains provisions to prevent sedimentation and soil erosion, protect habitats, preserve open space and provide public access to the

⁴² 38 MRSA §§ 435-447; DEP Regs Ch. 1000.

⁴³ DEP Regs Ch. 1000.

⁴⁴ 38 MRSA §§ 481-490; DEP Regs Chs. 372-376.

shore. Local authority to issue Site Law permits may be delegated to municipalities with planning boards, comprehensive plans, and subdivision and site plan regulations that meet DEP standards.

The Natural Resources Protection Act

Under the NRPA, the DEP issues permits for construction, dredging, filling, bulldozing, removing or displacing materials within or adjacent to coastal wetlands, freshwater wetlands exceeding 10 acres, and within all sand dune systems, rivers, streams and significant wildlife habitats mapped by the Department of Inland Fisheries and Wildlife.⁴⁵ The NRPA protects coastal and large-scale freshwater wetlands, contains substantial habitat protection and mitigation provisions, prohibits excessive soil erosion, and prevents construction on sand dune systems and in areas that may increase the risks of flooding.

The Protection and Improvement of Waters Law

The DEP issues waste discharge permits and establishes effluent limitations for specific point sources of pollution; regulates and funds the construction of sewage treatment facilities; establishes a water classification system for all inland and marine waters; regulates overboard discharges; implements the Maine Clean Lakes Program; and monitors groundwater, marine and estuarine water quality and resources.⁴⁶

Solid Waste Disposal

The DEP licenses and regulates all facilities for handling solid wastes, septage or sewage sludge, including landfills, incinerators, salvage yards, composting operations and transfer stations under the Site Location of Development Act.⁴⁷ The disposal of solid wastes are responsibility of local governments under the Waste Management Act.⁴⁸ The DEP assesses municipal facilities that may be contaminating groundwater and encourages the utilization of sewage sludge and residual wastes. The Department shares its authority over solid wastes with the Maine Waste Management Agency which selects sites for state facilities, establishes a state recycling and management plan, and establishes a system for collecting hazardous household wastes.

Hazardous Wastes

The DEP licenses and regulates hazardous waste facilities, waste oil storage facilities,⁴⁹ and underground storage tanks.⁵⁰

⁴⁵ 38 MRSA § 480 A-S; DEP Regs Chs. 310, 343-345, 355.

⁴⁶ 38 MRSA §§ 361-434, 464-470; DEP Regs Chs. 514-596.

⁴⁷ 38 MRSA § 1310-N.

⁴⁸ 38 MRSA §§ 1301-1310B; DEP Regs Chs 420 and 567.

⁴⁹ Hazardous Matter Control, 38 MRSA §§ 1317-1319, 1361-1371, 1401-1403; DEP Regs Chs. 800-860.

⁵⁰ 38 MRSA §§ 561-570.

Oil Spill Prevention and Cleanup

The Department licenses oil terminal facilities and vessels used to transport oil, reviews terminal oil spill contingency plans, responds to and cleans up oil spills and hazardous wastes, and prepares the state marine oil spill contingency plan.⁵¹ The state contingency plan must address a worst-case spill scenario for the Port of Portland (30 million gallons) and must designate a state oil spill coordinator; define the roles of other responsible state and federal agencies; prepare an inventory of equipment and personnel available; approve criteria for the use of dispersants, bioremediation, and in situ burning; identify sensitive areas, resources, and wildlife rehabilitation resources and strategies to protect them; and identify disposal facilities.⁵²

Nonpoint Source Pollution

The DEP prepared Maine's Nonpoint Source Assessment Report and State NPS Management Plan under Section 319 of the Clean Water Act. The Assessment Report identifies impaired and threatened waters and the nature and extent of water quality problems caused by NPS pollution.⁵³ The Management Plan provides an overview of State NPS control programs and establishes a State Clean Water Strategy to address problems in targeted bodies of water worthy of special attention.⁵⁴ The DEP also reviews and approves local applications under the Lake and Watershed District Act to establish watershed districts to manage and conserve land and water resources;⁵⁵ administers Maine's Clean Lakes Program under section 314 of the Clean Water Act under which volunteer water quality monitoring, phosphorous reduction, and lake restoration projects are implemented;⁵⁶ and administers the Maine Nonpoint Source Pollution Program whereby state agencies are directed to prepare BMP guidelines for agriculture, forestry, transportation and development.⁵⁷

2. The Department of Marine Resources

The Department of Marine Resources (DMR) implements the following State laws:

⁵¹ Oil Discharge Prevention and Pollution Control, 38 MRSA §§ 541-560; DEP Regs Chs. 600-680.

