



**DRAFT**  
**2005**  
*Casco Bay Plan*  
**Update**

**November 1, 2005**

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## I. Introduction

### The Need

In the Fall of 2004, the Casco Bay Estuary Partnership (CBEP) embarked on a process to review and update the core of the 1996 *Casco Bay Plan (Plan)*, the set of 33 recommended action items in 5 topic areas which guide the CBEP's work. Nine years of implementation of the original *Plan* have resulted in a remarkable amount of progress toward restoration and protection of the bay. However, new issues and threats to the bay, such as marine invasive species, have emerged since the original *Plan* development. In addition, new science, technologies, programs, political climates, regulatory frameworks and partnerships now exist. CBEP's activities have continually evolved within the existing *Plan* framework of its five priorities and goals to try to meet these changing needs and resources but the action items in the *Plan* have not been updated to reflect this evolution. CBEP decided that it was time to bring the *Plan* up-to-date and consider new opportunities and needs.

### Background

The 1996 *Plan* was developed using a local stakeholder process in accordance with the model used around the country as the foundation for the U.S. Environmental Protection Agency (EPA) National Estuary Program (NEP). A detailed description of this planning process and its use at the twenty-eight NEP sites nationwide can be found in the recently published EPA document titled "Community-Based Watershed Management: Lessons from the National Estuary Program" which can be downloaded at <http://www.epa.gov/owow/estuaries/neprimer/handbook.htm>.

The Casco Bay Estuary Project (now, Casco Bay Estuary Partnership, CBEP), one of the twenty-eight NEPs, was established in 1990 with the EPA designation of Casco Bay as an "estuary of national significance" in response to a nomination by the Maine Department of Environmental Protection. This initiated the planning process to develop a Comprehensive Conservation and Management Plan (CCMP) for Casco Bay, the *Casco Bay Plan*. The *Plan* development process was based on a foundation of scientific research and spanned over five years, involving hundreds of stakeholders including citizens, government representatives, businesspeople, technical experts, non-profit organizations and others. Organizations providing letters of support and endorsement for the 1996 *Plan* include six federal agencies, nine state agencies, six regional non-profit organizations, and all twelve municipalities abutting the bay. For a detailed description of the development of the *Plan*, including the steps and individuals involved, please see Chapter eleven in the 1996 *Plan* document.

### Casco Bay Plan Structure

The 1996 *Plan* includes an overview of the state of the bay (Chapter one) as well as five more detailed chapters on the state of the bay relative to each of the five priority topic areas of stormwater, clam flats and swimming areas, habitat protection, toxic pollution, and stewardship (Chapters two through six, respectively). Chapter seven of the *Plan* detailed the thirty-three action items to be taken to address issues in each of the five

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priority areas. The action items fall into four types of activity – Public Education (PE), Technical Assistance (TA), Regulatory/Enforcement (RE), and Planning and Assessment (PA). The action items are organized by the type of action to be taken (e.g. PA#1, PA#2, etc.) rather than by the priority topic they address. Chapter eight provides an overview of the strategy for monitoring progress in the bay. Chapter nine outlines the strategy for implementation and financing for the first five years (1996-2001) of *Plan* implementation. Chapter ten discusses the coordination of this federally-funded *Plan* with other federal programs and Chapter eleven outlines the process used to develop the *Plan*.

This “2005 *Casco Bay Plan Update*” (2005 Update) document is intended to replace Chapter seven of the 1996 *Plan*, the detailed descriptions of actions to be taken in each of the five priority topic areas. As discussed below, the action items in the 2005 Update are organized by priority topic area (e.g. Stormwater #1, Stormwater #2) rather than by the type of action to be taken.

The 2005 Update is a companion to several related documents:

- 1) The “State of the Bay 2005” which provides an overview of the current state of the bay to supplement Chapters one through six of the 1996 *Plan*;
- 2) The “2004 Casco Bay Monitoring Plan” which is an updated detailed monitoring plan for Casco Bay to supplement Chapter eight of the 1996 *Plan*; and
- 3) CBEP’s annual workplans which outline the yearly priorities for implementation and budget in place of Chapter nine.

### **Guiding Principles and Scope of Work**

A strongly held feeling of CBEP and a guiding view for this 2005 Update was the desire to honor the hard work and broad stakeholder input involved in the original development of the *Plan* between 1990 and 1996. In addition, because CBEP and partner resources to implement the *Plan* are limited, a focus was placed on ensuring that the action items in the *Plan* are realistically defined and complementary to existing efforts and regulatory frameworks. After nearly ten years of implementation, CBEP recognizes that some of the action items in the *Plan* require ongoing long-term effort and may never be fully ‘completed’, yet these actions are important to retain because they establish a direction for our work. With these ideas in mind, the following guiding principles and scope of work for the 2005 Update were established:

#### *Guiding Principles:*

- ❖ Honor the past (i.e., the original *Plan* development process); and
- ❖ Balance need and vision with achievability and practicality.

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## *2005 Plan Update Scope:*

The scope of work was prioritized into three major categories, to be addressed in sequence:

**Primary:** The primary scope of work for the 2005 Update was to review each of the thirty-three action items in the *Plan* to determine whether they should be 1) kept as is with work to continue, 2) dropped from the *Plan*, or 3) revised to reflect current needs and activities. Action items were dropped from the *Plan* if they met one of the following criteria:

- Fully completed;
- Institutionalized through the ongoing activities of another entity;
- Combined with another action item for greater effect; or
- No longer relevant, effective, or feasible.

**Secondary:** The secondary scope of work was to explore the need for new action items within the existing five priority topic areas of the *Plan* (stormwater, clam flats and swimming areas, habitat protection, toxic pollution, and stewardship). In addition, the need for additional priority topic areas for action beyond these five was explored based on new threats to the bay.

**Tertiary:** The tertiary scope of work was to identify and describe goals, objectives and recommended actions for additional priority topic areas (if any) and to re-assess the prioritization of the priority topic areas (currently stormwater and habitat are considered higher priority amongst the five areas).

The items deemed to be outside the scope of the 2005 Update were:

- The goals and objectives outlined in each of the five priority action areas;
- The organizational structure and operations of the Casco Bay Estuary Partnership; and
- The “Casco Bay Monitoring Program” document which was reviewed and updated by a technical advisory committee in August, 2004.

## **The Process**

CBEP hired an independent contractor, Jeff Edelstein, to facilitate the 2005 Update process. The majority of Jeff’s time was funded directly by U.S. Environmental Protection Agency (EPA) headquarters through the National Estuary Program in the Ocean and Coastal Protection division of the Office of Water. CBEP provided the balance of funding for his time through its EPA grant.

The CBEP staff and nine-member Executive Committee served as the Steering Committee for the 2005 Update process. The twenty-three member CBEP Board of Directors outlined the scope and guidance for this process and conducted the initial review of *Plan* action items to identify those to be dropped, modified, or kept. The CBEP Board includes members from state and federal agencies, regional quasi-

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governmental organizations, non-profit environmental organizations, municipalities, business and citizens.

*Plan* action items needing to be modified were carefully reviewed and discussed by sub-groups of individuals familiar with the most relevant topic area (stormwater, clam flats and swimming areas, habitat, toxic pollution, or stewardship) and by CBEP's relevant Committees (Stormwater, Habitat Restoration, Clam Team) for detailed input on the substantive changes needed. Based on this review, volunteers from each group drafted proposed changes to the action and one-page descriptions for each action item including the need, action to be taken, and partners involved. These draft one-page descriptions were reviewed by the topic sub-groups and then presented to the full CBEP Board for feedback.

This draft 2005 *Plan* Update resulted from this process and will be circulated for public review in late Fall, 2005. Outreach efforts to the public will include:

- Distribution of the draft 2005 Update to all attendees of the State of the Bay 2005 conference to be held on November 3, 2005;
- Mailing of letters to each signatory of the 1996 *Plan* and each of the municipalities within the watershed inviting their comments and directing them to an electronic version of the 2005 Update on CBEP's website;
- Circulation of an electronic announcement of the public comment period for the 2005 Update to be circulated via email to all CBEP partners and posted on the web; and
- Distribution of a press release to all major media outlets in the Casco Bay region announcing the release of the Draft 2005 *Plan* Update.

Comments from any member of the public are strongly encouraged and will be accepted until January 13, 2006. All comments received during the public comment period will be reviewed and discussed by the CBEP staff and Board and Committees, as needed, and appropriate changes will be made to the 2005 Update.

### **The Casco Bay Plan as an Evolving Plan**

The 2005 *Plan* update process reaffirmed CBEP's belief that the *Plan* should continually evolve and be periodically revisited to address the changing needs of Casco Bay's environment and the development of new technologies and information.

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## II. Summary of Changes in the 2005 *Plan Update*

### Overview

#### ***Primary Goal – Review and assessment of all action items:***

The 1996 *Plan* contained thirty-three action items in the five priority topic areas. Of these original actions, through the 2005 Update process:

- Twelve action items have been dropped;
- Twenty actions have been modified;
- One action has been kept as is; and
- Three new action items have been added.

