

Letters to the Editor

September 2, 2006

We need better data on stream renewal

Restoring the ecological integrity of our streams and rivers is pivotal to improving the long-term health of the [Chesapeake Bay](#). Water flowing through backyards and neighborhood streams ultimately defines the health of the bay, the state's greatest natural resource.

Recent Sun articles have called attention to one particular restoration project and raised concerns regarding the restoration of Stony Run in Baltimore's [Roland Park](#) neighborhood ("Bulldozing a creek in order to help save it," Aug. 18).

Some residents are upset that many trees have been cut down. We, too, regret the loss of streamside vegetation, which provides important ecological, aesthetic and recreational benefits. But how do we balance these concerns against the water quality benefits that are the underlying objectives for Stony Run and many other projects?

The reduction of sediment flows into the bay is an important part of restoring the Chesapeake. But there has not been sufficient work to determine how much sediment derives from streambeds, their floodplains or land surfaces in the watershed.

So what has been missing in Maryland? The biggest gap is monitoring.

Monitoring is not just about determining if a project is a success or failure, but also about understanding what could be improved so future projects can be even better.

It's about gathering sufficient information so that we know in what setting and under what circumstances specific techniques will work best.

We can't make the right choice if we don't understand cause and effect.

To date, few - if any - states have dedicated sufficient financial support to stream monitoring programs that identify specific problems and track the performance of reconstruction projects.

Had Maryland done this more effectively in the past, there would likely have been greater clarity on the implications of the Stony Run project's design while the project was still in the review phase.

But to its credit, the city of Baltimore is monitoring the Stony Run project to determine if it achieves its objectives.

Margaret Palmer Sean Smith Solomons

The writers are, respectively, the director of the University of Maryland Center for Environmental Science Chesapeake Biological Laboratory and a geologist for the state's Department of Natural Resources.

City to hold meeting on Stony Run

September 2, 2006

Baltimore officials will hold a public meeting Thursday to answer questions about a \$10 million project to reconstruct a wooded stream in [Roland Park](#) by bulldozing its banks.

The city's Department of Public Works will explain the Stony Run reconstruction at 7 p.m at the [Roland Park](#) Presbyterian Church, 4801 Roland Ave.

The project's designers say that rebuilding the stream, by adding small dams and logs and flattening steep banks, will reduce erosion and sediment flowing into Baltimore's harbor and the [Chesapeake Bay](#).

But some scientists and neighbors have questioned the project, saying cutting down at least 150 trees and bulldozing banks could worsen erosion and destroy Stony Run Park's shady canopy.

The "informational presentation" is being coordinated by City Council Vice President Stephanie C. Rawlings Blake, who received "an overwhelming" number of "letters, e-mails and general concerns" about the project, according to a news release.

[Tom Pelton]

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August 18, 2006

Bulldozing a creek in order to help save it: City spending \$10 million on disputed Stony Run job

(Baltimore Sun, The (KRT) Via Thomson Dialog NewsEdge) Aug. 18--In the name of saving the environment, Baltimore is spending more than \$10 million to bulldoze a wooded park and cut down nearly 150 trees for a stream reconstruction project. But some scientists warn that this aggressive method of erosion control is outdated, discredited and destructive.

Supporters of the project say that altering Stony Run in Roland Park, adding a series of curves, small dams and pools, will reduce silt and pollution flowing downstream toward the Chesapeake Bay.

"It's like, 'Eureka!' We found that stabilizing the stream is such a win-win situation," said William Stack, pollution control administrator for the Baltimore Department of Public Works.

"It improves the aesthetics, improves the habitat, and decreases the sediment, nitrogen and phosphorus for the Chesapeake Bay," he said, as a bulldozer churned along a muddy stream bank that was once shaded by trees.

Similar projects have been carried out across the country. But critics say there is little evidence that they work, and that flattening riverbanks with bulldozers and removing large trees whose roots stabilize the soil can lead to increased erosion and eliminate the shady canopy that cools rivers.

"I am not a fan at all of restoration that requires taking out trees," said Margaret Palmer, director of the University of Maryland's Chesapeake Biological Lab.

Palmer, who teaches courses on stream restoration to engineers, said she could not comment directly on Baltimore's Stony Run project because she hasn't studied it. But she said the general approach sounds like an outdated and "very controversial" one -- cutting down lots of trees to allow bulldozers to carve S-shaped curves into a stream that didn't have them before.

"That is often done," Palmer said of tree removal, "because it's easier to get equipment in and out, and it's cheaper. But that is not what is well accepted across the country anymore."

Trees are essential to the health of river systems, she said. Stripping away the shady canopy over a stream can "fundamentally change the whole system."

Stony Run is a 3.3 mile-long creek that starts in a quiet neighborhood of North Baltimore. It trickles between the ball fields of

private schools, wandering south through a leafy public park, past Loyola College and under bridges to join the Jones Falls, which pours into Baltimore harbor.

A path along Stony Run is popular among joggers. It has been featured in news articles as a beloved island of peace in a troubled city. Water gurgles under a church-like vault of shady trees. The stream is scattered with boulders and logs, and edged by tall clay banks, over which gnarled roots dangle like the knuckles of old men.