⁵² 38 MRSA § 546-A-C.

⁵³ DEP Bureau of Water Quality Control, *State of Maine Nonpoint Source Pollution Assessment Report* (1989).

⁵⁴ DEP Bureau of Water Quality Control, *State of Maine Nonpoint Source Pollution Management Plan* (November 1989).

⁵⁵ 38 MRSA §§ 2001-2022.

⁵⁶ 33 U.S.C. § 1324.

⁵⁷ 38 MRSA § 410-H-J.

The Aquaculture Leasing Act

The DMR leases coastal waters and submerged lands for finfish and shellfish aquaculture use under the Maine Aquaculture Leasing Act.⁵⁸ Prior to issuing an aquaculture lease the Department must conduct a site inspection to determine potential environmental impacts and use conflicts, and hold a public adjudicatory hearing. After issuing a lease the Department monitors benthic and water quality impacts.

Shellfish Harvesting

The DMR may turn over the licensing of shellfish harvesting activities to municipalities that adopt shellfish conservation programs.⁵⁹ Where local shellfish programs do not exist, DMR licenses are required for commercial shellfishing for clams, quahogs, oysters, scallops, and mussels (limited to Maine residents only) as well as commercial fishing, lobsters, crabs, seaweed harvesting, and selling wholesale seafood.

The Introduction of Live Marine Organisms

Prior to introducing any live marine organisms into Maine waters, a permit from the DMR is required to ensure that indigenous marine life and its environment will not be endangered.⁶⁰ The DMR may embargo and condemn any unsafe, unhealthy or deleterious marine organism or product, and has adopted regulations to prevent the introduction of bacteria, fungus, virus and other infectious diseases and parasites into Maine waters.⁶¹

Clamflat Closures

The DMR is authorized to close coastal waters and the intertidal zone for shellfishing and clamming where it is determined that marine species are or may become contaminated or polluted.⁶²

Enforcement

Marine patrol officers within the DMR are responsible for enforcing all marine resource laws, as well as other laws of the State. They may search any watercraft, vehicle and container for marine organisms where there is probable cause to believe laws have been broken, and conduct search and rescue operations.⁶³

⁵⁸ 12 MRSA §§ 6071-6079; DMR Regs Chs 2 and 24.

⁵⁹ 12 MRSA §§ 6671-6674; DMR Regs Ch 7.

⁶⁰ 12 MRSA § 6071.

⁶¹ DMR Regs Ch. 24.

⁶² 12 MRSA § 6172; DMR Regs Ch. 23.

⁶³ 12 MRSA § 6025.

3. The Department of Inland Fisheries and Wildlife

The Department of Inland Fisheries and Wildlife (DIFW) administers the following laws:

The Maine Endangered Species Act

The Department designates, enforces and takes actions to protect endangered and threatened species and their habitats under Maine's Endangered Species Law.⁶⁴ State and local government agencies are prohibited from engaging in or permitting activities that significantly alter endangered species habitat identified by DIFW.

Fish and Shellfish Inspections

DIFW is authorized to assist the DMR in certifying that the introduction of finfish or eggs imported for introduction into Maine marine waters will not endanger the indigenous marine life or its environment.⁶⁵ DIFW has drafted Fish Health Guidelines that require the owner of facilities supplying the source of such fish or eggs to provide fish health inspection reports, inspect for certain pathogens, and prohibit importations from certain regions.⁶⁶

Wetlands and Critical Habitat Designations

DIFW map and rate the value of fish and wildlife habitats including inland and coastal wetlands, deer wintering areas, seabird and shorebird nesting areas, eagle, osprey least turn and piping plover nesting sites, and seal haulout areas. The Department is authorized to map "significant wildlife habitats" protected by under the Natural Resources Protection Act, but has not done so within the Casco Bay Estuary.

Enforcement

DIFW also enforces the State's hunting, fishing and wildlife laws through the appointment of game wardens, and manages state wildlife sanctuaries, including the Back Cove Sanctuary in Casco Bay.⁶⁷

4. The State Planning Office

The Maine State Planning Office (SPO) administers a number of programs that directly affect the marine and coastal environment of Casco Bay:

⁶⁴ 12 MRSA §§ 7751-7758; DIFW Regs Ch. 8.

⁶⁵ DMR Regs Ch. 24.15(D).

⁶⁶ DIFW, *Fish Health Guidelines for Importation of Live Salmonid Fish, Gametes and Fertilized Eggs* (undated).

⁶⁷ 12 MRSA § 7651.

