The Future of Proxy Total Maximum Daily Loads After *Virginia Department of Transportation v. EPA*

I. INTRODUCTION

For most of its forty-two year lifespan, the Clean Water Act ("CWA" or "the Act") has been labeled a glass half full. While the CWA's pollution reduction controls for point sources (discharges from discrete sources like pipes, ditches, and containers) have achieved great success at improving water quality, the Act's regulatory scheme for reducing nonpoint source pollution (diffuse discharges that cannot be linked to a specific "point," like oil and chemical runoff from roads, excess sediment from construction sites, and fertilizer and insecticide runoff from agricultural operations) has been comparatively ineffective.[1]

There are two primary explanations for this deficiency. First, nonpoint sources are inherently more difficult to control than their point-source counterparts: imagine the difference between capping a spilt water bottle (a point source analog) and stemming an apartment flood (a nonpoint source analog). Compounding this difficulty is the relative effectiveness of the different regulatory devices Congress

1. *See* William L. Andreen, *Water Quality Today—Has the Clean Water Act Been a Success?*, 55 ALA. L. REV. 537, 591–93 (2004) (noting that despite the progress produced by the CWA, it has "never addressed non-point source pollution in a straightforward comprehensive way.").

prescribed for each discharge source. Most point sources[2] fall under the National Pollutant Discharge Elimination System ("NPDES"), a rigorous system that compels polluters to adopt specified pollution reduction technologies or face both civil and criminal liability.[3] In stark contrast, the Act's nonpoint-source control program is wholly voluntary. Sections 208 and 319 offer states financial and technical incentives for implementing nonpoint source control systems[4]; section 303, the Total Maximum Daily Load ("TMDL") program, goes a step further and "requires" states to establish water quality standards for all waters impaired by nonpoint sources within their borders.[5] But, the CWA provides no penalty for states that decide not to develop a TMDL for a water body. Rather, the Environmental Protection Agency ("EPA") picks up the slack by crafting TMDLs for states that fail to create one independently. Even though a litigant can force a state or the EPA to generate a TMDL, the Act provides no penalty for failure to convert the TMDL into an actual regulatory program.

Despite the numerous challenges saddling the TMDL program, its implementation and effectiveness have steadily improved over time.[6] Part II of this Comment explains in detail how TMDLs work to improve water quality by dictating a maximum amount or concentration of discharge a given body of water can accept or attain per day—the total maximum daily load. For example, in Florida, the Lake Okeechobee TMDL establishes a total maximum daily load for phosphorous from nonpoint sources of forty parts per billion ("ppb").[7] Sometimes calculating a TMDL for a specific pollutant like phosphorous or aluminum is straightforward. But often, it is far tougher for watershed scientists to calculate how much of an individualized pollutant load a

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2. The Act excludes some pollutants that meet the statutory definition of a point source from the NPDES system, chiefly agricultural runoff and stormwater runoff from oil, gas, and mining operations.

3. *See id.* at 549–50 ("The CWA also created a wide array of federal sanctions for violations of the Act. In doing so, Congress gave EPA enormous power to enforce the Act through the use of administrative compliance orders, administrative penalties, civil suits for injunctive relief and civil penalties, and even criminal sanctions.").

4. *See* Clean Water Act §§ 208 & 319; *see also* Robin Kundis Craig, *Local or National? The Increasing Federalization of Nonpoint Source Pollution Regulation*, 15 J. ENVTL. L. & LITIG. 179, 186–89 (2000) (noting that Congress "relegated nonpoint source management to general area-wide waste management planning," eschewing the point source program's command-and-control approach).

5. Clean Water Act § 319.

6. *See* Oliver A. Houck, *TMDLs IV: The Final Frontier*, 29 ENVTL. L. REP. 10469, 10470–74 (describing TMDLs as "forcing a showdown on the last water quality frontier, non-point source pollution."); *see also* ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION 739 (6th ed. 2009) (characterizing the TMDL program as the "sleeping giant" of the Clean Water Act).

7. FLA. DEP'T OF ENVTL. PRO., TOTAL MAXIMUM DAILY LOAD FOR TOTAL PHOSPHOROUS LAKE OKEECHOBEE 38 (2001).

water body can safely accommodate because of the complicated way pollutants interact with each other and the difficulty of determining how much pollutant a water body actually absorbs each day.

