

Clean Water Act Section 305(b): A Potential Vehicle for Incorporating Economics into the “TMDL” and Water Quality Standards-Setting Processes

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I.	INTRODUCTION	72
II.	STATUTORY REQUIREMENTS	74
	A. <i>CWA Section 303 Requirements</i>	75
	1. Water Quality Standards	75
	2. Total Maximum Daily Loads.....	76
	B. <i>CWA Section 305(b) Requirements</i>	78
III.	STATUTORY ANALYSIS	79
	A. <i>Purpose of Section 305(b)</i>	79
	B. <i>Review of Law Related to Water Quality Standards</i>	81
	1. Uses.....	81
	2. Criteria	83
	C. <i>Application of Section 305(b) to Water Quality Standards</i>	83
	D. <i>Application of Section 305(b) to Section 303(d) Listing</i>	85
	E. <i>Tie Between Water Quality Standards and TMDLs</i>	86
	1. Use of Narrative Toxicity Criteria to Include Waters on the 303(d) List.....	88
	2. Use of Narrative Criteria Translators	89
	3. 303(d) Listings Based on De Facto Regulations	89
IV.	CASE STUDY	90
V.	CONCLUSION	92

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I. INTRODUCTION

The federal Clean Water Act (CWA or the Act) sets forth a complicated and ambitious, two-part regulatory scheme intended to eliminate water pollution.¹ The Act establishes both a primary regulatory program, which controls industrial and municipal wastewater discharges by imposing technology-based effluent limitations through discharge permits, and a secondary regulatory program, which regulates the cleanliness of the nation's waters through the adoption and implementation of water quality standards under CWA section 303.² For waterbodies where the water quality is not good enough to meet the water quality standards even after the imposition of technology-based effluent limitations, section 303(d) requires that "total maximum daily loads" (TMDLs) be adopted.³

Since its enactment in 1972 as a part of the CWA, section 303(d) has been virtually ignored by states and the federal Environmental Protection Agency (EPA). However, more recently, due primarily to the numerous lawsuits filed and won by environmental groups, much attention has been focused on the requirements of section 303(d).⁴ TMDLs became a highly controversial issue following the EPA's 1998 estimations that within the next fifteen years 40,000 TMDLs must be adopted, each of which will result in more stringent controls on all sources of pollutants.⁵

1. Federal Water Pollution Control (Clean Water) Act, 33 U.S.C. §§ 1251-1387 (1994 & Supp. III 1997).

2. *See id.* §§ 1311, 1342, 1313.

3. *See id.* § 1313(d). Although not specifically defined by the Act, a TMDL is basically the maximum amount of a pollutant that can be added to a waterbody each day without violating the water quality standard. *See id.* The EPA has defined a TMDL as the "sum of the individual [wasteload allocations] for point sources and [load allocations] for nonpoint sources and natural background." 40 C.F.R. § 130.2(i) (1999). However, it should be noted that the EPA's proposed regulations would alter this definition to state that TMDLs are "written plans and analyses for achieving water quality standards." Proposed Revisions to the Water Quality Planning and Management Regulations, 64 Fed. Reg. 46,012, 46,050 (1999). This proposed change fails to recognize that CWA section 208 was intended to be the main planning process under the CWA. Section 208, under the area-wide waste treatment management planning process, required the establishment of a regulatory program that would have dealt with many of the currently pressing pollution problems at issue under TMDLs, such as agricultural return flows, animal manure disposal, mine-related pollution, land use planning, construction activity runoff, and dredge and fill materials. *See* 33 U.S.C. § 1288(b)(2)(C) (1994).

4. In these suits, the environmental groups alleged the failure of states and the EPA to adopt impaired-waterbodies lists and to develop and implement TMDLs, as required under the CWA. *See* 33 U.S.C. § 1313(d)(1)(a) (1994); *see also* San Francisco Baykeeper v. Browner, No. C000132 (N.D. Cal. filed Jan. 12, 2000); Natural Resources Defense Council, Inc. v. Fox, 30 F. Supp. 2d 369 (S.D.N.Y. 1998); Sierra Club v. Hankinson, 939 F. Supp. 872 (N.D. Ga. 1996).

5. *See* EPA, ANALYSIS OF THE INCREMENTAL COST OF THE PROPOSED REVISIONS TO THE TMDL PROGRAM REGULATIONS 9, 32 (1998) [hereinafter EPA, ANALYSIS].

Nationwide, concerns have heightened over the constituents proposed for inclusion on the lists of impaired waterbodies and the resultant TMDLs required pursuant to section 303(d).⁶ These concerns have become much more vocal in light of recent EPA regulatory proposals related to TMDLs, which would significantly expand the scope of the program.⁷ For nonpoint sources of pollutants, the predominant concern stems from the threat of being pulled into the regulatory program, a threat that has thus far been avoided.⁸

Municipal and industrial wastewater treatment facilities also have become concerned with the expanding scope of the TMDL program, since additional restrictions on these “point source” discharges are likely to be part of the TMDL equation.⁹ This concern relates primarily to the potential permitting ramifications: more stringent “National Pollutant Discharge Elimination System” (NPDES) permit requirements,¹⁰ which may include the imposition of mass limits, the elimination of dilution and mixing zones, or zero discharge requirements.¹¹ Of further concern are the costs associated with having to install additional control technologies to meet “waste

6. See 33 U.S.C. § 1313(d) (1994); *Testimony of David Williams, Chairman, Federal Legislative Comm. of the California Ass'n of Sanitation Agencies Before the Comm. on Transp. and Infrastructure Subcomm. on Water Resources and Env't* (Feb. 15, 2000) (last modified Mar. 28, 2000) <<http://www.house.gov/transportation/water/02-15-00/williams.html>> (commenting on the EPA's proposed TMDL program).

7. See Proposed Revisions to the Water Quality Planning and Management Regulations, 64 Fed. Reg. 46,012; Proposed Revisions to the National Pollution Discharge Elimination System Program and Federal Antidegradation Policy in Support of Revisions, 64 Fed. Reg. 46,058 (1999). Comments on both proposals were due to the EPA by October 22, 1999. See 64 Fed. Reg. at 46,012, 46,058.

8. Although the CWA is largely silent regarding the federal regulation of nonpoint sources, section 319, added in 1987, specifically deals with nonpoint sources through “best management practices.” 33 U.S.C. § 1329 (a)(1)(C), (b)(2)(A)-(E) (1994).

9. See Letter from Alexis Strauss, Acting Director, Water Division, EPA Region IX, to Loretta Barsamian, Executive Officer, California Regional Water Quality Control Board, San Francisco Bay Region 1 (July 22, 1999) [hereinafter Strauss Letter (July 22, 1999)] (on file with author) (stating that, because pollutants being discharged were included on the state's 303(d) list, the discharge must be controlled by criteria applied end-of-pipe or through equivalent mass limits, and “mixing zones should not be allowed for the listed pollutants”).

10. See 33 U.S.C. § 1342 (1994); 40 C.F.R. Parts 122 and 124 (discussing the regulatory requirements of the NPDES program).

