

# Has the Acreage of Open Shellfish Beds in Casco Bay Changed Over Time?

**Answer: Acreage of open beds has increased significantly since 1994.**



Bill Stahler, Jr.

## Why is Open Shellfish Bed Acreage Important?

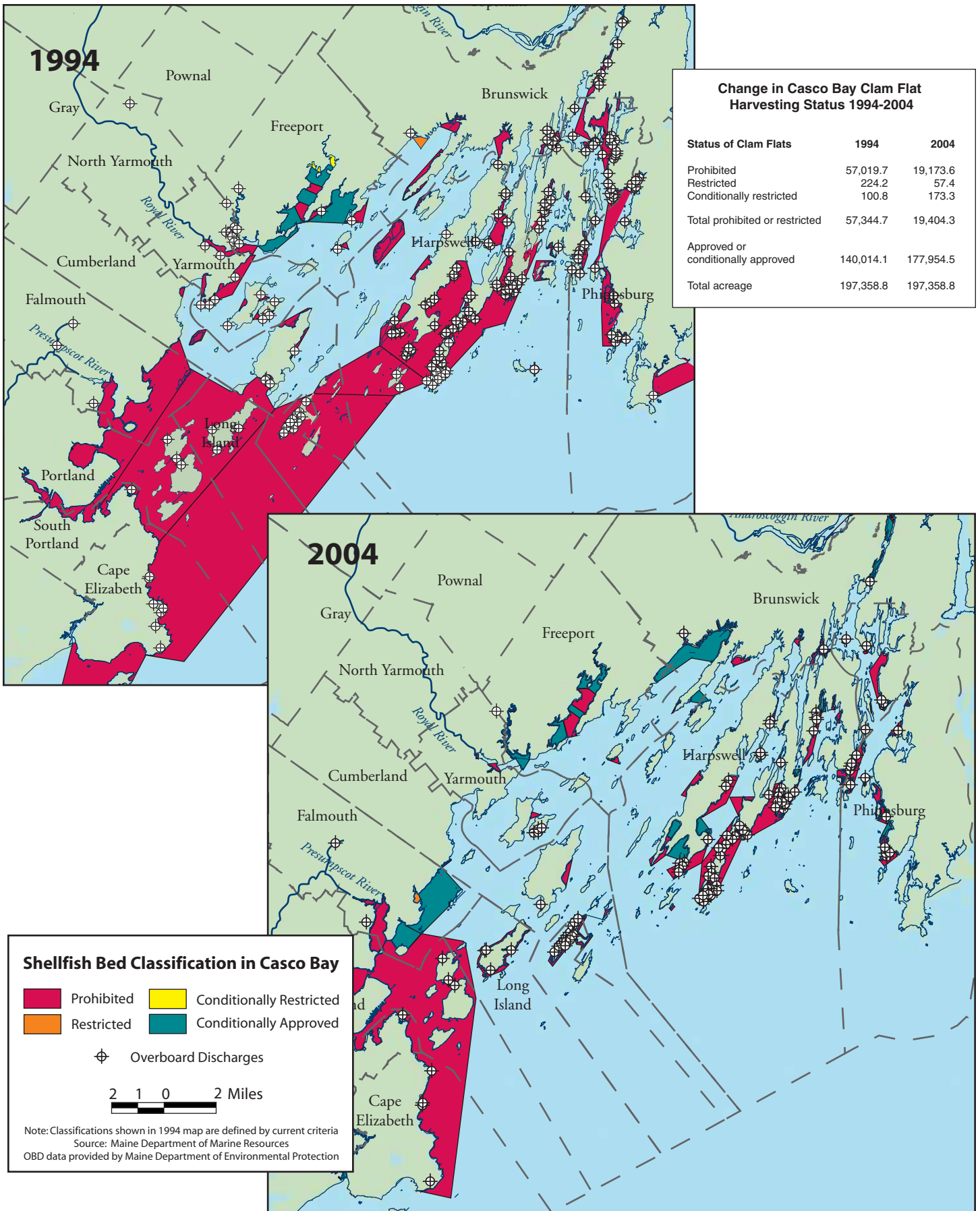
The status of our shellfish beds serves as a significant indicator of water quality in Casco Bay. In addition, shellfishing represents an important tradition, as well as a livelihood for many residents. The economic value of the soft-shell clam industry in Casco Bay has been estimated at between \$11.6 and \$15.7 million annually. The closure of shellfishing areas because of pollution limits the economic value of the resource. By working to sustain the health of the shellfish beds and expand open acreage, we are promoting economic and ecological well-being and maintaining an important part of our coastal heritage.