In these instances, the EPA and state environmental agencies sometimes employ a proxy TMDL. Rather than creating a TMDL for each individualized pollutant, proxy TMDLs establish TMDLs for other measures of runoff or indicators of impairment, such as stormwater runoff or impervious cover (e.g., roads and sidewalks). Thus, these alternative methods of crafting TMDLs serve as proxies for each individual pollutant; a proxy TMDL might limit total stormwater runoff to 10,000 gallons a day instead of creating a TMDL for each constituent pollutant (like phosphorous, oil, or aluminum) within the stormwater. Likewise, an impervious cover TMDL would establish a limit on the amount of impervious cover adjoining a water body, such as eleven percent adjacent impervious cover. Not only is this method often scientifically superior, but it makes it easier for local and state governments to develop abatement plans since city planners and civil engineers are accustomed to thinking in terms of these larger proxies and not individual pollutants.[8]

But a case recently decided in the United States District Court for the Eastern District of Virginia casts major doubt on the recent but growing practice of using proxy TMDLs in lieu of traditional TMDLs. In *Virginia Department of Transportation v. EPA*, the district court, applying *Chevron v. Natural Resources Defense Council*, struck down an EPA-created TMDL for Accotink Creek, a tributary of the Potomac River. Not only did the court find that utilizing proxy TMDLs violates *Chevron* step one, but the court took an extra step and strongly implied that even under a step two analysis, proxy TMDLs would not survive judicial scrutiny.

This Comment examines the potentially far-reaching implications of *Virginia Department of Transportation*, including the possibility of wholesale abandonment of proxy TMDLs. Part II provides background on how TMDLs are created and explains how and why state and federal agencies use proxy TMDLs. Part III lays out the facts and holding of the case, emphasizing the broad holding of the court. Finally, Part IV looks at the implications of the case. Given the court's strong skepticism of the EPA's claim that it has authority to employ proxy TMDLs and the agency's decision to not appeal the case, proxy TMDLs may have seen their last days.

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8. Environmental Law Prof Blog, *An Important Stormwater Case (and its Not the One You're Thinking Of),* Jan. 9, 2013, *available at*, http://lawprofessors.typepad.com/environmental_law/2013/01/an-important-stormwater-case-and-its-not-the-one-youre-thinking-of.html.

II. TMDLS

Given that the CWA's TMDL program lies at the middle of the dispute in *Virginia Department of Transportation*, it is essential to understand the basics of the program and how proxy TMDLs fit into the equation. Part II.a explains the contours of CWA section 303, which creates authority for the CWA. Part II.b goes on to detail the development of the proxy TMDL and why it is an important tool for effectuating section 303 and reducing nonpoint source pollution.

a. Generally within CWA

As described in Part I, the CWA installed a relatively bifurcated water pollution administrative scheme with point sources subject to the compulsory command-and-control structure of NPDES and nonpoint sources subject to the TMDL program. In essence, a TMDL is a "pollution budget" for a specific watershed—it establishes the amount of a given pollutant a watershed can accept each day, either to prevent the watershed from being impaired or to ameliorate a current state of impairment.[9] While TMDLs technically integrate both point and nonpoint source limitations into their pollution abatement plans, since any given watershed usually receives discharges from both point and nonpoint sources, a TMDL simply utilizes the point limitations already encapsulated in a NPDES discharge permit. While the CWA allows the EPA or states to crank up NPDES requirements to meet water quality standards encapsulated in TMDLs, this rarely occurs in practice. Instead, states usually create generous waste-load allocations (the term for point-source TMDLs) and strict load allocations (the term for nonpoint source TMDLs), effectively placing the regulatory burden on nonpoint sources, which states can then leave unimplemented.[10] The result is that the *real* controls for point sources come from the NPDES pollution-control technology requirements—e.g., a power plant must install a filter that eliminates 99% of mercury from the effluent emanating from its waste pipes into a river—while the *only* controls for nonpoint sources are those independently in a TMDL, which lack the stringency of NPDES controls.

