

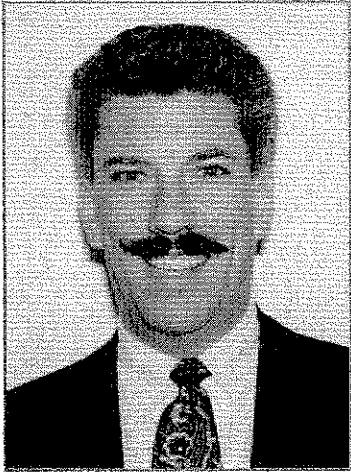
# Currents

• A Quarterly Newsletter of the Casco Bay Estuary Project •

Volume 3 No.3

Fall 1994

## Message from the Chairman



### Casco Bay may look pristine, but it's not.

Studies have shown that over 40% of the shellfish beds in Casco Bay are closed. Many of these closures are a result of bacterial contamination caused by failing residential septic systems. Elevated levels of heavy metals have been

found in the bottom sediment of Casco Bay, particularly in the Fore River, Back Bay, around the mouth of the Presumpscot River, and in the vicinity of the New Meadows River. Studies have also documented a reduction in marine life in sub-tidal areas within the estuary as a result of toxic pollution.

Some people consider it good news that compared to other estuaries nationwide, the magnitude of pollution and contaminants in Casco Bay is significantly less. In fact, the designation of Casco Bay as a significant national estuary by the U.S Environmental Protection Agency is intended to be a national example of a pollution prevention effort in a relatively unpolluted estuary.

But the underlying problem appears to be that the current management and regulatory framework provides no guarantee that the Bay and its' watershed are being managed or protected as a single economic and ecological resource. Failing to cost effectively manage diffuse sources of pollution may have a long term damaging impact on the ecology of the estuary and threaten the sustainability of dozens of industries that rely upon clean water.



Greater coordination is needed among federal and state programs and municipalities to benefit from the full effect of these laws. One reason for this lack of coordination is the absence of a single entity with overall responsibility for management and protection of Casco Bay. The current regulatory system is typified by agencies with jurisdiction over separate resource issues such as wetlands protection, dredging, habitat protection, sewerage treatment, or oil pollution. In some cases jurisdictions overlap, causing redundant and inefficient regulation, while in other cases no one agency has overall responsibility.

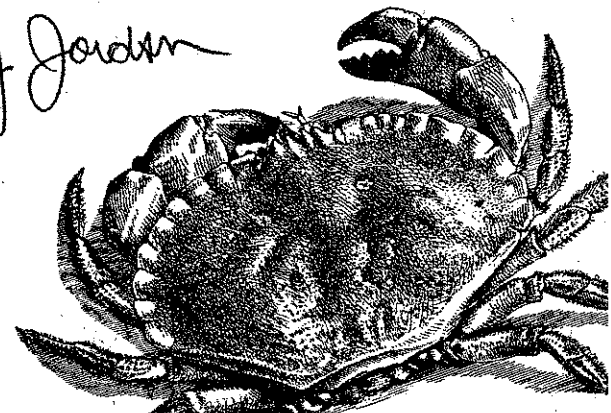
We're very optimistic that the Casco Bay Estuary Project will bring about new partnerships between government, citizens, private industry and the scientific community to promote recovery and prevent degradation of Casco Bay. We want to implement the most cost effective combination of management and regulatory tools to protect Casco Bay.



**Creating this vision for Casco Bay's healthy future requires constructive input from people who live and work in the Bay and the watershed.**

Over the next eight months we will be circulating draft recommendations and hosting forums and roundtable discussions to solicit input. We need your involvement. Please get involved - Casco Bay's future depends on it.

*Jeffrey Jordan*



## Project Update



### What's happening now?

We are working on developing the draft Casco Bay Plan to be submitted to the Governor of Maine and the U.S. Environmental Protection Agency in September, 1995. This includes developing a series of recommendations for each of the five priority issues. Over the next eight months we have an ambitious schedule to identify appropriate recommendations.

The Project recognizes that any recommendations must involve extensive input from local government, local businesses, relevant agencies, and concerned citizens.

#### January - February 1995:

Roundtable discussions with the public to gain input on the recommendations. Watch for further information in area newsletters and in bulletins from us.