## Contamination and Closure

Consumption of shellfish contaminated by fecal waste can cause illness. Shellfish flats are closed by the state when

water quality monitoring indicates the presence of animal or human fecal waste or when there is a threat of fecal contamination. Bacterial contamination from malfunctioning septic systems, overboard discharge systems, boat discharges, combined sewer overflows and nonpoint source pollution led to the closure of 37% of the bay's shellfish flats ten years ago. Over the past decade, progress has been made to eliminate many of the sources of bacterial contamination in Casco Bay, leading to the reopening of thousands of acres of formerly closed flats.





The acreage where shellfishing is prohibited or restricted in Casco Bay has declined dramatically in the last decade.

## An Effective Partnership: Overboard Discharge System Elimination

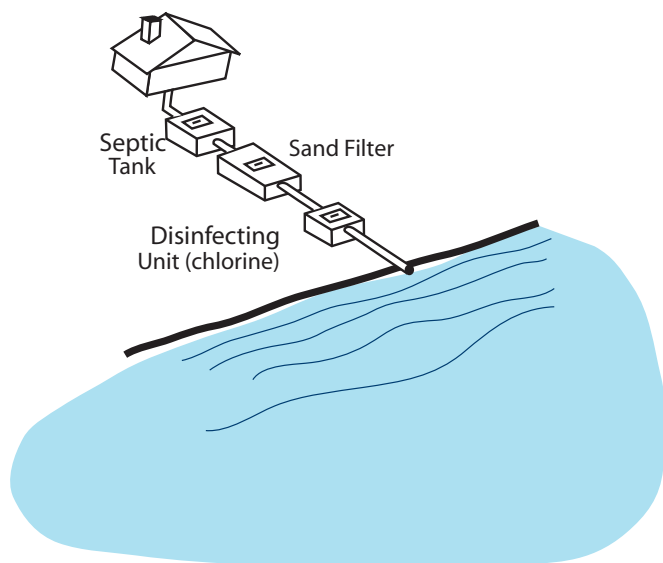
A typical overboard discharge system is similar to a household septic system except that the leaching field is replaced by a combination of a sand filter or mechanical aerobic tank and a chlorination unit to disinfect the effluent before it is discharged into a water body (see illustration). Because the proper maintenance of a household system cannot be guaranteed, the Maine Department of Marine Resources considers each overboard discharge system as a potential source of bacteria and permanently closes nearby shellfish flats.

In 1987, Maine enacted the Overboard Discharge Law, which prohibited new systems and established a procedure for replacing existing systems with alternative treatment methods. Since that time, the state has worked with towns and homeowners, providing grant funding to help eliminate overboard discharge systems. In 1999, CBEP began working with Maine Department of Environmental Protection, Maine Department of Marine Resources, municipalities and homeowners to provide the technical and financial assistance needed to replace overboard discharges located near productive shellfish resource areas. To date, CBEP has helped to open over 300 acres of flats.

### Reference

Heinig, C., P. Moore, D.W. Newburg and L. R. Moore. 1995. *Economic Analysis of the Soft-Shell Clam (Mya arenaria) in Casco Bay*. Casco Bay Estuary Program.

### Diagram of an Overboard Discharge System (OBD)



Maine Department of Environmental Protection and  
Maine Department of Community and Economic Development, 1993,  
*Treat it Right: Alternative Wastewater Systems that Protect Water Quality*



Guy Watson, Yarmouth Shellfish Committee and Marcia Bowen, Normandeau Associates furrow one of the test soft-shell clam "farm" plots with clam forks.

### Expanding and Sustaining the Shellfisheries of Casco Bay

CBEP is working with a team of shellfish stakeholders and consultants to identify and eliminate fecal pollution sources, re-open soft-shell clam flats and develop tools for sustainable management of shellfish resources. For example, in October of 2001, CBEP led an effort to test the value of soft-shell clam farming options by seeding clams in three saltwater "farm" locations along the Bay.



A sampling area in one of the soft-shell clam flat plots studied to investigate the success of clam seeding.