

# MEASURING PROGRESS

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# CASCO BAY PLAN

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## *The Casco Bay Monitoring Plan*

### **Introduction**

The *Casco Bay Plan* is committed to preventing pollution, improving water quality, and protecting and restoring important fish and wildlife habitat in Casco Bay. To accomplish these goals, the *Casco Bay Plan* outlines 34 actions to be completed over a five-year period (between July 1996 and July 2001), and sets forth an implementation strategy that will continue protecting the bay into the future. Each action is intended to contribute to the goals of improved water quality, habitat protection, and a healthy bay.

How will progress toward these goals be measured?

Government officials and the public need information to judge progress in protecting and restoring Casco Bay and to document significant changes in the estuary over time. In recent years, emphasis has been placed on “accountability,” “managing by results,” and “outcomes.” Every action undertaken must be cost-effective and focused. To judge progress, the *Casco Bay Plan* defines ways to measure progress, monitor change over time, and report these findings to all interested parties.



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## Stages of Change

The process of change over time entails four important stages.

### **First Stage: Behavioral Change**

Most of the *Casco Bay Plan* actions involve efforts to change behavior. There is a strong emphasis on public education and municipal technical assistance. Changes in behavior may not directly affect the environment, but they lead to actions that will. For example, a first-stage change might involve a municipality requiring the use of best management practices during construction of new projects.

### **Second Stage: Pollution Reduction**

When behavior is changed, actual discharges to water, air, or soil can be reduced. Extending the previous example, a second-stage outcome would involve actual reductions of contaminated nonpoint-source stormwater washing into the bay (as a result of people using best management practices).

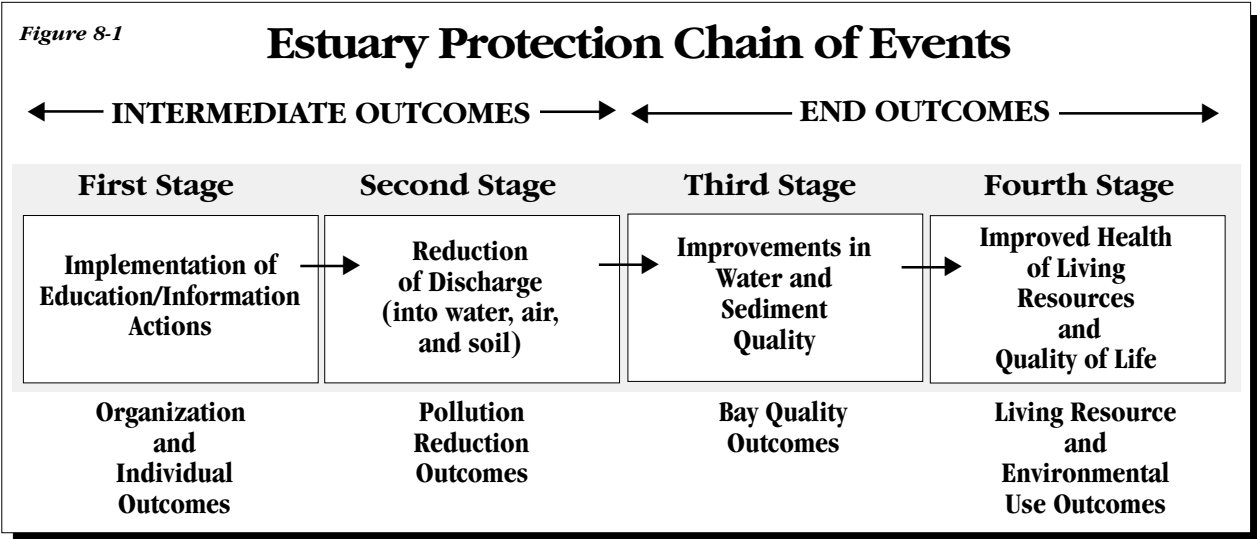
### **Third Stage: Improvement in Water and Sediment Quality**

With actual pollution reduced, improvements in the bay's water and sediment quality may be evident. In the example, water and sediment quality in the bay will improve due to the municipal action to require best management practices and the impact of the actual use of such practices.

### **Fourth Stage: Health of the Living Resource**

The final stage, and ultimate goal, is improving the health of the ecosystem. The health of the region's ecology and economy have improved in the fourth stage due to actions taken and the resulting improvement in water and sediment quality.

First- and second-stage outcomes generally occur soon after actions are undertaken, while third- and fourth-stage outcomes may not come until much later (often years after actions have been taken). However, first- and second-stage outcomes provide early indications of end outcomes. The *Casco Bay Plan* is generally aimed at affecting behaviors of governments, businesses, households, and boaters to ensure that improved environmental behavior by these groups will eventually improve the bay's overall health.



## Monitoring Plans

To establish baseline information on the current status of the environment and to measure change over time, the *Casco Bay Plan* proposes that four areas of monitoring take place: environmental monitoring, local government action monitoring, public attitudes and actions monitoring, and programmatic monitoring. Monitoring changes in these areas will be an important management tool in implementing the *Plan* and guiding environmental change.

