

Implementing The Clean Water Act: Facing The Problems Of Limited Resources In The TMDL Program

The Editor interviews **Richard S. Davis**, Director and Chair of Water Practice, Beviridge & Diamond, P.C.

Editor: What is the nature of your practice?

Davis: For more than 20 years now, I have represented industry groups, companies and municipalities in matters arising under the federal Clean Water Act and its state siblings. I work with them to help shape rulemakings that address complex industries that may not be well understood by the regulators. Usually this results in a win-win for EPA and the industry, but I have also had my share of judicial challenges to final rules. I also advise both commercial and municipal clients with respect to permitting strategy in light of the rapidly evolving Clean Water Act regulations. In addition, I defend both public and private enforcement actions brought under the Act.

Editor: Why are TMDLs considered the flagship of the Clean Water Act?

Davis: To some folks, the TMDL (or "Total Maximum Daily Load") program has great prominence because it seems new. It has kind of burst onto the scene over the last several years and, for anyone other than a Water geek, seems like an exciting new initiative.

Actually, like most of the important elements of the Clean Water Act, the TMDL program dates all the way back to the statute's enactment in 1972. Many of the more complex elements of the regulatory scheme were not implemented right off, however, and over the years we have seen the rediscovery of some of these "lost" provisions as the water program has matured. This is exactly what has happened with the TMDL program.

The Total Maximum Daily Load (TMDL) rests on provisions found in Section 303(d) of the original statute. 33 U.S.C.A. § 1313(d). That section requires each state to identify water bodies that will not meet water quality standards even after the application of technology-based controls. The state must then prioritize these "impaired" streams and establish the schedule for performing TMDL analyses for these.

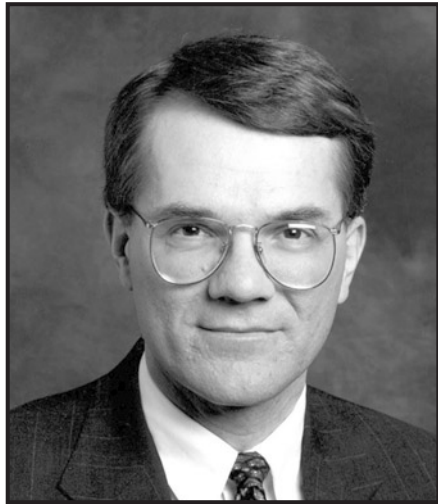
TMDLs create a kind of budget of pollutants that can be accepted by each stream without risking a violation of its water quality standards. The TMDL analysis identifies how many pounds of each pollutant of concern can go into each stream, and then allocates that loading to point source dischargers, non-point sources and natural background loadings. The allocations to point sources are then used as the basis for establishing discharge limitations in those facilities' National Pollutant Discharge Elimination System permits.

This is a key process because it provides the basis for the restoration of all impaired waters which, after all, was the fundamental purpose of the Clean Water Act when it was passed in 1972. I suppose that's the real importance of this program.

Editor: What recent changes have there been to the federal regulation of the TMDL program?

Davis: The federal regulation of TMDL programs has been in flux for many years. The 1992 regulations were very brief and not very specific. The EPA during the Clinton Administration wrote a much more detailed rule prescribing how TMDL programs should work. That version is commonly called the "2000 Rule" in the business. It was finalized in the summer of 2000 and immediately challenged in court by numerous parties. Based on the challenges and a broader re-thinking of the TMDL program, both EPA and the Congress deferred the effective date of the 2000 Rule until April 30, 2003. 66 Fed. Reg. 53044 (Oct. 18, 2001). Following the change of administrations and a thorough review by EPA of its water quality strategies, the 2000 Rule was formally withdrawn on March 13, 2003.

The widely rumored replacement will be what EPA is now referring to as the "Watershed



Richard S. Davis

Rule." The Watershed Rule would cover essentially the same subject matter and, according to the Washington rumor mill, is expected to see the light of day as a proposal sometime in May of this year. According to many, the Watershed Rule will have a number of advantages over both the existing 1992-vintage regulation and the aborted Clinton-Era rule.