11. See Strauss Letter (July 22, 1999), *supra* note 9, at 1; Letter from Alexis Strauss, Director, Water Division, EPA Region IX, to Lawrence Kolb, Asst. Executive Officer, California Regional Water Quality Control Board, San Francisco Bay Region 7 (Nov. 12, 1999) (“[I]n the absence of these TMDL'S, the only [water quality based effluent limitation] that would assure the discharge does not cause or contribute to an exceedance of the narrative criteria is a loading of zero.”) (on file with author).

load allocations” (WLAs)¹² assigned under a TMDL adopted as a result of a 303(d) listing.¹³ Moreover, those who discharge from a point source fear that “if nonpoint source tradeoffs are not available or the controls developed as a result of a ‘tradeoff’ fail to achieve water quality standards, the NPDES permit becomes the ultimate method of achieving standards.”¹⁴

Although it is hoped that pollutant loads will be equitably allocated between point and nonpoint sources of pollutants, no legal principles have been set forth to ensure that equity and economics are incorporated into the TMDLs adoption and allocation processes. This article suggests a potential avenue for inserting economics not only into TMDLs processes, but also into the processes of setting water quality standards and listing impaired waters under section 303(d). In addition, this article suggests an alternative approach to reading the CWA, which incorporates the requirements of section 303 with reporting requirements under CWA section 305(b). This approach seeks to re-establish rationality into the Act’s requirements as Congress intended.

II. STATUTORY REQUIREMENTS

When read in its entirety, the CWA sets out a logical step-by-step process for addressing water quality.¹⁵ Unfortunately, implementation of the Act, by both the EPA and the states, has been less than comprehensive; thus, the inherent logic of the Act appears to be lost in its application. In an effort to orient the reader to the Act’s intended and logical stepwise process, this part of the Article presents a brief overview of the CWA provisions that relate to water quality regulation. Part III then provides an analysis of each of these provisions.

12. The EPA defines WLAs as “[t]he portion of a receiving water’s loading capacity that is allocated to one of its existing or future point sources of pollution.” 40 C.F.R. § 130.2(h) (1999).

13. See generally Russell A. Isaac et al., *Chemistry and Toxicity: Water Quality Criteria Fail to Incorporate All that Is Known About Factors Affecting Toxicity of Metals*, WATER ENV’T & TECH., Sept. 1999, at 41 (noting the expense of improved technology for waste water treatment systems).

14. Memorandum from Geoffrey Grubbs, Director, EPA Assessment and Watershed Protection Division, to Regional Water Quality Branch Chiefs 2 (Aug. 13, 1992) [hereinafter Grubbs Memorandum] (on file with author).

15. See discussion *infra* Part II.A-B.

A. CWA Section 303 Requirements

1. Water Quality Standards

Section 303 of the CWA concerns water quality standards and implementation plans. Under section 303(c), a “water quality standard . . . consist[s] of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses.”¹⁶ Generally, “uses” are the types of activities for which the water can be used, such as recreation or drinking.¹⁷ “Criteria” are the numeric or narrative water quality conditions necessary to support the water’s designated uses.¹⁸

Ideally, water quality standards should reflect water quality goals that are “consistent with the applicable requirements of [the] Act.”¹⁹ This consistency review demands that water quality standards satisfy two requirements. First, they must “provide, *wherever attainable*, water quality for the protection and propagation of fish, shellfish, and wildlife, and recreation in and on the water.”²⁰ Secondly, the standards must take into account the waterbody’s use and value for “public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other purposes, and also . . . for navigation.”²¹ States must consider a waterbody’s use for these purposes when classifying state waters, but are free to designate other

16. 33 U.S.C. § 1313(c)(2)(A) (1994). It should be noted that the EPA, by regulation, has expanded the definition of water quality standards to include antidegradation in addition to uses and criteria. *See, e.g.*, 40 C.F.R. § 131.6(d) (1999) (requiring an antidegradation policy to fulfill the minimum requirements for submission of water quality standards).

17. *See* 33 U.S.C. § 1313(c)(2)(A) (1994).

18. *See* 40 C.F.R. § 131.11 (1999).

19. 33 U.S.C. § 1313(a)(1) (1994).

20. EPA, WATER QUALITY STANDARDS HANDBOOK 2-1 (2d ed. 1993) [hereinafter WQS HANDBOOK] (emphasis added); *see also* 33 U.S.C. § 1251(a)(2) (1994). This requirement is commonly referred to as the Act’s “fishable/swimmable” goal. These water quality goals are neither absolute nor universal as evidenced by the language referencing the idea of attainability. *See* discussion *infra* Part III.B.1.

21. 33 U.S.C. § 1313(2)(A) (1994). Consideration of the waterbody’s “value” implies an economic component of the use-setting process. *See* Mississippi Comm’n on Natural Resources v. Costle, 625 F.2d 1269, 1277 (5th Cir. 1980). *See also* *Pronsolino v. Marcus*, wherein the United States District Court for the Northern District of California held:

Although the water-quality standards themselves were supposed to take “into consideration” the “propagation of fish and wildlife,” those standards also had to take into account the “use and value” of the waters for a number of other purposes. As a result, a standard itself might be a compromise of competing considerations.

No. C 99-01828 WHA, slip op. at 11 n.9 (N.D. Cal. Mar. 30, 2000) (Order on Cross-Mots. for Summ. J.) (quoting 33 U.S.C. § 1313(c)(2)) (citation omitted) (on file with author).

uses.²² Furthermore, there is no hierarchy of importance among the uses suggested in the CWA.²³

Under section 303(c), states must review applicable water quality standards and, where appropriate, modify and adopt new standards at least once each three-year period.²⁴ State-adopted water quality standards are submitted to the EPA for review; the agency must either approve or disapprove of each standard submitted.²⁵ EPA review should include, among other things, a determination of whether the state “has followed its legal procedures for revising and adopting standards.”²⁶ Upon approval by the EPA, the state standard becomes the “water quality standard for the applicable waters” of the state, or more succinctly, the applicable water quality standard.²⁷

2. Total Maximum Daily Loads

Under CWA section 303(d)(1)(A), each state must identify waters within its boundaries for which the effluent limitations required by section 301(b)(1)(A)²⁸ and section 301(b)(1)(B)²⁹ are not stringent enough to implement any water quality standard applicable to such waters.³⁰ The waters so identified make up the 303(d) list for the state.

22. See 40 C.F.R. § 131.10(c) (1999). EPA regulations, which demonstrate that some flexibility is inherent in the process for designating uses, allow for the development and adoption of subcategories of uses within the Act’s general categories to refine and clarify specific use classes. See 40 C.F.R. § 131.10(c) (1999); WQS HANDBOOK, *supra* note 20, at 2-5.

23. See WQS HANDBOOK, *supra* note 20, at 2-1.

24. See 33 U.S.C. § 1313(c)(1) (1994). This review is commonly known as the “triennial review” process.

25. See *id.* § 1313(c)(3).

26. WQS HANDBOOK, *supra* note 20, at 1-3; see also 40 C.F.R. §§ 131.5(a)(3), 131.6(e) (1999).

27. 33 U.S.C. § 1313(c)(3) (1994); PUD No. 1 v. Washington Dep’t of Ecology, 511 U.S. 700, 707 (1994); see also Alaska Clean Water Alliance v. Clarke, No. C96-1762R, 1997 WL 446499, at *3 (W.D. Wash. July 8, 1997) (“Congress did not intend new or revised state standards to be effective until after EPA had reviewed and approved them.”).

28. CWA section 301(b)(1)(A) requires the “best practicable control technology” (BPT) currently available for industrial wastewater dischargers. 33 U.S.C. § 1311(b)(1)(A) (1994).

29. CWA section 301(b)(1)(B) requires secondary treatment of municipal wastewater discharges. See *id.* § 1311(b)(1)(B). Secondary treatment is defined at 40 C.F.R. Part 133.

