

The Three Bays Monitor

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Rushy Marsh Pond Restoration Project

Reopening a Connection to the Sea

The Conservation Division of the Town of Barnstable has been investigating the reopening of a connection to the sea from Rushy Marsh Pond in Cotuit, the stated goal being to improve tidal exchange with Nantucket Sound in order to address water quality issues while protecting environmental values.

Three Bays Preservation, in partnership with the Friends of Rushy Marsh Pond, is now aiding in evaluating the feasibility of the project by building on a study completed by the town in March 2002 and filling in data gaps on two issues that were not adequately addressed in that study: What are the nutrient levels of the pond, and what is the movement of the sand on the beach?

Our investigation of the nutrient levels in the pond was initiated last fall through our water quality monitoring program, and will resume in the spring. Our study of beach movement, through a process called beach profiling, was initiated in December with the assistance of Jim O'Connell of the [Woods Hole Oceanographic Institution Sea Grant Program](#) and *Cape Cod Cooperative Extension*, and is accomplished by recording elevations of the dunes and beach, and graphing the changes to those elevations over time.



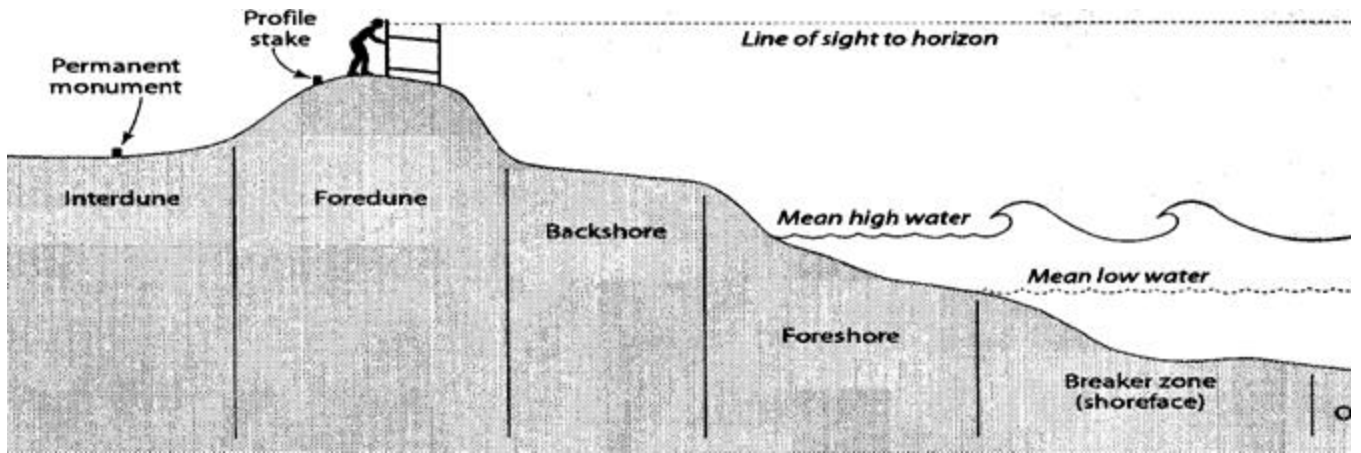
Jim O'Connell (back to the camera) trains volunteers in the Emory Rod Method of dune and beach profiling.

A Shifting Shoreline

Rushy Marsh Pond lies in a dynamic coastal setting, and more than two centuries of historical maps show a constantly changing shoreline and the closing of the natural inlet to the pond around 1910. If we are to attempt to reopen the connection, we must first understand how the sands are shifting today to evaluate how difficult it will be to keep a channel open once installed.

One way to obtain information about seasonal and storm-induced beach shapes is to profile the beach monthly, with additional profiles taken immediately before and after major storms. Comparing profiles season-to-season clearly illustrates the important changes taking place along the shoreline and how quickly coastal landforms change.

Once we have at least one season's data, we'll be better able to evaluate whether the culvert is physically possible and, once opened, if there will be sufficient tidal exchange to improve the water quality in the pond. A complete survey of plants and animals in the area will also be needed before the project can move ahead.



A Typical Dune and Beach Profile
 Courtesy of WHOI Sea Grant Program, 2001, Marine Extension Bulletin
 "Beach and Dune Profiles: An Educational Tool for Observing and Comparing
 Dynamic Coastal Environments" by Jim O'Connell

Lindsey Counsell Recipient of Barnstable Land Trust 2002 Founder Award

On November 15 Jaci Barton, Executive Director of the [Barnstable Land Trust](#), presented that organization's 2002 Founder Award to Lindsey Counsell, Executive Director of Three Bays Preservation.

This award is given annually "for having the vision to empower the people of Barnstable to preserve the essence of Cape Cod", and Lindsey was honored for his decades of involvement with such organizations as the Conservation

Commission, the BLT, the Cape Cod Land Bank, and the Open Space Committee.



At Three Bays Preservation, Lindsey continues his efforts to increase public awareness about deteriorating water quality, and is leading efforts to reverse the trend.

*Jaci Barton, right, presents the
Barnstable Land Trust 2002 Founder Award
to Lindsey Counsell*

Three Bays Preservation on the Radio

Our thanks to Mindy Todd, host of *The Point* on the Cape & Islands NPR station WCAI 90.1. This program presents informative discussion on issues critical to the Cape and Islands, and on January 9 the focus was on the problem of too many nutrients leading to the decline of ecological health in our coastal embayments, how severe the problem is, some ways we are and could be addressing it, and why this may be one of the biggest issues facing the Cape and Islands.

Mindy's guests for the hour included Dr. Brian Howes, Professor at the School for Marine Science and Technology at UMass Dartmouth and manager of the Coastal Systems Program, and Lindsey Counsell, Executive Director at Three Bays Preservation. Joining them by phone from their offices in Boston were State Senator Rob O'Leary, and Andrew Gottlieb, Asst Commissioner, Bureau of Policy and Planning at the Mass Dept of Environmental Protection.

The Point will be doing a follow up program in the spring. The date is not yet known, but you can keep your eye on their website, www.cainan.org, for posting of upcoming programs.