November 1994: Focus groups held to solicit input on draft recommendations. Look for our upcoming bulletins on dates and locations.



March 1995: Draft Casco Bay Plan will be issued to the public.



September - November 1994: Project staff are contacting town officials to arrange meetings this fall to review the range of possible recommendations. Encourage your town officials to get involved.

April - May 1995: We will conduct a 60-day public comment period.



September 1995: Casco Bay Plan submitted to Maine Governor and U.S. EPA.



### Casco Bay Estuary Priority Issues

1. To minimize adverse environmental impacts from the use and development of land and marine resources.
2. To minimize adverse environmental impacts from stormwater runoff and combined sewer overflows.
3. To minimize adverse environmental impacts from individual wastewater disposal systems.
4. To determine the effect of existing sediment contamination on the health of Casco Bay.
5. To promote responsible stewardship of Casco Bay and its watershed through increased public awareness.

## Who's Who in the Casco Bay Estuary Project

The Management Committee of the Casco Bay Estuary Project is responsible for overseeing the project, deciding the specific work that will take place within the project and developing the Casco Bay Plan. This dedicated committee has been meeting regularly since 1991. Members include representatives from local, state, and federal government, in addition to business leaders and local citizens.

Jeff Jordan (chair) - Assistant City Manager, South Portland

Jacki Cohen - Freeport Town Planner

John DeIvecchio - Maine Department of Economic and Community Development

Jean Dyer - Chebeague Island resident; Casco Bay Island Development Association member

George Flaherty - Director of Environmental & Intergovernmental Relations, City of Portland

Kevin Gildart - Assistant to the President, Bath Iron Works, Bath

Victoria Powers - Portland resident, attorney

Josie Quintrell - Maine State Planning Office

Peter Rice - Chebeague Island/Yarmouth resident, attorney

Les Watling - Marine scientist, Darling Marine Center

Ed Woo - U.S. Environmental Protection Agency, Boston

Martha Kirkpatrick - Maine Dept. of Environmental Protection

Brian Swan - Maine Department of Marine Resources

The Citizen Advisory Committee provides a channel for the public to have a voice in the Project. This committee is directly involved in decision-making through their representation on the Management Committee, ensuring that the Committee's decisions reflect a wide spectrum of interests. The chairs of the Citizen Advisory Committees are Victoria Powers, Jean Dyer, Peter Rice, and Kevin Gildart. For a schedule of meetings, call the Casco Bay Estuary Project.

## Portland Area Schools Get Involved in Helping the Bay

A group of Portland area science teachers and their students will be working hard during the next year to help monitor the health of Casco Bay.

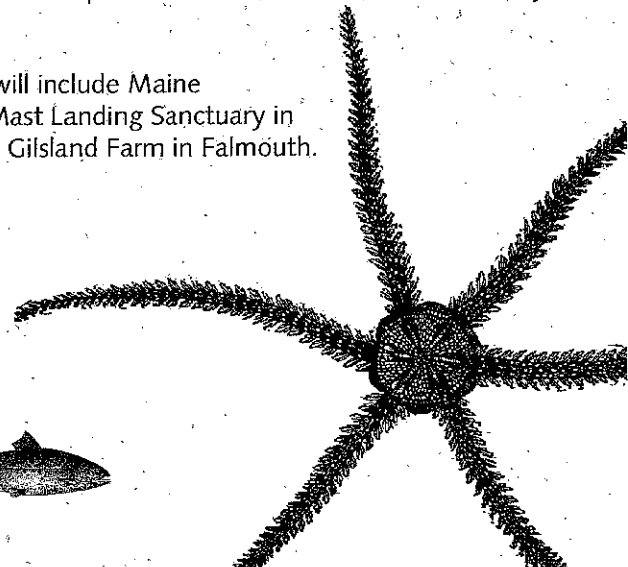
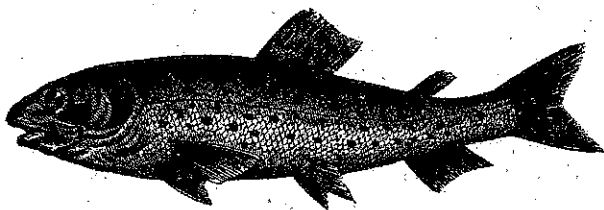
KIDS Consortium, Maine Audubon Society, and the Portland School Department are collaborating to develop a water quality monitoring program for Maine Audubon's Casco Bay nature sanctuaries as part of school science curriculums. Funding is provided by the Casco Bay Estuary Project, the U.S. Environmental Protection Agency, and the Portland School Department. KIDS (Kids Involved Doing Service) Consortium is dedicated to involving children in community-based education programs.

