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Waste loads have already been allocated for the nearly 500 wastewater treatment plant and industrial dischargers that have the greatest impact on the Bay, either because of their size or proximity to tidal waters. Photo / Chesapeake Bay Program

TMDLs are coming, like it or not

≈ Adherents of provision in Clean Water Act see opportunity to create model for water quality restoration. Others fear 'paperwork' will only delay cleanup efforts.

By Karl Blankenship

It started this spring with Delaware and the District of Columbia. Mary-land will follow suit in June, and Virginia this summer.

Each, in turn, is fulfilling its biennial obligation of reporting "dirty waters" to the EPA —those that fall short of Clean Water Act goals of being fully "fishable and swimmable" because of pollution.

From a watershed perspective, the reports of those four jurisdictions are especially important. Besides listing hundreds of miles of impaired rivers and other waterways, they will show that virtually all of the Chesapeake and its tidal tributaries fail to meet water quality standards.

That means they have too little oxygen; or such poor clarity that few underwater grasses can grow; or contain excessive amounts of algae. Or, all of the above.

The reports will confirm that the region will not meet one of the keystone goals of the Chesapeake 2000 agreement: to reduce nutrient and sediment pollution enough by 2010 to "remove the Bay and the tidal portions of its tributaries from the list of impaired waters under the Clean Water Act."

That means the region must now do what it had long sought to avoid: write a cleanup plan known as a Total Maximum Daily Load. The TMDL lays the groundwork for future regulatory actions that will reach hundreds of miles upstream. It promises to be a complex document: State and federal officials are planning to allow nearly three years to craft it.

It's been 21 years since the 1987 Chesapeake Bay Agreement made nutrient reductions the focal point of Bay restoration efforts. Since then, goals have been set, and missed. At the current rate of progress, reports suggest a clean Bay could be two decades away.

Whether a TMDL will be a game-changer for the Bay cleanup—or more of the same—remains to be seen.

Some believe it can be an innovative cleanup plan that could accelerate restoration efforts. "The Bay region has been viewed as a model for water quality restoration," said Beth McGee, senior scientist with the Chesapeake Bay Foundation. "Here is the opportunity to really make TMDLs as they were intended under the Clean Water Act, and that is to achieve water quality standards."

Others are skeptical that a once-obscure section of the act will make any difference.

"I see no evidence that a TMDL will

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TMDLs at a Glance

The Clean Water Act requires states to survey waterways every two years and report those that fail to meet water quality standards to the EPA. This is known variously as the 303(d) list, the impaired waters list or the dirty waters list.

The act then requires states to develop cleanup plans, known as Total Maximum Daily Loads, for those waterways.

Key parts of a TMDL include the establishment of the maximum amount of pollution that a body of water may receive and still meet its standards, with a margin of error. That "load" is then "allocated" to sources contributing to the problem, essentially setting a pollution limit for each source. When that source has a permit, the allocation is typically required to be part of the permit.

While not required by law, EPA guidance calls for TMDLs to offer some type of "reasonable assurance" that those allocations will be met. Nonetheless, a TMDL does not set a time frame for achieving water quality standards, nor does it guarantee implementation by non-regulated sources.

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put any greater political pressure on the leadership of this watershed than they have on them now," said Bill Matuszeski, a retired director of the EPA's Bay Program Office who has remained active in Chesapeake-related activities. "The issue is political leadership. It is not some obscure section of the Clean Water Act that nobody, even in EPA, understands."

The path ahead is a murky as summertime Bay water.

Part of the lack of clarity stems from the history of TMDLs. Although included as section 303(d) in the original 1972 Clean Water Act, the reference is short and remarkably vague, directing that states identify all waters that do not meet water quality standards and report them to the EPA. The act doesn't say how often this should occur—its exact phrase is "from time to time."

For those waterways, the law says states should determine the maximum pollution "load" the water body can receive and still achieve its water quality standard. It says that load should then be allocated among contributing sources. The allocations are to include a margin of safety and account for seasonal variation.

The EPA has since sought to clarify the law through regulations. For example, "from time to time" now means every two years.

Nonetheless, all of this was was largely overlooked until the 1990s when environmental groups filed a spate of suits against the EPA for failing to ensure that states were writing TMDLs.

One of those cases, American Canoe Association, Inc. and the American Littoral Society v. EPA, complained that the EPA had failed to ensure TMDLs were established for Virginia's impaired waters. Under a 1999 court agreement, the parties agreed that Virginia would complete TMDLs for its impaired waters by May 2010. If not, the EPA would complete them by May 2011.

That affects the entire watershed: Virginia's portion of the Bay cannot meet its water quality standards without nutrient reductions throughout the Chesapeake watershed.

