Evaluating TMDLs . . . Protecting the Rights of POTWs

(May 2000 Update)

INTRODUCTION

Section 303(d)(1)(A) of the Clean Water Act requires that total maximum daily loads (TMDLs) be calculated for all waters in which technology based effluent limits are not stringent enough to achieve the water quality standards set for those waters. Pursuant to Section 303(d)(2) of the Act, TMDLs were first due within 180 days of the U.S. Environmental Protection Agency's (EPA's) identification of pollutants suitable for TMDL calculations – June 26, 1979. The recent avalanche of lawsuits across the country has forced EPA to implement the TMDL program at an accelerated pace.

As a result, states are now rushing to comply with their TMDL requirements. With limited funding and resources, and in some cases with questionable legal authority, states are taking on this enormous program.

POTWs, as well as other dischargers to impaired waters, will soon be receiving water quality based effluent limits in their permits in accordance with the TMDL calculated for their impaired receiving stream. These TMDL driven limits could be extremely costly or, even worse, not achievable. Therefore, it is critical that dischargers understand the TMDL program so that their rights are protected. TMDLs must not only be lawful, but must be based on sound scientific criteria, data and modeling if they are to justify the expenditure of millions of dollars of public and private funds.

AMSA is proud to offer this updated version of the *Evaluating TMDLs* guide. The release of the January 1999 original guide was widely touted as an indispensable tool for understanding the legal rights of wastewater treatment agencies in the fast-paced atmosphere of the Total Maximum Daily Load (TMDL) program. When AMSA's first edition of the TMDL "survival guide", *Evaluating TMDLs*, was initially distributed in January 1999, AMSA concluded the Introduction section by stating that the TMDL landscape will continue to evolve. And evolve it has. Litigation, both at the administrative and court level, is now beginning to test many of the issues originally raised in the first TMDL guide. The U.S. Environmental Protection Agency (EPA) issued its draft TMDL regulations in August 1999 and the firestorm over the proposed rule continues today. EPA received over 27,000 comments on the proposed regulations.

This May 2000 update serves two purposes. First, the update discusses critical case law that has evolved over the past year as well as how EPA's newly proposed TMDL regulations might impact POTW interests. Second, the update introduces several new topic areas that need to be discussed within the context of the TMDL process. These new areas include: wet weather TMDLs, whole effluent toxicity (WET) TMDLs, administrative law standards of review, the problem of upstream loadings, and the challenges of interim permitting.

To ease the reader's burden, all sections containing updated material will begin with the heading **"May 2000 Update**" and will be placed in bold text. The updated material will be worked into the structure of the original TMDL paper. The revised document, as a whole, should replace the January 1999 guide, with the exception of the executive summary and appendices.

It is worth repeating that this guide, as well as the TMDL program, is a work in progress. Only time and the forces of nature – or in this case the forces of politics and law – will tell where the TMDL program heads next. AMSA will continue to update this guide in order to keep the membership prepared for the changing landscape of the TMDL program. Given the planned June 2000 promulgation of the final TMDL regulations, the next version of the AMSA guide should be available in the near future.

ACKNOWLEDGMENTS

AMSA would like to thank David A. Katz, Vice Chair of the Legal Affairs Committee and Divisional Deputy City Solicitor for the Philadelphia Water Department, for his tireless efforts in updating the *Evaluating TMDLs* guide. Needless to say, the existence of this guide depends on the voluntary contribution of legal research, expert analysis, and countless hours of writing and editing. Thanks to David, AMSA members and associated counsel will remain on the cutting edge of the fast-changing landscape of the TMDL program. Through his work, the May 2000 Update carries on the tradition of the January 1999 version as a complete, easy-to-understand "survival guide" to the TMDL program, that anyone from attorney to engineer will be able to readily utilize.

1. *Proper Listing Under Clean Water Act Section 303(d)*

HAS THE STREAM SEGMENT BEEN PROPERLY LISTED UNDER §303(D)?

C. STATUTORY LANGUAGE OF §303(d)(1)(A)

§303 (d)(1)(A) requires states to list those waters for which

(1) the effluent limits required by §301(b)(1)(A) (point source BPT and pretreatment limits) and §301(b)(1)(B) (POTW secondary treatment)

(2) are not stringent enough

(3) to implement any water quality standard applicable to such waters.

For all waters so identified under §303(d)(1)(A), the state then establishes TMDLs for all pollutants preventing the attainment of water quality standards (WQS). 40 CFR 130.7(c)(1)(ii).