Step one of TMDL creation is identification of the water body to be protected. TMDLs are implemented for a wide variety of waters. For example, the Chesapeake Bay TMDL includes the whole of the bay and

9. *See id.* (describing TMDLs as "pollution budgets" for watersheds).

10. Oliver Houck has written extensively on this topic. *See, e,g.,* Oliver Houck, *TMDLs: The Resurrection of Water Quality Standards-Based Regulation Under the Clean Water Act*, 27 ENVTL. L. REP. 10329 (1997) (part of a five-part series on TMDLs, their implementation, and their future).

requires cooperation between Delaware, the District of Columbia, Maryland, New York, Pennsylvania, Virginia, and West Virginia;[11] on the other hand, the Barberry Creek TMDL covers a creek less than a mile and a half in length.[12] Once the water to be protected is identified, the next step is identification of the pollutants that threaten or currently impair the designated use of the water (fishing, drinking water, species habitat, etc).[13] TMDLs are created for a wide variety of contaminants and are usually expressed as the mass of a contaminant allowed per day. For example, the Big Piney Reservoir TMDL for nonpoint-source mercury contamination is expressed as .1274 grams a day (.1274g/day).[14] Common water pollutants include phosphorous, nitrogen, fecal coliform, and mercury.[15] Determination of the acceptable TMDL of a pollutant is a mathematical and scientific determination that relies heavily on input from watershed scientists. While section 303 directs states to establish and enforce TMDLs, EPA has the authority to create a TMDL when a state fails to do so.

After the TMDLs for the relevant pollutants are calculated, the final piece of putting together a holistic TMDL is putting in a plan to bring pollutant loads into accord with the TMDLs. This part of the TMDL creation process is where the difference between point and nonpoint sources becomes stark. Point-source limitations are functionally built into NPDES permits, which are entirely separate from the TMDL process. So, achieving pollution reductions from point sources is as easy as requiring the polluter to install a filter or pollution cleansing technology on its source (though the pollutant treatment and filtration process isn't always so straightforward). On the other hand, attaining nonpoint source reductions is much more difficult because the CWA provides the EPA or state environmental authorities with no enforcement devices to require polluters to scale down their discharges.[16] Instead, TMDLs for nonpoint sources of pollution rely on

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11. U.S. ENVIRO. PROT. AGENCY, CHEASAPEAKE BAY TMDL (2013), *available at* http://www.epa.gov/chesapeakebaytmdl/.

12. MAINE DEP'T OF ENVIRO. PROT., TOTAL MAXIMUM DAILY LOAD IN BARBERRY CREEK 5 (2006), *available at* http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/upload/barberry_ck_rep.pdf

13. U.S. ENVIRO. PROT. AGENCY, DEVELOPING EFFECTIVE NONPOINT SOURCE TMDLS: AN EVALUATION OF THE TMDL DEVELOPMENT PROCESS ES-1 (2007) [hereinafter EPA TMDL REPORT].

14. U.S. ENVIRO. PROT. AGENCY, BIG PINEY RESERVOIR TMDL FACT SHEET 1 (2009), *available at* http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/mercury.cfm.

15. See EPA TMDL REPORT *supra* note 11, at 2–6 ("Nitrogen, phosphorous, and fecal coliform are examples of specific nutrients and pathogens, respectively, for which TMDLs have been established.").

16. That is, the CWA provides no enforcement *mandates* to states or the EPA. States can force compliance with TMDLs since their pollution prevention authority extends beyond the contours of the CWA, whereas EPA and federal authority end where the CWA ends. Judge Berzon

a "combination of voluntary source activities, state rules, and active watershed organizations that promote community action" to reach the stated TMDL goal.[17] Such devices are inherently weaker and less effective than their point-source counterparts.

