

Keeping the Cape's water clean

By **DOUG FRASER**
STAFF WRITER

Until recently, the most expensive municipal project ever undertaken on Cape Cod had generated few headlines.



■ Pleasant Bay in Chatham is seen with Strong Island in the foreground, looking east toward Nauset Beach.
(Staff photo by Kevin Mingora)

In every Cape and Islands town, volunteers have quietly labored for years collecting water-quality samples from ponds, rivers and coastal estuaries as part of the state's Massachusetts Estuaries Project. The state Department of Environmental Protection and the University of Massachusetts-Dartmouth analyzed those samples and are in the process of telling towns by what amount they need to reduce the flow of nitrogen and other contaminants from their septic systems, lawns and roads, into sensitive water bodies to keep them healthy.

Now it's time for sticker shock as towns move past the information-gathering phase to finding solutions. A price tag of hundreds of millions of dollars per town makes the

wastewater cleanup the largest municipal expense ever on the Cape. With little state or federal aid on the horizon, town officials are hoping to make it more palatable to voters by doing the work in stages, so payments could be made over a 30- or 40-year period.

"I think it's something we have to do. If you don't do it now, you'll have to do it later. We have to take care of our water," said Barbara Pelletier outside the North Chatham post office. "I do think it's hard on people (higher taxes), especially those who can't look forward to an increase in income."

A recent University of Massachusetts-Dartmouth report projected wastewater management costs of \$2 billion to \$3 billion for Southeastern Massachusetts. That estimate seems conservative: Chatham officials say it will cost \$300 million to expand the town's wastewater treatment plant and install sewers throughout the town, and Falmouth officials estimate new sewers will cost \$500 million to protect coastal ponds.

If the wastewater problem is ignored, the cost to the environment may be even greater, state and town officials say.

Nutrients, mainly from septic systems, enter coastal waters, ponds and rivers, and act like fertilizer, accelerating the growth of algae. The waterborne plants multiply rapidly, clouding the water, blocking sunlight from reaching vital eelgrass beds, or outright smothering life on the bottom under a thick mat of plant growth. Algae respiration and decomposing dead algae can also suck the oxygen out of shallow water

systems, resulting in the death of most marine life.

The federal Clean Water Act of 1972 requires that communities determine how much pollution each of their water bodies can sustain and find ways to reduce the flow of contaminants to levels that ensure that waters are fishable, swimmable and support marine life.

For two decades, most of the focus was on the big polluters, industrial plants discharging toxins into rivers and bays, and municipalities that discharged barely treated, or untreated, sewage.

With the most egregious polluters under control, the effort shifted to individual septic systems, farms and storm drains, all of which release relatively little waste individually, but a lot collectively.

In 2002, the Massachusetts Estuaries Project was founded to assess the water quality of the state's coastal bays, streams and rivers. Some Cape towns had already been collecting that information.

Chatham plan moving along

As of last year, the state DEP had funded the majority of that research work with \$4.5 million in grants. The School of Marine Science and Technology at UMass-Dartmouth also provided \$1 million of technical and scientific assistance. Barnstable County added \$500,000, the Cape Cod Commission \$250,000, and taxpayers in each Cape town have funded parts of the research effort.

But with several towns nearing the end of the technical phase and beginning to contemplate the cost of building wastewater treatment plants, the process is suddenly getting voter attention.

Last year, Chatham voters told town officials they wanted to go ahead with their wastewater treatment effort despite the projected \$300 million price tag, approving \$1.1 million for design work to triple the capacity of the town's wastewater treatment facility.

By next year, Chatham, the furthest along in the wastewater management process of any Cape town, will ask voters for money to build a larger sewage treatment plant.

Although the cost seems staggering, Town Administrator William Hinchey said it's manageable because it can be paid off over a 30-year period, under a phased-in plan that would add debt to the town gradually as old debt is retired and new revenues are generated by residents hooking up to the sewer system.

Hinchey said that declining municipal debt will pay for 30 percent of the cost. If voters approve a new real estate transfer tax, that could fund another 25 percent. An additional 15 percent could be paid by new revenues, and the remaining 30 percent of the \$300 million would be paid through increased property taxes. Depending on how that is done, the cost to a taxpayer who owns a \$700,000 home would be either \$14 or \$38 per month in new taxes.

There would also be an additional cost of hooking up to the system and a monthly bill, estimated to average \$33.

Most towns still have years to go before considering that level of detail. Dennis, for example, is still in the information gathering stage, five to eight years behind Chatham, town health director Terence Hayes said.

"We're very early in the process," Hayes said. The Dennis Water District is funding water-quality sampling and Hayes hopes that continues. Fifteen years ago, Hayes worked on Chatham's water quality task force and knows the long road ahead.

"They're to be commended for staying the course," he said of Chatham.

Hayes admits it can be hard to keep voters, volunteers and town officials focused when the time line extends over generations, but he is hopeful.

"We started in 2004," he said. "It's been three years and our task force shows no sign of flagging interest."

Creative strategies

The Cape isn't the first area in the United States to deal with the impact of excess nitrogen.

In 1989, Florida's Sarasota Bay had reached a crisis point. Between 1950 and 1990, the 52-square-mile bay lost 39 percent of tidal wetlands and 30 percent of its sea-grass meadows to development and degraded water quality.

By improving private septic systems and public wastewater treatment plants, the amount of nitrogen flowing into the bay was reduced by 81 percent, from 569 tons annually in 1988 to 110 tons per year in 1999.

Those gains were achieved despite the population in the region tripling from 200,000 to 600,000. Water quality improved to the point where only one of the 13 segments of the bay is now considered degraded. Seven of 13 segments were called degraded in 1983. Also, more than 4,000 acres of sea grass have been restored.

That kind of progress came with a price.

Julia Burch, Sarasota Bay National Estuary public outreach coordinator, said most of the areas served by septic systems installed sewers and more sewers are planned. In 1995, the cost for that and other improvements was estimated at \$50 million, but the final bill actually cost a lot more.

"Sometimes," she said, "it is difficult to explain to someone that their septic system is a part of the problem when their house is not near the bay."

The communities around Sarasota Bay have used a variety of taxes to pay for the cleanup - special taxing districts, a penny sales tax, and stormwater and utility taxes.

The taxes have been controversial, sometimes unpopular, Burch said, but she thinks most residents believe the bay is worth saving.

"It's been the focal point of our community, and for Bradenton as well, all the way back into the prehistoric," Burch said. "It may seem expensive and hard to do now, but it will only get harder in the future, with less options."

Doug Fraser can be reached at dfraser@capecodonline.com.

(Published: April 1, 2007)

Copyright © Cape Cod Times. All rights reserved.