The Maine Coastal Program and Coastal Policies

The MCP administers funds received by the State under the federal Coastal Zone Management Act and coordinates the review of federal and federally-permitted activities authorized under the consistency provisions of the CZMA. The MCP also coordinates Coastweek/Cleanup activities and the Shore Stewards Program, and provides technical assistance to other state and local agencies working on land use planning and comprehensive plans, shoreline access studies, waterfront parks and boating facilities, port management plans and improvements, aquaculture and other coastal issues.

The MCP also coordinates Maine's Coastal Policies which were enacted in 1986 to ensure the sound use and management of Maine's coastal resources.⁶⁸ It has been hindered in its duties by the lack of any State regulations implementing these policies. Nevertheless, the law requires all state, local and federal agencies to conduct activities that affect the coastal area consistent with 9 coastal policies addressing: port and harbor development; marine resource management; shoreline management and access; hazard area development; state and local cooperative management; scenic and natural areas protection; recreation and tourism; and air and water quality.

The Land for Maine's Future Program

The Land for Maine's Future Law established a \$35 million bond program (which is nearly depleted) to acquire land for recreational and conservation purposes. It is administered by a board of public and private members appointed by the Governor, who are charged with acquiring land with high recreational and scenic values, undeveloped shorelands, wetlands, habitats for endangered or threatened plant and animal species and lands that provide public access.⁶⁹

The Critical Area and Endangered Plants Program

The Critical Areas Advisory Board within the SPO prepares a Register of Critical Areas and Heritage Coastal Areas containing sites with significant natural, scenic, historical or scientific value worthy of preservation. The program is voluntary and relies on the property owner's consent, voluntary conservation agreements, and state acquisition programs. The Board also prepares an official list of native endangered and threatened plants for informational purposes.

5. The Department of Economic and Community Development

The Maine Department of Economic and Community Development (DECD) administers the State's Growth Management Law, the Comprehensive Planning and Land Use Regulation Act.⁷⁰ The Act required local comprehensive plans to meet ten growth management goals established and be consistent with the State's Coastal Management Policies. However, in December, 1991, the Legislature eliminated the Office of Comprehensive Planning within DECD, which reviewed local plans, and the requirement that all municipalities prepare comprehensive plans and implementing ordinances. In 1992, the Legislature again revised the law to require towns with land use and zoning ordinances to have comprehensive plans that meet state standards by the year 2003; towns that received planning and

⁶⁸ 38 MRSA §§ 1801-1803.

⁶⁹ 5 MRSA § 6200; 1990 Strategy and Guidelines for Acquisition.

⁷⁰ 30-A MRSA §§ 4311-4344; DECD Regs Chs. 200-202.

implementation grants must have plans by the year 1998. However, State review and certification of comprehensive plans was not restored.

6. Department of Human Services

The Department of Human Services promulgates the State Plumbing Code, which establishes minimum standards for subsurface sewage disposal systems, and ensures the proper administration of plumbing and subsurface waste water disposal rules by municipalities.⁷¹ The Department certifies local plumbing inspectors who inspect septic systems, ensure compliance with state rules and municipal ordinances, investigate complaints and take appropriate enforcement actions. The Department also regulates and monitors community and non-community surface and groundwater supplies, nonpoint source pollution watershed protection planning, and the implementation of the State's wellhead protection program.

7. The Bureau of Public Lands

The Bureau of Public Lands (BPL), within the Department of Conservation, works with the Maine Geological Survey in administering the State's submerged lands leasing program.⁷² The BPL leases state-owned submerged and intertidal lands for dredging, filling, sand and gravel mining and the erection of permanent structures such as bridges, wharves and marinas. The Maine Geological Survey issues permits for offshore oil and gas exploration and development, should such resources be discovered.⁷³

8. The Bureau of Parks and Recreation

The Bureau of Parks and Recreation, within the Department of Conservation, acquires, operates and maintains State Parks, State Preserves and boat launching facilities. The Bureau operates 52 boat launch sites in marine waters throughout the state, 14 coastal parks, and 10 coastal Historic Sites. Within Casco Bay, these facilities include Crescent Beach, Two Lights and Wolf's Neck Woods State Parks, Eagle Island, Fort Preble and Fort Williams State Historic Sites, and boat launching facilities in Brunswick (3), Portland (1) and South Portland (1).

9. The Soil and Water Conservation Commission

The Soil and Water Conservation Commission (SWCC), within the Maine Department of Agriculture, assists Maine's 16 Soil and Water Conservation Districts in preparing and implementing local plans to encourage the optimal use of agricultural resources, conserve soil and water resources, prevent soil erosion and flooding, preserve natural resources and wildlife, maintain the navigability of rivers and harbors, protect public lands, and conduct soils surveys and research.⁷⁴ The Commission consists of 5 state agency heads who serve as voting members, and 6 ex-officio members representing local Soil and Water Conservation Districts. The Commission has the authority to form Districts,

⁷¹ 22 MRSA § 42; 30-A MRSA §§ 4201-4223; DHS Regs Ch. 241.