### Environmental Monitoring

Environmental monitoring is the key to determining if the outcome sought has been achieved. The key purpose of the *Casco Bay Plan* is to protect and improve the health of Casco Bay. Environmental monitoring is critical to establishing a baseline of information, to assess trends over time, and to determine if actions are having an impact on the environment.

Environmental indicators can help measure progress toward improved water quality, habitat quality, and ecosystem health. These third- or fourth-stage monitoring activities provide baseline information, establish trends, and act as an assessment tool to track change in the environment over time. It is not practical or cost-effective to measure every parameter of the bay. Therefore, a few indicators will be carefully selected to provide some indication of the overall health of the bay.

With goals and objectives established by the Management Committee, environmental indicators were developed to measure outcomes for the estuary that best meet the goals and objectives.

An environmental monitoring plan has been completed and establishes actions necessary to measure change.

## Tracking the Progress of Local Governments

Municipalities play a vital role in the protection of Casco Bay. In Maine, home-rule grants municipalities the authority to plan for and regulate land use within their communities. Municipalities also have the ability to influence the behavior of their citizens through the standards that govern land use activities, education in the schools, and the types of services provided in their communities.

In developing the *Casco Bay Plan*, the major role municipalities play in first-stage environmental protection activities has become more clear. In fact, municipalities influence all of the priority areas identified by the *Plan*. With this understanding, the *Casco Bay Plan* is designed as an aid to municipalities in meeting their growing needs.

The *Casco Bay Plan* recognizes the major role municipalities collectively play in protecting Casco Bay, but it also recognizes that each municipality in the Casco Bay watershed is governed independently; therefore, regulations, procedures, and policies differ from town to town. To better understand and influence municipal decisions that impact the health of the bay, a second component of monitoring the *Plan* will be to track the progress made by local governments.

To track the progress of the local government protection efforts, a “Government Action Checklist” has been developed. The checklist covers key government activities affecting the *Casco Bay Plan*’s five priority issues. Items covered include questions on stormwater management, clam flats and swimming areas, habitat issues, and toxics.

Information obtained from the Government Action Checklist acts as baseline information for local actions. Biennially, the checklist will be readministered to determine if there has been change. The checklist acts as a strong guide suggesting where technical assistance is needed by municipalities. It also helps municipalities to prioritize efforts and assess their actions on a regional basis. In general, the checklist increases awareness of the relationship between local governments and environmental consequences.

The intent of the checklist is to provide helpful, useful information to communities and to others who can assist communities. The *Casco Bay Plan* places major emphasis on providing technical assistance to municipalities. This checklist will monitor how effective that technical assistance is.

The checklist was administered in 1996 and will be administered biennially thereafter.

### **Public Attitudes and Actions Survey**

Households and boaters play a major role in preventing pollution and protecting Casco Bay. Households affect water quality by their use of fertilizers and pesticides, disposal of contaminants (*e.g.*, paint and cleaning materials), disturbing habitat, and upkeep of private septic systems. Boaters impact water quality by dumping waste, mishandling fuel, and damaging habitat.

Recognizing these issues, the *Casco Bay Plan* places major emphasis on educating the public and boaters and encouraging them to act in ways beneficial to the bay. A key issue is the extent to which attitudes and behaviors change over time as a result of these educational efforts designed especially for them.

A major way to assess the status of and changes in household and boater attitudes and behavior is to conduct a survey periodically about pollution prevention activities. Although changes in attitudes and behavior are first-stage outcomes, they lead to actual physical changes, such as reducing the amount of contaminants discharged into the bay, improved water quality, and, ultimately, the improved health of the bay.

A statistical survey of households and boaters will do two things. First, it will provide a baseline of information on current attitudes and actions. This information can then be used immediately to guide program design of current efforts and resources. Second, the survey will be readministered every five years to assess change over time and to determine if current programs were effective.

A survey was administered to a statistically significant sample by a professional market research firm in 1996. The survey will be administered every five years and will be a valuable management tool, as well as an assessment tool.

### **Programmatic Monitoring**

Programmatic monitoring will be conducted by the Casco Bay Estuary Project for all actions outlined in the *Casco Bay Plan*. Each action in the *Plan* outlines the time frame in which the action is to be accomplished. To ensure that the actions are being undertaken in the time frames approved in the *Plan*, and are accomplishing the intended results, programmatic monitoring will be conducted each year with a report presented to the Implementation Committee each July.

The purpose of programmatic monitoring is to ensure that actions are being completed. Successful management of the project depends on an accurate assessment of the status of implementation of the *Casco Bay Plan* actions.

## Summary

There are four separate components of the overall monitoring plan for Casco Bay:

- Environmental Monitoring
- Tracking the Progress of Local Governments
- Public Attitudes and Action Survey
- Programmatic Monitoring

Taken together, these four components will enable the Casco Bay Estuary Project to obtain baseline information, to carefully assess the outcome of environmental protection efforts of the *Casco Bay Plan*, and to provide significant information to the public and the numerous groups interested in the health of the bay.

Monitoring will be the key to ensuring the accountability of the *Casco Bay Plan*. By establishing a program to measure outcomes at the outset of the *Plan* implementation, we will be better able to determine if we are meeting our goals.

To obtain more in-depth information regarding any of the areas to be monitored, please call the Casco Bay Estuary Project. A separate document has been prepared.

## NOTES