Of the action items that have been dropped:

- ❑ Four have been completed;
- ❑ Three have been institutionalized and are ongoing;
- ❑ Three address needs that are being met through other approaches; and
- ❑ Two have been combined into other action items.

Table 1 on p. 37 provides a ‘2005 *Plan Update* at-a-glance’ overview of these changes.

### Themes in the Modifications to the Action Items

The modifications to twenty of the action items fall into three general categories of changes:

- A shift in approach, particularly from a regulatory/enforcement approach to the promotion of public education and stakeholder involvement;
- The next phase of work needed, building on work to date; or
- Bringing the action item up to date with current programs, partners, laws, science, needs, and opportunities.

#### ***Secondary Goal – Need for new action items or new priority topic areas:***

Three new action items have been added, one each in Stormwater, Habitat Conservation, and Toxic Pollution. Although no new priority topic areas have been added, the titles of two of the original five priority topic areas have been modified to reflect the full scope of activities within that area. The ‘Habitat Protection’ topic was re-named ‘Habitat Conservation’ to reflect CBEP’s work with both land/open space protection and habitat restoration. The ‘Clam Flats and Swimming Areas’ topic was re-named ‘Shellfish and Swimming Areas’ to encompass work not only with clams but with other shellfish as well.

***Tertiary Goal - identify and describe goals, objectives and recommended actions for additional priority topic areas (if any) and re-assess the prioritization of the priority topic areas (currently stormwater and habitat):***

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Although no new priority topic areas were added to the existing five as part of this process, land use/smart growth was identified as an issue which may merit designation as a sixth topic area at some point in the future. CBEP already works indirectly on land use issues through watershed planning, stormwater management, habitat conservation, and stewardship activities and there was interest expressed during the 2005 Update process in adding additional action items in this area beyond the current activities. However, numerous entities in the Casco Bay watershed are already working on land use issues and since the addition of a new priority topic area could require a significant reallocation of CBEP resources, this proposal was tabled until more research could be done into existing efforts and any unmet needs.

The proposed approach to this research is to host a facilitated Casco Bay Land Use Summit with invitations to members of all active organizations working on land use planning and smart growth in the watershed. The goals of the Summit would be to 1) understand the scope of all partners' current and planned land use planning/smart growth activities; 2) identify whether or not unmet needs or gaps in the cumulative approach exist; and 3) outline action items that would make sense for CBEP to address. Based on the outcome of this summit, CBEP would consider land use/smart growth and the identified action items as a potential new priority topic area in the *Plan*. The process to decide whether to add this new topic and actions to the *Plan* would be similar to that used for this 2005 *Plan* Update.

Since no new priority topic areas have been added to the draft 2005 Update, the current identification of stormwater and habitat conservation as the priority topics remains.

### **Structural Changes**

The organization of action items in the 2005 Update has changed from the 1996 *Plan*. Action items in the original *Plan* were organized by the four types of actions to be taken – technical assistance (TA), public education (PE), regulatory/enforcement (RE), and planning and assessment (PA). In this 2005 Update, the action items are organized by the five priority topics they primarily address (Stormwater, Shellfish and Swimming Areas, Habitat Conservation, Toxic Pollution, and Stewardship) and re-numbered accordingly.

### **Substantive Changes**

Table 1 on page 37 provides an overview of the 2005 *Plan* Update. In addition, a brief summary of the changes made to action items within each of the five priority topics is provided below. The detailed one-page descriptions of each action item begin on page 13.

### **Stormwater**

#### ❖ ***PE#6 – Create an Educational Site Demonstrating How Vegetation Reduces Stormwater Runoff***

**Change:** Dropped because the action was completed with the construction of a vegetated riparian buffer demonstration site on Back Cove.



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- ❖ **TA#4 (Now, Stormwater Action #1) – Provide Training in Best Management Practices for Contractors, Farmers, Public Works Crews, Road Commissioners, and Municipal Boards and Staff**  
**Change:** Modified to broaden the target audience and re-named *Provide Training in Stormwater Best Management Practices to Appropriate Target Audience*.
- ❖ **TA#6 (Now, Stormwater Action #2) – Develop and Implement Action Plans for Sub-Watershed Areas**  
**Change:** Modified to focus on smaller watersheds, address watersheds with immediate impact to the bay (below Sebago Lake), target impaired and threatened waterbodies, and to focus on dialogue and stakeholders and re-named *Promote Subwatershed Management, Planning, Implementation, and Evaluation*.
- ❖ **RE#2 (Now, Stormwater Action #3) – Monitor Enforcement of Combined Sewer Overflow Reduction Plans in Portland, South Portland, and Westbrook**  
**Change:** Modified to monitor CSO abatement progress rather than enforcement and re-named *Monitor Progress of Combined Sewer Overflow Reduction Plans in Portland, South Portland, and Westbrook*.
- ❖ **RE#3 (Now, Stormwater Action #4) – Adopt Minimum Standards for Stormwater Quality in State and Municipal Regulatory Programs**  
**Change:** Modified to reflect the work of and to offer continued support to the Interlocal Stormwater Working Group and ongoing NPDES Phase II efforts; also, to modify municipal ordinances to be consistent with new state regulations. The action item has been re-named *Assist Interlocal Stormwater Working Group and Municipalities with Meeting Requirements in Maine's Stormwater Management Law and the Federally-Mandated MEPDES Stormwater Program*.
- ❖ **NEW (Stormwater Action #5) – Promote the Use of Vegetated Buffers and Other Low Impact Development (LID) Technologies to Reduce Stormwater Runoff**

### **Shellfish and Swimming Areas**

This priority topic area was re-named ‘Shellfish and Swimming Areas’ from its original ‘Clam Flats and Swimming Areas’ to encompass work not only with clams but with other shellfish as well.

- ❖ **TA#1 (Now, Shellfish/Swimming Areas Action #1 ) - Provide Technical Assistance to Help Reopen Clam Flats**  
**Change:** Modified to update the action to show progress and work to-date and the added focus on sustainable management *Provide Technical Assistance to Help Reopen and Manage Shellfish Areas*.

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- ❖ ***TA#2 (Now, Shellfish/Swimming Area Action #2)– Provide Technical Assistance to Monitor and Open Public Swimming Areas***  
**Change:** Modified to support ongoing bacterial monitoring; explore monitoring of additional areas; educate the public and municipalities about monitoring; and update to focus on the Maine Healthy Beaches Program and their work to date. The action item was re-named *Provide Technical Assistance to Monitor and Open Swimming Areas*.
- ❖ ***TA#3 (Now, Shellfish/Swimming Area Action #3)– Train Installers and Pumpers of Septic Systems***  
**Change:** Modified to improve the information supplied by septic pumpers to homeowners.
- ❖ ***RE#4 (Now, Shellfish/Swimming Area Action #4) – Comply with the Pumpout Law***  
**Change:** Modified to support compliance with the pumpout law through support for maintenance of pumpout systems and re-named *Support Compliance with the Pumpout Law*.
- ❖ ***RE#5 – Improve Local Enforcement of the Subsurface Wastewater Disposal Rules***  
**Change:** Dropped because this action was combined into other action items.
- ❖ ***RE#6 (Now, Shellfish/Swimming Area Action #5)– Require Proof of Legal Waste Disposal Upon Transfer of Property***  
**Change:** Modified to shift from requiring proof of legal waste disposal upon transfer of property to support voluntary inspections; and support delivery of existing outreach materials to homeowners upon property transfer. The action item was re-named *Support efforts to prevent septic system malfunction through voluntary inspection programs during property transfers and education of key stakeholder groups*.
- ❖ ***PA#1 (Now, Shellfish/Swimming Area Action #6) – Develop Municipal Programs to Protect Water Resources and Clam Flats from Septic System Discharges***  
**Change:** Modified to expand the City of Brunswick contractor partnership model (automatic notification of homeowners about scheduled maintenance and pumping needs) to other municipalities. The action item was re-named *Expand Cooperative Programs between Commercial Pumpers and Installers and Municipalities to Protect Shellfish Areas from Septic System Discharges*.
- ❖ ***PA#3 – Review Implementation of the National Shellfish Sanitation Program***  
**Change:** Dropped because this item has been completed.
- ❖ ***PA#9 – Research Whether State Subsurface Wastewater Disposal Rules Adequately Prevent Coastal Pollution***  
**Change:** Dropped because this item has been completed with research by a USM graduate student; Further investigation was not feasible.

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## Habitat Conservation

This priority topic area was re-named ‘Habitat Conservation’ from its original ‘Habitat Protection’ to reflect CBEP’s work with both land/open space protection and habitat restoration.