30. See 33 U.S.C. § 1313(d)(1)(A) (1994). EPA regulations altered the types of waters that should be included on the 303(d) list. See 40 C.F.R. § 130.7(b)(1) (1999). These regulations require states to identify all “water quality-limited segments” still requiring TMDLs for which:

- (i) Technology-based effluent limitations required by sections 301(b), 306 [new source performance standards], 307 [toxic and pretreatment effluent standards], or other sections of the Act;
- (ii) More stringent effluent limitations (including prohibitions) required by either state, local, or federal authority; and

After these waters have been identified and listed, section 303(d)(1)(A) requires that states rank their listed waters by priority, “taking into account the severity of the pollution and the uses of such waters.”³¹ Following such priority ranking, section 303(d)(1)(C) requires each state to establish a TMDL for those pollutants that the EPA has identified under section 304(a)(2) as being suitable for such calculation.³² TMDLs must be established at a level necessary to implement the state’s water quality standards, taking into consideration both seasonal variations and a “margin of safety,” which accounts for any lack of knowledge concerning the relationship between effluent limitations and water quality.³³

The 303(d) list and TMDLs established under sections 303(d)(1)(A) and (C) must be submitted by the state to the EPA “from time to time” for approval.³⁴ EPA regulations interpret this vague statutory timeframe to mean that the 303(d) list and TMDLs must be submitted biennially to the EPA.³⁵ The EPA then has thirty days to either approve or disapprove of the list and TMDLs.³⁶ If the agency disapproves of either the list or the loads, it must promulgate these documents and submit them to the state.³⁷ Whether created by the

(iii) Other pollution control requirements (e.g., best management practices) required by local, state or federal authority, are not stringent enough to implement any water quality standard applicable to such waters.

Id. These regulations clearly modify the scope of the TMDL requirements as set forth in the CWA, which limited the 303(d) list to waters not meeting applicable water quality standards after the implementation of specific technology-based effluent limitations. *See* 33 U.S.C. § 1313(d)(1) (1994). Moreover, if technology-based limits are in place, and standards are still not being met, the standards may not be “attainable.” *See* 40 C.F.R. § 131.10(d) (1999).

31. 33 U.S.C. § 1313(d)(1)(A) (1994).

32. *See id.* § 1313(d)(1)(C). Before a TMDL can be established for a pollutant, the EPA is required to develop and publish information on pollutants identified as being “suitable for maximum daily load measurement.” *Id.* § 1314(a)(2). In 1978, the EPA published such information in the *Federal Register*, summarily concluding that “all pollutants, under the proper technical conditions, [are] suitable for the calculation of [TMDLs].” Total Maximum Daily Loads Under Clean Water Act, 43 Fed. Reg. 60,662, 60,662 (1978) (emphasis added). The EPA has never explained the meaning of “proper technical conditions,” thus it may be argued that any pollutant below the detection level is not “suitable for calculation” because the “proper technical conditions” are absent.

33. 33 U.S.C. § 1313(d)(1)(c) (1994). A similar process for “total maximum daily thermal loads” (TMDTL) is required under CWA sections 303(d)(1)(B) and (D) for controls on thermal discharges. *See id.* § 1313(d)(1)(B), (D). The scope of this article is limited to a discussion of TMDLs, although many similar concepts apply to TMDTLs.

34. *Id.* § 1313(d)(2).

35. *See* 40 C.F.R. § 130.7(d)(1) (1999). For the year 2000, EPA has amended section 130.7(d)(1) and, in most cases, extended the due date to April 2002 to allow time for promulgation of new TMDL regulations. *See* Revision to the Water Quality Planning and Management Regulation Listing Requirements, 65 Fed. Reg. 17,166, 17,167-68 (2000).

36. *See* 33 U.S.C. § 1313(d)(2) (1994); 40 C.F.R. § 130.7(d)(2) (1999).

37. *See* 33 U.S.C. § 1313(d)(2) (1994).

state or the EPA, the TMDLs must ultimately be included into the state's "continuing planning process" (CPP) requirement under section 303(e).³⁸

In addition to the waters included on the primary 303(d)(1)(A) list, each state is also required under section 303(d)(3) to identify all other waters within its boundaries for the purpose of "developing information."³⁹ For these waters, the state is required to estimate applicable TMDLs, considering seasonal variations and margins of safety, and assuring protection of indigenous populations of fish, shellfish, and wildlife.⁴⁰ This requirement seems to be more of a water quality tracking or planning mechanism than a regulatory device, as there is no requirement for such estimated TMDLs to be submitted to the EPA for approval.⁴¹

B. CWA Section 305(b) Requirements

CWA section 305(b) requires each state, starting in 1975, to prepare and submit to the EPA a report, which must specifically include:

- (A) a description of the water quality of all navigable waters in such State during the preceding year, with appropriate supplemental descriptions as shall be required to take into account seasonal, tidal, and other variations, correlated with the quality of water required by the objective of this chapter (as identified by the Administrator pursuant to criteria published under section 1314(a) of this title) and the water quality described in subparagraph (B) of this paragraph;
- (B) an analysis of the extent to which all navigable waters of such State provide for the protection and propagation of a balanced population of shellfish, fish, and wildlife, and allow recreational activities in and on the water;
- (C) an analysis of the extent to which the elimination of the discharge of pollutants and a level of water quality which provides for the protection and propagation of a balanced population of shellfish, fish, and wildlife and allows recreational activities in and on the water, have been or will be achieved by the requirements of this chapter, together with

38. See *id.* § 1313(e) (requiring states to have a CPP for all navigable waters within their boundaries). The CPP must include provisions for effluent limitations and schedules of compliance, area-wide waste management plans and basin plans, TMDLs, procedures for revision, adequate authority for intergovernmental cooperation, a water quality standards implementation plan, residual waste controls, and an inventory and ranking of needed waste treatment works. See *id.*

39. *Id.* § 1313(d)(3).

40. See *id.*

41. See 40 C.F.R. § 130.7(e) (1999).

recommendations as to additional action necessary to achieve such objectives and for what waters such additional action is necessary;

(D) an estimate of (i) the environmental impact, (ii) the economic and social costs necessary to achieve the objective of this chapter in such State, (iii) the economic and social benefits of such achievement, and (iv) an estimate of the date of such achievement; and

(E) a description of the nature and extent of nonpoint sources of pollutants, and recommendations as to the programs which must be undertaken to control each category of such sources, including an estimate of the costs of implementing such programs.⁴²

Section 305(b) reports must be prepared and submitted to the EPA biennially on April 1 of each even-numbered year, starting in 1976.⁴³ After receipt of the reports from the states, the EPA is required to submit the reports, along with an analysis thereof, to Congress biennially on October 1 of each even-numbered year.⁴⁴

III. STATUTORY ANALYSIS

A. Purpose of Section 305(b)

When the Clean Water Act was adopted in 1972, Congress expressed concern that inadequate information existed regarding the degree to which pollution could be eliminated or controlled and the cost of such an effort.⁴⁵ Using the data accumulated in the section 305(b) reports, the EPA and the states could first identify the waters wherein the statutory goals would not be achieved and then determine the levels of point and nonpoint source controls required to meet the goals, as well as the economic and environmental impacts associated with the elimination or stringent control of pollutants.⁴⁶

Under section 305(b)(2), the EPA is required to send the information contained in section 305(b) reports to Congress as a feedback mechanism, allowing Congress to make “mid-course

42. 33 U.S.C. § 1315(b)(1)(A)-(E) (1994).

43. *See id.* § 1315(b)(1).

44. *See id.* § 1315(b)(2). A bill introduced by the U.S. Senate on October 14, 1999, would extricate the 305(b) reporting requirements from the sunset requirements. S. 1730, 106th Cong. (1999).

45. *See* S. REP. NO. 92-414, at 55 (1972). The CWA states that “it is the national goal that the discharge of pollutants into the navigable waters be eliminated by 1985.” 33 U.S.C. § 1251(a)(1) (1994). This goal, also known as the “zero discharge” goal, clearly has not been reached. In relation to this goal, Senator Buckley noted, “The bill adopts the rather curious approach of establishing the ‘no-discharge’ standard by 1985 as a ‘national policy’ (section 101(a)(1)) and then providing procedures whereby the Congress will be given the opportunity, somewhere in the mid-1970’s, to decide whether such a policy is achievable or, in fact, desirable (section 305).” S. REP. NO. 92-414, at 103 (1972).