EPA believes this provision to be all inclusive. However, it can be argued that §303(d)(1)(A) is much narrower than EPA would believe. Each one of the three specific segments of §303(d)(1)(A) can be used to argue that a particular water quality limited segment (WQLS) should not be on the §303(d)(1)(A) list but rather placed on lists which do not immediately trigger TMDLs and the point source water quality based effluent limits (WQBELs) which then ultimately get placed into permits.

These other lists would include the §303(d)(3) and §319(1)(A) lists.

Section 303(d)(3) states that "for the specific purpose of developing information" each state shall identify all waters not listed under §303(d)(1)(A) and "estimate" for such waters a TMDL. Section 319(1)(A) requires each state to identify waters "which without additional action to control nonpoint sources of pollution, can not reasonably be expected to attain or maintain applicable water quality standards..." The focus of water quality improvements is then shifted to nonpoint source best management practices (BMP) control rather than further point source control.

An analysis of each segment of §303(d)(1)(A) follows below.

1. the effluent limits required by §301(b)(1)(A) (point source BPT and pretreatment limits) and §301(b)(1)(B) (POTW secondary treatment)

What this segment essentially does is limit the §303(d)(1)(A) listing to impairments caused by the point source discharge of pollutants since §301(b)(1)(A) and §301(b)(1)(B) relate exclusively to point source technology controls. Consider, then, listings based on the following reasons:

(i) Nonpoint source impairments

Since §303(d)(1)(A) is limited to the WQLS where point sources cause or contribute to the impairment, waters impaired exclusively by nonpoint sources are not covered.

But what if point source dischargers exist in the WQLS but are a de minimis contributor to the impairment? If, for example, it could be demonstrated (through monitoring and modeling) that even if all loadings from point sources into the WQLS were eliminated the stream would remain in nonattainment, would listing under §303(d)(1)(A) still be proper? It would seem that this WQLS would best be dealt with under the §319 program.

EPA's proposed regulations implementing §304(L), 54 FR 1300 (January 12, 1989) offers, by analogy, some support for the position that listing would not be required where there are minor point source contributions to waters already impaired due to nonpoint source loadings. See Scenario #7, Exhibit A, 54 FR 1307. Also see the final regulation, 54 FR 23868, 23883, which states that "When Section 304(L)(1)(B) is read together with Section 319, EPA believes that all waters not achieving water quality standards for priority pollutants should be listed to at least one or sometimes both sections of the Act" (Suggesting that a Section 319 listing alone might suffice).

May 2000 Update

The issue as to whether nonpoint source impaired waters can be controlled under the TMDL process has just been decided by one federal district court in California. In Pronsolino et. al v. Marcus et al. C99-1828WHA, U.S.D.C, N.D. Cal., (Decision dated March 30, 2000 per Judge William Alsup), the plaintiffs alleged that EPA had exceeded its authority under the Clean Water Act by attempting to limit nonpoint source sediment loadings into the Garcia River through a TMDL for that water body. The Pronsolinos own an 800 acre timber operation and filed suit, along with the American Farm Bureau Federation and others, when the California Department of Forestry attempted to restrict the timing of the Pronsolinos' timber harvests and required mitigation of certain sediment loadings through the issuance of a state timber management plan, consistent with EPA's 1998 Garcia River TMDL. The Garcia River was impaired solely as the result of nonpoint source loadings. AMSA intervened to argue along with EPA that nonpoint sources can and must be addressed under the TMDL program in order to

achieve water quality standards.

The Court in Pronsolino held, unequivocally, that the listing of nonpoint source impaired waters was authorized by the CWA. The Judge found that the CWA was intended to comprehensively protect and restore all waters in the nation – regardless of their source of pollution. The Court, then carefully analyzing the water quality standards section of the Act, §303, held that the TMDL provision contained therein at §303(d)(1)(A) was equally comprehensive. (Indeed, the word "comprehensive" appears no less than 14 times in the opinion). The Court's holding is perhaps best summarized by two sentences that appear at page 15 of the Opinion:

> **"Since all rivers and waters regardless of pollution source were included in the universe for which water quality standards were required, all of them – again regardless of source of pollution – were included in the universe for which listing and TMDLs were required – save and excluding only those for which effluent limitations would be sufficient to achieve compliance with standards.**
>
> **. . . To have excluded the large number of rivers and waters polluted solely by agricultural and logging runoff would have left a chasm in the otherwise "comprehensive" statutory scheme." Pronsolino**

The Pronsolino holding is clearly excellent news for AMSA members. Nonpoint sources must be included in the TMDL process and must share with the point source community the responsibility of improving impaired waters. Two cautions must be kept in mind. First, nonpoint source regulatory controls are still creatures of state action and/or regulation. States must be willing to impose meaningful nonpoint source controls and to ensure that they are implemented if the benefits from the Pronsolino holding are to be realized.