- ❖ **TA#7 (Now, Habitat Conservation Action #1 ) - Provide Technical Assistance Necessary for Habitat Protection**  
**Change:** Modified to add support for the *Beginning with Habitat* program.
- ❖ **RE#1 – Clarify the Use of the Natural Resource Protection Act for Habitat Protection**  
**Change:** Dropped because different non-regulatory approaches are being used to advance habitat protection
- ❖ **PA#4 – Research the Impact of Tax Codes on Habitat Conservation**  
**Change:** Dropped because this action item was completed through research by a USM Muskie School graduate student
- ❖ **PA#5 (Now, Habitat Conservation Action #2) - Develop a Plan to Restore Degraded Habitat in Casco Bay**  
**Change:** Modified to reflect the activities and goals of the Casco Bay Habitat Restoration Program and Committee and re-named *Develop and Implement Plans to Restore Degraded Habitat in Casco Bay*.
- ❖ **PA#8 (Now, Habitat Conservation Action #3) - Develop a Grant Program to Support Local Habitat Protection Activities**  
**Change:** Modified to reflect the ongoing CBEP funding programs for both protection (CBEP Habitat Protection Fund) and restoration activities (CBEP Habitat Restoration Fund) and re-named *Continue a Grant Program to Support Local Habitat Protection and Restoration Activities*.
- ❖ **NEW - Habitat Conservation Action #4 - Participate in Efforts to Address the Impacts of Invasive Marine Organisms in Casco Bay**

## Toxic Pollution

- ❖ **TA#5 – Establish a Reduction and Management Program for Toxic Pollutants in Casco Bay Communities and Small Businesses**  
**Change:** Dropped because this action item was combined with Stewardship #3 (Conduct a comprehensive campaign to promote sound household practices)
- ❖ **TA#8 – Conduct Pollution Prevention Audits for Businesses/Industries that Affect Casco Bay**  
**Change:** Dropped because this action item has been institutionalized with the Maine Department of Environmental Protection Pollution Prevention audits

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- ❖ ***PA#2 (Now, Toxics Action #1) Develop a Comprehensive Management Strategy for Dredged Material***  
**Change:** Modified to provide support rather than develop the management strategy; CBEP-specific activities will include reviewing existing data, updating “Alternatives for Dredge Disposal in Portland Harbor”, and developing layperson-friendly guidance material for dredgers. This action item was re-named *Support Efforts to Develop a Comprehensive Management Strategy for Dredged Material*.
- ❖ ***PA#6 (Now, Toxics Action #2)– Develop Biological/Environmental Indicators***  
**Change:** Modified to reflect the availability of recent monitoring data and the participation of additional partners, to focus specifically on biological indicators in marine waters, and re-named *Develop Biological Indicators for Marine Waters*.
- ❖ ***PA#7 (Now, Toxics Action #3) – Develop Sediment Quality Criteria and Sediment Quality Discharge Limits that Apply to Casco Bay***  
**Change:** Modified to shift from the development of standards to the development of non-regulatory thresholds and re-named *Develop Sediment Quality Thresholds for Assessment of Contaminated Sediments*.
- ❖ ***PA#10 – Research the Contribution of Deposition of Pollutants from the Air***  
**Change:** Dropped because this action item has been completed with the establishment of an air monitoring site in Freeport by CBEP and subsequent analysis of data collected there. In addition, this action has been institutionalized through its adoption as part of the Maine DEP air monitoring program statewide.
- ❖ ***NEW – Toxics Action #4 - Research the Feasibility of and Best Approach to Monitoring New Environmental Analytes***

### **Stewardship**

- ❖ ***PE#1 (Now, Stewardship Action #1) – Fund High School Students’ Research***  
**Change:** Modified to expand the audience from high school to K-12 and to expand the focus from funding research to supporting educational programs including CBEP’s ongoing support for the Children’s Water Festival, Envirothon, and Americorps volunteer promoting environmental education in Casco Bay watershed schools, among other things. This action item was re-named *Support K-12 Educational Activities Related to Casco Bay*.
- ❖ ***PE#2 (Now, Stewardship Action #2) – Focus Post-Secondary Educational Programs on Casco Bay***  
**Change:** Modified to acknowledge the many service learning opportunities through the region’s colleges and Universities.
- ❖ ***PE#3 (Now, Stewardship Action #3) – Conduct a Comprehensive Campaign to Promote Sound Household Practices***  
**Change:** Modified to reflect current educational activities targeted at household practices including the *Bayscaping* and *Yardscaping* programs and the “Think Blue

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Maine” and “It’s All Connected” stormwater education campaigns, among other things and re-named *Support Educational Campaigns to Promote Sound Household Practices*.

- ❖ ***PE#4 – Educate Boaters about Low-Impact Practices, Non-toxic Boat Products, and the Need to Protect Sensitive Habitats***  
**Change:** Dropped because this action was completed. CBEP worked with partners to publish and distribute several clean boating guides and brochures. CBEP also helped launch the Casco Bay Clean Boatyards & Marinas Program which was a pilot in the region and has now expanded statewide and been institutionalized as the Maine Clean Boatyards & Marinas Program.
- ❖ ***PE#5 – Develop an Environmental Habitat Kit and Guide Maps to Casco Bay for the General Public***  
**Change:** Dropped because the need is being met by other organizations.
- ❖ ***PE#7 (Now, Stewardship Action #4) – Hold “State of the Bay” Conferences***  
**Change:** Modified to indicate that conferences will be held every 2-3 years as appropriate.
- ❖ ***PE#8 – Extend the State Planning Office’s New “Marine Volunteer Program” to Casco Bay***  
**Change:** Dropped because the need to engage volunteers around Casco Bay in stewardship activities is being met through other volunteer programs.
- ❖ ***PE#9 (Now, Stewardship Action #5) – Continue Friends of Casco Bay’s Successful Volunteer Water Quality Monitoring Program***  
**Change:** No substantive change was made to this action item.

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**III. Updated Action Items**

**Stormwater Action #1 (Formerly, Technical Assistance Action Item #4)**

***Provide Training in Stormwater Best Management Practices to Appropriate Target Audiences***

**NEED:** Best management practices (BMPs) are effective techniques for reducing stormwater runoff and erosion from developed and agricultural landscapes. In addition to a number of BMP manuals available from the state, the Casco Bay Estuary Partnership and the Interlocal Stormwater Working Group have developed a *Guidelines and Standard Operating Procedures Manual* for municipal stormwater program managers and on-the-ground staff in Maine Stormwater Phase II communities. Municipal employees and others have limited training on these BMPs and need ongoing technical assistance to implement them properly. Additional assistance may be needed to update training materials and develop training activities.

**HOW:** Technical assistance and training will be provided to target audiences who conduct or review land use activities that result in erosion, stormwater runoff, and sedimentation (e.g. municipal road crews, public works crews, contractors, farmers, loggers, marinas/boatyards, and municipal staff and boards). BMP trainings will be conducted in partnership with the Maine Department of Environmental Protection's Nonpoint Source Training Center and other organizations on erosion/sedimentation, illicit discharge, pollution prevention and good housekeeping practices, and marina BMPs.

**WHEN:** Year 10 and ongoing.

**WHERE:** Casco Bay watershed municipalities.

**WHO:** Maine Department of Environmental Protection Nonpoint Source Training Center, Cumberland County Soil & Water Conservation District, Casco Bay Estuary Partnership, Maine Department of Agriculture, Maine State Planning Office, Maine Non-point Education for Municipal Officials, and Maine Department of Transportation will work directly with municipalities or indirectly through the Interlocal Stormwater Working Group and Casco Bay Stormwater Committee.

**COST:** Low - Medium

**PRIORITY ISSUES ADDRESSED:**

- √ Stormwater
- √ Clam Flats and Swimming Areas
- √ Toxics

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## Stormwater Action #2 (Formerly, Technical Assistance Action Item #6)

### ***Promote Subwatershed Management, Planning, Implementation, and Evaluation***

**NEED:** In general, people do not connect their local activities with impacts to Casco Bay. Locally developed and implemented subwatershed action plans are needed to prevent and control nonpoint source pollution. Subwatershed plans are a vital piece of the puzzle in protecting not only Casco Bay, but also smaller, local areas of importance. There is substantial documentation of the effectiveness of local action. The trend toward localization builds capacity to address sustainability by facilitating action that is tailored to the unique social, ecological, and economic conditions of each place. This will enable partnerships to be forged that respond to local needs in addressing the economic, social, and environmental challenges of sustainable development.

**HOW:** Subwatershed action plans will be developed, with threatened or impaired waterbodies such as those listed on the State's Section 303d Priority Waterbodies list, as a priority. Subwatershed plans will be tailored to tributary needs and local issues, and provide detailed guidance on site-specific water resource planning issues, while addressing broader goals and actions of the Casco Bay Plan. (Examples include: *The New Meadows River Watershed Management Plan* and *A Plan for the Future of the Presumpscot River*.) The subwatershed plans will be readable, concise documents that present methodology, assumptions, findings and recommendations, and identifies parties responsible for implementation. Subwatershed plans are intended for wide readership and used by resource managers, elected officials, landowners and developers.