46. *See* 33 U.S.C. § 1315(b) (1994).

corrections” for compliance with the statutory goals of “fishable/swimmable” waters and zero discharge.⁴⁷ The legislative history states that:

The Committee recognizes the difficulty of implementing a no-discharge policy. The development of the midcourse correction information, required by Section 305, should provide Congress and the public with the definitive data needed to evaluate fully the implications of a no-discharge policy. That information will assist the Nation in any decision on the proper enforcement mechanism to be established to support the goal, if appropriate, or a decision to define the date for the attainment of the goal with greater precision, if required, or the extent of the exceptions to that goal, if any, or whether the costs associated with reaching this ultimate standard, in some instances, may far outweigh the benefits derived.⁴⁸

However, because none of the states’ section 305(b) reports have described the full extent of economic and social benefits and costs associated with improving and protecting water quality conditions,⁴⁹ such “mid-course corrections” have never been performed, nor have the goals of the Act been revisited.⁵⁰

Furthermore, the lack of a comprehensive and adequate section 305(b) reporting structure has hindered the proper adoption of other water quality impairment listing requirements under the Act. The CWA requires states to compile several impaired waters lists, including: (1) the section 303(d) list of waters not meeting water quality standards even after the implementation of specified

47. See *id.* §§ 1315(b)(2), 1251(a)(1)-(2); see also *supra* note 20 and accompanying text (defining “fishable/swimmable” goal).

48. S. REP. NO. 92-414, at 11 (1972). Although Senator Buckley expressed his support for congressional review over the program’s progress, he was also concerned that the section 305 “mid-course correction” would “come too late to achieve its intended purpose, i.e., Congressional reevaluation of the 1985 ‘no-discharge’ policy.” *Id.* at 104. Congress also recognized that there are “technical limitations on what can be done to achieve elimination of the discharge of pollutants,” and that there may be inadequate information on the degree to which certain pollutants can be eliminated. *Id.* at 55.

49. See EPA, NATIONAL WATER QUALITY INVENTORY: 1996 REPORT TO CONGRESS 509 (1998) [hereinafter 1996 NATIONAL WATER QUALITY INVENTORY REPORT]; EPA, NATIONAL WATER QUALITY INVENTORY: 1992 REPORT TO CONGRESS 321 (1994) [hereinafter 1992 NATIONAL WATER QUALITY INVENTORY REPORT]. It should be noted that these EPA reports were issued more than two years past the statutory deadline of October 1, 1996 and 1992, respectively.

50. It appears that the EPA has thus far failed to provide adequate oversight of the contents of the state 305(b) reports, thereby thwarting congressional intent. Under CWA section 106, Congress prohibited the EPA from issuing grants for pollution control programs to those states that fail to provide the information required under section 305 of the Act. See 33 U.S.C. § 1256(e)(1) (1994). Given the section 106(e) prohibition and the fact that the EPA has reported to Congress that no state has properly prepared a 305(b) report, states would be well served to improve their compliance record under section 305(b). See 1996 NATIONAL WATER QUALITY INVENTORY REPORT, *supra* note 49, at 509; *id.* at 321.

technology-based controls,⁵¹ (2) section 304(l) lists of waters not meeting standards primarily due to toxic pollutants from point source discharges,⁵² (3) the section 314(a) list of impaired public lakes,⁵³ and (4) the 319 list of waters not attaining standards due to nonpoint sources of pollutants.⁵⁴ The use of any one of these lists, rather than a section 305(b) report, as the broad-based inventory of all of a state's impaired waters is inappropriate and unintended under the CWA.⁵⁵ A statement from a high-ranking official in the EPA Office of Water adds weight to this contention. This official explained that the other statutorily required lists focus on a narrower set of problems than do the section 305(b) reports,⁵⁶ noting that “[m]any people think [the multiplicity of reports] makes no sense, [and instead,] there should be a consolidated assessment.”⁵⁷ However, “the fact of life is that there are four or five different parts of the law with slightly different phrasing” and requirements.⁵⁸

B. Review of Law Related to Water Quality Standards

1. Uses

As previously noted, a water quality standard has two components.⁵⁹ The first component is the designated “use” of a given waterbody.⁶⁰ A state may designate more than one “use” for the same

51. See 33 U.S.C. § 1313(d)(1)(A) (1994).

52. See *id.* § 1314(l)(1)(A). Unlike the 303(d) list, which is to be submitted from time to time, the 304(l) lists were a one time listing process. See *id.*

53. See *id.* § 1324(a)(1)(E).

54. See *id.* § 1329(a)(1)(A).

55. See Memorandum from Donald J. Brady, Chief, EPA Watershed Branch, to Regional and State Environmental Agencies 4 (Dec. 16, 1996) [hereinafter Brady Memorandum] (on file with author). For instance, the EPA's proposed TMDL-process regulations state that it is “appropriate to have the section 303(d) list serve as a comprehensive accounting of waterbodies impaired or threatened by pollution or pollutants.” Proposed Revisions to the Water Quality Planning and Management Regulation, 64 Fed. Reg. 46,012, 46,022 (1999). However, the legislative history of the CWA provides, and the current EPA regulations state, that the 305(b) “water quality report serves as the primary assessment of state water quality.” 40 C.F.R. § 130.8(a) (1999); see also S. REP. NO. 92-414, at 55 (1972).

56. This is particularly true when discussing the 303(d) list. “As an overall water quality assessment tool, the § 305(b) report functions as a ‘state of the waters’ report, and thus includes a much broader set of waters than the § 303(d) list. As such, it is an important reference tool for building the § 303(d) list.” EPA, GUIDANCE DOCUMENT FOR LISTING WATERBODIES IN THE REGION 10 § 303(d) PROGRAM A-1 (1995) [hereinafter 303(d) PROGRAM GUIDANCE DOCUMENT].

57. *New EPA Guidance Gives States More Water Quality Reporting Leeway*, WATER POLICY REPORT (Inside Washington Publishers, Washington, D.C.), Nov. 6, 1996, at 14 (on file with author).

58. *Id.*

59. See discussion *supra* Part II.A.1.

60. See 33 U.S.C. § 1313(c)(2)(A) (1994).

waterbody.⁶¹ For example, drinking water, recreation, and aquatic life uses may be the “designated uses” of a single waterbody.⁶² Moreover, a designated use of a waterbody may be sub-categorized, such as an aquatic life use being categorized as either warm water fishery or cold water fishery depending on the ambient water temperature and the fish species present.⁶³ Waterbodies may also be designated seasonal uses, potentially requiring less stringent water quality criteria.⁶⁴

EPA guidance sets forth the proposition that, “when designating uses, States may wish to designate only the uses that are attainable.”⁶⁵ The EPA defines “attainable uses” as those uses that can be achieved when effluent limits under sections 301(b) (technology-based limits) and section 306 (new source performance standards) are imposed on point-source dischargers, and when cost-effective and reasonable “best management practices” (BMPs) are imposed on nonpoint-source dischargers.⁶⁶ Thus, if all sources are subject to technology-based limits, new source standards, and BMPs, and uses are still not being achieved, the designated use may be unattainable and should be reviewed and possibly modified. Similarly, when background levels of pollutants in the waterbody are irreversible and the water quality criteria cannot be met, states are encouraged to assess other, more appropriate uses and revise the water quality standards appropriately.⁶⁷

If a change in the designated use is warranted, then states may modify the use currently assigned.⁶⁸ Under EPA regulations, a “state must conduct a use attainability analysis whenever the state wishes to remove a designated use that is specified in section 101(a)(2) of the Act, or to adopt subcategories of uses . . . which require less stringent criteria.”⁶⁹ A “use attainability analysis” (UAA) requires a state to scientifically assess the factors, including physical, chemical, biological, and economic factors, which prohibit or otherwise affect attainment of the designated use.⁷⁰ Thus, in theory, states can re-

61. See 40 C.F.R. § 131.10 (1999).

62. See 33 U.S.C. § 1313(c)(2)(A) (1994).

63. See 40 C.F.R. § 131.10(c) (1999).

64. See *id.* § 131.10(f).

65. WQS HANDBOOK, *supra* note 20, at 2-4.

66. *Id.* at 2-6; see also 40 C.F.R. § 131.10(d) (1999).