Second, the Court's finding that §303(d)(1) is comprehensive means that §303(d)(1) embraces all causes of impairment regardless of their source. Hence, waters impaired by causes beyond the CWA's regulatory scheme -- such as contaminated sediment and atmospheric deposition – may need to be listed. The result for such impaired waters could be the immediate imposition of severe water quality based effluent limits (WQBELs) on point sources while the river remains impaired through causes that are not controllable under the CWA.

While it is important to be aware of these two concerns, Pronsolino is still a major victory for POTWs, point sources and EPA as well. However, the holding in Pronsolino has been challenged by the plaintiffs. The plaintiffs filed notice of an appeal on May 24,

2000. The legal basis of the appeal is not clear at this point as no substantive briefs have been filed on the appeal by either party.

A similar suit was filed in Missouri. In Missouri Soybean Association v. EPA, No. 98-4282, (Complaint filed on December 5, 1998 in the Western District of Missouri) the Soybean Association argued that nonpoint source impaired waters were improperly put on the §303(d) list. The Association argues that nonpoint source impaired waters must only be listed under CWA §319 and not under the §303 TMDL provision.

(ii) Contaminated Sediments

Pronsolino notwithstanding, impairments caused by past discontinued practices (e.g. discharge of PCBs, DDX) still affecting stream quality through contaminated sediments are, of course, not subject to effluent limitations under §301(b)(1), and therefore should not be covered by §303(d)(1).

(iii) Atmospheric Deposition

The deposition from non-water sources (e.g. air deposition of mercury) is again clearly not subject to §301(b)(1) effluent limits, and should not be covered §303(d)(1).

(iv) Physical Habitat Impairments

Impairments caused by physical habitat changes (e.g. stream channelization) are again not subject to §301(b)(1) effluent limitations. Also, §303(d)(1)(C) requires states to establish TMDLs for "pollutants" which should be inapplicable in this case. A "pollutant" is specifically defined in §502(6) and is therefore distinguishable from the term "pollution," which better describes habitat impairment.

(v) Water Quantity Based Impairments

These impairments (e.g. reduced stream flows due to diversion) should also fall outside §303(d)(1)(A). Again, they are not subject to the §301(b)(1) effluent limits. See also §303(d)(1)(C).

NOTE: EPA's POSITION

Diametrically opposed. EPA's position is essentially that all WQLS impacted by any pollutant, no matter where that pollutant comes from, even if you don't know the source, should be listed under §303(d). EPA cites 40 CFR §130.7(b)(1)(iii), which requires TMDLs for WQLS where other pollutant control requirements (e.g. nonpoint source BMPs) are not stringent enough to implement WQS. See also EPA Memo from Geoffrey H. Grubbs, May 23, 1997, "Nonpoint Sources and Section 303(d) listing requirements" (citing in support of his position, various EPA Guidance Documents and his interpretation of 303(d)(1)(A) that if Congress had intended to exclude such a potentially large category of impaired waters from 303(d)(1)(A), "it could and almost certainly would have done so with far greater clarity"). Also see EPA Memo from Robert H. Wayland, August 27, 1997, "National Clarifying Guidance for 1998 State and Territory Section 303(d) Listing Decisions" (303(d) lists provide a comprehensive inventory of water bodies impaired by all sources).

RESPONSE:

EPA's interpretation of §130.7(b)(1)(iii) is contrary to the plain language of §303(d)(1)(A). While §130.7(b)(1) (iii) may require TMDLs for nonpoint source impairments, the listing should occur under §303(d)(3) not under §303(d)(1)(A).

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EPA's Proposed TMDL Regulations, 64 Fed. Reg. 46011, (August 23, 1999)

Under EPA's newly proposed TMDL Regulations, the Agency continues its interpretation that the §303(d) listings are all inclusive.

Proposed Rule 130.25(a) requires that all impaired waters be listed – including impairments from "pollution from any source". This is consistent with EPA's belief that §303(d) lists should serve as a "comprehensive accounting of all waterbodies" impaired or threatened. (See Preamble to Regulations). (Many would argue, however, that this comprehensive accounting takes place not under §303(d), but rather under §305(b). See the §305(b) argument infra.)

