

## Local officials worry that TMDL actions are much too costly

But some say cleanup will mean more jobs and improved health of local waterways

By Karl Blankenship

Local government environmental officials in the Washington area recently met with their federal counterparts to discuss the implementation of the new Bay "pollution diet."

They delivered a blunt message: The Bay cleanup plan is too costly and undoable in the 14-year time frame the EPA has allotted. Many counties in the region are facing costs that will exceed \$1 billion.

Those are "big numbers and scary numbers," said Randy Bartlett, deputy public works director for Fairfax County in Virginia. Meanwhile, "we're cutting teachers, we're cutting police and we're cutting fire," he said.

Those sentiments were echoed by others at a forum presented by the Metropolitan Washington Council of Governments. They're also being voiced by other local officials across the 64,000-square-mile watershed as the realities of the EPA's Chesapeake Bay "pollution diet" begin to hit home.

Many acknowledge that the Bay cleanup will also mean improvements to their local streams - where progress has lagged - and could help bolster the economy by creating new jobs. Still, cash-strapped local governments are having sticker shock over initial cost estimates.

EPA officials have been hearing a lot of that as they meet with local leaders across the watershed. "The costs come up every time," acknowledged Jeff Corbin, senior adviser for the Bay to the EPA administrator. "The costs are tremendous, but what do we do?"

More than a quarter century after states and the federal government formed the Bay Program to restore the Chesapeake, the estuary's water quality remains poor as too many nutrients and too much sediment pour into it each year. The result is murky water, algae blooms and large areas with too little oxygen to support aquatic life.

After the region repeatedly failed to meet past cleanup goals, the EPA at the end of December enacted a new, more enforceable cleanup plan known as a total maximum daily load - or TMDL - which sets the maximum amount of nitrogen, phosphorus and sediment allowed to reach the Bay.

The EPA is requiring that goals be met by 2025, with 60 percent of the needed pollution controls implemented by 2017. (Maryland is calling for achieving its mark by 2020, with 70 percent implementation by 2017.) The EPA has threatened to take a variety of actions against those who fail to make adequate progress.

States and individual rivers were assigned maximum amounts of each pollutant they would be allowed to discharge into the Chesapeake each year and states had to write detailed watershed implementation plans - or WIPs - showing how they would meet those goals, including new sources of funding or regulations that might be needed.

Environmental groups and clean water advocates have praised the plans as overdue actions needed to finally restore the Bay's health. But the plans have triggered fear in much of the farming community, which will likely face increased regulations.

The American Farm Bureau Federation and Pennsylvania Farm Bureau have filed suit to block the TMDL in court.

But the bulk of the costs will hit urban areas, which have to upgrade wastewater treatment plants and reduce stormwater runoff. Both carry huge price tags.

"Urban ratepayers are footing an enormous bill," said George Hawkins, general manager DC Water. Upgrades at its Blue Plains Wastewater Treatment Plant will cost nearly \$1 billion, and stormwater improvements in the District may cost twice that.

Hawkins said police have had to attend rate hike hearings because of angry residents.

The reality of the Bay cleanup will hit home this summer as states work with local governments, conservation districts and others to write Phase II WIPs, which will include local nutrient and sediment reduction goals and local plans to achieve them.

Across the watershed, a handful of local governments have gotten head starts, as the EPA last year provided funding to several jurisdictions to explore the development of local plans.

One of those was Anne Arundel County in Maryland, where county environmental officials have been devising strategies to reduce nitrogen loads to the Bay by nearly 25 percent, along with significant phosphorus and sediment reductions.

The county's agricultural land contributes less than 10 percent of the nutrient load, so the largest chunk of nutrient reductions will come from wastewater treatment plant upgrades. Still, that will leave the county well short of its nutrient goals - and wastewater treatment doesn't reduce sediment at all. So the county will rely heavily on controlling stormwater and restoring streams to help meet phosphorus and sediment goals, and reducing pollution from septic systems to help meet nitrogen goals.