One of the expected advantages of the Watershed Rule, for example, is that it will more clearly define the quality of data necessary to perform a valid TMDL analysis. Some of us are also hoping that the new rule at least begins to impose some order on the increasingly heated competition between point sources and non-point dischargers for rights to discharge into the nation's waterways.

Editor: What role does the new proposal contemplate for the NPDES permitting program?

Davis: Now that is another important innovation that we expect to see. The upcoming Watershed Rule is expected to de-link the TMDL's calculation of the maximum pollutant loadings that a stream can tolerate from the much more lengthy process of achieving those reduced loadings. The new proposal is expected to leave the job of dividing the total allowable loadings among various dischargers to the NPDES permit writer. This might mean that these decisions are made piecemeal as each facility on the stream renews its permit. EPA, though, is encouraging states to avoid this problem by synchronizing their permitting cycles within watersheds. That means that all of the permits in a given watershed would be scheduled to come up for renewal at the same time, allowing the permit writers to make coordinated decisions about how to allocate the total discharge loads authorized by the TMDL.

The TMDL process will still be very important because it establishes the ground rules under which a discharger can get its NPDES permit later on. It defines, for the long term, the assimilative capacity of streams. In effect, the TMDL will determine the size of the pie that is available, and the permit program will divide up the pie among various dischargers. I suppose under this analogy the enforcement folks are there to make sure no one overeats.

Editor: The new proposal is called the Watershed Rule. Is that because these ground rules will be set at a watershed level, rather than at a stream level?

Davis: That's a hopeful interpretation and certainly the way EPA would like to see the program develop. Initially, though, it's more likely that the Watershed Rule will force states to look first at the stream level (to do the TMDLs) instead of trying to protect the stream simply by focusing on permitting individual dischargers one at a time as has historically been the case. TMDLs are performed on impaired "stream segments," and those often include more than one

discharger. Even if the program only succeeds in broadening the focus of water quality protection to the stream segment level it will have done something important. Certainly, though, the end goal is to encourage states to expand the scope of their TMDLs so that they can look at an entire watershed at one time. That broad, integrated approach isn't required by current law and may not be explicitly required by the new Watershed Rule, but it certainly makes sense. You might as well take a broad, coordinated look at a watershed all at one time if you are going to the trouble to mobilize all the resources necessary to scientifically assess a portion of it. The result will be better integrated water quality planning and, probably, a huge dollar savings in the cost of doing these studies.

Editor: The Delaware River Basin is one example of a watershed that would impact a number of states. Is the EPA encouraging some collaboration, or is it looking at having the segments done individually by the states?

Davis: That is an interesting and historically complicated issue. Like most waters that form the boundaries between states, the Delaware River is under the jurisdiction of several states. Some years back, the states formed a compact that they would manage the resource in an integrated way. With federal approval, they created something called the Delaware River Basin Commission to look after this complex waterway. Today, it is the DRBC that performs many of the water quality management functions that states traditionally shoulder for their intra-state resources. Entities like the DRBC can perform TMDLs, support in-stream monitoring to assess the health of a multi-state waterway, and develop long term plans for the improvement of the water body's condition. These multi-state entities are very valuable means of coordination, and I am confident that the new rule will continue to rely upon their good offices. In fact, going back to your last question, relying on these interstate entities to manage the TMDL process will, by definition, result in more TMDLs being performed on the watershed level. When states see the advantages of this broad approach, it may encourage them to do the same for their purely intra-state watersheds.

Editor: Even though states collaborate through multi-state commissions, does the permit itself come from the state in which the discharger's facility is located?

Davis: Yes, finally it gets simple. Once interstate coordination of the TMDL is completed, the permits that actually apply the final loading limits to individual dischargers will be issued by the states. Well, mostly by the states. You see, most states are delegated to run the federal permitting program in lieu of EPA. Permits in those delegated states will originate with the state agencies, while permitting in the relatively few undelegated states will continue to be managed by the appropriate EPA regional office.