Although listings are required for impairments from all sources, the proposed TMDL Rule does recognize that TMDLs are not appropriate for all listed waters. The Proposed Rule, at §130.27(a), states that although all waters get listed, waters impaired or threatened by pollution, as opposed to pollutants, do not require TMDLs.

Proposed Rule Section 130.27(b) states that when it is not clear whether the cause of the impairment is a pollutant or some type of pollution, it should be assumed that it is a pollutant and put on the list of water bodies requiring a TMDL.

(2) are not stringent enough

This clause can be used to fight the listing of waters that are deemed "threatened" or expected to go into nonattainment. Section 303(d)(1)(A)'s language is clearly in the present tense - "are not."

Listing "threatened" waters under §303(d)(1)(A) is also questionable for other statutory and policy reasons. First, §303(d) was never meant to address actions necessary to prevent impairments from occurring in the future. Issues related to growth are best dealt with under the Continuing Planning Process, §303(e), and antidegradation requirements, §303(d)(4)(B); 40 CFR §131.12. Secondly, what constitutes "threatened" is extremely subjective. Since a TMDL listing has serious consequences (WQBELs in permits; new source moratorium pursuant to 40 CFR §122.4(i); Tier 1 antidegradation impacts pursuant to 40 CFR §131.12(a)(1)) listings should not be based on such subjective impairments.

NOTE: EPA's POSITION
Threatened waters must be included. EPA cites 40 CFR §§130.7(c)(1)(ii) (TMDLs shall be established for all pollutants preventing or expected to prevent attainment of WQS); 130.7(b)(4) (TMDL lists shall identify the pollutants causing or expected to cause violations of WQS); 130.2(j) (definition of WQLS which makes no distinctions between point and nonpoint caused impairments); 130.7(b)(5)(iv) (TMDL lists must consider "all existing and readily available water quality related data and information" which includes waters listed pursuant to the Section 319 nonpoint assessment program). Also see previously cited EPA memos. EPA does provide some leniency, however. EPA recommends a water body listing as threatened only if the impairment will actively occur prior to the next listing cycle. Memo from Robert Wayland, August 25, 1997.

RESPONSE:
EPA's position is contrary to the plain language of the statute, §303(d)(1)(A). Also, the regulations do not specify under which section of the Clean Water Act (CWA) the individual TMDL lists are to be placed.

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EPA's Proposed TMDL Regulation, 64 Fed. Reg. 46011, (August 23, 1999).

Proposed Rule §130.25 requires that all threatened waters be placed on the §303(d) list. "Threatened" is defined in Proposed Rule §130.2(n) as any waterbody, currently in compliance, in which it is likely that a water quality standard exceedance will occur by the next listing cycle.

However, immediately prior to the publication of this Update, it appears that EPA has reversed its position on threatened waters. In a letter dated April 5, 2000 from J. Charles Fox, Assistant Administration, EPA, to the Honorable Bud Shuster, Chairman, House Committee on Transportation and Infrastructure, EPA stated that they would be dropping the requirement contained in the proposed regulations that threatened waters be placed on the §303(d) list.

(3) to implement any water quality standard applicable to such waters

The term "water quality standard applicable to such waters" includes numeric criteria, narrative criteria (e.g. "free from conditions injurious to human or aquatic health"; "no toxics in toxic amounts") water body uses and antidegradation requirements. 40 C.F.R. §130.7(b)(3). TMDLs shall be established at levels necessary to attain and

maintain narrative and numerical WQS. 40 CFR §130.7(c)(1). Also see American Paper Institute, Inc. v. U.S. Environmental Protection Agency, 23 ELR 20984 (1993), which holds that for the purposes of a §304(L)(1)(B) listing EPA's interpretation of the term "applicable standard" (40 CFR §130.10(d)(4)) as including narrative water quality standards is reasonable and will be upheld.

Some (many?) states in their rush to fulfill their obligations to perform TMDLs are basing their §303(d)(1)(A) listings on criteria that are not properly enacted water quality standards. For example, some states are placing stream segments on the §303(d)(1)(A) list due to fishing or swimming advisories in the stream. Pennsylvania, for example, is using the Rapid Bioassessment Protocol (RBP) in order to make quick and efficient biological stream assessments, which then trigger §303(d)(1)(A) listings.

The legal challenges can be articulated as follows:

(i) The identification of an impairment, in and of itself, is not sufficient for a §303(d)(1)(A) listing.

The stream may be subject to a fishing or swimming advisory, or based on a RBP lack sufficient variety of invertebrates, but that alone is not enough. Section 303(d)(1)(A) is not a catchall provision where all impaired streams are listed. Rather, the state must identify a cause of the impairment and have some quantifiable or demonstrable proof that the impairment is related to the point source discharge of pollutants. Otherwise, the listing, on its face, violates §303(d)(1)(A).

