The Washington Post

Stream repairs designed to offset ICC's environmental damage

By Katherine Shaver
Washington Post Staff Writer
Thursday, November 25, 2010; 9:50 PM

Advertisement

About 500 feet from the enormous construction site for the 18.8-mile Intercounty Connector, a giant excavator rumbled about one recent afternoon, clawing at the banks of the Northwest Branch in northern Silver Spring. A powerful pump sucked out the water and funneled it downstream through large rubber hoses. Workers in hard hats toiled in the mud.

Maryland highway officials call it the environmentally friendly side of a highway project that was mired in debate for 50 years largely because it was considered too harmful to Montgomery County's streams, wetlands and forest. Environmental groups say it's impossible to reverse the widespread damage caused by the ICC's construction.

The badly eroded banks of the Northwest Branch are being rebuilt and fortified. Workers are using tree stumps and logs to slow down the water, limit erosion and reduce the sediment and pollutants carried into the Anacostia River and, eventually, the Chesapeake Bay. When the project is finished, highway officials say, the Northwest Branch and waters downstream will be cleaner than before the ICC construction started three years ago.

The 3.5-mile stream restoration project in central Montgomery is the largest ever done in the state, said Rob Shreeve, the Maryland State Highway Administration's environmental manager on the ICC.

"We're putting features in place to help the stream fix itself," Shreeve said.

The state promised $105 million in environmental projects to help the toll highway win political support and federal approval. The restoration of the Northwest Branch - which cost $5 million - is the most expensive and is included in the highway's $2.56â billion budget. The ICC is designed to speed east-west travel between Maryland's Interstate 95 and Interstate 270 corridors.

But Shreeve said the Northwest Branch's problems stem from development that has occurred in central and northern Montgomery during the past 50 years, long before the ICC's construction began.

The construction of thousands of homes, strip malls and shopping centers has caused rainwater that once seeped into forests to rush off new parking lots and rooftops and into the Northwest Branch and other streams. The gushing water has cut into banks and ripped up the floor where fish and insects live while also carrying trash, animal waste and other pollutants, Shreeve said.

Only fish considered tolerant of polluted water, such as the tiny black-nosed dace, live in the tributary.

"We're not trying to restore the stream to what it was when the Colonists arrived here from England," Shreeve said. "We're trying to get the stream to an equilibrium so it remains stable."

A changed landscape

Environmental groups that fought the six-lane highway's construction say the stream work, although welcome, will do little to blunt the ICC's damage to the Northwest Branch and other streams, as well as 27 acres of wetlands and 700 acres of forest that have been destroyed in its path.

"One of the few things the Anacostia had going for it was its forested headwaters, and the ICC is going straight through it," said Brent Bolin, director of advocacy for the Anacostia Watershed Society. "Making something 'less bad' is only so helpful."

The ICC, Bolin said, will induce more sprawl development and, in turn, cause more rain water to pour into the Northwest Branch and other streams. Unless older shopping centers and neighborhoods are retrofitted with storm-water management systems to slow down their runoff and clean it up before it hits the stream, Bolin said, any repairs will be temporary.

Michael Replogle, founder of the nonprofit Institute for Transportation and Development Policy, called the state's plans to offset the ICC's environmental impacts "exemplary," particularly compared to other highway agencies. Still, Replogle said, even restored streams can't overcome the damage caused by so many trees being cut down in the surrounding watershed. When a summer thunderstorm runs off hot pavement rather than seeping into the ground through shady woods, he said, the runoff pouring into the stream is warmer than many fish and the insects they feed on can tolerate.

"The mitigation will help," Replogle said, "but overall it will be insufficient."

Shreeve said the state's environmental impact study found that the ICC would not induce significantly more development because the area surrounding it is largely built out. Any new development would be required by state regulations to have stormwater management plans to slow down the runoff and allow pollutants to settle out before hitting the stream, he said.

"When it's all said and done, I think the overall benefits of the [ICC] offset the impacts of the project," Shreeve said.

Broad impact

The ICC will be one of the "greenest" highways ever built, Maryland officials say. Federal agencies required the state to limit and offset the road's environmental impact with $45 million worth of mitigation projects, such as planting wetlands to replace those that are destroyed.