Editor: What variables can affect whether a TMDL is done effectively or badly?

Davis: A TMDL's quality is affected by a number of variables. These start with the integrity of the original decision to list the water body as impaired. If that listing decision was in error, the state or EPA might be launched into a wild goose chase — trying to develop a cure for a stream that is not in fact sick.

Once the TMDL is begun, there remain many factors that affect the quality of its output. Many of these factors relate to the modeling that is used to support most TMDLs. Key factors affecting model integrity include the quality and currency of the data used, the care with which the water quality model is calibrated using an initial set of in-stream data, the sophistication with which the modeler validates the model's ability to predict in-stream effects under a different set of environmental conditions, and the adequacy of sensitivity analyses done to ensure that the model is reacting proportionately to its various inputs. In addition, TMDLs that attempt

to ascertain the impact of complex pollutants such as nutrients must be vetted with great care to ensure that the multi-stage relationships being modeled are understood in a fair degree of detail. Similarly, TMDLs attempting to remedy violations of narrative water quality standards often carry the added burden of having to translate narrative descriptions of stream conditions into numeric values capable of being assessed and allocated in a TMDL. That process, which sometimes is extremely complex, is the source of significant error in many TMDLs.

The TMDL model also needs to accurately describe non-point discharges (such as some discharges of storm water runoff and field runoff) and the natural background pollution load present in the stream. Natural background, for example, can include such arcane and variable pollutant sources as the deposition of pollutants from the air and the movement of pollutants from the sediment back into the stream's water column. Proportionately less is known about these sources of pollutants than is known of point source contributions, so the possibility of error is just that much greater.

In the end, I think that most fair-minded practitioners would agree that TMDLs of questionable quality are produced all too often. The difficulty in getting each of these factor right each time out of the box can overwhelm regulatory agencies on very tight budgets operating under very tight deadlines.

Editor: What are the biggest concerns about current state TMDL programs?

Davis: With all the focus on the "inside the Beltway" machinations surrounding the 2000 Rule and the Watershed Rule, I think we sometimes lose sight of the fact that this program is currently being implemented at a furious pace. The states, and EPA in cases where courts have ordered it to act in lieu of a state, are operating under extremely tight deadlines for the completion of, literally, thousands of these complex TMDLs. Haste like that never is a good setting in which to get complicated science done well.

On top of that, the resources available to the states and EPA to get this job done are, to put it bluntly, embarrassingly inadequate. What we've talked about today is a program of great complexity; one that calls for meticulous data collection to feed a sophisticated and still-evolving science of stream assessment. At base, the TMDL program is a bold attempt to gain a complete, scientific understanding of how streams respond to various stresses imposed by man and nature. This cannot be done cheaply, or by formula, or by lowest-bidder contracts that rely on an assumption that each stream is like every other stream.

I suppose that if I were to leave you with one message about the TMDL program it would be that "doing our best" in this program simply is not acceptable. TMDLs are the most direct means of establishing the level of protection that our nation's waters need to remain healthy. These decisions, in turn, directly drive decisions about the kind of land use that is allowable: "Can I run my plant here?" "Can I farm?" "Can my town continue to grow?" With so much at stake, we cannot allow the agencies charged with making these decisions to be caught short of resources and overwhelmed.

In the short term, of course, dischargers need to step in to critique TMDLs that threaten to affect their facilities. Intelligent engagement of the state or EPA often can put defective TMDL processes back on track. Technically sound critiques in comments and, if necessary, administrative or judicial review also offer safety valves where the system has gone awry.

In the end, though, these are just stopgap measures. Pivotal water quality and land use decisions should not be left to chance or to negotiation or, worse, to the courts. The TMDL program must be funded so that it works right the first time and every time. This will seem costly at first, but that expense pales in comparison to the social, environmental and economic costs of tethering the agencies to pinched budgets as they implement this critical program.

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