Twelve Portland area teachers were trained in August to do water quality monitoring. Casco Bay Keeper Joe Payne, who oversees Friends of Casco Bay's volunteer water quality monitoring program, provided the three-day training. Data collected throughout the year by teachers and students will be provided to Friends of Casco Bay in order to expand the Casco Bay water quality database.

The Fore River Sanctuary in Portland will be used as the first sanctuary "classroom". Students will learn how to test for seven chemical/physical parameters, and will then apply their skills in the field. In addition, a youth advisory board will be created to make recommendations for the Sanctuary in cooperation with the Maine Audubon Society and Portland Trails stewardship committees.

"Through this project we will promote awareness, appreciation, and stewardship of the Fore River Sanctuary and engage students in tangible and meaningful efforts to protect Casco Bay," says Caroline Allam of KIDS Consortium. "This will also serve as a stewardship model for other towns in the Casco Bay watershed."

Future sites will include Maine Audubon's Mast Landing Sanctuary in Freeport and Gilsland Farm in Falmouth.





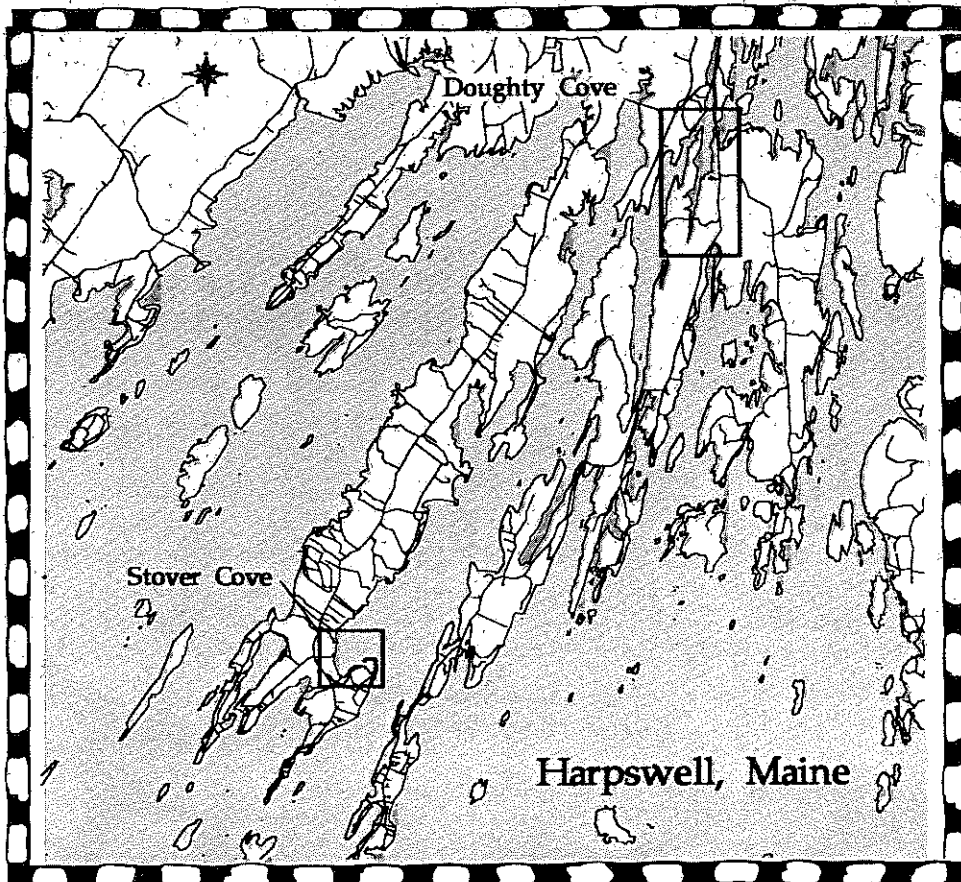
## Economic Value of Casco Bay's Closed Clam Flats Analyzed

Are dollars and jobs going down the drain in Casco Bay because of clam flats closed by pollution? An innovative study initiated by the Casco Bay Estuary Project will provide important information about the economic value of a portion of the 43% of closed clam flats in Casco Bay. This will help towns determine the economic value of re-opening clam flats.