This year's filing of the 303(d) lists, which shows the Bay is still impaired, effectively triggers the TMDL process for the Chesapeake. Although states will complete another "dirty waters" list in 2010, officials say that wouldn't allow time to complete a TMDL.

"This is the last listing that we will have an honest chance of doing a TMDL," said Robert Koroncai of EPA Region III. "This is going to be a complicated multiyear TMDL."

The TMDL will likely encompass most, if not all, of the Bay watershed, which covers 64,000 square miles including all of the District of Columbia and portions of six states: Virginia, Maryland, Pennsylvania, New York, West Virginia and Delaware. "It is the biggest TMDL anyone has ever undertaken," Koroncai said.

As a result, much of what lies ahead is terra incognito, from a policy—and even legal—perspective.

The TMDL will likely encompass most, if not all, of the Bay watershed, which covers 64,000 square miles including all of the District of Columbia and portions of Virginia, Maryland, Pennsylvania, New York, West Virginia and Delaware. "It is the biggest TMDL anyone has ever undertaken," said Robert Koroncai of EPA Region III.

Already, dozens of representatives from state and federal agencies throughout the watershed are meeting twice a year—and more often by phone—poring over telephone-book size briefing materials about complex decisions that lay ahead.

Those issues start at the very heart of a TMDL—how to allocate loads to various sources. A TMDL, after all, is essentially a pollution budget that establishes a maximum allowable amount of pollution, then divides that amount among contributors.

But there are many ways to parse that load, both geographically, and by source. For instance, some say a geographic allocation can simply assign total loads to individual states and let the jurisdictions do the rest. Others believe the allocations should be more local, with nitrogen, phosphorus and sediment goals set for individual counties. A state-level allocation might offer great flexibility; a more local allocation might offer greater accountability.

Regarding sources, the law is clear: "Waste load" allocations must be made to dischargers with permits. That's already happening for the nearly 500 wastewater treatment plant and industrial dischargers that have the greatest impact on the Bay, either because of their size or proximity

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to tidal waters.

But to meet the requirements of the law, officials say allocations may have to be made to nearly 3,000 smaller dischargers throughout the watershed. Whether an allocation has to be made to each small facility, or whether they can be handled as a group, is a detail that must be resolved.

Beyond traditional discharge permits, other types of activities with water permits—such as stormwater systems, large animal feedlots, combined sewer systems and even construction sites—will need some kind of allocation as well. As with small dischargers, how those will be handled remains to be determined.

Allocations will also be made to non-regulated activities, including small feedlots, crop land, pastures, septic systems, streambank erosion—even inputs from the ocean—and other sources.

Determining allocations is just the start of the thicket of questions officials are wading into. A sampling of other details that must be hammered out:

- The law requires that a TMDL contain a "margin of safety" and account for seasonal variations. Will that mean additional nutrient and sediment reductions are needed? Would further reductions be realistic?
- Should there be a time frame for achieving the nutrient reduction goals, or interim progress goals? That's not explicitly required by the law or the EPA's regulations, but officials acknowledge public impatience with cleanup efforts.
- Should factors such as climate change be considered in the TMDL process? Scientists say anticipated climate changes could complicate cleanup efforts.
- Land use changes could also complicate cleanup efforts. Does the TMDL need to anticipate future trends related to development, agriculture and forest cover in the watershed?
- How will new sources, whether dischargers or stormwater systems, be handled so they don't offset other reduction efforts?

The list of questions goes on. "There are a lot of gray parts to this thing," Koroncai said, "issues that other folks really haven't dealt with yet." It's not even certain who will write the plan. Koroncai said the EPA would most likely write the TMDL, "but the states are probably going to have some editing rights."

After those decisions are made, TMDL rules require an opportunity for extensive public input. "Just the geographic scale of this thing dictates that this is going to take longer than probably any other TMDL that we've done," Koroncai said.

But will a TMDL be worth the wait?

Environmental advocates often refer to TMDLs as the "backbone" of the Clean Water Act. In the context of the act, they say, states are first directed to establish limits on dischargers, identify the waters that remain impaired and then devise plans—TMDLs—to clean up those waterways, with the clear intent that those plans be implemented.

TMDLs, in that perspective, is the last line of defense for cleaning up polluted waterways.

One of the goals of the Clean Water Act is that waterways be fully "fishable and swimmable."

Others note that the act gives little guidance about what to actually do with a TMDL. Neither the law nor the EPA's regulations require that waters be cleaned up in any time specific time frame.

In fact, the act doesn't actually say TMDLs have to be implemented—especially for nonpoint sources, such as farms, which generally are exempt from the act. Yet runoff is the largest single source of pollution to the Bay.