Maryland highway officials say they also are voluntarily doing $60 million worth of additional community and environmental projects to fix problems in areas that are near the ICC but not in its path. The projects include installing stormwater management systems in some older neighborhoods. About one-fourth of the Northwest Branch restoration work is voluntary, Shreeve said.

He said the ICC's longer bridges were designed to span not only the Northwest Branch and other streams, but also their flood plains, where migratory birds and other animals live and breed.

Officials from the Montgomery County Department of Environmental Protection said they chose the Northwest Branch for restoration because, like other urban streams, it has more storm-water runoff than it can handle. Moreover, they said, the ICC crosses it three times.

The Northwest Branch near the ICC is classified as having "fair" water quality, one step above the lowest ranking of "poor" in a four-level ranking system, county officials said.

Although the ICC's longer bridges have reduced the damage to the Northwest Branch and its surrounding flood plain, "Each stream the ICC crosses will have some impacts," said Daniel Harper, the county's manager of watershed restoration programs.

Letting nature take over

On a recent afternoon, workers graded stream banks that had become vertical drops into more gentle slopes that can better absorb the water's impact. Finished areas show where banks have been stabilized with large logs, some 80 feet long, that came from the 100-year-old towering trees that were bulldozed to clear the ICC's path.

In the stream, workers had placed large logs in a staggered pattern to force the water to zigzag more slowly. In shallow areas where water dropped over rocks in a miniature waterfall, logs were placed to deepen the water and allow larger fish to pass.

Gigantic root balls from felled trees pointed upstream like enormous spiders to slow down and redirect the rush of water. The water also will be redirected via logs and large stones to form holes in the streambed, where a bigger variety of fish will want to eat and lay eggs.

"We're trying to create that feel to things, like it's a natural place where fish would want to hang out," Shreeve said. "If the habitat isn't here, they'll keep moving."

If the water's velocity is slowed down as planned, 1,700 tons - the equivalent of 170 dump-truck loads - of sediment that flows out of this section of the Northwest Branch annually should drop to 700 tons, Shreeve said.

Kim Coble, the Maryland executive director of the Chesapeake Bay Foundation, said many stream restoration projects don't do much good because they aren't maintained over the decades as long-term damage from the highway continues.

"There's just no way you can replicate the efficiency and effectiveness that Mother Nature created," Coble said.

Shreeve said the U.S. Geological Survey will continue to track the amount of sediment pouring out of the Northwest Branch, and state highway officials will monitor the stream for 10 years to measure erosion and gauge whether more species of fish are returning. The Montgomery County Department of Environmental Protection also will monitor the stream, he said.

The segment of the ICC that crosses the Northwest Branch is scheduled to open to traffic late next month or early next year. The rest of the highway is scheduled to open by early 2012.

In areas where the restoration work is complete, it is clear that humans, not nature, did the work. Two-foot-high willow and dogwood saplings are newly planted along the banks in hopes that their growing web of roots will keep the soil intact long-term. The regular pattern of logs placed in the stream looks too neat to be natural.

Wait five years, Shreeve said, and it should look like no one has been there. The growing trees will have blended into the surrounding woods. The more gentle stream water will be home to new fish and insects. The potholes in the project's haul routes will become vernal pools with salamanders and frogs.

As Shreeve put it, "Mother Nature will take over and finish it off."

shaverk@washpost.com

View all comments that have been posted about this article.

Post a Comment

View all comments that have been posted about this article.

You must be logged in to leave a comment. Login | Register

Submit

Comments that include profanity or personal attacks or other inappropriate comments or material will be removed from the site. Additionally, entries that are unsigned or contain "signatures" by someone other than the actual author will be removed. Finally, we will take steps to block users who violate any of our posting standards, terms of use or privacy policies or any other policies governing this site. Please review the full rules governing commentaries and discussions. You are fully responsible for the content that you post.

Sponsored Links

Mortgage Rates Hit 3.19%
If you owe under $729k you probably qualify for Gov't Refi Programs
www.SeeRefinanceRates.com

Sony 60" LCD TV $149.95?
Brand new flat screen TVs for up to 93% off! No joke. Bid Now
http://NewsChannel8Online.com

Joint Relief for Ages 50+
Shocking discovery by Cambridge researchers for amazing joint relief
EverydayLifestyles.com

Buy a link here

© 2010 The Washington Post Company