But the stream receives most of its water from storm drains beneath city streets, and so it sometimes is littered with wrappers and reeks of sewage.

Baltimore's project to reduce erosion of Stony Run's banks uses a modified "Rosgen-type approach," named after a Colorado-based stream restoration pioneer, Dave Rosgen, said Stack, who took classes from him. Some early drawings for Baltimore's designs came directly from Rosgen's papers, according to project meeting minutes.

An August 2004 article in the journal *Science* described Rosgen as a charismatic, cowboy hat-wearing businessman who has inspired legions of "Rosgenauts" who are confident that they can build better streams with bulldozers and boulders.

"Many academic researchers question the science underpinning his approach, saying it has led to oversimplified, 'cookbook' restoration projects that do as much harm as good," the *Science* article said. "Rosgen-inspired projects have suffered spectacular and expensive failures, leaving behind eroded channels choked with silt and debris."

A woman who answered the phone yesterday at Rosgen's business said he was out of town and unavailable for comment.

Stack said his design team had taken Rosgen's "idealized" approach and adapted it to make it more suitable for an urban stream.

With Rosgen playing a leading role, river rebuilding has become a \$1 billion-a-year industry in the United States. The projects often are designed to re-engineer creeks into fortified stormwater control systems that filter pollutants flushed from roads and parking lots.

At least 4,700 projects of varying designs, costing an estimated \$426 million, have been built in the Chesapeake Bay watershed since 1990, according to an article last year in the journal *Frontiers in Ecology and the Environment*. But little research has been done into whether they actually work, the article said.

Don Outen, a natural resources planner with Baltimore County who has helped design several stream restorations there, said he likes the Rosgen system of analyzing and classifying streams for rebuilding. Outen said the method is more flexible and less expensive than the old method of controlling erosion by building concrete channels.

"You look at these [restoration] projects when they're under construction and it looks like you are dropping bombs," said Outen, a former Rosgen student. "But this is a necessary evil, so that in the long run, it leads to a far better stream."

Peter Wilcock, a professor at the Johns Hopkins University who specializes in river dynamics, said Rosgen-inspired stream reconstruction has led to "spectacular failures" in Howard and Baltimore counties.

"The broader question is whether they need to do so much earth-moving and tree removal to achieve the objectives they are after," Wilcock said of Baltimore's Stony Run project. "It would be difficult to demonstrate that the project will have the water quality benefits that they claim it will."

The city's project will rebuild the creek from Cold Spring Lane to Northern Parkway. The intention is to give the banks a gentle slope and calm the stream's flow during storms, Stack said. Work started in June and should be finished next year, he said.

A \$2 million city construction project is under way nearby to repair a leaky sewage pipe.

City workers must cut down trees for both projects to allow access for heavy equipment but will try to save as many as possible, Stack said. Sixty-eight trees have been cut down, and 78 more are marked for removal.

The city plans to replant ripped-up areas with more than 200 new trees as well as thousands of native shrubs and wetland plants, said Drew Altland, an engineer under contract with the city.

Stack dismissed most opponents of the project as "Nimbys" -- people who complain "not in my backyard!" -- who lack scientific training and don't want to help the Chesapeake Bay.

This angers some nearby residents, who say they have serious concerns about whether the project -- which could eventually cost \$15 million, according to the city -- is worth the price tag and the loss of so many old trees.

"This is our little spot of heaven. It's just gorgeous, and it's unbelievable the way they are destroying it," said Pat Perkins, a Realtor who lives next to the wooded park. "They are taking a wildlife area and turning it into a desert. I am violently upset."

Others like the idea of fixing the stream's crumbling banks.

"The amount of erosion is unacceptable," said Michael Beer, a retired professor. "Sediment is a great enemy of the Chesapeake Bay."

What will Stony Run look like in the future?

If the rebuilding goes well, it could look something like Minebank Run in Baltimore County, a once-eroded stream that was rebuilt last year at a cost of \$2.7 million.

The stream has more fish than before, according to the county. But it no longer looks like a natural stream. It's a uniform road of beige cobblestones over which water trickles beside a wall of slate-gray boulders.

If Baltimore's project goes poorly, it could end up like Deep Run along the Howard-Anne Arundel county line. There, the state in 1995 cut down all the trees and bulldozed an artificial "S" curve, which was soon washed away during a storm, said Sean Smith, a doctoral candidate in river geomorphology at Hopkins.

A stroll along Deep Run this week revealed that it is a treeless, trash-strewn strip of shattered rocks, with crumbling banks and stagnant pools of algae.

"The people in the area were upset from the beginning that the state was taking down the trees and mucking up the river," said Smith. "This was a case where you didn't have to be an engineer, or someone in the business, to recognize that something was very wrong."

Tom Schueler, director of research for the Center for Watershed Protection, a nonprofit group based in Ellicott City, said: "As a discipline, stream restoration hasn't quite matured yet, and a lot of learning happens by mistake."

He added: "We are still learning how to play God with nature."

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