

CLEARANCE FOR THE CHESAPEAKE BAY BAY JOURNAL

Dredge islands in Bay giving way to projects on shore
Successes, community involvement shore up support for new sites

By Rona Kobell

The truck makes a sharp turn and drives along what looks like a finger of earth jutting into the Patapsco River. Slowly, Frank Hamons climbs out onto this dike, planting his feet on about 1.3 million cubic yards of dirt that not long ago sat at the bottom of the river. After 30 years with the Maryland Port Administration, Hamons can't help but smile about the progress here at Masonville Cove, one of the newest sites set to receive material dredged from the Baltimore Harbor.

"There's a lot of pride in these projects," said Hamons, the port's deputy director for harbor development. "We have been paid back many times for our investment here. Working with the neighborhoods has been extremely beneficial to us."

The Port of Baltimore remains one of the region's most important growth engines. It provides more than 16,000 direct jobs and more than 130,000 indirect ones, brings in \$1.9 billion in revenues and \$400 million in state tax revenues. It is the 12th most profitable port nationwide, and has just signed a deal to grow even bigger; a private company is going to invest \$105 million to widen its berth to accommodate larger ships bound for Asia.

But the port can't continue to grow until it clears the sediment out of the harbor and the shipping channels up and down the Chesapeake Bay and the Chesapeake and Delaware Canal. Port officials estimate that 4.7 million cubic yards of sediment-some of it laden with toxins such as arsenic and hydrocarbons-need to be removed every year. About 1.5 million cubic yards of dredge material comes from the harbor. Where it's going to go and how it's going to get there is a question that has taxed the port administration since the early 1970s, when it first announced it would place the dredge material on Hart-Miller Island off the Baltimore County shore.

Hart-Miller, Maryland's first dredge island, took nearly 14 years from the time it was proposed until it became operational in 1984 because of lawsuits and protests from neighbors. The legislature then passed a law saying the island must close Dec. 31, 2009, and it forbade the port from putting another dredge island within five miles of Hart-Miller, partly on the grounds that the people of eastern Baltimore County had accepted more than their share of the harbor's dirt.

Since then, Maryland's General Assembly and the U.S. Congress-which authorizes the funding for dredging projects through the U.S. Army Corps of Engineers' budget-have passed several laws regulating dredging and forbidding open water dumping in the Chesapeake Bay. Politicians have made their careers on the dredging issue. The port has spent nearly \$1 billion to create its dredge islands in the

Chesapeake Bay, and will spend close to a billion more on additional island projects.

Maryland law forbids the port from creating new islands. Instead, it has to use the dredge material to restore islands already in the Bay that are eroding. That provides environmental benefits, but it adds to the costs. Hart-Miller is just a few miles from the harbor; Poplar Island, the site the port developed next, is 34 miles away. James, the next island slated to be built, is even farther.

Over the years, the public has become more supportive of the dredge islands-particularly Poplar Island, which will receive dredged material until 2027. Poplar is a construction site turned waterfowl sanctuary and is already home to hundreds of acres of restored wetlands. But with the economy in recession and funding for basic needs being cut, requests for billion-dollar dredge islands may not go over well. And the need never ends; once an island fills up, the port has to start thinking about the next one.

Also, scientists now understand that much of the sediment dredged today is clean and could have a beneficial use, unlike some of the sediment dredged in the past that proved to be toxic and needed to be contained.

In 2003, the port put out a call to all of the counties that bordered it for advice on how to continue dredging in a way that protected both the state's budget and the environment. That effort led to the establishment of a harbor team that still meets to discuss projects.

Hamons said the effort has led to a great dialogue with the communities. The team came up with several sites that the port could clean up and restore as well as use to hold material. Among them were Masonville, Cox Creek and Sparrows Point.

Masonville was a mess, a one-time residential neighborhood that had long ago become industrial and the site of a ship-breaking operation. The port removed 60,000 tons of trash, including hundreds of tires and the cinders from the great Baltimore Fire of 1904. Underneath that debris was contaminated ground.

The port asked the local communities of Curtis Bay and Brooklyn Park what they wanted to see there: They asked for an environmental center, access to the water and a cleaned-up cove.

At the Cox Creek site, a former copper factory, the community asked for a restored wetland. And at Sparrows Point, they hoped the port would be able to clean up years of pollution left from steel manufacturing.

Masonville and Cox are both under construction. Already, community members are visiting the environmental center at Masonville, which includes such green features as geothermal heat and space for a green roof. And the restored wetland at Cox Creek, in the shadow of a power plant and a chemical plant, teems with herons and osprey. Both will soon be ready to receive dredged materials from the harbor.

The port is still negotiating for the Sparrows Point site; frequent changes in ownership at the steel plant have stalled progress. But, if that project works out, the three sites will solve the harbor's dredging needs for 20 or 30 years, Hamons said.

"Any of those ideas, we probably would have come up with ourselves," Hamons said, "But it made all the difference in the world that the communities were the ones to come up with them."

The port also formed a citizens committee to recommend ways to creatively reuse dredged materials. The committee issued its first report in 2007. It suggested that, if the port could find an innovative reuse for 500,000 cubic yards every year from the Baltimore Harbor, it would only have to put 1 million in containment facilities.

The port also hired Maryland Sea Grant to independently investigate the reuse of dredged materials. Their study found that, contrary to popular belief, sediments dredged from the harbor areas—defined as North Point to Rock Point around Baltimore—were in many cases no more contaminated than those dredged from the Bay channels. In some cases, harbor sediment was actually cleaner because it had been dredged more frequently. Pollutants deposited when the port was more industrial had already been removed.