The Casco Bay Estuary Project has contracted MER Assessment Corporation of Harpswell to conduct an economic analysis of the soft shell clam industry in Casco Bay. The first part of the study involves an estimate of the quantity and value of clams in selected Casco Bay flats: Mackworth Island and The Brothers in Falmouth, Broad Cove in Cumberland, Parker and Drinkwater Points in Yarmouth, and Long Cove in West Bath.

Chris Heinig, principal investigator, spent much of the summer in the field sampling the flats. "There appears to be significant difference between the western and eastern ends of the study area, with the western shore being considerably less productive than areas to the east," he says, "Relatively few large, that is market-sized, clams have been found along the Falmouth, Cumberland, and Yarmouth shores, but the number of smaller, juvenile clams appears to be on the rise."

"By contrast," he adds, "in West Bath the population is more normally distributed, although at a very high density approaching 286 bushels per acre, 84% of which represent commercially harvestable clams. The reason for this large discrepancy in production is not immediately obvious, but normal variations in spat (larval clam) settlement patterns around the Bay may account for some of the difference."



## Rehabilitating Clam Flats in Casco Bay - It Can be Done

Clam flats are an integral part of Casco Bay's natural and economic history, but over the years numerous clam flats have been closed. Pollution and lack of state resources to monitor flats have resulted in over 40% of Casco Bay's shellfish flats being closed to harvesting. But in the Town of Harpswell, a town with numerous closed clam flats, this picture is changing, thanks to hard work by the town's marine resources committee and funding from the Casco Bay Estuary Project. In August the Town proudly re-opened 20 acres of flats in Doughty Cove, which had been closed for seven years.



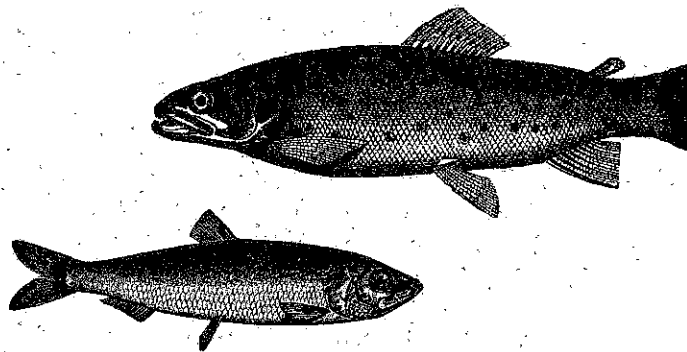


Researcher Chris Heinig digs and measures clams near Mackworth Island in Falmouth.



Another major component of the study is to evaluate the broader economic impact of the soft shell clam industry, determine the economic benefit of eliminating or controlling pollution causing clam flat closure, and analyze non-market values related to Casco Bay and evaluate their importance in relation to the total economic value of the Bay.

Other organizations are also interested in the study findings. In May, Friends of Casco Bay announced a plan to rehabilitate some of the flats being studied by the CBEP. Their goal is to demonstrate that clamming can thrive in populated urban areas in close proximity to major industrial uses of the Bay.