**WHEN:** Year 10 and ongoing.

**WHERE:** All subwatersheds, with special consideration given to those watersheds with immediate impact on Casco Bay.

**WHO:** Local community representatives, in partnership with Maine Department of Environmental Protection, Maine State Planning Office, Cumberland County Soil and Water Conservation District, Casco Bay Estuary Partnership, municipalities, non-governmental organizations, and other stakeholders. It is important to engage all stakeholders in the process of preparing the subwatershed plans, including environmental groups, business and industry, government agencies, farmers and individual citizens. Finding effective ways to facilitate dialogue and to forge partnerships among these diverse groups is the most important step to sustainable management of the subwatershed, since ultimately, the future of the resources rests in the hands of the people who live and work within the watershed.

**COST:** Medium

**PRIORITY ISSUES ADDRESSED:**

- √ Stormwater
- √ Clam Flats and Swimming Areas
- √ Habitat Conservation
- √ Toxics
- √ Stewardship

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**Stormwater Action #3** (Formerly, Regulatory/Enforcement Action Item #2)

***Monitor Progress of Combined Sewer Overflow Reduction Plans  
in Portland, South Portland, and Westbrook***

**NEED:** Portland, South Portland, Westbrook, and the State of Maine all have combined sewer overflows that reduce water quality in the bay. Given that each is under a consent agreement with the U.S. Environmental Protection Agency and/or Maine Department of Environmental Protection to minimize sources of stormwater and sewage, their progress should be monitored to ensure that implementation of plans remains on schedule. In addition, progress should be communicated to the public.

**HOW:** Each municipality has prepared a Combined Sewer Overflow Reduction/Treatment Plan that outlines a schedule for implementation. Although Maine's Department of Environmental Protection and the U.S. Environmental Protection Agency will be enforcing these plans, a non-governmental group should also monitor and highlight progress in the *State of the Bay* reports or through other means.

**WHEN:** Ongoing

**WHERE:** Portland, South Portland, and Westbrook

**WHO:** Casco Bay Estuary Partnership, Friends of Casco Bay, Maine Department of Environmental Protection, U.S. Environmental Protection Agency

**COST:** Low

**PRIORITY ISSUES ADDRESSED:**

- √ Stormwater
- √ Clam Flats and Swimming Areas
- √ Habitat Conservation
- √ Toxics
- √ Stewardship



**\*\*\*DRAFT for public comment\*\*\***

**Stormwater Action #4** (Formerly, Regulatory/Enforcement Action Item #3)

***Assist Interlocal Stormwater Working Group and Municipalities with Meeting Requirements in Maine's Stormwater Management Law and the Federally-Mandated MEPDES Stormwater Program***

**NEED:** Municipalities need assistance with meeting Federal and State stormwater regulations to improve water quality in Maine. The Maine Stormwater Law and Regulations became effective in 1997 and established water quality and quantity standards based on a project's location. Until 2005, water quality standards applied only in "most at risk" and "sensitive or threatened" watersheds. Beginning in 2005, the geographic area subject to stormwater quality regulations will increase to include the entire organized portion of the State. Significant changes will also be made to the standards required for development projects. Existing municipal stormwater ordinances may conflict with the updated Stormwater Law or fall short of additional requirements. In addition, 14 municipalities in the Casco Bay watershed are subject to regulation under the Maine Pollutant Discharge Elimination System (MEPDES) Stormwater Program for their Municipal Separate Storm Sewer System (MS4) discharges. The MEPDES program requires that municipalities have a plan for meeting six required management measures.

**HOW:** Casco Bay Estuary Partnership and others will assist municipalities with meeting stormwater regulations by continuing support of the Interlocal Stormwater Working Group. The Maine Department of Environmental Protection and Maine State Planning Office will provide assistance to municipalities with review and update of ordinances, if necessary, and will make a model municipal stormwater ordinance available to municipalities following the adoption of current changes. The Interlocal Stormwater Working Group will continue a collective approach to developing and implementing plans to meet MEPDES program requirements for the MS4 communities.

**WHEN:** Years 10 and ongoing.

**WHERE:** Casco Bay watershed municipalities.

**WHO:** The Casco Bay Estuary Partnership, municipal representatives (including Interlocal Stormwater Working Group members), Cumberland County Soil & Water Conservation District, Maine Non-point Education for Municipal Officials, Maine Department of Environmental Protection, U.S. Environmental Protection Agency, and Maine State Planning Office.

**COST:** Low – High, depending on activity and cost-sharing

**PRIORITY ISSUES ADDRESSED:**

- √ Stormwater
- √ Clam Flats and Swimming Areas
- √ Habitat Conservation
- √ Toxics

**\*\*\*DRAFT for public comment\*\*\***

**Stormwater Action #5 (NEW Action)**

***Promote the Use of Vegetated Buffers and other Low Impact Development Technologies to Reduce Stormwater Runoff***

**NEED:** The objective of stormwater treatment is to compensate for hydrological and water quality changes caused by watershed development or, more specifically, impervious cover. Most communities must look to stormwater treatment to solve many different problems caused by runoff. Low Impact Development (LID) technologies such as porous pavement and green roofs can be employed to maintain groundwater recharge and purity, reduce stormwater pollutant loads, protect stream channels from eroding, prevent increased flooding and other things including education. Generally, LID technologies are engineered to capture, store, treat, or infiltrate stormwater runoff produced by new development using structural and nonstructural practices.

**HOW:** A public education campaign on LID technologies will be conducted targeting audiences who regulate, plan, develop, landscape, design, construct, and employ LID technologies. The campaign will utilize demonstration projects, mass media education and outreach techniques, and professional training opportunities during the campaign.

**WHEN:** Year 10 and ongoing.

**WHERE:** Initially, the Interlocal Storm Water Working Group communities. As funds become available, expand the program to additional Casco Bay watershed municipalities.

**WHO:** Casco Bay Estuary Partnership staff, Interlocal Storm Water Group Coordinator, Cumberland County Soils and Water Conservation District, Maine Department of Environmental Protection, Maine Non-point Education for Municipal Officials, State Planning Office, municipalities.

**COST:** Low - Medium

**PRIORITY ISSUES ADDRESSED:**   √ Stormwater  
  √ Stewardship  
  √ Toxics

# **\*\*\*DRAFT for public comment\*\*\***

## **Shellfish and Swim Area Action #1** (Formerly, *Technical Assistance Action #1*)

### ***Provide Technical Assistance to Help Reopen and Manage Shellfish Areas***

**NEED:** In 1995, shellfish harvesting was estimated to contribute between \$11.6 and \$15.7 to the regional economy. At that time, 37% of Casco Bay's clam flats were closed to harvest. The Casco Bay Estuary Partnership has helped re-open over 300 acres of clam flat resources to harvest, but, in 2005, over 10% percent remain closed. Additional work is needed to open the remaining closed shellfish areas. When provided with information on the causes of closure and the costs and benefits of reopening shellfish areas, municipalities, municipal boards, and volunteers can play a pivotal role in reopening areas closed to shellfishing.

#### **HOW:**

- Enhance communication between the Maine Department of Marine Resources, Maine Department of Environmental Protection, municipalities, and other partners on issues pertaining to shellfish resources and management;
- Continue the work of the Department of Marine Resources and summarize its work in training volunteers to conduct shoreline surveys and water quality monitoring;
- Support municipal efforts to correct pollution sources by demonstrating the value to the town of opening shellfish areas and helping to identify non-point sources of pollution;
- Conduct research to support the sustainable management of shellfish resources; and
- Work at providing a continuing funding source for these actions.

**WHEN:** Ongoing

**WHERE:** Municipalities around Casco Bay, particularly those with the largest acreage of closed shellfish areas.

**WHO:** The Maine Department of Marine Resources will conduct shoreline surveys, provide technical assistance in shellfish area management, and train volunteers to conduct shoreline surveys and water quality monitoring. Department of Marine Resources will request that municipal plumbing inspectors be actively involved in surveys and correcting sources of wastewater pollution. The Maine Department of Environmental Protection will provide information on funding for overboard discharge removal and the Small Community Grant Program. The Maine State Planning Office, Maine Department of Health and Human Services, and local soil and water conservation districts will provide training programs on septic system management and developing treatment options. The Casco Bay Estuary Partnership will facilitate communication between agencies and municipalities and research possible funding sources as well as coordinate research on sustainable management and pollution source identification. The University of Maine Cooperative Extension/Sea Grant will provide information on improving shellfish management practices. The Friends of Casco Bay will work with communities as needed to reopen shellfish areas.

**COST:** Low-Medium

**PRIORITY ISSUE ADDRESSED:** ✓ Shellfish and Swimming Areas

# \*\*\*DRAFT for public comment\*\*\*

## Shellfish and Swim Area Action #2 (Formerly, Technical Assistance Action #2)

### *Provide Technical Assistance to Monitor and Open Swimming Areas*

**NEED:** Bacterial pollution of coastal swimming areas poses a potential public health risk. Currently, two public swimming areas on the Casco Bay mainland and three swimming areas on Peaks Island are monitored for bacterial pollution. Although municipalities are responsible for issuing swimming advisories when beaches are polluted, many do not have beach management programs in place or knowledge of ambient water quality.