67. See WQS HANDBOOK, *supra* note 20, at 6-5.

68. See 40 C.F.R. § 131.10(g), (h) (1999).

69. *Id.* § 131.10(j)(2). Methods for demonstrating that attainment of a designated use is not feasible are found at 40 C.F.R. § 131.10(g).

70. See *id.* § 131.10(g).

designate a waterbody for such uses as can be supported given specific limitations, economic or otherwise.⁷¹

2. Criteria

The second component of a water quality standard is the “water quality criteria.”⁷² These criteria are the numeric or narrative water quality conditions that must be met in order to attain the designated uses.⁷³ Criteria are expressed either in the narrative form (*e.g.*, no toxics in toxic amounts) or, more frequently, in the numeric form (*e.g.*, 4 mg/L).⁷⁴

Whereas states are primarily responsible for reviewing, establishing, and revising water quality standards,⁷⁵ the EPA is primarily responsible for developing and publishing “criteria for water quality accurately reflecting the latest scientific knowledge.”⁷⁶ These EPA criteria, more commonly known as “Gold Book” numbers or “304(a) criteria,” are periodically issued to the states as nonregulatory guidance for developing the criteria portion of state water quality standards and may be adopted by states as issued by the EPA.⁷⁷ Alternatively, states “may adjust national criteria, *up or down*, to reflect local environmental conditions and human exposure patterns.”⁷⁸ However, for criteria to become binding elements of state water quality standards, the criteria must be adopted by the state in accordance with state laws governing how regulations become law.⁷⁹

C. Application of Section 305(b) to Water Quality Standards

Under CWA section 305(b)(1)(A), each state is required to describe the quality of all waters within its boundaries during the

71. In practice, UAAs often are not performed due to the cost and uncertain outcome of the subsequent regulatory action. Consequently, designated uses are rarely removed.

72. 33 U.S.C. § 1313(c)(2)(A) (1994).

73. See 40 C.F.R. § 131.11(b) (1999).

74. See *Mississippi Comm’n on Natural Resources v. Costle*, 625 F.2d 1269, 1271 (5th Cir. 1980) (“For most pollutants, criteria are expressed as specific numerical concentration limits.”).

75. See 33 U.S.C. § 1313(C) (1994); 40 C.F.R. § 131.4(a) (1999).

76. 33 U.S.C. § 1314(a)(1) (1994); EPA, WATER QUALITY CRITERIA AND STANDARDS NEWSLETTER 16 (1999) (“These water quality criteria are the Agency’s current *recommendations*, developed pursuant to Section 304(a) of the Clean Water Act, and reflect the latest scientific knowledge.” (emphasis added)).

77. See 40 C.F.R. § 131.3(c) (1999); 33 U.S.C. § 1314(a)(3) (1994).

78. *Western Carolina Reg’l Sewer Auth. v. Department of Health and Env’tl Control (DHEC)*, No. 98-ALJ-07-0267-CC, 1999 WL 1016064, at *8 (S.C. Admin. Law Judge Div. Sept. 22, 1999) (order granting summary judgment) (emphasis in original).

79. See 40 C.F.R. §§ 131.5(a)(3), 131.6(e) (1999).

preceding year and to compare such water quality with the “objective of this chapter,” defined as the EPA’s published criteria under section 304(a).⁸⁰ The state must then, under section 305(b)(1)(D), biennially estimate environmental impacts, as well as the economic and social costs and benefits necessary to achieve the “objective of this chapter” as previously defined.⁸¹ Therefore, section 305(b) essentially requires states to undertake an environmental impact and cost-benefit analysis of utilizing and achieving the EPA’s nonregulatory 304(a) criteria.

In agency guidance documents, the EPA has noted that each state is to identify additions or revisions to existing water quality standards based, in part, on the state’s 305(b) report.⁸² Thus, if the environmental impacts and costs necessary to meet the “objective of this chapter” would greatly exceed the benefits, states could adopt water quality criteria or uses that make more sense economically or environmentally.

For instance, the 304(a) criteria review under section 305(b) could be used as the impetus for site-specific standards. The “EPA’s laboratory-derived [304(a)] criteria may not . . . accurately reflect the bioavailability and/or toxicity of a pollutant because of the effect of local physical and chemical characteristics or the varying sensitivities of local aquatic communities,” as opposed to the aquatic organisms used to derive the 304(a) criteria.⁸³ States may then develop site-specific criteria as a method for taking local conditions into account when adopting water quality standards, such as setting criteria “adequate to protect the designated use without being more or less stringent than needed given site specific conditions.”⁸⁴

80. 33 U.S.C. § 1315(b)(1)(A) (1994). States are also required to compare the state’s water quality with the Act’s goal of “fishable/swimmable” waters and the goal of eliminating the discharge of pollutants. *See id.* § 1315(b)(1)(B)-(C).

81. *Id.* § 1315(b)(1)(D)(i)-(iii); 40 C.F.R. § 130.8(b)(3) (1999); EPA Guidelines for Preparation of the Comprehensive State Water Quality Assessments (305(b) Reports) and Electronic Updates: Report Contents 3-12 to 3-16 (1997).

82. *See* WQS HANDBOOK, *supra* note 20, at 6-1.

83. *Id.* at 6-6.

84. *Id.* Although the adoption of narrowly tailored, site-specific criteria makes sense, the Supreme Court, in dicta, has determined that states are not required to “study to a level of great specificity each individual surface water to ensure that the criteria applicable to that water are sufficiently detailed and individualized to fully protect the water’s designated uses.” PUD No. 1 v. Washington Dep’t of Ecology, 511 U.S. 700, 717-18 (1994). However, states clearly have the discretion to do so. *Natural Resources Defense Council v. EPA*, 770 F. Supp. 1093, 1100 (E.D. Va. 1991) (“[T]he standard may differ from a criterion because of prevailing local natural conditions, . . . such as naturally occurring organic acids, or because of the importance of a particular waterway, economic considerations, or the degree of safety to a particular ecosystem that may be desired.”).

Furthermore, the EPA's scientifically-derived 304(a) criteria may not be economically or technologically attainable, or may not be worth, in the state's view, the social and economic costs when weighed against the benefits. Section 305(b)(1)(D)'s cost-benefit analysis could justify alternative water quality criteria or uses.⁸⁵

D. Application of Section 305(b) to Section 303(d) Listing

Congress intended the water quality report under section 305(b) to be the states' primary and most comprehensive water quality analysis.⁸⁶ The report is to be used by states to develop water quality management plans, which should influence all subsequent pollutant control activities and lead to the "development of alternative controls and procedures for problems identified in the latest 305(b) Report."⁸⁷

Moreover, states should use the data and information contained in its 305(b) report to compile its 303(d) list.⁸⁸ However, the waters contained on the 303(d) list should not mirror, but should represent a subset of those contained in the 305(b) report.⁸⁹ "[T]he mere fact that a water body segment is identified in a Section 305(b) report does not 'require' the segment to be listed for purposes of Section 303(d)."⁹⁰ In fact, given the potential regulatory impacts of section 303(d) listings,⁹¹ 303(d) lists must be based on more specific and reliable data than that required of waters identified as "impaired" in a 305(b) report.⁹² Nevertheless, the 305(b) report exists as the foundation from

85. See 33 U.S.C. § 1315(b)(1)(D) (1994). That such alternative use designations were contemplated is clear under EPA regulations, which allow de-designation of uses where the designated use is not an existing use, as defined in 40 C.F.R. § 131.3(e), and more stringent pollution control strategies required to meet such uses would cause substantial and "widespread economic and social impacts." 40 C.F.R. § 131.10(g)(6) (1999); WQS HANDBOOK, *supra* note 20, at 6-6.