Those are costly approaches: The expected tab for meeting the Bay goals could top \$2 billion for the county of 540,000 people, said Ronald Bowen, director of the county Department of Public Works.

Even after those goals are met, he said, the county will still have much work left. Besides the Bay TMDL, various county waterways have eight other TMDLs that have been established for local problems, and many more that are pending.

Those local impairments are caused by nutrients, sediment, toxic metals, bacteria and other pollutants. In most cases, cleaning local waters will require the county to take actions that go well beyond what's required to meet Bay cleanup obligations.

"In order to meet the remaining local TMDLs, we will probably have as much restoration work to do as we did to meet the Bay TMDL, if not more," Bowen said.

Much of the nitrogen controls will come from hooking many existing septic systems to sewer systems or replacing them with nitrogen-removing systems.

Dealing with phosphorus and sediment - and many of the local water quality problems - means fixing the county's streams.

Of 410 miles of assessed streams, 344 are severely or moderately degraded by erosion primarily caused by old stormwater systems that collect rainwater and send it gushing into local waterways, or development that predates stormwater controls at all. The rush scours out stream banks until they turn into small canyons. Each ensuing storm cuts away more stream bank, sending sediment and attached phosphorus downstream.

The cure, in Anne Arundel County, will be to rebuild stormwater outfalls with techniques that slow runoff and allow it to infiltrate the ground. In addition, stream channels will be rebuilt to stabilize banks and allow, where feasible, streams to flow into their natural floodplains during storms, reducing their erosive power. The stormwater tab alone is expected to reach nearly \$1 billion.

Many of the needed cleanup activities are under way, but meeting the Bay cleanup deadline would be daunting. "In terms of ramping up to meet these challenges, the fiscal and human resources required are huge," Bowen said.

Efforts to accelerate implementation may be constrained not only by finding new money, Bowen cautioned, but by a lack of consultants and contractors to do the work - especially as other local jurisdictions will be seeking those same services.

But Anne Arundel officials see benefits, too. The efforts will not only bolster industries that rely on a clean Bay for their livelihood, but restoration programs will generate local jobs.

Fixing stream banks will mean that fewer water and sewer lines - which often run near stream channels - will be exposed and broken during storms. And reduced erosion should mean less sediment dredging from rivers used by recreational boaters, said Ginger Ellis, a watershed planner with the Department of Public Works. "We have a fairly large dredging program which is very expensive," she said.

Ellis and Bowen said stream restoration would also protect homeowners whose property is being eroded away.

Stream health will also improve, and cleaner streams will mean fewer health advisories - and swimming closures - at county beaches.

Some local governments farther removed from the Bay are also getting ready to gear up for the new WIPs.

In Pennsylvania's Lancaster County, the County Conservation District is trying to make sure - as a first step - that by 2015 every farm has a conservation plan in place and that every cow is fenced out of every stream. "Is that a huge task?" asked Matt Kafroth, a watershed specialist with the County Conservation District. "With 5,000 farms you better believe it is. Do we have a lot of funding to back that up? At this point, no.

"But strategically, we see this as something we need to address. And I think locally, farmers are understanding that they [should] do it now voluntarily, before the feds come in and make it mandatory."

Indeed, half of the county's 1,400 miles of streams are impaired because of pollution - most because of nutrients and sediment - and getting cows out of the stream is one place to start. But it will take a lot more from farmers, and everyone else, to meet both Bay and local cleanup goals.

Wastewater treatment plants in the county are being upgraded, and the city of Lancaster has embarked on a program to reduce runoff that will cost several hundred million dollars.

As part of that, the city in June unveiled a re-engineered park that includes a basketball court constructed with pervious pavement designed to collect rainwater and hold it in an underground cistern that slowly releases it to groundwater, thereby reducing stormwater runoff. Similar improvements are planned at other parks.

Cleanup plans have already been drafted for some watersheds in the county, and it's clear that costs - as with other areas - will be high. Some watersheds don't have plans at all, and those that do are largely unfunded.