Another difficulty of effectuating TMDLs, other than the lack of a strong nonpoint-source regulatory framework, is the inherent difficulty of calculating a TMDL. When Congress wrote section 303 of the CWA, it required that the EPA and state environmental managers craft TMDLs by determining the amount of individual pollutants a water body can accommodate without impairing its designated use; the problem is that this is often quite difficult to do in practice. Most water bodies receive multiple pollutants from multiple sources, all of which, in the words of a water policy expert, "synergistically interact to degrade water quality."[18] That is, while each pollutant may negatively impact water quality in its own specific way, when several pollutants are introduced to a water body, they can combine to create uniquely negative water quality issues. Since the TMDL process emphasizes creating TMDLs for singular pollutants rather than for groups or classes of pollutants, many TMDLs cannot fully account for the deleterious impacts of modern pollutant loads on watersheds.

b. Proxy TMDLs

Proxy TMDLs help fill the pollution management gap left by traditional TMDLs, since they are a more holistic and practically useful tool than standard TMDLs. This is where proxy TMDLs enter the story. Proxy TMDLs are typically developed and implemented in a similar fashion as their conventional TMDL counterparts, except for one critical difference: instead of expressing the TMDL in terms of the mass of an individual pollutant, the maximum daily load is dictated in terms of an alternative "proxy." Common proxies include impervious cover (any impenetrable artificial surface such as concrete, asphalt, or roads) and stormwater runoff.[19] For instance, an impervious cover TMDL might note that a watershed has fifteen percent connected impervious cover (e.g., fifteen percent of the watershed is bordered by impervious cover) but to avoid impairment, it should only have eleven percent

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provides an excellent overview of how the CWA allocates regulatory authority in *Pronsolino v. Nastri*. *See generally*, Pronsolino v. Nastri, 291 F.3d 1123 (9th Cir. 2002).

17. EPA TMDL REPORT *supra* note 11, at ES-1.

18. David Owen, *Urbanization, Water Quality, and the Regulated Landscape*, 82 COL. L. REV. 431, 461 (2011).

19. *See id.* (describing stormwater runoff and impervious cover as the most commonly utilized proxy TMDLs).

connected impervious cover.[20] To meet the TMDL goal of eleven percent, watershed managers would try to retrofit development and limit new building throughout the watershed.[21] Likewise, a stormwater–runoff proxy TMDL would express its limitation in terms of stormwater runoff a water body can receive in a given day, instead of the amount of a specific pollutant the waterway can take in. In the Accotink Creek TMDL (the basis of the *Virginia Department of Transportation* litigation), the EPA used stormwater runoff as a proxy for sediment (a common water pollutant); as such, the agency set the TMDL at 681.8 cubic feet of stormwater runoff per acre per day.[22] In all instances, proxy TMDLs serve as a surrogate or proxy for measuring actual pollutant loads. Sometimes they are a proxy for a single pollutant (e.g., stormwater runoff is a proxy for sediment or phosphorous) while sometimes a single proxy TMDL functions as a surrogate for a range of stressors (e.g., impervious cover is used to measure acceptable phosphorous, mercury, and oil runoff).

Because they allow watershed managers to evaluate pollutant loads using a more holistic measuring stick, proxy TMDLs have several advantages in situations where traditional TMDLs are inadequate. Most importantly, proxy TMDLs are often a scientifically superior methodology of measuring waterway impairment since they account for both the independent and combinative effects of multiple discharges.[23] Since pollutants negatively impact the aquatic environment both individually and when combined with other pollutants, proxy TMDLs are able to solve water quality problems traditional TMDLs cannot. Additionally, proxy TMDLs fit more easily into the modern urban planning paradigm than traditional TMDLs do. City planners and civil engineers are not accustomed to considering individual pollutant discharges from their projects; they are, however, used to thinking about the environmental consequences of storm-water runoff and impervious cover.[24]

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20. *See id.* at 461–63 (using this example from the Trout Brook , Maine TMDL).

21. *Id.*

22. *Virginia Dep't of Transp. v. Enviro. Prot. Agency*, 2013 U.S. Dist. LEXIS 981 at *4–5 (E.D. Va. Jan. 3, 2013).

23. *See* Owen, *supra* note 15, at 463–64 ("An impervious cover TMDL addresses a key underlying source of those stressors and of traditional pollutants and therefore can more comprehensively diagnose a watershed's problems."); *see also* Environmental Law Prof Blog, *supra* note 7 ("Scientifically, proxy TMDLs are often more defensible than traditional TMDLs.").