⁷² 12 MRSA §§ 558-573; BPL Regs Ch. 3.

⁷³ 12 MRSA §§ 541-550.

⁷⁴ 12 MRSA §§ 1-212.

appoint 2 of the 5 District supervisors, and formulate policies for the Districts. Any 25 occupiers of land may petition the Commission to form regional Districts and hold referendums.

The SWCC administered the Maine Challenge Grant Program to provide funds to local Soil and Water Conservation Districts for projects to address NPS pollution such as reviewing urban developments, conducting workshops for municipal planning and code enforcement officers, developing a stormwater management, erosion control and shoreline protection handbook, and streambank and lake erosion control demonstration projects. The Program funded over 100 projects and generated over \$1.5 million in state and local matching funds before it was discontinued in 1990 due to budgetary considerations. The loss of the Challenge Grant Program is considered a major setback for NPS pollution control in the Casco Bay Estuary and throughout the State.⁷⁵

10. The Board of Pesticide Control

The Board of Pesticide Control within the Department of Agriculture registers all pesticide products sold and used in Maine, examines and licenses persons involved in the commercial application of pesticides, promulgates regulations regarding pesticide use, issues permits for the application of certain pesticides, investigates the use of pest control chemicals and prosecutes violations of the Pesticide Control Act of 1975.⁷⁶ The Board consists of 7 members appointed by the Governor and is served by a staff of 8 professionals.

Local and Regional Agencies

Key local and regional agencies in Casco Bay include:

- Municipal Planning Boards and Town Councils;
- Municipal Code Enforcement Officers;
- The Cumberland County Soil and Water Conservation District;
- The Resources Conservation and Development District; and
- The Greater Portland Council of Governments.

1. Municipal Planning Boards and Town Councils

Municipal Planning Boards and Town Councils are involved in a number of important decisions that affect the marine and coastal environment of Casco Bay.

Shoreland Zoning

Municipal Planning Boards and Town Councils implement the State's Mandatory Shoreland Zoning Act. Local governments must zone areas within their shoreland district for resource protection, limited residential, limited commercial, stream protection, general development, and commercial fisheries/maritime activities (optional) (or functionally equivalent districts), and must implement state mandated minimum standards for development within the local shoreland zone.

⁷⁵ Metcalf & Eddy, Review of Water Quality Planning Programs Relative to Casco Bay (1992) at 2-10.

⁷⁶ 7 MRSA §§ 601-625.

Comprehensive Plans

Town councils and planning boards may prepare comprehensive plans under the State's Growth Management Act.⁷⁷ The 1991 amendments to the Act eliminate mandatory requirements for adopting comprehensive plans, state funding provisions and state review of comprehensive plans. Nevertheless, municipalities in Casco Bay have and will continue to implement comprehensive plans. In such jurisdictions, zoning and other local ordinances must be in conformance with comprehensive plan policies.

Subdivision Ordinances

Town councils and planning boards must regulate small-scale subdivisions pursuant to the Maine Subdivision Law.⁷⁸ A number of municipalities in Cumberland County adjoining Casco Bay have adopted local regulations that exceed state requirements for evaluating the impacts of subdivisions, and providing for specific standards to assure that subdivisions are adequately designed and environmentally sound. In smaller towns, these regulations may be the only significant review mechanism for determining and mitigating the environmental impacts of new development.⁷⁹

Wetlands Ordinances

Town Councils and planning boards may also adopt local wetland protection ordinances that exceed state review standards under the NRPA, and supplement the review of the Corps under Section 404 of the Clean Water Act. Several communities in the Casco Bay watershed have adopted such ordinances.

2. Municipal Code Enforcement Officers and Local Plumbing Inspectors

Development controls imposed at the local level to prevent water pollution, such as construction setbacks, erosion control devices and septic requirements, are of little use unless they are properly enforced. Municipal Code Enforcement Officers (CEOs) and Local Plumbing Inspectors (LPIs) are key local officials responsible for enforcing the following laws:

- local shoreland zoning ordinances;
- comprehensive plans;
- subdivision regulations;
- wetland protection ordinances;
- building codes;
- septic and internal plumbing codes; and
- conditions imposed on local development permits by local town councils, planning boards or zoning boards of appeal.

⁷⁷ 30-A MRSA §§ 4311-4344; DECD Regs Chs. 200-202.