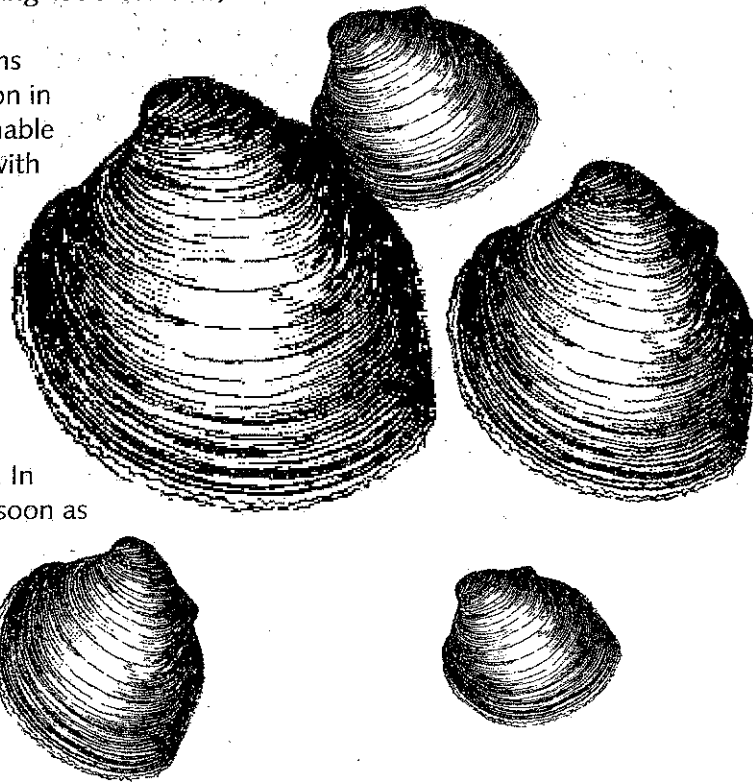


Doughty Cove had been under study for several years. In 1992, the Casco Bay Estuary Project provided \$5,000 in funding and the Town provided \$1,200 in matching funds to estimate the number of bushels of clams in Doughty Cove and Stover Cove and identify possible sources of bacterial pollution (see spring 1993 *Currents*).

"Stover Cove was found to have only a small population of clams of limited economic value, and significant bacterial contamination in the water. Doughty Cove was found to have a large and sustainable population of harvestable clams of significant economic value, with few potential sources of pollution," says marine biologist Chris Heinig, principal researcher on the project.

So the Town focused on working with landowners next to Doughty Cove to eliminate the potential sources of pollution - a cottage outhouse, a failed septic system, washing machine pipes, and a straight sewage pipe from a cottage.

The end result is an economic and resource boost for Harpswell. In August over two dozen clam diggers worked Doughty Cove as soon as it was opened. According to Scott Moody, chairman of the Harpswell Marine Resources Committee, this is just one piece in a big plan to eventually re-open all of the closed clam flats in Harpswell.



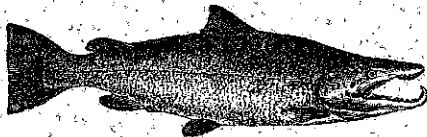
## Casco Bay Islands Receive Special Attention



If you visit Jewell Island in outer Casco Bay, you'll spot the results of Maine Island Trail Association's stewardship efforts. A grant from the Casco Bay Estuary project enabled the Association's Jewell Island Committee to put up educational signs requesting visitors to respect the island's natural resources.

The 221-acre state-owned island was acquired by the Maine Bureau of Public Lands in the 1970's and is open to the public for picnicking, hiking, and camping. In recent years, Jewell Island's popularity has increased dramatically. As a result, MITA has been working with the state to care for the island.

Jewell Island has a colorful and varied history. Native Americans used the island long ago for fishing and foraging. Folklore has it that the island was also a haven for pirates, smugglers, and treasure seekers. Jewell was farmed into the 20th century and during World War II the island was an important component of Portland harbor defenses with three gun batteries, two towers, and barracks for over 400 men.



## Presumpscot River Estuary Celebrated At Maine Audubon Society Gilsland Farm

On October 2 an educational sign about the Presumpscot River estuary was installed at Maine Audubon Society's Gilsland Farm. Funding for the sign was provided by a grant from the Casco Bay Estuary Project.

To celebrate the event, Maine Audubon Society and the Casco Bay Estuary Project hosted an afternoon of activities for members and the public, including an estuary nature walk, educational exhibits by area organizations concerned about the Presumpscot River and Casco Bay, and an exhibit of marine life in a "touch tank".

Gilsland Farm is located next to the Presumpscot River estuary and provides an excellent location for estuary education. The sign depicts different estuary habitats and associated plants and animals in the Presumpscot River estuary, and emphasizes the importance of estuaries.

Gilsland Farm is open to the public daily and is free of charge. The new estuary sign is located in the West Meadow.

**Jewell Island**

Welcome to Jewell, a 221-acre state-owned island managed by the Maine Bureau of Parks & Recreation. Jewell was acquired by the state for the people of Maine in the 1970's and is open to the public for picnicking, hiking, and camping.