"From a regulatory side," Koroncai said, "the TMDL is not offering us any more regulatory muscle for nonpoint sources than we otherwise have. And that isn't much for stuff like agriculture."

In fact, TMDLs don't have much of a track record of cleaning up waterways. The Chesapeake Bay Foundation lamented in a recent letter to the EPA that too many TMDLs had been "little more than paper exercises."

But it said the Bay TMDL was an opportunity for change. The foundation wants the TMDL to have more emphasis on "reasonable assurance"—providing some tangible evidence that the plan will actually be implemented.

Although EPA guidance already calls for some type of reasonable assurance, it's often vague, at best. "It's something that historically, states have paid lip service to," said the CBF's McGee. "But here is an opportunity to make it a meaningful policy."

In its letter to the EPA, the foundation said reasonable assurance should identify funding in each state that will pay for reductions from nonpoint sources. If funding is not in place, it said the states should identify ordinances or other mechanisms that will ensure reductions occur.

Koroncai said that creative use of reasonable assurance may provide some means of improving accountability, and accelerate action among nonpoint sources. "I truly believe that a lot of the ideas, as of yet, have been undiscovered," he said.

Some ideas that could dramatically alter the playing field may originate outside the Bay Program and the EPA.

Because the writing of TMDLs is still relatively new, courts are still determining just how much power the cleanup plans have. Last October, the Ninth Circuit Court of Appeals ruled that the EPA could not issue a permit for a new discharge into an impaired water body even if the new discharge was offset by reductions elsewhere.

The reason, the court said, was the discharge would still be contributing

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to the impairment of the water body. The only way a new discharge could be approved, the court said, was if a compliance plan were completed for the TMDL showing how and when pollution loads would be reduced enough to meet water quality standards.

If pollution reductions from point sources alone could not meet those standards, the compliance plan would have to include nonpoint sources, the court ruled.

That ruling, Friends of Pinto Creek v. EPA, only applies to the western states covered by the Ninth Circuit. But if such an interpretation were applied here, it might threaten the ability of states and the EPA to issue permits for any new or expanding facilities that would discharge nitrogen, phosphorus and sediment until a compliance plan was completed showing how and when the Bay would be cleaned up—something not typically part of a TMDL.

"That certainly suggests that not only do we just say we have the funding, but along with the funding we lay out a time schedule for when we would expect certain things to be accomplished," McGee said.

Other factors may change the playing field as well. In the waning days of the Clinton administration, the EPA proposed a complete overhaul of the TMDL program that would have required timetables for implementation, among a host of other strengthening provisions.

Congress intervened to block the rules, and they were eventually withdrawn by the Bush administration. But it's possible that a new administration could bring new interpretations of the TMDL requirements.

Matuszeski, the former Bay Program head, said that the issue is not through new interpretations of TMDL rules, but through the better use of tools that already exist.

The EPA and states, he said, already have the authority to write more stringent permits for wastewater treatment plants and stormwater dischargers. The EPA will not gain authority to regulate agriculture. But he said the states already have authority to either regulate agriculture and other nonpoint sources, or boost funding and accountability for their voluntary programs.

Matuszeski contends that any perceived uncertainties brought by the TMDL development process is likely to further delay state and federal agencies from fully using tools they already possess.

"What it's going to do is just give people an excuse to delay in making the decisions that they know they have to make," he said. "All we've done with TMDLs is given them several more years of excuses."

Only time will tell whether a Bay TMDL will be the path to a clean Chesapeake, or merely leave a trail of paperwork.

Karl Blankenship is the Editor of the Bay Journal.

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TMDLs vs. Tributary Strategies

Setting nutrient goals for waterways entering the Bay is nothing new in the Chesapeake watershed: The Bay Program set its first goals in 1992. The most recent goals, based on new computer modeling, were set in 2003.

All states in the watershed wrote cleanup plans known as tributary strategies to achieve those goals. In many respects, a TMDL is similar to tributary strategies.

But a TMDL has several key differences. The TMDL will have to cover all dischargers, roughly 3,000, in the Bay watershed—the tributary strategies affected about 500 facilities. Other dischargers, such as stormwater systems and large animal feedlots, will need to have allocations in a TMDL.

Tributary strategies do not require any reasonable assurance that allocations to nonpoint sources—runoff—will be achieved. Some tributary strategies, in fact, include levels of nonpoint source implementation that officials acknowledge are unattainable. TMDLs require some "reasonable assurance" that goals can be attained.

Some tributary strategies were developed with little formal opportunity for public input. As a regulation, TMDLs will have specified opportunities for comment.

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