

## Cockle Cove Erosion Symptom Of Wider Problem

by Tim Wood

CHATHAM --- Emergency measures are being taken to protect the parking lot at Cockle Cove Beach while officials try to find a more permanent solution to erosion that threatens all of the town's Nantucket Sound beaches.

On Wednesday, the conservation commission was expected to approve placement of a stone rip-rap along the seaward edge of the parking lot, a move designed to prevent undermining of the asphalt. Despite numerous attempts to stave off erosion by placing sand on the beach — the latest last Friday — the area continues to suffer the ravages of tides and wind.

“It’s a significant hotspot for erosion,” Coastal Resources Director Ted Keon said.

But it’s not the only place along the town’s Nantucket Sound shoreline where the beach is disappearing. This summer, for the first time, a lifeguard stand wasn’t placed between the two parking lots at Harding’s Beach because the beach was too narrow.

“This kind of zone of erosion will continue to move east,” Keon told selectmen last week. If nothing is done, the town risks losing not only Cockle Cove Beach, but Ridgevale and Harding’s Beach as well. Those are the three main guarded, paid admission beaches in town, generating hundreds of thousands of dollars in revenue annually. Cockle Cove is the least busy of the three beaches, according to Park and Recreation Director Dan Tobin.

What’s happening at Cockle Cove is a symptom of a larger problem. A series of groins along the Nantucket Sound shore were built in the first half of the 20<sup>th</sup> century, beginning in Yarmouth and Dennis and continuing through Harwich and Chatham. The structures traps sand that would usually flow east. The result is that sand builds up in some areas while others starve.

“We’re at the end of the line,” Keon said. “Sand that would otherwise come to Chatham is getting impounded and diverted upstream.”

The coastal processes at work are not a mystery; they were spelled out in a report by well-known coastal geologist Dr. Graham Giese in the 1980s. The town also commissioned a study of the erosion problem at Cockle Cove in 2000. The root of the problem is in large part outside the

town's control, and there has been no effort to take a regional approach to the situation, said Keon. To date, the best approach has been to add sand to the beaches, knowing they will erode and supply sediment to the downstream shore.

Continuing that approach is problematic, Keon said. While there is sand available from periodic dredging projects in Stage Harbor, for instance, or the upcoming dredging of Mill Creek, continued beach nourishment can get expensive. And there are regulatory issues — including tightening regulations regarding wildlife habitat — to deal with as well, he noted.

To “get a sense of the full nature of the issue, the potential impacts of doing nothing and development some concepts of alternatives,” Keon is including \$40,000 in the fiscal 2010 budget for a study of the town's southern shoreline. The study, recommended in the town's South Coastal Harbor Management Plan, will investigate options, come up with costs, and serve as a basis for a community wide discussion of the future of the Nantucket Sound beaches.

“Our hope is to at least get a better sense of the magnitude of the problem both from the problem side and the solution side,” Keon said.

Right now, efforts are concentrating on keeping the Cockle Cove parking lot from crumbling to the beach. Selectmen last week endorsed the emergency measure, one of five options developed by consultants the Woods Hole Group. The project is estimated to cost between \$10,000 and \$15,000, and will be paid for with Federal Emergency Management Agency funds the town received following the April 2007 storm.

Two years ago, the area immediately to the west benefitted from a large infusion of sand, which was dredged from the Stage Harbor channel. That did what it was expected to do — erode over time and supply sediment to beaches to the east, Keon said. Last spring, more sand was placed at Cockle Cove, and the beach held relatively steady until October, when a few southwest storms came through.

“We were back literally to the edge of the parking lot surface just before Halloween,” Keon said.

More sand was placed on the beach, but two weeks later it was gone. More sand was brought in during November and December, and again last week, modest amounts of 200 to 300 yards. Luckily, the storms that came through during that time were short in duration, he said. A storm that lingered would likely lead to the parking lot being undermined.

Options looked at for short-term protection of the parking lot included continued sand replenishment, concrete blocks, jersey barriers, a bulkhead and rubble stone. The latter was the most viable option, Keon said, because it could be installed quickly, with a minimum of regulatory review, and could be easily removed once a more permanent solution is found. A mound of random stones will be matched to the revetment to the west and tapered about 60 feet to the public access location from the parking lot. Sand will be placed on top of the stone, “essentially burying it,” Keon said. The

sand is essentially sacrificial, and will probably have to be replenished.

“This is really a stop gap measure to protect the parking lot while the town tries to decide what to do in this region,” he said.

Letting erosion continue or pulling back the parking lot are options, but they carry dangers of erosion becoming more severe, Keon said. Dr. Robert Duncanson, head of the town’s health and environment department, said that could also cause the dune to the east to breach, exposing the wetland behind to the open water, creating the potential of flooding of low-lying homes to the north.

Selectmen Ronald Bergstrom said he was surprised to see how little beach remained at Cockle Cove when he visited last week. He pointed out that a bulkhead immediately west of the town beach juts out into the water, and the lowered beach is strewn with rocks and old tree roots.

“I think we have no choice but to protect that parking lot,” he said.

Resident Frank Messina, who lives off Cockle Cove Road, agreed, saying he was concerned to hear abandoning the parking lot mentioned as part of a “no action” scenario. “I could get a few hundred people to come down here if they knew you were considering that,” he said. During his 37 years observing the area, there’s been an “ebb and flow to the sand.”

“I don’t think of it as protecting the parking lot,” he said. “It’s protecting the beach and access to the beach.”

*1/15/09*