Native Americans used the island long ago for fishing and foraging. Folklore has it that the island was also a haven for pirates, smugglers, and treasure seekers. Jewell was farmed into the 20th century and during World War II the island was an important component of Portland harbor defenses with three gun batteries, two towers, and barracks for over 400 men.

In recent years, Jewell's popularity has increased dramatically. As a result, a local citizens group has been working with the state in caring for the island. We ask that you help conserve Jewell for future generations by following these guidelines:

- Please stay on trails and tent on grassy or sandy areas, or in established sites, to minimize soil damage and to protect the vegetation.
- Privies are placed around the island for your convenience. Please use the facilities and not the woods.
- Fire is the greatest single threat to Maine's island ecology. For this reason, we encourage cookstoves instead of open fires. If you do build a fire, please use designated fire rings or kindle fires on sand at or below the high tide line. Wildfire can easily start from campfires built on island soils, forest duff, or grassy areas. Fire on rock faces leaves scars for many years. Please use only driftwood, as trees, both living and dead, are important for soil replenishment and nesting birds. A fire permit is required and can be obtained from the Forest Service at (207-287-2275). Please use EXTREME CAUTION during extended dry periods.
- Please leave pets at home, as pets and wildlife don't mix. An unleashed dog can wipe out a bird's production for an entire year.
- Please carry out all rubbish and leave your campsite looking as close to its natural state as you can.

For more information about this local stewardship effort, please contact:

**The Jewell Island Committee  
c/o The Maine Island Trail Association  
Box 8, 41A Union Wharf  
Portland, ME 04101  
(207) 761-8225**

Wood sign funded by Casco Bay Estuary Project.







## Publications



*Copies of study reports funded by the Casco Bay Estuary Project are at the Portland Public Library, South Portland Public Library, USM Portland Library, and Bowdoin College Library. A limited number of copies are available from the Casco Bay Estuary Project. For more information call 828-1043.*

**Assessment of Sediment Contamination in Casco Bay: Interpretive Report and Quality Assurance Data Summaries.** (113 pp., 1992). By Geochemical and Environmental Research Group and Department of Oceanography, Texas A & M University. Technical assessment of contamination levels in Casco Bay sediment. Includes comparison with other U.S. coastal waters.

**Water Quality - An Annotated Bibliography of Available Information.** (38 pp., 1992). By the Department of Economic and Community Development. List of information available regarding water quality issues for the State of Maine, from small pamphlets and local reports to state-wide and regional studies.

**The Regulation and Management of Casco Bay: A Report to the Casco Bay Estuary Project.** (115 pp., 1992). By the Marine Law Institute, University of Southern Maine. Analyzes the existing regulatory framework, provides two case studies, and reviews management options for Casco Bay.

**A Review of Comprehensive Plans and Water Quality Issues for Municipalities Located Within the Lower Casco Bay Watershed.** (82 pp., 1992). By Maine Department of Economic and Community Development. Summary of local water quality issues and concerns as identified in town comprehensive plans in the lower Casco Bay watershed, and implementation strategies to address the concerns.

**Preliminary Comprehensive Conservation and Management Plan.** (64 pp., 1992). By the Casco Bay Estuary Project. Describes agenda for next three years of the Project, and begins discussion on how to address the issues facing Casco Bay.

**The Nomination of Casco Bay to the National Estuary Program.** (61 pp., 1989). By Maine Department of Environmental Protection. Overview of significance of Casco Bay, environmental problems facing the Bay, what agencies and institutions are currently doing to protect the estuary.

**Options for a Management System for the Casco Bay: A Discussion Paper.** (41 pp., 1994). By Charles S. Colgan, Ph.D. Examination of various approaches to addressing septic systems, stormwater runoff, wildlife habitat protection, and monitoring in Casco Bay.

**Historic Sources of Pollution in Portland Harbor.** (170 pp., 1994). By Edward Hawes, Ph.D.. Inventory of historic industries and probable pollution in Portland and South Portland between 1840 - 1970.

**State of the Bay.** (31 pp., 1992). By the Casco Bay Estuary Project. Overview of Casco Bay's resources and current environmental health, pollution issues facing the Bay, activities in progress by the Casco Bay Estuary Project.

**Long Island: Ecological Characterization and Stewardship Recommendations.** (121 pp., 1993). Prepared by Students for the Protection of Long Island Ecology, Portland High School.