86. See 40 C.F.R. §§ 130.1(b), 130.8(a) (1999); S. REP. NO. 92-414, at 55 (1972).

87. 40 C.F.R. §§ 130.8(a), 130.11(c) (1999).

88. See *id.* § 130.7(b)(5)(i).

89. See *supra* note 56 and accompanying text; *cf.* Surface Water Toxics Control Program and Water Quality Planning and Management Program, 57 Fed. Reg. 33,040, 33,046 (1992) (providing states with "an option . . . to consolidate the section 303(d) listing requirement with the section 305(b) reporting process, since much of the analysis and data evaluation a State performs to develop the section 305(b) report is relevant to identifying water quality-limited waters under section 303(d)").

90. *Western Carolina Reg'l Sewer Auth. v. Department of Health and Env't'l Control (DHEC)*, No. 98-ALJ-07-0267-CC, 1999 WL 1016064, at *12 (S.C. Admin. Law Judge Div. Sept. 22, 1999) (order granting summary judgment).

91. See *supra* text accompanying notes 9-13.

92. See *Western Carolina Reg'l Sewer Auth.*, 1999 WL 1016064, at *12; see also Proposed List of Water Quality Limited Waterbodies Needing Total Maximum Daily Loads in the State of Minnesota, 58 Fed. Reg. 64,584, 64,585 (1993) ("Waterbodies which have been specifically *excluded* from this proposed section 303(d) list consist of those listed as impaired in

which the other impaired-waterbody lists required under the CWA are compiled.

Thus, if the 305(b) report was properly done prior to the adoption of the state's first 303(d) list,⁹³ the economic, social, and environmental implications of controlling all sources of pollutants in order to meet water quality standards would have been assessed prior to the adoption of the first required 303(d) list, and economics would have played a role in the 303(d) listing process.

E. Tie Between Water Quality Standards and TMDLs

As previously stated, the section 303(d) list is intended to include all waters where the effluent limitations required under the "best practicable control technology" (BPT) and secondary treatment are not stringent enough to implement any applicable water quality standard.⁹⁴ In a state where few water quality criteria have been formally or properly adopted as "water quality standards" by the state, and thereafter approved by the EPA, the 303(d) list should be fairly short.

However, some states list waters not because a specific water quality standard has been exceeded, but because the state determined that any one of a number of other factors was met.⁹⁵ For example, in California, such factors can include the existence of a fishing, drinking, or swimming advisory; anecdotal evidence of beneficial use impairment; tissue concentrations in consumable body parts of fish or shellfish exceeding advisable tissue levels or guidelines; or merely that the "water quality is of such concern that . . . the water body needs to be afforded a level of protection offered by a 303(d) listing."⁹⁶ While these factors are important and should be maintained

Minnesota's section 305(b) Report, based solely on best professional judgment or on ambient water quality data older than 5 years. These waterbodies were excluded due to unreliability of the data.") (emphasis added).

93. The first 305(b) report was due in 1975. *See* 33 U.S.C. § 1315(b). The first 303(d) list was due in 1979. *See id.* § 1313(d)(1)(C). Thus, states had at least three iterations (1975, 1976, and 1978) of the 305(b) analysis prior to the first required 303(d) list.

94. *See supra* notes 28-30; 33 U.S.C. § 1313(d)(1)(A) (1994).

95. *See, e.g.*, TOTAL MAXIMUM DAILY LOAD WORKGROUP, 1998 CLEAN WATER ACT (CWA) SECTION 303(d) LISTING GUIDELINES FOR CALIFORNIA (1997) [hereinafter SECTION 303(d) LISTING GUIDELINES FOR CALIFORNIA] (on file with author) (listing factors developed for statewide decisions on listing California surface water bodies under CWA Section 303(d)).

96. *Id.* at 2-3. These factors are similar to those found in EPA regulations and listing guidance. *See* 40 C.F.R. § 130.7(b)(5)(i)-(iv) (1999). However, EPA's list of "all existing and readily available water quality-related data and information" is merely intended to be used as a starting point for construction of a finite list of waters that have failed to attain applicable water quality standards. *See id.*

and tracked by the states, they do not provide an appropriate cause for listing these waters under the dictates of section 303(d)(1)(A).⁹⁷ Clearly, each of these factors goes far beyond the 303(d) listing requirements mandated by the CWA, which arguably require listing only when there are demonstrable violations of applicable water quality standards after the application of BPT and secondary treatment.⁹⁸ Listings based on such factors resulted in the 1998 303(d) list for all states totaling 40,000 waterbody-pollutant combinations, each likely requiring a TMDL in the next fifteen years.⁹⁹

States should not be allowed or encouraged to improperly list waterbodies where quality-controlled and assured data do not demonstrate an exceedance of a properly adopted water quality standard, or where informal criteria are exceeded. Such waterbodies are more appropriately listed as part of a 303(d)(3) list for the purpose of developing information and estimating TMDLs, a 305(b) report on general water quality, or any one of the other statutorily required lists under sections 304(l), 314(a), or 319.¹⁰⁰ The 303(d) list should be limited to waterbodies in which the existing and readily available water quality-related data and information demonstrate a violation of properly adopted and interpreted water quality standards.¹⁰¹

Congress gave the EPA authority to disapprove of state lists where states have gone beyond the requirements of section 303(d) and added these additional waterbodies based on ancillary criteria or other factors.¹⁰² However, the EPA has not used its statutory authority in

97. See Brady Memorandum, *supra* note 55, at 4.

98. See 33 U.S.C. § 1313(d)(1)(A) (1994).

99. See EPA, ANALYSIS, *supra* note 5, at 32.

100. See *supra* text accompanying notes 52-55.

101. See 40 C.F.R. § 130.7(b)(5) (1999) (defining the phrase “all existing and readily available water quality-related data and information”). This data and information is to be used to develop the 303(d) list and should include, among other things, the waters identified by the state in its most recent 305(b) report. See *id.* § 130.7(b)(5)(i). Thus, not all of the waterbodies for which such information and data exist need to be included on the 303(d) list. However, the current regulations do require the state to provide, upon request, good cause for not including any waterbody for which such information and data exist. See *id.* § 130.7(b)(6)(iv). A valid rationale, for example, can be shown where a waterbody demonstrates some indicia of “impairment,” which does not rise to the level of a violation of an applicable water quality standard. See 303(d) PROGRAM GUIDANCE DOCUMENT, *supra* note 56, at A-1. In the alternative, a state can also use the rationale that the informal guidelines being used to show impairment, such as sediment criteria or fish tissue criteria, have not been properly adopted as water quality standards under state law. See discussion *infra* Part IV.E.3.