⁷⁸ 30-A MRSA §§ 4401-4406.

⁷⁹ The Greater Portland Council of Governments, *The Growth Management Handbook: A Citizen's Guide to Community Planning* (1990) at 10.

CEOs and LPIs must be trained and certified pursuant to state law, may enter property to inspect for compliance, may issue a summons where violations are detected, and may represent the municipality in District Court to prosecute violators.⁸⁰ Penalties for violations of local ordinances vary between \$100 - \$2500, and violators may be ordered to correct or mitigate the violation. The enforcement capabilities of CEOs and LPIs can be substantially strengthened with active citizen participation and monitoring.

3. The Cumberland County Soil and Water Conservation District

The Cumberland County Soil and Water Conservation District was formed in 1946 to prepare and implement local plans to help farmers and land owners conserve soil and water resources, protect water quality, prevent soil erosion and flooding, preserve natural resources and wildlife, maintain the navigability of rivers and harbors, protect public lands, and conduct soils surveys and research.⁸¹ The District employs a full time district engineer, soils scientist and office manager. It reviews development proposals at the request of local and state agencies regarding the implementation of erosion and sedimentation control plans, soils suitability for septic systems, floodplain and stormwater management, and the protection of prime agricultural land. It also undertakes specific projects funded through grants such as wetland restorations, manure sampling, conservation tillage, shoreline erosion controls, riverbank stabilization, and others.⁸²

4. The Resources Conservation and Development District

Resource Conservation and Development (RC&D) areas are administered by the U.S. Department of Agriculture. The Threshold to Maine area was established in 1970 to cover York, Cumberland and Oxford counties, encompassing the Casco Bay region. RC&D Areas councils are selected by the Soil and Water Conservation District, County Commissioners and Regional Planning Commissions and have formed committees to deal with NPS pollution from forestry, agricultural, and land use activities. These committees prepare town demonstration projects and provide technical assistance to promote wise forestry practices and solid waste disposal.⁸³

5. The Greater Portland Council of Governments

Regional Planning Councils provide assistance to municipalities in preparing comprehensive plans, zoning ordinances, planning and improvement studies and coordinated regional planning.⁸⁴ The Greater Portland Council of Governments (GPCOG) serves as the regional planning agency in the Casco Bay Region. It provides technical assistance to municipalities in drafting comprehensive plans

⁸⁰ 30-A MRSA §§ 4451-4452.

⁸¹ 12 MRSA §§ 1-212.

⁸² DEP Bureau of Water Quality Control, *State of Maine Nonpoint Source Pollution Assessment Report* (1989) at 135.

⁸³ DEP Bureau of Water Quality Control, *State of Maine Nonpoint Source Pollution Assessment Report* (1989) at 176-177.

⁸⁴ See The Greater Portland Council of Governments, *The Growth Management Handbook: A Citizen's Guide to Community Planning* (1990) at 36.

and land use ordinances, training CEOs and planning boards, analyzing data, preparing maps, reviewing and commenting on local plans, and developing regional goals and policies.

APPENDIX B:

Interviews and Questions

APPENDIX B

Interviews and Questions

Persons Interviewed (February-April 1992)

Jerre Bryant, Jeffrey Jordan, Charles Tex Haeuser, City of South Portland
Todd Burrowes, The Maine Audubon Society
Philip Conkling, The Island Institute
Thomas Dobbins, Getty Oil Company
Stewart Fefer, U.S. Fish and Wildlife Service
John Ferland, Clean Casco Bay, Inc.
Alex Jaegerman, City of Portland
John Marsh, Maine State Legislature
P.D. Merrill, Merrill Industries
James Mitchell, Maine State Legislature
Francine Rudoff and John Delvecchio, Maine Department of Economic and Community
Development
Richard Seeley, Greater Portland Council of Governments
Daniel Sosland, The Conservation Law Foundation
John Sowles, Maine Department of Environmental Protection
Phineas Sprague Jr., Portland Yacht Services

Interview Questions

1. To what extent have you been involved in the management and regulation of Casco Bay?
2. How well do current laws and programs:
 - provide fairness to those regulated?
 - coordinate government reviews/paperwork?
 - accommodate public participation?
3. Are there significant gaps or inconsistencies in regulations or programs protecting important Bay resources?
4. Are government management practices effective in achieving program goals and protecting the marine resources and water quality of the Bay?
5. Are government programs adequately staffed and provided sufficient resources to carry out objectives?
6. What recommendations do you have for improving the current regulatory and management system for Casco Bay?
7. What are the key resource issues affecting Casco Bay?

APPENDIX C:
References for Chapter Three

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References for Chapter Three

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