**HOW:** To improve municipal management of public swimming areas in Casco Bay, it is necessary to:

- Conduct ongoing bacterial monitoring at publicly accessible swimming areas;
- Explore the possibility of monitoring additional swimming areas;
- Educate the public and municipalities about the need for monitoring and the status of current monitoring efforts;
- Encourage municipalities to enter the Maine Healthy Beaches Program; and
- Eliminate pollution sources as necessary.

A coordinated technical assistance program will assist municipalities in gathering this information and establishing ongoing management programs where appropriate.

**WHEN:** Ongoing.

**WHERE:** Coastal communities with public swimming areas.

**WHO:** The Maine Coastal Program/State Planning Office, University of Maine Cooperative Extension, Maine Island Trails Association, Maine Department of Environmental Protection, Friends of Casco Bay, Maine Department of Marine Resources, Casco Bay Estuary Partnership, U.S. Environmental Protection Agency, Portland Water District, and Maine Department of Health and Human Services will provide technical assistance and laboratory analysis, with assistance from the Friends of Casco Bay.

**COST:** Low

**PRIORITY ISSUES ADDRESSED:**   √ Shellfish and Swimming Areas  
  √ Stewardship

# \*\*\*DRAFT for public comment\*\*\*

**Shellfish and Swim Area Action #3** (*Formerly, Technical Assistance Action #3*)

## ***Train Installers and Pumpers of Septic Systems***

**NEED:** Improper installation and maintenance of on-site waste disposal systems can result in septic-system failure, prompting closure of nearby shellfish beds and swimming areas. Focus groups organized by the Casco Bay Estuary Partnership identified the need for local contractors to receive training in septic-system installation.

**HOW:**

- Provide training to contractors on correct septic-system installation methods.
- Provide training to pumpers on septic-system inspection techniques.
- Improve communication from septic pumpers to homeowners on septic system care and feeding.

**WHEN:** Yearly - ongoing

**WHERE:** Casco Bay watershed.

**WHO:** The Maine Department of Health and Human Services Division of Health Engineering, the Maine Department of Environmental Protection Nonpoint Source Training Center, the Maine State Planning Office, Casco Bay Estuary Partnership and the Cumberland County Soil & Water Conservation District will continue annual training programs for the installation, inspection, and maintenance of septic systems in the Casco Bay watershed.

**COST:** Low

**PRIORITY ISSUE ADDRESSED:** ✓ Shellfish and Swimming Areas

**\*\*\*DRAFT for public comment\*\*\***

**Shellfish and Swim Area Action #4** (*Formerly, Regulatory/Enforcement Action #4*)

***Support Compliance with the Pumpout Law***

**NEED:** Maine’s Pumpout Law (MRSA Title 38, section 423B) was passed in 1989, requiring some marinas to provide pumpouts for boaters. Nearly all marinas within Casco Bay have since installed pumpout facilities. Although the Maine Department of Environmental Protection provides 75% funding for maintenance of pumpout facilities through the Clean Vessel Act, maintenance of these facilities is not always done in a timely manner. This results in periods of time when individual pumpout facilities are not available for use, which increases the likelihood of inappropriate discharges by boaters. An improved system of maintenance is needed.

**HOW:** The Casco Bay Estuary Partnership, Maine Department of Environmental Protection and Friends of Casco Bay, in partnership with trade organizations and/or other appropriate groups, will engage in dialogue with the marina operators and boaters to:

- Identify improvements needed to increase the efficacy and utilization of pumpout facilities in Casco Bay (such as the development of a shared pumpout inspection and repair worker to improve pumpout facility maintenance).
- Assess the feasibility of implementing identified improvements. Feasible improvements would be considered for inclusion as future actions in the *Casco Bay Plan*, as appropriate.

**WHEN:** Year 10

**WHERE:** Casco Bay

**WHO:** Casco Bay Estuary Partnership, Maine Department of Environmental Protection, and Friends of Casco Bay.

**COST:** Low

**PRIORITY ISSUE ADDRESSED:**   √ Shellfish and Swimming Areas  
  √ Stewardship

**\*\*\*DRAFT for public comment\*\*\***

**Shellfish and Swim Area Action #5** (*Formerly, Regulatory/Enforcement Action #6*)

***Support efforts to prevent septic system malfunction through voluntary inspection programs during property transfers and education of key stakeholder groups***

**NEED:** Many septic systems in the municipalities surrounding Casco Bay were installed before the State Plumbing Code was updated in 1974. As a result, some septic systems do not provide adequate treatment of sewage. Given their potential deleterious effect on water quality, these systems must be updated if shellfish areas and swimming areas are to be kept open or reopened. Further, all septic systems need to be properly maintained on an ongoing basis and homeowners, particularly those who have not previously owned a septic system, need to be educated about proper maintenance.

**HOW:**

- Support and monitor participation in the Maine Department of Health and Human Services Division of Health Engineering’s voluntary property transfer septic inspection program. If needed, support a property transfer disclosure requirement to increase the inspection rate;
- Promote distribution of existing fact sheets that describe the costs associated with on-site waste disposal system replacement and recommend a septic test at the time of property transfer; and
- Utilize other existing outreach materials to provide education about legal waste disposal requirements and proper maintenance to bankers, realtors, neighborhood associations, homeowners, and other key targeted audiences.

**WHEN:** Ongoing.

**WHERE:** Shoreland Zones throughout the Casco Bay watershed, particularly those that impact shellfish areas and swimming areas.

**WHO:** Casco Bay Estuary Partnership, Maine State Planning Office, Maine Department of Environmental Protection, and Maine Department of Health and Human Services.

**COST:** Low

**PRIORITY ISSUES ADDRESSED:**   √ Shellfish and Swimming Areas  
  √ Stewardship

**\*\*\*DRAFT for public comment\*\*\***

**Shellfish and Swim Area Action #6** (*Formerly, Planning and Assessment Action #1*)

***Expand Cooperative Programs between Commercial Pumpers and Installers and Municipalities to Protect Shellfish Areas from Septic System Discharges***

**NEED:** Septic system failure stemming from improper maintenance and feeding can pollute shellfish areas and swimming areas and degrade water quality. Several municipalities have identified septic system/sewer pollution issues in their comprehensive plans, but few programs exist to help municipalities regularly inspect and manage residential septic systems.

**HOW:** The Casco Bay Estuary Partnership funded a study in Brunswick to assess methods for providing regular inspection and maintenance of septic systems. Following the study, the Town of Brunswick developed a partnership with pumping contractors to automatically notify septic owners of maintenance and pumping needs. The Brunswick model for managing septic system maintenance to other municipalities will be extended to other municipalities.

**WHEN:** Ongoing.

**WHERE:** Municipalities around Casco Bay, prioritized according to immediacy of impact to shellfish areas.

**WHO:** Municipalities, with assistance provided by the Maine State Planning Office, Casco Bay Estuary Partnership and the Maine Department of Health and Human Services Division of Health Engineering.

**COST:** Low

**PRIORITY ISSUES ADDRESSED:**   √ Shellfish and Swimming Areas  
  √ Stewardship



# \*\*\*DRAFT for public comment\*\*\*

## Habitat Conservation Action #1 (Formerly, Technical Assistance Action #7)

### *Provide Technical Assistance Necessary for Habitat Protection*

**NEED:** With only a small percentage of Maine’s land protected and the pace of development increasing, local governments and non-governmental organizations need assistance in pursuing protection of habitat and information about high-value habitat in their jurisdiction.

**HOW:**

- Support the activities of the Maine Beginning with Habitat Program, a landscape approach to assessing wildlife and plant conservation needs and opportunities that provides towns with maps and accompanying information describing various habitats of statewide and national significance. Individualized presentations to towns include suggested conservation strategies to help protect valuable habitat in the midst of growth and development. Maps available to towns include undeveloped habitat blocks, public and conservation lands, wetland maps, impervious surface coverage, and U.S. Fish and Wildlife Service Gulf of Maine habitat maps.
- Encourage Casco Bay communities to undertake informed local conservation planning and implementation, including sprawl prevention and protection of riparian habitat.
- Develop a coordinated approach that encourages landowners to protect valuable habitat through voluntary conservation activities.

**WHEN:** Ongoing.

**WHERE:** Casco Bay watershed communities.

**WHO:** The Casco Bay Estuary Partnership, in conjunction with the Beginning with Habitat Program, municipalities and regional land conservation groups, U.S. Fish and Wildlife Service, U.S. National Marine Fisheries Service, Maine Department of Marine Resources, and Maine Department of Inland Fisheries and Wildlife.