24. *See* Owen, *supra* note 15, at 463–64 (noting that "[t]his approach can produce better guidance for land use planners" and allows regulators to avoid the "extremely time-consuming process of developing defensible pollutant load limits for each individual pollutant."); *see also* Environmental Law Prof Blog, *supra* note 7 ("On the policy front, [proxy TMDLs] focus attention on things that civil engineers and planners are accustomed to thinking about.").

But while proxy TMDLs might be scientifically and practically preferable to traditional TMDLs, there is a potentially fatal flaw to their use—the Clean Water Act doesn't appear to authorize it. While the issue received scant scholarly attention before *Virginia Department of Transportation* (and little more even after the case), at least one scholar presciently argued in 2011 that proxy TMDLs occupy a "legal grey area" because they fall outside the "plain language of the CWA."[25] In short, Professor Owen contended that since CWA section 303 requires total maximum daily loads for *pollutants*, rather than *proxies for pollutants*, a court applying a plain language reading to the CWA could find proxy TMDLs outside the statute. So while the science might support use of proxy TMDLs, the law might foreclose it. Two years later this very issue came to a head in *Virginia Department of Transportation v. EPA*.

III. *VDOT V. EPA*

a. Facts and Background

The *Virginia Department of Transportation* litigation centered on the Accotink Creek TMDL. As a result of prior but unconnected litigation, the EPA was required to set TMDLs for the twenty-five mile tributary of the Potomac River because Virginia had failed to do so.[26] The TMDL was designed to resolve "benthic impairments" at the floor of Accotink Creek; in other words, pollutants threatened the health of the creek's ecosystem.[27] To achieve this court-ordered goal, the agency used a proxy TMDL, setting a limit of 681.8 cubic feet of storm-water runoff per acre per day.[28]

Shortly after the EPA released the Accotink Creek TMDL, the Virginia Department of Transportation and the Fairfax County Board of Supervisors (the county authorities where Accotink Creek is located) challenged the TMDL on several grounds. Although it is unclear precisely *why* Virginia and Fairfax County were motivated to litigate, some commentators speculated that, as the implementing authorities for many TMDLs, those parties actually prefer TMDLs that are indeterminate and fluid because they create less pressure to actually reach the stated goals.[29] In short, since it is easier to achieve a specific

25. Owen, *supra* note 15, at 463–64.

26. *Virginia Dep't of Transp. v. Enviro. Prot. Agency*, 2013 U.S. Dist. LEXIS 981 at *4-6 (E.D. Va. Jan. 3, 2013).

27. *Id.*

28. *Id.*

29. *See* Environmental Law Prof Blog, *supra* note 7 ("A proxy TMDL therefore expresses its pollution budget in terms local governments can actually work with. (Of course, that may be

storm-water runoff–reduction goal than to attain a nebulous phosphorous or sediment runoff goal (since those pollutants come from a myriad of sources, including storm water), actors administering TMDLs might favor standards that have little chance of actually being met.

Motivations aside, by the time Judge O'Grady ruled on the state of Virginia's 12(c) motion for judgment on the pleadings, there was only one issue before the court: whether "the Clean Water Act authorize[s] the EPA to regulate the level of a pollutant in Accotink Creek by establishing a TMDL for the flow of a nonpollutant into the creek."[30] By framing the issue in this way, Judge O'Grady strongly hinted that he believed utilization of a proxy (storm water) in lieu of an actual pollutant load (sediment) fell outside Congress's grant of authority in the CWA. Such framing was especially telling given that for the Accotink Creek TMDL, the EPA only used storm-water runoff as a proxy for a *single* pollutant (sediment) as opposed to for a range of pollutants, potentially making the practice less objectionable than other proxy TMDLs, since the proxy functionally served as a direct TMDL for sediment.

b. Holding

Since the issue was whether the EPA's interpretation (proxy TMDLs are a permissible practice under the CWA) of the CWA was valid, the court applied the famous two-step test explained in *Chevron v. Natural Resources Defense Council*.[31] First, per *Chevron*'s guidance, the court considered whether Congress's instructions in Section 303 unambiguously precluded use of proxy TMDLs when EPA deems traditional TMDLs inappropriate.[32] Focusing on the "plain meaning" of the text of the statute, the court held that use of proxy TMDLs is foreclosed by the fact that the CWA only allows creation of "total maximum daily loads for those pollutants which the [EPA]

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exactly what Fairfax County and the Virginia Attorney General's office didn't like about this TMDL; they may have preferred something more opaque and inconsequential.)").