102. See 33 U.S.C. § 1313(d)(2) (1994).

this manner and, in fact, has issued guidance and proposed regulations stating that the state 303(d) lists should be broader.¹⁰³

1. Use of Narrative Toxicity Criteria to Include Waters on the 303(d) List

States may attempt to use informal guidelines, such as sediment criteria or fish tissue pollutant levels, as indicators of violations of narrative water quality criteria and as justification for 303(d) listing.¹⁰⁴ Furthermore, a state may argue that its 303(d) list is more comprehensive because the state is utilizing narrative water quality criteria, as well as adopted numeric criteria, to determine whether a waterbody has attained a water quality standard. If this is the case, then the requirements under state law must be followed.¹⁰⁵ States attempting to utilize narrative criteria in the development of state water quality standards must comply with requisite procedural steps.¹⁰⁶ Moreover, all water quality criteria, whether numeric or narrative, must be adopted pursuant to state law requirements prior to being implemented as components of water quality standards, or prior to being used as indicators of water quality impairment.¹⁰⁷

The California Water Code, section 13241, requires that when establishing water quality criteria, the state must take into account, inter alia, economic considerations.¹⁰⁸ In addition, section 13242 of the California Water Code requires the state to adopt a program for achieving water quality criteria, including a description of the nature of the actions necessary to achieve the objectives, a time schedule for such implementation, and a surveillance and compliance-monitoring program.¹⁰⁹

Therefore, if California's water quality program utilizes informal guidance criteria as indicators of violations of narrative objectives, the program is, in essence, creating *de facto* water quality standards,

103. See Grubbs Memorandum, *supra* note 14, at 5; Proposed Revisions to the Water Quality Planning and Management Regulation, 64 Fed. Reg. 46,012, 46,025 (1999).

104. See WQS HANDBOOK, *supra* note 20, at 3-24.

105. See 40 C.F.R. § 131.6(e) (1999).

106. See *id.* § 131.11(a)(2) (“[T]he State must provide information identifying the method by which the State intends to regulate point source discharges of toxic pollutants on water quality limited segments based on such narrative criteria. Such information may be included as part of the standards . . .”).

107. See *id.* § 131.6(e).

108. See CAL. WATER CODE § 13241 (Deering 1977 & Supp. 2000). Other factors to be considered are: (1) past, present, and probable future beneficial uses of water; (2) environmental characteristics of the relevant waterbody; and (3) water quality conditions that could reasonably be achieved through proper control of all factors which affect water quality in the area. See *id.*

109. See *id.* § 13242.

thereby circumventing the formal standards-adoption process. As a result, the state must demonstrate that the factors contained in sections 13241 and 13242 of the California Water Code, including economic considerations, were addressed prior to adopting and utilizing these *de facto* water quality standards in the CWA section 303(d) listing and TMDLs adoption processes.

2. Use of Narrative Criteria Translators

Assuming narrative criteria are properly adopted, other state law requirements must be considered prior to relying on narrative water quality standards used to create a state's 303(d) list.¹¹⁰ Primarily, a state must translate its narrative criteria into site-specific, numerical values for 303(d) listing purposes pursuant to state- and EPA-approved procedures.¹¹¹ In order to become binding, translation procedures for new narrative criteria must be adopted by the state in accordance with state law requirements for adopting regulations.¹¹² Furthermore, at least one court has held that such translation procedures "must be approved by EPA as part of the state's water quality standards program (as would be the case for a numeric criterion)."¹¹³ Only after clearing these hurdles may narrative criteria be utilized for listing waters on the state's 303(d) list or for setting TMDLs.

3. 303(d) Listings Based on De Facto Regulations

The EPA and some states have issued guidance on how to compile 303(d) lists and how to determine which waters should be

110. A state could also be subject to a legal challenge for using such *de facto* water quality standards or underground regulations without following the dictates of applicable state law, such as the state equivalent of the federal National Environmental Policy Act, 42 U.S.C. §§ 4321-4370e (1994 & Supp. III 1997), and Administrative Procedure Act, 5 U.S.C. §§ 551-559, 701-706 (1994 & Supp. IV 1998).

111. See Surface Water Toxics Control Program and Water Quality Management and Planning Program, 57 Fed. Reg. 33,040, 33,045 (1992) (discussing amendments to 40 C.F.R. § 130.7(b)(3) with regard to interpreting narrative criteria on a case-by-case basis to establish the applicable water quality standard for making section 303(d) listing determinations).

112. See 40 C.F.R. § 25.10(b) (1999).

113. *Western Carolina Reg'l Sewer Auth. v. Department of Health and Env't'l Control (DHEC)*, No. 98-ALJ-07-0267-CC, 1999 WL 1016064, at *36 (S.C. Admin. Law Judge Div. Sept. 22, 1999) (order granting summary judgment) (citing 40 C.F.R. § 122.44(d)(1)(vii)(B)). As part of the water quality standards adoption process, the "notice and comment" public participation requirements would be activated. "The publication requirements are not only intended to give the public and the regulated community fair notice of what is expected of them, but also to ensure that the narrative criteria have clear bounds and a rationale basis for their implementation." *Id.*

included on such lists.¹¹⁴ These guidance documents may significantly expand the scope of 303(d) lists far beyond the plain statutory language. Moreover, under the Administrative Procedure Act (APA)¹¹⁵, these guidance documents may be invalid as “underground regulations.”¹¹⁶

In most states, state law requires that whenever a state agency adopts a rule or regulation, minimum procedural requirements must be met.¹¹⁷ The federal APA has similar provisions requiring the EPA and other agencies to follow certain procedures prior to adopting any “rule.”¹¹⁸ If the state uses a section 303(d) guidance document, which has not been formally adopted as a “rule,” as the basis for listing decisions, or if the EPA considers a state 303(d) list, which is based on such guidance, then a strong argument exists that the 303(d) guidance constitutes a “rule.”

By restricting the use of such guidance and confining the scope of 303(d) lists to those waters intended by the explicit language of the CWA, the 303(d) list would most likely become a more reasonable assessment of waters that do not meet formally adopted water quality standards. If the 303(d) lists were narrowed and more focused, the number of TMDLs needed would decrease, as would the associated costs of developing and implementing a smaller number of TMDLs.

IV. CASE STUDY

Recently, several lawsuits relating to 303(d) lists and TMDLs have been filed in California.¹¹⁹ One of these lawsuits, filed by a “publicly owned treatment works” (POTW), may alter the

114. See, e.g., Memorandum from Robert H. Wayland III, Director, Office of Wetlands, Oceans, and Watersheds, to Water Division Directors, Great Water Body Programs Directors, Water Quality Branch Chiefs (Aug. 17, 1997) (on file with author) (clarifying important policies related to listing of waters for the 1998 303(d) listing cycle); SECTION 303(d) LISTING GUIDELINES FOR CALIFORNIA, *supra* note 95 (listing factors developed for statewide decisions on listing California surface water bodies under CWA Section 303(d)).

115. 5 U.S.C. §§ 551-559, 701-706 (1994 & Supp. IV 1998).

116. The term “underground regulations” refers to any regulation that should have been, but was not adopted in compliance with the APA. See Michael Asimov, *California Underground Regulations*, 44 ADMIN. L. REV. 43, 45 n.12 (1992).