**COST:** Low

**PRIORITY ISSUES ADDRESSED:**                   √ Habitat Conservation  
  √ Stewardship

**\*\*\*DRAFT for public comment\*\*\***

**Habitat Conservation Action #2** (*Formerly, Planning and Assessment Action #5*)

***Develop and Implement Plans to Restore Degraded  
Habitat in Casco Bay***

**NEED:** Ecological restoration could reverse some damage done to habitats by past development, recreational, and other activities around Casco Bay. To restore the bay's health, more information is needed on the location and nature of degraded habitats, the type and cost of restoring these areas, and possible funding sources. Further, once detailed plans are developed, there is a need to facilitate the implementation of these projects through fundraising, coordination, and outreach to local stakeholders.

**HOW:** In 2002, the Casco Bay Estuary Partnership established the Casco Bay Habitat Restoration Program, guided by a partnership that includes the Maine Coastal Program/State Planning Office, Maine Department of Environmental Protection, National Oceanographic and Atmospheric Administration, U.S. Fish and Wildlife Service Gulf of Maine Program, U.S. Environmental Protection Agency, Friends of Casco Bay, Natural Resource Conservation Service, and others. The Habitat Restoration Program provides technical assistance and seed funding to local groups seeking to plan, develop and/or implement restoration activities. Priority is given to local groups seeking to implement restoration activities described in a subwatershed management plan. In addition, the CBEP Habitat Restoration Program is developing an inventory of potential restoration sites in the watershed, starting with the lower Presumpscot River, its tributaries and estuary. The Casco Bay Habitat Restoration partners will continue to identify restoration needs, facilitate detailed planning for projects, seek funding for projects, coordinate restoration efforts, and conduct outreach to local stakeholders.

**WHEN:** Ongoing.

**WHO:** Casco Bay Habitat Restoration Program partners.

**COST:** Medium

**PRIORITY ISSUES ADDRESSED:**           √ Habitat Conservation  
  √ Stewardship

# \*\*\*DRAFT for public comment\*\*\*

## **Habitat Conservation Action #3** (*Formerly, Planning and Assessment Action #8*)

### ***Continue a Grant Program to Support Local Habitat Protection and Restoration Activities***

**NEED:** Local groups need funding and technical support to successfully protect and restore important habitat. With growing development pressure in the Casco Bay watershed, the most populated part of the state, habitat conservation activities are becoming increasingly important and available funds are in high demand.

**HOW:** The Casco Bay Estuary Partnership has established small grant programs focused on habitat protection and habitat restoration. To date, the Casco Bay Estuary Partnership Habitat Protection Fund has helped to protect over 3,000 acres of high value habitat in the Casco Bay watershed. The funds assist land trusts and municipalities with conservation easements, fee acquisition of property, appraisals, transaction costs and other services necessary for land protection. The Casco Bay Estuary Partnership Habitat Restoration Fund provides seed funding to assist with the implementation of habitat restoration activities in the watershed. The funds have been used, for example, to support restoration of terns on Outer Green Island and improvement of stream habitat and fish passage at Highland Lake dam on Mill Brook in Westbrook. CBEP will continue to administer and fund these grant programs as funding is available.

**WHEN:** Ongoing.

**WHERE:** Watershed-wide. Priority habitats for restoration include the waters and islands of the Bay, rivers, streams, freshwater wetlands, shoreline, salt marsh and riparian habitats.

**WHO:** Casco Bay Estuary Partnership Habitat Protection Committee partners, including the Casco Bay Estuary Partnership, Maine Coast Heritage Trust and the U.S. Fish and Wildlife Service, and the Casco Bay Habitat Restoration Program partnership, which includes the Casco Bay Estuary Partnership, Maine Coastal Program/State Planning Office, Maine Department of Environmental Protection, National Oceanographic and Atmospheric Administration, U.S. Fish and Wildlife Service Gulf of Maine Program, U.S. Environmental Protection Agency, Friends of Casco Bay, Natural Resource Conservation Service, and others.

**COST:** Medium - High

**PRIORITY ISSUE ADDRESSED:** √ Habitat Conservation

# \*\*\*DRAFT for public comment\*\*\*

## Habitat Conservation Action #4 (*New Action*)

### *Participate in Efforts to Address the Impacts of Invasive Marine Organisms in Casco Bay*

**NEED:** Marine “Invasive species” are marine animals and plants that are not native to Maine’s coast and which may spread into, or ‘invade’, the existing ecosystem, overtaking native species and their habitat. These organisms can prey on and outcompete native species for space and resources, altering habitats and spreading new diseases. Socioeconomic impacts also include clogging fishing gear and aquaculture pens, fouling boats, piers, and other man-made structures. Once they are established, they can impose costly control, research, and monitoring costs. Research indicates that there are already over 30 introduced marine species established in Maine waters. Potential paths of introduction include ballast water, aquaculture, bait and seafood transport, pet industries, research and education facilities, intentional introductions, and Internet trade. There is a need for leadership and coordination of marine invasive species issues in Maine.

**HOW:** Once established, invasive species are difficult, if not impossible, to control, making prevention the key to minimizing impacts. The Maine Marine Invasive Species Working Group is working to identify tools and resources that will help to address marine invasives in Maine. The Casco Bay Estuary Partnership has already played a significant role by bringing a team of scientists to marinas in Portland, South Portland and South Freeport in August, 2003 where they conducted a “rapid assessment” of biota on floating docks and piers, searching for invading organisms. In May, 2004, the Casco Bay Estuary Partnership hosted *Maine’s Marine Invasion: A Forum on the Impact of Non-native and Other Invasive Species on Maine’s Coastal Ecosystems*. Actions recommended by forum speakers included identifying which vectors are important to the region; understanding the dynamics of importation; adopting vector-specific best management practices; educational outreach; precautions to prevent release; monitoring; and the implementation of rapid response and detection systems. The Casco Bay Estuary Partnership will continue to participate in the Working Group, helping to identify ways to implement the forum recommendations.

**WHEN:** Ongoing.

**WHERE:** Casco Bay.

**WHO:** Casco Bay Estuary Partnership and the federal, state, academic and citizen groups that make up the Maine Marine Invasive Species Working Group.

**COST:** Low – Medium

**PRIORITY ISSUES ADDRESSED:**   √ Habitat Conservation  
  √ Stewardship

# \*\*\*DRAFT for public comment\*\*\*

**Toxics Action #1** (*Formerly, Planning and Assessment Action #2*)

## ***Support Efforts to Develop a Comprehensive Management Strategy for Dredged Material***

**NEED:** Maintenance dredging and, at times, improvement dredging, of rivers and harbors in Casco Bay are needed to sustain the economic and maritime heritage values of harbors. However, disposal of dredged material can be expensive and disposal options more limited in cases where dredged materials contain contaminants. Alternatives for disposal of dredged materials have been identified and sampling and survey work has been done in Portland Harbor but needs to be updated to remain a useful source of information for future dredging efforts. The Maine Department of Transportation, the Maine State Planning Office, and the Maine Department of Environmental Protection all play roles in state policy issues to address dredging concerns throughout the state.

**HOW:** The Casco Bay Estuary Partnership will support efforts to develop a comprehensive approach to management of dredged materials by providing input to policy dialogues of state and federal governments and by working in partnership with other groups and agencies, including members of the Portland Waterfront Alliance and the Portland Harbor Dredge Committee, to:

- √ Update the *Alternatives for Dredge Disposal in Portland Harbor* report;
- √ Develop layperson-friendly guidance material for dredgers in Casco Bay outlining requirements, costs (such as sediment testing), and costs of alternative disposal techniques; and
- √ Investigate other approaches to improve dredging management, including those described in the Maine Department of Transportation Dredging Management Action Plan (2002).

**WHEN:** Year 11 and ongoing

**WHERE:** Casco Bay

**WHO:** The Casco Bay Estuary Partnership, working with the Portland Harbor Waterfront Alliance, Friends of Casco Bay, U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, U.S. National Marine Fisheries Service, Maine State Planning Office, Maine Department of Environmental Protection, Maine Department of Marine Resources, Maine Department of Conservation, Maine Department of Transportation, U.S. National Marine Fisheries Service, and the US Fish and Wildlife Service

**COST:** Medium - High

**PRIORITY ISSUES ADDRESSED:** √ Toxics  
√ Habitat Conservation

# \*\*\*DRAFT for public comment\*\*\*

**Toxics Action #2** (*Formerly, Planning and Assessment Action #6*)

## ***Develop Biological Indicators for Marine Waters***

**NEED:** Water quality influences the types of plants and animals that will live in a lake, stream, river, or estuary. Alterations of the biological community can indicate both acute and chronic water quality impacts, while chemical water quality measures provide only a snapshot of current conditions. State water quality regulations provide for use of biological criteria in determining whether a waterbody meets its designated criteria. Freshwater criteria have already been developed. Criteria for marine and estuarine waters, however, still need to be established for assessing conditions and trends, communicating complex issues, and supporting performance management activities.