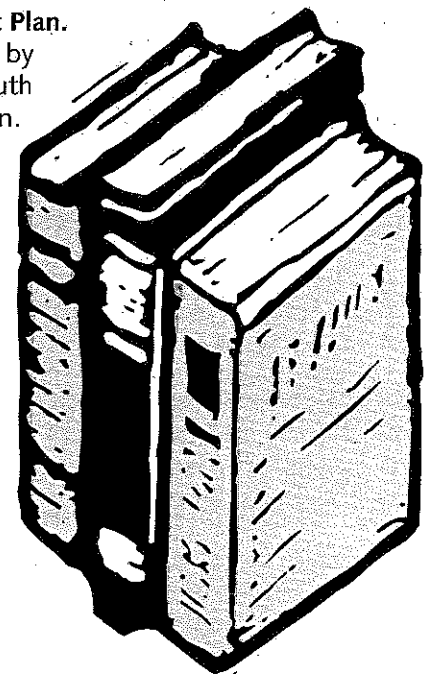
**Review of Water Quality Planning Programs Relative to Casco Bay.** (50 pp., 1992). By Metcalf & Eddy. Review of six existing State of Maine water quality planning programs.

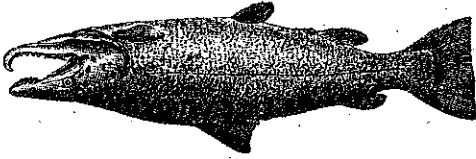
**Review of National Estuary Program Demonstration and Implementation Activities.** (83 pp. plus appendices, 1991). By Metcalf & Eddy. Listing of demonstration and implementation projects undertaken by the 15 existing estuary programs and project summaries for 29 projects of particular interest to Casco Bay and Massachusetts Bays.

**Rehabilitating Harpswell Shellfish Resources: A Report To The Town of Harpswell.** (34 pp., 1993). By Intertide Corporation and D.W. Newburg Associates. Evaluation of two closed shellfish areas to investigate possible sources of bacteria contamination. The study suggests an approach to remediation, management, and protection.

**Watershed Management Plan.** (50 pp., 1993). Prepared by Gary W. Fogg for Falmouth Conservation Commission. Three-part educational manual designed to encourage better watershed development practices.

Other reports will be listed in future issues of Currents as they are completed.





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Portland, ME

312 Casco Road

### Casco Bay Estuary Project

Casco Bay, blue and serene  
It's not all that dirty but it's not all that clean  
How can we make it more pristine?

Well, island dwellers and you on the shores,  
If the Bay is dirty the problem is yours.  
You are the closest, the Bay's at your door!

The problem, dear friends, is not just our own.  
See how your inland towns have grown.  
We can't just take care of the Bay alone!

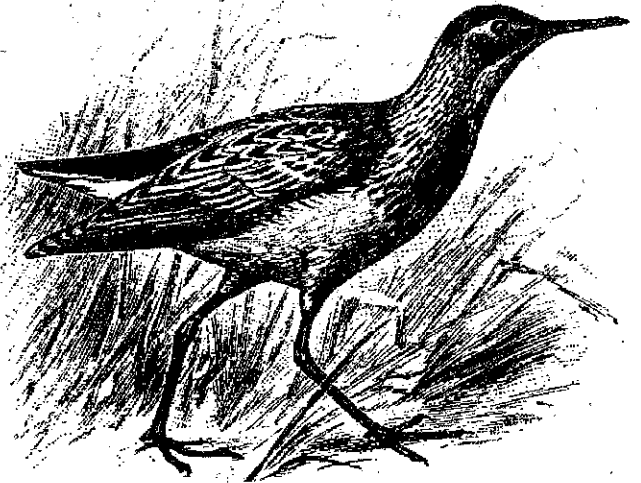
The problem is larger than it seems  
From ponds and lakes and rivers and streams,  
The water flows down -- it's Nature's way --  
And carries pollution into the Bay.

From parking lots, driveways, farms, fertilized lawns  
Cars, rooftops, and highways the pollution moves on.  
Bit adding to bit until clean water's gone.

But if every day, everyone, everywhere  
Will think before doing -- take every care --  
We can get clean and keep clean the waters we share.

It will take us all -- of that there's no doubt --  
Working, planning together is what it's about.

-Jean Dyer  
Chebeague Island



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