Several pilot programs are helping to narrow down the best options for the innovative reuse of dredge material. Among the most promising are using the material in lightweight aggregate, construction materials, sod and fill for sand and gravel pits, and road-building. But, Fran Flanigan, who facilitated the reuse committee, warns that the economics have to work: In Holland, the Dutch built a plant to make bricks out of dredge material and it sits idle—the bricks are too expensive to use. And while it has been suggested that the sediment be used to fill abandoned mines, the pits are so far away that it's not economical to transport the material to them.

Hamons agrees, saying that putting material at Masonville is about four to five times cheaper than any reuse would be.

Flanigan, who served as executive director for the Alliance for the Chesapeake Bay for more than two decades, said the port didn't always appreciate its environmental impacts, or the public's concerns. But that has slowly changed.

"It's a traditional old business that 10, 15, 20 years ago, wouldn't have known what the word green meant," she said. "But they know it now, and they are really trying to do a much better job at being sustainable."

Bay islands rising from the depths, thanks to dredge materials

Call it the end of the island era.

When Hart-Miller Island opened in 1984, many Eastern Baltimore County residents weren't happy about living so close to an island made out of "dredge spoil." They were concerned that some of the sediments dug out of the harbor and the shipping channel were toxic, and that all of the construction machinery would disrupt a tranquil way of life on the water. Watermen worried the construction would disrupt oystering, while some environmentalists wondered if the islands would disrupt the natural flows of the Bay.

Twenty-five years later, Hart-Miller is full to capacity and closing, and the thinking has evolved. Hart-Miller has become a benefit in many ways to the county, with a state park and a wildlife preserve built solely out of dredge material (no longer called spoils).

Contentious fights about dredge islands still occur-residents in communities north of Annapolis famously fought one slated for Bodkin Point in the Patapsco River. But often, communities have eagerly accepted these facilities in their midst. Residents of Taylors, Tilghman and Hooper's islands cheered when they heard the U.S. Army Corps of Engineers was considering building projects near them. The projects not only help to stem erosion, but they bring jobs and traffic to sleepy watermen's communities and restore part of the Bay's history in rebuilding the vanishing islands.

But in a recession, dredge islands are not as attractive as they once were. They cost billions of dollars to build, and when they fill up, the port needs to build more. The port is shifting to sites such as Masonville and Cox Creek, which are along the shore and provide environmental benefits as well as economic ones. And as the port investigates other possibilities for reusing the dredge sediment, it won't need the islands as much. Here's a look at the islands-past, present and future.

Hart-Miller Island

History: Located where the mouths of Middle and Back rivers meet the Chesapeake Bay, these used to be two separate islands, Hart and Miller. There was very little left of either when the port began to place dredged sediments on the property. Initially, neighbors in the Sparrows Point area opposed it. Gradually, they came to see the benefits to both the area and the port.

When it started: 1984

When it ended: 2009

Size: The 1,140-acre site holds 100 millions cubic yards of material.

Cost: \$305 million

Description: Viewed from the water, it resembles a construction site, but Hart-Miller has become a key nesting area for terns, songbirds and winter waterfowl. The island is already a state park, with hiking trails, beaches and excellent campsites. About 300 acres are already a wildlife preserve. Plans call for the whole island to become one in coming years.

Poplar Island

History: This once-thriving farming community off the Talbot County coast was also a retreat for Democratic presidents. But it began eroding slowly, and in 1950, the last of its residents left for good. When the Army Corps arrived in 1998, Poplar had been whittled down to 3 acres.

The public has been very supportive of this project. The construction has brought jobs to the area, as well as some tourists who can go to see the work. Also, residents of Tilghman Island believe it will help to stem erosion.

When it started: 1998

When it will close: 2027

Size: Approximately 68 million cubic yards of dredged material will be placed to develop 735 acres of wetlands, 840 acres of uplands and 140 acres of open water embayment, a total of 1,715 acres and much larger than Poplar's original footprint. Two other islands adjacent to Poplar, Jefferson Island and Coaches Island, are considered part of the project and will benefit from having Poplar as a breakwater.

Cost: \$667 million, including the expansion

Description: Today, rebuilt Poplar Island is home to a wide range of native birds and fish that have returned. Loons, cormorants and herons are frequent visitors. Poplar has become an outdoor biological lab of sorts, allowing scientists to see which restoration techniques work best. It is considered a huge success.

Barren Island

History: Once a trading post for the Nanticoke Indians, Barren is still a trove of arrowheads, pottery and other artifacts. The island once housed a vibrant farming community but now resembles its name; it has been losing about 5 acres a year. It's at 200 acres now, down from 754 on the 1800s. The U.S. Fish and Wildlife Service owns it. The public has been supportive of this project.

When it will start: 2017

When it will end: Around 2022

Size: It will provide 72 additional acres.

Cost: \$30 million

Description: The project's main purpose is to restore wetlands and stem erosion, saving what is left. The Corps' work will build on longstanding volunteer efforts to restore the island.

James Island

History: Settled by the English in the early 1600s, this island at the mouth of the Little Choptank River was owned by longtime Maryland Comptroller Louis Goldstein in the 1950s. Several once-prominent politicians, including former Gov. Martin Mandel, visited there. But its once-grand hunting lodge was

submerged decades ago. Once one island, James has now broken into three "remnants." Having seen how Poplar worked, residents are hoping for both an increase in jobs and revenue and a hedge against erosion.

When it will start: It should be ready to accept new material by 2018.

When it will close: Around 2027

Size: Plans call for 90 million to 95 million cubic yards of dredged material to build a 2,072-acre site.

Cost: \$1.6 billion

Description: Privately owned, this island sits across from Taylor's Island in Dorchester County. Port authorities want to create a wildlife preserve with the dredge material to stem erosion.

Rona Kobell is a former writer for the Baltimore Sun.

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