It won't be known until summer, when the county gets its cleanup goal, how much more it will need to do. But with 60 local governments to deal with, just building awareness of the issues can be a challenge.

Marylou Barton, of the nonprofit Lancaster County Clean Water Consortium, said that at a recent meeting with a number of local government officials, only one jurisdiction had budgeted any funds - \$50,000 - to address stormwater issues stemming from the TMDL. "Other municipalities sat up when they heard that because they hadn't budgeted anything for the Chesapeake Bay," she said.

Still, she added, "they want to do the right thing. [But] they are really scared about the money."

Kafroth agreed that money is a big deal. But instead of focusing on the total figure, he said people should instead focus on accomplishing smaller, more digestible two-year plans, which the EPA also requires states to write.

Kofroth said the Bay TMDL has been beneficial because it has started to focus more awareness on the Bay, and local water issues.

"Yes, there is a lot of complaining and griping, but at least if nothing else, it holds people accountable, and I think that is probably what is needed to get people's attention," Kofroth said.

The EPA, which scrutinized details in Phase I WIPs, has signaled that states will have more flexibility in developing Phase II WIPs. In fact, Corbin acknowledged that while the new plans are seeking local engagement, it would be difficult for states "to get buy-in from every jurisdiction" before draft plans are due Dec. 1, or when final ones are submitted March 1.

Rather, EPA officials see Phase II as a process that continually engages local governments - who will be responsible for many of the nutrient and sediment reductions - in developing and implementing nutrient reduction programs to a greater extent than ever before. While draft plans are due this year, "my perception is that Phase II lasts the next 15 years," Corbin said. Still, he added, "I know there are a lot of concerns out there. I don't blame anyone for having concerns."

Indeed, some local officials worry the cleanup price tag will raise a backlash from residents.

Hawkins, of DC Water, warned the cleanup costs in urban areas will hit a point of diminishing returns. He said it cost about \$100 million a decade ago to reduce nitrogen in discharges at the huge Blue Plains wastewater plant from 15 milligrams per liter of water to 5 milligrams per liter. But it will cost \$1 billion to reduce it from 5 mg/l to 4 mg/l. That's about 10 times the cost for one-tenth of the reduction.

Shelly Aloji, an alderwoman on the Frederick city council, told Corbin at the Washington meeting that Frederick is already undertaking a \$54 million wastewater treatment plant upgrade which means a 100 percent increase for ratepayers. Now, it's facing stormwater upgrades that will cost more than \$600 million.

Those increases are coming at a time when federal funding is drying up and budget-challenged states have pushed paying for more programs to local governments.

Tanya Spano, chief of regional water quality management for the Metropolitan Washington Council of Governments, said a major concern of urban areas is that much of their nutrient reduction obligations "are contained in enforceable permits."

Even if the EPA indicates a willingness to give municipalities more flexibility to meet goals, environmental groups could mount a legal challenge in court. "Once something gets into a permit, it's easy for a third party to say, 'you failed'," Spano said.

Stuart Freudberg, the council's director of environmental programs, flatly said after the DC meeting that local governments won't be able to make the 2025 goal, and he expects the EPA to back off that date - but only if local governments can show a credible amount of progress.

"There was a clear message from the local side that the cost of this, and the pace of this, is exceeding their capacity to a major extent," he said. "Not just to a minor extent."

But, he said, the initial sticker-shock of the pollution control programs may be offset somewhat as people realize cleanup actions will create jobs, and that some nutrient control efforts, such as planting trees to help absorb stormwater, will provide other services such as reducing the impacts of global warming.

At the same time, Freudberg said the TMDL will force municipalities to better incorporate water issues into everyday activities, such as automatically placing swales along new roads to slow runoff or by promoting green roofs that absorb rainfall on new buildings.

"There may be some innovations that come out of all this that will produce cost savings," he said. "But it can't be pushed so fast that there is no plan except to pick off-the-shelf solutions."

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