30. *Virginia Dep't of Transp. v. Enviro. Prot. Agency*, 2013 U.S. Dist. LEXIS 981 at *5.

31. Much has been written on the subject of *Chevron* and its legacy. Here, it is sufficient to note that it is a foundational administrative law case that controls when a court is reviewing an agency's interpretation of a statute it administers and the agency's decision has the force of law. Step one requires a court to determine whether Congress unambiguously spoke to the question at issue; if so, that construction controls. If not, step two asks the court to evaluate whether the agency's interpretation of the statute is "permissible" or "reasonable"; if the agency's interpretation survives this deferential standard, its interpretation stands. *Chevron U.S.A. v. Nat. Res. Def. Council,* 467 U.S. 837, 840–45 (1984).

32. *Virginia Dep't of Transp. v. Enviro. Prot. Agency*, 2013 U.S. Dist. LEXIS 981 at *6–12.

Administrator identifies."[33] Because "sediment is a pollutant [under the CWA], and stormwater is not," the court found "no ambiguity under the statute": Congress did not authorize use of proxy TMDLs.[34] The court supplemented its textual interpretation with evidence from the legislative history suggesting that the authors of the Act did not merely "provide broad directives for administrators to follow."[35]

To bolster its conclusion, the court relied on two D.C. Circuit cases. In the first, *Friends of the Earth v. Environmental Protection Agency*, the D.C. Circuit rejected the EPA's attempts to use annual or seasonal daily loads in lieu of daily load limits.[36] Judge O'Grady analogized the result in *Friends of the Earth* to the situation before the court in *Virginia Department of Transportation*—in both instances, the EPA tried to "express a TMDL in terms other than those contemplated by the statute, arguing that such an expression is the most effective method."[37] But like the result in *Friends of the Earth*, the court found the EPA's reading, however useful, outside the ambit of the statute.

After invoking *Friends of the Earth*, the court dismissed the EPA's use of another D.C. Circuit case, *Weyerhaeuser v. Costle*. The EPA pointed to language in a footnote that recognized it's ability to "use pollution parameters that are not harmful in themselves, but act as indicators of harm."[38] However, the court distinguished this language by point out that in *Weyerhaeuser*, the "non-harmful pollution parameters" in question were themselves elements of the effluents (pollutants) that the CWA explicitly granted EPA authority to regulate.[39] So, the court read *Weyerhaesuer*'s footnote to allow EPA to regulate *constituents* of a pollutant but not *indicators* of a pollutant.

After determining that EPA's application of proxy TMDLs violated the plain language of the CWA, the court could have ended its opinion. Instead, Judge O'Grady went on to analyze whether EPA's interpretation would survive *Chevron* step two; that is, assuming the CWA's instructions on TMDL implementation are vague, is the EPA's reading of the statute (to allow proxy TMDLs) a reasonable reading of the Act?[40] Relying primarily on the fact that all four of the EPA's attempts to regulate sediment through stormwater-flow TMDLs were litigated, the court concluded that there "is substantial reason to

33. *Id.*

34. *Id.*

35. *Id.* This quote came from Senator Randolph, the Chair of the Senate committee that led the 1972 CWA amendment process.

36. *See id.*

37. *Id.*

38. *Id.*

39. *Id.*

40. *Id.* at *13–15.

suspect that EPA's motive goes beyond 'permissible gap-filling,' " of the sort contemplated by the *Chevron* Court.[41]

IV. THE FUTURE OF PROXY TMDLS AFTER *VIRGINIA DEPARTMENT OF TRANSPORTATION*

This Part analyzes the lessons *Virginia Department of Transportation* offers. First it notes several implications of the court's analysis that bear consideration; it then goes on to examine how policymakers might be able to salvage a future for proxy TMDLs.

a. Implications

Perhaps the most interesting implication of the case is that the federal government opted not to appeal the decision to the Fourth Circuit. On one hand, this might make strategic sense as it limits the controlling reach of the precedent to only the Eastern District of Virginia, freeing the EPA to continue to pursue use of proxy TMDLs in other jurisdictions. On the other hand, the decision to forego appeal might prove fatal to the longevity of proxy TMDLs. Not only does the decision stand as potentially persuasive precedent at a time where similar cases are pending in other jurisdictions,[42] but the failure to appeal might signal that the EPA believes its position is untenable in the long-run. While the EPA continues to use proxy TMDLs in several states, including Connecticut, Vermont, and Maine, the practice might be on its way out.