**HOW:** Biological indicators will be researched and tested in Maine so that marine biological standards can be developed. For example, building on bottom-dwelling (benthic) animal community data collected in Maine by the National Coastal Assessment and others, a multi-metric index is being developed as an indicator of benthic community condition.

**WHEN:** Year 11 and ongoing.

**WHERE:** Marine and Estuarine Waters of the Coast of Maine

**WHO:** Maine Department of Environmental Protection, Casco Bay Estuary Partnership, U.S. EPA National Coastal Assessment Program, National Estuary Programs, Gulf of Maine Council, and local Universities will work in partnership towards the development of marine bioindicators.

**COST:** High

**PRIORITY ISSUES ADDRESSED:**

- √ Stormwater
- √ Toxics
- √ Habitat Conservation

# \*\*\*DRAFT for public comment\*\*\*

**Toxics Action #3** (*Formerly, Planning and Assessment Action #7*)

## ***Develop Sediment Quality Thresholds for Assessment of Contaminated Sediments***

**NEED:** There is a need for statewide sediment quality thresholds that apply to Casco Bay and that reflect numerical limits that the Maine Department of Environmental Protection, U.S. Army Corps of Engineers, and U.S. Environmental Protection Agency use when making regulatory decisions. At present, there are some water quality standards that are published in the U.S. Environmental Protection Agency “Gold Book”, however, toxic contaminant levels in the water do not adequately predict or relate to sediment quality. Since it is cheaper to treat potential contamination prior to discharge, toxins in effluents and stormwater should be reduced to avoid contaminating sediment. The sediment thresholds will be used to interpret sediment quality data and to report on contamination levels in the *State of the Bay Report*, and to help inform other agencies and partners in their development of thresholds as well.

**HOW:** Sediment quality thresholds will be developed by building on Casco Bay Estuary Partnership and National Coastal Assessment monitoring data and will be used to assess monitoring data. An advisory panel will explore existing approaches, including the Effects Range Low and Effects Range Medium (ERL/ERM) method for correlating sediment chemical concentrations with biological responses, and the derivation of Equilibrium Sediment Partitioning Benchmarks (ESBs) for the protection of benthic organisms.

**WHEN:** Year 11 and ongoing.

**WHERE:** Casco Bay.

**WHO:** U.S. Environmental Protection Agency—National Coastal Assessment Program, Casco Bay Estuary Partnership, and Maine Department of Environmental Protection

**COST:** Medium

**PRIORITY ISSUE ADDRESSED:** √ Toxics

**\*\*\*DRAFT for public comment\*\*\***

**Toxics Action #4** (*New Action*)

***Research the Feasibility of and Best Approach to Monitoring  
New Environmental Analytes***

**NEED:** Scientific studies over the past few years have begun to indicate that trace amounts of previously unsuspected substances may be present in the nation’s waters. These “emerging contaminants” include pharmaceuticals and personal care products, (such as antibiotics, steroids, hormones and other “endocrine mimics”), and a variety of chemicals such as caffeine, cholesterol, fire retardant and insect repellents. Some experts have suggested that these micro-contaminants may potentially impact the function of aquatic ecosystems, so they may be a threat to Casco Bay.

**HOW:** Literature research on potential environmental indicators for emerging contaminants has begun and will continue until suitable indicators are developed. The list of analytes monitored in Casco Bay by CBEP and others will be broadened to include indicators for emerging pollutants (i.e., hormones, steroids, antibiotics, endocrine disruptors, brominated flame retardants, etc.). Suitable methodologies, detection limits, and quality assurance plans will be developed.

**WHEN:** Years 11 and 12.

**WHERE:** Casco Bay and Casco Bay watershed.

**WHO:** The Casco Bay Estuary Partnership, Maine Department of Environmental Protection and the U.S. Environmental Protection Agency – National Coastal Assessment.

**COST:** Low

**PRIORITY ISSUES ADDRESSED:**   √ Stormwater  
  √ Toxics



**\*\*\*DRAFT for public comment\*\*\***

**Stewardship Action #1** (*Formerly, Public Education Action #1*)

***Support K-12 Educational Activities Related to Casco Bay***

**NEED:** There is a need to encourage schools within the watershed to conduct educational activities and research related to Casco Bay. A growing number of K-12 schools are studying bay- and watershed-related science curricula and many more opportunities exist.

**HOW:** Several programs exist which facilitate K-12 education and research activities related to Casco Bay and the Casco Bay watershed. Local high schools participate in the annual Maine Envirothon, a natural-resource problem solving competition. The annual Children’s Water Festival, organized by the Maine Department of Environmental Protection in partnership with numerous other groups, is attended by middle school students from throughout the state and provides a broad range of educational activities related to natural resources, including some focused on Casco Bay. Maine’s School-Based Service-Learning program presents additional hand-on learning opportunities while providing assistance to projects that benefit the bay and watershed. CBEP annually provides funding for Cumberland County Soil and Water Conservation District to host an Americorps volunteer to bring environmental education to area schools. These and other activities should be encouraged and continued, and used to foster bay and watershed-focused education activities and research by schools located within the watershed.

**WHEN:** Ongoing.

**WHERE:** Casco Bay watershed.

**WHO:** Cumberland County Soil and Water Conservation District, U.S. Environmental Protection Agency, Maine Department of Environmental Protection, Casco Bay Estuary Partnership, Friends of Casco Bay and other partners, in conjunction with area schools.

**COST:** Low

**PRIORITY ISSUES ADDRESSED:**

- √ Stormwater
- √ Shellfish and Swimming Areas
- √ Habitat Conservation
- √ Toxics
- √ Stewardship

**\*\*\*DRAFT for public comment\*\*\***

**Stewardship Action #2** (*Formerly, Public Education Action #2*)

***Focus Post-Secondary Educational Programs on Casco Bay***

**NEED:** Area colleges and universities are increasingly focusing their studies and research on Casco Bay. These institutions can contribute greatly to the study and stewardship of Casco Bay from science, policy, and legal perspectives.

**HOW:** Numerous possibilities exist for research and educational programs, including service learning programs such as internships and volunteer activities. The University of Southern Maine has an undergraduate environmental science and policy major. Graduate level economic and environmental research has been pursued by the Casco Bay Estuary Partnership through the University of Southern Maine’s Muskie School and the University of Maine Law School. Bowdoin College has developed a Center for Marine Studies, and Southern Maine Community College has several marine programs. Local groups and agencies can benefit from the work of student interns. Summer interns from Bates College work with the Lakes Environmental Association and Bowdoin students work closely with the New Meadows River Watershed Project. CBEP and other partners will continue to host graduate or other students as funding is available and will help promote student involvement in conferences, stewardship activities, and research.

**WHEN:** Ongoing.

**WHERE:** Casco Bay watershed.

**WHO:** The Casco Bay Estuary Partnership will coordinate with area colleges and universities including the University of Southern Maine, Southern Maine Community College, Bowdoin College, Bates College, University of New England, University of Maine, the Sea Grant Program at the University of Maine, the Casco Bay Interlocal Stormwater Working Group, and Saint Joseph’s College.

**COST:** Low-Medium

**PRIORITY ISSUES ADDRESSED:**

- √ Stormwater
- √ Shellfish and Swimming Areas
- √ Habitat Conservation
- √ Toxics
- √ Stewardship

**\*\*\*DRAFT for public comment\*\*\***

**Stewardship Action #3** (Formerly, Public Education Action #3)

***Support Educational Campaigns to Promote  
Sound Household Practices***

**NEED:** Individual actions and attitudes play a major role in protecting the bay. Many citizens would like to “do the right thing” but are not sure what that is. Other citizens are not aware of the impacts caused by simple household practices. Continued educational campaigns to promote sound household practices are needed to reduce domestic sources of water pollution.

**HOW:** Numerous campaigns have been developed to educate the public about sound household practices from an environmental perspective. Several good examples include the Friends of Casco Bay Bayscaping Program, the Maine Bureau of Pesticide Control Yardscaping Program, the Think Blue stormwater education campaign, and related educational efforts by the Casco Bay Interlocal Stormwater Working Group. These and other educational programs raise public awareness about domestic causes of water pollution and promote lawn and garden care, household chemical disposal, vehicle maintenance, septic system maintenance, vegetative planting, and other everyday practices that reduce non-point sources of pollution. In addition, coastal-focused public service “Sea and Shore” announcements developed by the Maine Coastal Program, Maine Sea Grant and the Wells National Estuarine Research Reserve are broadcast on public radio and educate the public about sound household practices and other issues related to coastal water quality. These and other partners, including the Casco Bay Estuary Partnership, will continue support to promote and support educational campaigns to promote sound household practices throughout the Casco Bay watershed.

**WHEN:** Ongoing.

**WHERE:** Casco Bay watershed.

**WHO:** Casco Bay Estuary Partnership, University of Maine Cooperative Extension, Maine Sea Grant, Wells National Estuarine Research Reserve, Friends of Casco Bay, Maine Bureau of Pesticide Control, Maine Coastal Program/State Planning Office, Maine Department of Environmental Protection, U.S. Environmental Protection Agency, Casco Bay Interlocal Stormwater Working Group, television and radio stations, and others.

