

The Three Bays Monitor

Vol. 2 - July 2000

What's Going On

"Watersheds at Bay"

This spring Three Bays Preservation, the Cape Cod Commission and the Association for the Preservation of Cape Cod hosted a daylong conference "Watersheds at Bay" to raise awareness of the conditions affecting Cape embayments. Speakers with a wide range of expertise informed the 100 plus attendees about how watersheds function, the effects of nitrogen on salt water communities and how land use impacts the coastal environment. The organization will host a second symposium this fall focusing on our Three Bay area.

West Bay Channel Dredging

With the funding of \$15,000 for the dredge work on the West Bay Channel by the Town of Barnstable, we were able to move an additional 3,500 cubic yards of material. We will work with the Town to complete the dredge work on the lower section of the West Bay Channel this fall. Also in the works is a small amount of dredge material to be removed from Sampson's Island.

Herring Run Project Grant

Three Bays has received a \$12,800 grant to rebuild a fish ladder in Middle Pond and construct a fish excluder in the Marstons Mills River which will keep fish from entering adjacent cranberry bogs. The grant is from the National Association of Counties, the National Fish and Wildlife Foundation, and the Wildlife Habitat Council. Work should begin in late fall.

Keeping in Touch With Three Bays

Please notify the Three Bays office at 420-0780 of your off-season address or any change in address so we may keep you informed throughout the year of our progress and upcoming events.

Using DNA Analyses to Track Fecal Coliforms in the Three Bays

As well as measuring nitrogen in the Three Bays system, our 1999 Water Quality Monitoring Program included sampling for fecal coliforms. Many human pathogens spread by fecal contamination of water can be a risk to human health even at very low concentrations. Monitoring the level of fecal coliforms in water can assess the potential for the presence of organisms. The limit for human water contact activities is 200 organisms per 100 ml. The limit is 14 per 100 ml in waters from which shellfish may be

harvested for human consumption. Human fecal contamination is considered significantly more threatening to human health than animal fecal contamination.

Our 1999 sampling program revealed a number of high summer and early fall coliform counts in the Marstons Mills River, Warren's Cove and Prince's Cove. Counts in North Bay are also of concern.

In the past, high coliform counts in these waters have been attributed to waterfowl and other wildlife. However, the pattern and timing of the 1999 samples indicates a significant potential for human-produced fecal contamination. Until recently there has not been a method to differentiate between human and animal fecal contamination measured in water samples. Knowing the source of the problem enables water quality management efforts to direct control efforts to the source. Potential sources include storm runoff, failing septic systems, and improperly operated boat toilet systems.

In 2000, the Three Bays monitoring program is using DNA typing to determine the source of the coliform bacteria by identifying the genetic fingerprints of the contributing organisms.

Samples of fecal matter must be obtained for each animal that may be a significant contributor to the problem. Thus, if you should see the personnel on the Three Bays Preservation skiff disembarking on shore to collect fecal samples deposited by geese or other animals, you will know the reason.

... And a message from Mass. Audubon

Year 2000 has been a banner season for the Sampson's Island/Dead Neck Wildlife Sanctuary! Chris McDowell and Melissa Rose, naturalists for the Massachusetts Audubon Society's Coastal Waterbird Program (MAS-CWP), report that over thirty Piping Plover chicks from eight pairs of adults have hatched on the island. The Least Terns are nesting in record numbers on the dredge material placed on Dead Neck – almost 400 nests.

Melissa and Chris are offering our traditional nature programs on Saturday mornings at 10:30. Anyone who wants more information about these programs may call our office at (508) 362-7475.

We have enjoyed the continued cooperative alliance with Three Bays. We especially welcome Three Bays supporters to become members of the Massachusetts Audubon Society and to come see the beautiful wildlife habitat that exists in their own "backyard."

Matthew Bailey
Cape Cod Coordinator
MAS-CWP

Dead Neck Island and Waterway Maintenance

In the early 1980's the Town and County, due to budget constraints, stopped maintaining the Three Bays waterways and providing periodic nourishment of Dead Neck Island. By 1997, the waterways were becoming blocked because of shoaling, and 1,500 ft of Dead Neck was at or near mean low water (under water). If action was not taken the free exchange of water with Nantucket Sound would not take place through the waterway into the bays, and Dead Neck Island, a valuable bird sanctuary and barrier island, would be destroyed.

Three Bays Preservation obtained the necessary permits to dredge the channels and rebuild Dead Neck Island. Over 200,000 cubic yards of material have been excavated from the waterways and placed on Dead Neck. The new beach profile is 12 ft high, 2000 ft long and 150 ft wide. The waterways now work more efficiently than in the past. Over 380 Least Tern nests and 8 Piping Plover nests are on the island - a beautiful and healthy habitat for coastal birds.

Future Maintenance

Forces continuously move sand off Dead Neck Island and into the waterways. Maintenance is an on-going process. Three Bays Preservation performs annual topographic surveys and engineering analyses to monitor the health of Dead Neck Island and the interconnecting waterways.

Three Bays Preservation is preparing to further improve the Cotuit entrance channel and build additional bird habitat on the north side of Sampson's Island which will further improve the desirable flushing action in our bays.

The October 1999 program was partially paid by the Town of Barnstable. We have asked that they participate in the Cotuit Channel improvements in the fall, and the town has shown a willingness to participate in future dredging programs.

Pumping Out in the Three Bays

You can call for the "Barnstable Pump out Boat" on channel 9 (preferred) or 16 on your boat's VHF or marine band radio to make arrangements to empty your holding tank. Because the pumpout boat monitors both 9 and 16, state the channel number in your call. When you reach the pumpout boat, the operator will move you to a working channel (usually channel 69), and get the relevant information to complete the pump out.