If proxy TMDLs are indeed facing extinction, gains from the TMDL program will continue to stagnate and nonpoint sources will remain difficult to rein in. Although proxy TMDLs are far from a silver bullet, they are a promising policy development since they allow watershed managers to create concrete pollution reduction goals that realistically can be met. By abandoning proxy TMDLs where traditional TMDLs might prove too difficult to generate or enforce, such waterways will have little chance of achieving significant nonpoint-source pollution reductions. TMDLs may become little more than a paper tiger.

Moreover, this case also illustrates the disconnect between scientists and policymakers that can hinder environmental statutes in the United States. Most of the American environmental regulatory scheme was passed in the 1970s and has been left largely unmodified since. Unfortunately, as environmental science has progressed, the

41. *Id.*

42. *See id.* at *13–14 (noting that four other stormwater TMDLs were challenged in courts nationwide with one being settled and the other three pending).

EPA has not always been able to adapt the initial statutory grant of authority to the best scientific advances. Proxy TMDLs are but one example of this difficulty.

b. Plotting a Future for Proxy TMDLs

Despite the court's hostility to proxy TMDLs as a general practice, a closer analysis shows that with some modifications, proxy TMDLs might survive future judicial scrutiny. The most obvious way is to employ certain types of proxy TMDLs that would be more likely to fit within the terms of the CWA. Though the *Virginia Department of Transportation* court appeared to homegenize proxy TMDLs—that is, instead of addressing how each *specific type* of proxy TMDL might fit the CWA's ambit, the court appeared to hold that *all* proxy TMDLs are per se invalid—other courts might be willing to take a different approach. In fact, each type of proxy TMDL likely sits on its own legal footing. For example, impervious cover TMDLs are likely the most legally vulnerable TMDLs—they don't even pretend to regulate the maximum daily *load* of anything, since they set limits on development or construction of roads, buildings, and the like. Thus, they would appear to be completely foreclosed by the plain text of the CWA, much like the use of seasonal or yearly loads was in *Friends of the Earth*. But stormwater runoff TMDLs that serve as a surrogate for a single pollutant (interestingly, the precise situation presented in *Virginia Department of Transportation*) might be the most unobjectionable of the proxy TMDLs. Since the stormwater runoff serves as a direct proxy for a single pollutant (rather than a range of pollutants) and the pollutant in question is likely a constituent of stormwater runoff, these TMDLs seems to fall into the "non-harmful pollutant" zone contemplated by *Weyerhaesuer*.

Another solution might be to promulgate TMDLs that include both a TMDL for a specific pollutant *and* a proxy. For instance, a TMDL for a water impaired by sediment could establish a TMDL for sediment runoff and also create a TMDL for stormwater runoff, often a good proxy for sediment. From there, the implementation authority could decide to focus its efforts on meeting the proxy goal as a means to achieve the specific sediment goal. By including a sediment TMDL as required by the CWA's language, such a TMDL would meet the terms of the CWA (by calculating and requiring a limit of a pollutant) but still allow watershed managers to reach that TMDL through a more effective proxy.

A final approach could be to shift the actor creating the TMDL. In *Virginia Department of Transportation*, the Accotink TMDL failed because it expanded the EPA's authority outside the language of the

CWA. But while the federal government's regulatory authority in this area is limited by the CWA, states' authority is generally much broader (subject to state constitutional limitations). Thus, a proxy TMDL created by a state environmental agency would appear to be more likely to pass judicial muster than a federally created TMDL, which must meet the CWA's terms.

Judged on the science alone, proxy TMDLs are a promising development for policymakers and environmental regulators. However, they stand on shaky legal ground that could ultimately leave as an unfeasible policy option. But with just a few changes, it is possible to preserve proxy TMDLs as a viable watershed management tool and ensure they pass judicial muster.

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