**COST:** Low - Medium

**PRIORITY ISSUES ADDRESSED:**

- √ Stormwater
- √ Shellfish and Swimming Areas
- √ Habitat Conservation
- √ Toxics
- √ Stewardship

# \*\*\*DRAFT for public comment\*\*\*

## Stewardship Action #4 (Formerly, Public Education Action #7)

### *Hold “State of the Bay” Conferences*

**NEED:** Prior to the biennial State of the Bay conferences hosted by Casco Bay Estuary Partnership, information sharing about environmental management and science related to Casco Bay and its watershed took place in a piecemeal manner among a wide variety of groups. The State of the Bay conferences allow for regular exchange of monitoring and scientific information, support ongoing dialogues and problem-solving, promote networking and new partnerships, foster technology transfer, and further action to protect the bay and its watershed.

**HOW:** Plan and hold conferences (to include identifying key discussion issues, scientific data to be presented, and speakers).

**WHEN:** Every 2-3 years or as needed

**WHERE:** Casco Bay watershed, likely in the greater Portland area

**WHO:** Casco Bay Estuary Partnership

**COST:** Low - Medium

**PRIORITY ISSUES ADDRESSED:**

- √ Stormwater
- √ Shellfish and Swimming Areas
- √ Habitat Conservation
- √ Toxics
- √ Stewardship

**\*\*\*DRAFT for public comment\*\*\***

**Stewardship Action #5** (*Formerly, Public Education Action #9*)

***Continue Friends of Casco Bay's Successful  
Volunteer Water Quality Monitoring Program***

**NEED:** Friends of Casco Bay has conducted a successful volunteer water quality monitoring program in Casco Bay since 1992. Hundreds of volunteers have been involved in the program, which includes program planning and coordination, training the volunteers in quality assurance/quality control procedures, data management, and reporting of the results. These volunteers have become true stewards of the bay and provide valuable information about the health of the bay through both sampling and observation.

**HOW:** The Friends of Casco Bay will continue to administer the volunteer monitoring program for Casco Bay.

**WHEN:** Annually - ongoing

**WHERE:** Casco Bay

**WHO:** Friends of Casco Bay

**COST:** Medium

**PRIORITY ISSUES ADDRESSED:**           √ Stewardship  
  √ Habitat Conservation

Table 1 - Summary of the DRAFT *Casco Bay Plan 2005 Update*

| Stormwater   | Clam Flats/Swimming Areas<br>Shellfish/Swimming Areas  | Habitat Protection<br>Habitat Conservation   | Toxic Pollution   | Stewardship   |
|--|--|--|---|---|
| <del><i>Public Education Action #6</i><br/>Create an Educational Site Demonstrating how Vegetation Reduces Stormwater Runoff.</del>  | <del><i>Technical Assistance Action #1</i><br/>Provide Technical Assistance to Help Re-open and Manage Clam Flats Shellfish Areas.</del> | <del><i>Technical Assistance Action #7</i><br/>Provide Technical Assistance Necessary for Habitat Protection.</del>  | <del><i>Technical Assistance Action #5</i><br/>Establish a Reduction and Management Program for Toxic Pollutants in Casco Bay Communities and Small Businesses.</del>   | <del><i>Public Education Action #1</i><br/>Fund High School Students' Research. Support K-12 Educational Activities Related to Casco Bay.</del>                   |
| <del><i>Technical Assistance Action #4</i><br/>Provide Training in Stormwater Best Management Practices for Contractors, Farmers, Public Works Crews, Road Commissioners, and Municipal Boards and Staff to Appropriate Target Audiences.</del>  | <del><i>Technical Assistance Action #2</i><br/>Provide Technical Assistance to Monitor and Open public Swimming Areas.</del>             | <del><i>Regulatory/Enforcement Action #1</i><br/>Clarify Use of the Natural Resource Protection Act for Habitat Protection.</del>                          | <del><i>Technical Assistance Action #8</i><br/>Conduct Pollution Prevention Audits for Businesses/Industries that affect Casco Bay.</del>   | <del><i>Public Education Action #2</i><br/>Focus Post-Secondary Educational Programs on Casco Bay.</del>  |
| <del><i>Technical Assistance Action #6</i><br/>Develop and Implement Action Plans for Subwatershed Areas.<br/><br/>Promote Subwatershed Management, Planning, Implementation, and Evaluation.</del>  | <del><i>Technical Assistance Action #3</i><br/>Train Installers and Pumpers of Septic Systems.</del>                                     | <del><i>Planning &amp; Assessment Action #4</i><br/>Research the Impact of Tax Codes on Habitat Conservation.</del>  | <del><i>Planning &amp; Assessment Action #2</i><br/>Support efforts to Develop a Comprehensive Management Strategy for Dredged Material.</del>  | <del><i>Public Education Action #3</i><br/>Conduct a Comprehensive Campaign to Support Educational Campaigns to Promote Sound Household Practices.</del>          |
| <del><i>Regulatory/Enforcement Action #2</i><br/>Monitor Enforcement Progress of Combined Sewer Overflow (CSO) Reduction Plans in Portland, South Portland, and Westbrook.</del>   | <del><i>Regulatory/Enforcement Action #4</i><br/>Support Compliancy with the Pumpout Law.</del>  | <del><i>Planning &amp; Assessment Action #5</i><br/>Develop and Implement a plan Plans to Restore Degraded Habitats in Casco Bay.</del>                    | <del><i>Planning &amp; Assessment Action #6</i><br/>Develop Biological/Environmental Indicators for Marine Waters.</del>  | <del><i>Public Education Action #4</i><br/>Educate Boaters about Low-Impact Practices, Non-toxic Boat Products, and the Need to Protect Sensitive Habitats.</del> |
| <del><i>Regulatory/Enforcement Action #3</i><br/>Adopt Minimum Standards for Stormwater Quality in State and Municipal Regulatory Programs.<br/><br/>Assist Interlocal Stormwater Working Group and Municipalities with Meeting Requirements in Maine's Stormwater Management Law and in the Federally-mandated MEPDES Stormwater Program.</del> | <del><i>Regulatory/Enforcement Action #5</i><br/>Subsurface Wastewater Disposal Rules Improve Local Enforcement of the</del>             | <del><i>Planning &amp; Assessment Action #8</i><br/>Develop Continue a Grant Program to Support Local Habitat Protection and Restoration Activities.</del> | <del><i>Planning &amp; Assessment Action #7</i><br/>Develop Sediment Quality Criteria and Sediment Quality Discharge Limits that Apply to Casco Bay. Thresholds for Assessment of Contaminated Sediments.</del> | <del><i>Public Education Action #5</i><br/>Develop an Environmental Habitat Kit and Guide Maps to Casco Bay for the General Public.</del>                         |

\*\*\*DRAFT for public comment\*\*\*

| Stormwater   | Clam Flats/Swimming Areas<br>Shellfish/Swimming Areas   | Habitat Protection<br>Habitat Conservation   | Toxic Pollution   | Stewardship  |
|--|---|--|---|--|
|  | <i>Regulatory/Enforcement Action #6</i>   |  | <i>Planning &amp; Assessment Action #10</i>   | <i>Public Education Action #7</i>  |
| NEW - Promote the Use of Vegetated Buffers and Other Low Impact Development (LID) Technologies to Reduce Stormwater Runoff | Require Proof of Legal Waste Disposal upon Transfer of Property.<br><br>Support Efforts to Prevent Septic System Malfunction through Voluntary Inspection Programs during Property Transfers and Education of Key Stakeholder Groups.                         | NEW - Participate in Efforts to Address the Impacts of Invasive Marine Organisms in Casco Bay. | <del>Research the Contribution of Deposition of Pollutants from the Air.</del>                | Hold "State of the Bay" Conferences.   |
|  | <i>Planning &amp; Assessment Action #1</i>  |  |   | <i>Public Education Action #8</i>  |
|  | Develop Municipal Programs to Protect Water Resources and Clam Flats from Septic System Discharges.<br><br>Expand Cooperative Programs between Commercial Pumpers and Installers and Municipalities to Protect Shellfish Areas from Septic System Discharges. |  | NEW - Research the Feasibility of and Best Approach to Monitoring New Environmental Analytes. | <del>Extend the State Planning Office's New "Marine Volunteer Program" to Casco Bay.</del> |
|  | <i>Planning &amp; Assessment Action #3</i>  |  |   | <i>Public Education Action #9</i>  |
|  | <del>Review Implementation of the National Shellfish Sanitation Program.</del>  |  |   | Continue Friends of Casco Bay's Successful Volunteer Water Quality Monitoring Program.     |
|  | <i>Planning &amp; Assessment Action #9</i>  |  |   |  |
|  | <del>Research whether the Subsurface Wastewater Disposal Rules adequately Prevent Coastal Pollution.</del>  |  |   |  |