117. See, e.g., CAL. GOV'T CODE § 11346 (Deering 1997) (listing procedural requirements for proposed agency action).

118. See 5 U.S.C. § 553 (1994).

119. See, e.g., *San Francisco Baykeeper v. Browner*, No. C 000132 (N.D. Cal. filed Jan. 12, 2000); *Pronsolino v. Marcus*, No. C 99-01828 WHA (N.D. Cal. filed Apr. 12, 1999) (arguing, *inter alia*, that Section 303(d) does not apply to nonpoint sources), *summ. j. granted*, (N.D. Cal. Mar. 30, 2000) (on file with author); *Petition for Writ of Mandate and Complaint for Declaratory and Injunctive Relief, Sacramento Reg'l County Sanitation Dist. v. State Water Resources Control Bd.*, No. 98-CS01702 (Cal. Super. Ct. filed June 26, 1998).

requirements for developing and adopting TMDLs, considering the POTW's arguments under CWA section 305(b).¹²⁰

The POTW alleges that the state failed to properly follow the requirements set forth in section 305(b).¹²¹ In particular, it argues that the state failed to estimate the environmental impacts, as well as the economic and social costs and benefits associated with achieving impaired water quality standards.¹²² The POTW also contends that a 303(d) list and the resultant TMDLs cannot be prepared properly where the section 305(b) analysis fails to meet all of the CWA's statutory requirements.¹²³ This suit seeks to have California's 305(b) report and 303(d) list invalidated and to enjoin the adoption or implementation of TMDLs established pursuant to the invalidated 303(d) list.¹²⁴

One of the underlying objectives of this lawsuit is to introduce a meaningful consideration of economic costs and environmental benefits into the TMDL process.¹²⁵ Currently, TMDLs are being proposed and adopted without consideration of the relative costs of implementing WLAs and "load allocations" (LAs), and without consideration of the water quality benefits and environmental impacts of instituting such load restrictions.¹²⁶

TMDLs will most likely result in more stringent effluent limits on NPDES permit-holders. Such effluent limits may require large reductions in pollutants that are not achievable through pollution prevention and would, therefore, require installation of additional

120. See Petition for Writ of Mandate and Complaint for Declaratory and Injunctive Relief, *Sacramento Reg'l County Sanitation Dist.*, No. 98-CS01702.

121. See *id.* at 2.

122. See *id.* at 7.

123. See *id.* at 17.

124. See *id.* at 19. Such relief is not far-fetched given the recent decision in *Western Carolina Regional Sewer Authority v. Department of Health and Environmental Control (DHEC)*, No. 98-ALJ-07-0267-CC, 1999 WL 1016064 (S.C. Admin. Law Judge Div. Sept. 22, 1999) (order granting summary judgment). In that case, all regulatory and permitting actions taken by DHEC, including the state's 305(b) report and 303(d) list, and many NPDES permit limits, were invalidated based on the use of improperly adopted water quality standards. See *id.* at *39. DHEC was also enjoined from establishing or implementing TMDLs, WLAs, LAs, or NPDES permit effluent limits based on the invalidated standard or 303(d) list. See *id.* at *40. As of February 2000, no signed orders have been entered into in the POTW's case against the state.

125. See Petition for Writ of Mandate and Complaint for Declaratory and Injunctive Relief, *Sacramento Reg'l County Sanitation Dist.*, No. 98-CS01702, at 7.

126. See, e.g., *Western Carolina Reg'l Sewer Auth.*, 1999 WL 1016064, at *29 (finding that resulting TMDLs and WLAs by DHEC were likely to result in implementation of technologies which would create additional economic and environmental problems).

advanced treatment technologies¹²⁷ with large capital costs and recurring annual operation and maintenance costs.¹²⁸

The water quality benefits associated with these costly point-source reductions may be questionable in situations where: (1) point sources discharge only a small percentage of the total load for the listed constituent; (2) nonpoint sources, such as agricultural or urban runoff, atmospheric deposition, or in-place sediments, account for the majority of pollutant loading; and (3) the water quality standard is not well correlated to site-specific conditions.

In an effort to elevate the 305(b) issue, at the federal level, California POTWs have submitted Notices of Intent to Sue,¹²⁹ and have also filed suit against the EPA for its failure to require states to follow the statutory requirements contained in section 305(b).¹³⁰

V. CONCLUSION

The impetus behind this Article is the fact that the 303(d) lists and 305(b) reports for the year 2000 were due on April 1, 2000.¹³¹ If the waters and pollutants listed on the states' 303(d) lists in 1998 remain on the next list or are expanded, 40,000 TMDLs likely will be required for each of those listed waters and pollutants in the next fifteen years.¹³² This will lead to a number of important ramifications. First, more stringent effluent limits for listed pollutants will be placed on point sources since point sources are more accessible than nonpoint sources under the current regulatory regime. Second, additional point source controls beyond the technology-based requirements for industrial dischargers, and beyond secondary or tertiary treatment for municipal dischargers, will be extremely costly. Third, in most cases, additional point source controls will result in

127. Such treatment technologies include chemical precipitation, reverse osmosis, and activated carbon. See Organic Chemicals and Plastics and Synthetic Fibers; Point Source Category Effluent Limitations Guidelines Pretreatment Standards; and Standards of Performance for New Source, 50 Fed. Reg. 29,068, 29,071-72, 29,075, 29,078 (1985).

128. See Isaac et al., *supra* note 13, at 41.

129. See Letter from Cal. Ass'n of Sanitation Agencies to Carol Browner, EPA Administrator, and Felicia Marcus, Regional Administrator of Region IX (Nov. 30, 1998) (on file with author); Letter, from Colin Lennard, counsel for Plaintiffs to Carol Browner, EPA Administrator and Felicia Marcus, Regional Administrator for Region IX (June 14, 1999) (on file with author).

130. See Complaint for Declaratory and Injunctive Relief, California Ass'n of Sanitation Agencies and Southern Cal. Alliance of POTWs v. Browner, No. C000424GRW (N.D. Cal. filed Feb. 7, 2000).

131. See 40 C.F.R. § 130.7(d)(1) (1999). However EPA is currently proposing to extend the due date to April 2002. See Revision to the Water Quality Planning and Management Regulation Listing Requirements, 65 Fed. Reg. 4919, 4920 (2000).

132. See EPA, ANALYSIS, *supra* note 5, at 32.

only marginal water quality benefits since point sources already controlled by technology-based limits often contribute substantially less pollutants than nonpoint sources.¹³³ Finally, spending large amounts of dollars to remedy only a small portion of the problem is not a rational approach to addressing water quality impairments and attaining statutory objectives.

This result could have been different. Had the EPA and the states properly followed the statutory mandates per the explicit legislative intent of the CWA, water quality standards would routinely include an economic analysis component. Additionally, 305(b) reports would provide broad assessments of all waterbodies, including the types of impairments, the available and practicable options for meeting statutory objectives, and the resultant costs, benefits, and environmental impacts of each option. Furthermore, 303(d) lists would describe a smaller subset of waters that are failing to meet adopted water quality standards even after the installation of BPT and secondary treatment. Perhaps most importantly, Congress and the public would have been made aware of the significance and cost of meeting water quality standards and remedying impaired waters as reflected in the 305(b) reports.

This Article was designed to bring the original intent of the CWA back into focus and, hopefully, to steer the regulatory agencies toward proper implementation of the CWA. If successful, this regulatory refocusing could revitalize state processes for establishing water quality standards and guide and focus the 303(d) listing and TMDLs adoption processes. Water quality improvement demands a faster, more direct approach following a logical plan of implementation that considers environmental impacts and costs. Such an approach will avoid the potential costs associated with installing and maintaining expensive advanced treatment technologies where such additions will not produce significant water quality improvements.

In summary, if proper 305(b) reports had preceded the adoption of state water quality standards, 303(d) lists, and TMDLs, then economics would have been incorporated into the TMDL process and

133. See EPA/USDA, CLEAN WATER ACTION PLAN: RESTORING AND PROTECTING AMERICA'S WATERS 54 (1998) (noting that "polluted runoff is the greatest source of water quality problems in the United States today"); U.S. GENERAL ACCOUNTING OFFICE, TESTIMONY BEFORE THE SUBCOMM. ON WATER RESOURCES AND ENVT., COMM. ON TRANSP. AND INFRASTRUCTURE, HOUSE OF REPS., WATER QUALITY: IDENTIFICATION AND REMEDIATION OF POLLUTED WATERS IMPEDED BY DATA GAPS 1 (2000) ("'[N]onpoint' sources of pollution . . . are widely regarded as contributing to the largest share of remaining water quality problems.").

the entire system would be much more rational and far less contentious.