Two stream restoration projects launched

Aim to reduce pollution of Severn River headwaters

Keith Binsted is a designer with Underwood & Associates, which will be handling the Jabez Branch Waterway restoration. Paul W. Gillespie/baltimore sun media

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By Dana Munro

Two related projects, more than 10 years in the making, to restore part of a stream that is polluting the headwaters of the Severn River, began this month.

The first piece of the restoration, on state land, is being overseen by the

Maryland Department of Natural Resources, the Resilience Authority of Annapolis and Anne Arundel County, and The Severn Riverkeeper. The second is being managed by the county's Bureau of Watershed Protection and Restoration and is on county property.

The project on the state-owned part of the stream, the Jabez Branch Waterway's third tributary, is being paid for with $7.4 million in state money from the Chesapeake and Atlantic Coastal Bays Trust Fund. The fund is financed mostly with dollars from rental car taxes, said Gabe Cohee, director of the Office of Resilience and Restoration in the Chesapeake and Coastal Service at the Department of Natural Resources. The county project will be funded by approximately $2 million of county money. The work will be the same, but will take place directly upstream of the state property.

The contractor for the projects, Underwood and Associates, will start working on the stream in December and the work is expected to take several months. Workers will essentially aim to restore this section of the stream to its original state, before the area was heavily developed and Interstate 97 was built. Runoff from an I-97 exit as well as from homes and other properties has caused severe erosion.

Pollution at the Severn River headwaters is caused by the Jabez Branch 3 stream, which feeds into the Jabez Branch Waterway, which in turn feeds into Severn Run and the Severn River. The amount of runoff has increased with development in the Gambrills and Millersville area and has gouged a more than 10-foot-deep indentation in some parts of the tributary.

That deep channel funnels water carrying large quantities of sediment into the river. That sediment carries nitrogen and phosphorus, which lead to algae blooms and underwater bacteria that deplete the water's oxygen levels. The process has devastated the headwaters' yellow perch population, said Fred Kelly, executive director of The Severn Riverkeeper.

The contractor will strategically fill the eroded tributary with sand and gravel and create a channel within it that will gradually lead the water back up to the flood plain and create small retention ponds lined with native plants that will help cleanse the water and slow its flow into the river. The plants will absorb nitrogen and phosphorus.

Part of the Jabez had a population of brook trout before the nearby

Interstate 97 overpass was built, said Claudia Donegan, director of the Center for Habitat Restoration and Conservation in the Chesapeake and Coastal Service.

“We would like to restore that,” she said. “Brook trout is a really rare fish for the coastal plain.”

Donegan said the trout started to decline when I-97 was being built in the 1980s. By 1990, the department found the trout population had disappeared, according to a DNR study. The state began to look into the erosion problem after DNR received a letter from the Severn River Commission in 2013. The Anne Arundel County Council and Annapolis City Council created the commission in 1984, in part, to advocate for projects to help save the Severn River.

“When you have a whole state that has streams falling apart due to development and climate change you really need the citizens to bring it to the forefront and put the political pressure on, and that’s pretty much what happened,” Donegan said.

DNR has been working on the project since 2013, but it’s been a challenge because of limitations stemming from the time when the Jabez was thriving.

“I hope it’s this hard to build a Walmart as it is to do a stream restoration project,” Donegan said.

“Any time you’re doing work in a cold-water resource the permitting is pretty arduous because it’s protected by the Clean Water Act,” Cohee added.

Kelly said it has taken The Severn Riverkeeper about seven years to get the permits approved for the projects.

The warming of the earth is contributing to the pollution, as well, since warm air can carry more water and is leading to more precipitation, said Matt Fleming, the Resilience Authority’s executive director.

“Every time it rains it’s like Niagara Falls in there,” Donegan said.

Donegan and Fleming said this is some of the worst stream erosion they have seen. Donegan explained that, on a larger scale, the projects are mimicking the work of beavers.

“The beaver managed the landscape. They created all the ecosystems that most of our wetlands, birds, insects, fish species evolved in,” Donegan said, adding the early European settlers almost entirely wiped out the North American beaver population — which was estimated to have been as large as 400 million — and environmental professionals are now trying to undo that damage. “I think beavers are the answer … if people would stop trapping and killing them.”

Kelly estimates it will coast at least another $12 million to repair the remaining erosion in streams leading to the headwaters. The work is critical, he added, because of how important the headwaters are to the health of the river.

“This project will determine the fate of the Severn River. Whether it’s going to be a healthy body of water or not,” Kelly said, adding, if this work is successful, “the yellow perch will come back, spawn like crazy, the stripers will come back that have been spawning up there … and the oysters that everyone is excited about that we’re putting in the Severn won’t get covered with sediment and killed like they have for decades.”