(ii) The criteria used by the state to list the stream under §303(d)(1)(A) are not properly promulgated water quality standards.

Succinctly put, the argument is as follows:

If the state cannot show you the specific water quality standards regulation for which effluent limits are not stringent enough to meet, then the listing under §303(d)(1)(A) is improper.

Water quality standards, both numeric and narrative, are creatures of regulation 40 CFR §131.3(i). They are found in our state codes and are enacted pursuant to our state Administrative Procedures Act (APA).

The question becomes: Is a fishing and/or swimming advisory an applicable water quality standard? Is the finding of a biological "impairment" based on an aquatic biologist's interpretation of an RBP an applicable water quality standard? (Assuming there are no specific biological criteria in the state).

The argument would be that an aquatic biologist's finding of and RBP-based impairment is not an applicable water quality standard. These criteria or judgments that the state is using to place a stream onto a §303(d)(1)(A) list are most likely not specifically found in a state's code of water quality regulations.

The state's response would be that they are merely implementing the state's narrative water quality criteria (WQC), which have been properly promulgated. The counter argument to this position is that if the state is going to base a §303(d) listing on narrative criteria, the state must have an explicit method of implementation for applying the narrative criteria. This counter argument is supported by 40 CFR §122.44(d)(vi), 40 CFR §131.11(a)(2) and, by analogy, 40 CFR §130.10(d)(4).

Section 122.44(d)(vi) requires the state to establish effluent limits for pollutants contributing to excursions above a narrative criterion based on one of three approaches: (A) a proposed state criterion or an explicit state policy or regulation interpreting its narrative water quality criterion; or (B) on a case by case basis using EPA's §304(a) water quality criteria; or (C) through the use of an indicator parameter for the pollutant of concern.

Section 131.11(a)(2) states that "Where a State adopts narrative criteria for toxic pollutants to protect designated uses, the 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."

Section 130.10(d)(4), although referring to listings under §304(L), supports our position by requiring that state narrative criteria for the control of toxics be interpreted by applying a proposed state criterion, an explicit state policy or regulation, or an EPA national water quality criterion, supplemented with other relevant information.

In addition, counter arguments can be based on violations of state law. As discussed infra., state law claims based on illegal rulemaking and/or state arbitrary and capricious behavior can be raised.

(iii) Discretionary implementation of narrative water quality standards constitutes an illegal rulemaking.

The decision to place a stream segment on a §303(d)(1)(A) list has serious legal (new source moratorium, 40 CFR §122.4(i); Tier 1 antidegradation, 40 CFR §131.12(a)(1)), economic and social ramifications. Listing automatically triggers TMDLs that will result in large amounts of dollars and effort being expended as well as the potential for considerable social and economic upheaval within the WQLS. Listing, therefore, should be based on standards which are clear, fully developed, and in which public participation was involved. A listing based on narrative criteria, with little or no standards governing its interpretation, moves well beyond discretionary judgment into the realm of rulemaking and regulation.

States define the term "regulation" in different ways. For example, California defines the term in this way:

> "Regulation" means every rule, regulation, order or standard of general application ... adopted by any state agency to implement, interpret, or make specific the law enforced or administered by it, or to govern its procedure, except one that relates only to the internal management of the state agency."

— Cal. Govt. Code §11342(g)

Therefore, the criteria for listing rise to the level of a regulation. The state's discretionary application of its narrative WQS could then constitute an "illegal" regulation in violation of the state's APA.

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The illegal rulemaking argument is supported by case law from the State of Washington Supreme Court as well as a more recent administrative decision from South Carolina. (Note: Immediately prior to publication, the administrative decision, discussed infra., was reversed by the South Carolina Board of Health and Environmental Controls. Although reversed, the reasoning used by Administrative Law Judge Marvin F. Kittrell is still persuasive and can be argued in other venues.) (Also see Section 9A for a discussion on how federal guidance documents can constitute an illegal rulemaking.)

In Simpson Tacoma Kraft v. Dept. of Ecology, 119 Wash. 2nd 640, 835 P. 2nd 1030 (Wash 1992) the Washington State Supreme Court rejected Washington's Department of Ecology's (DOE) attempt to translate narrative WQS into a numeric limit without going through the proper rulemaking procedures. Washington's narrative WQS stated that toxic substances shall not be introduced into a waterbody at levels that may adversely affect public health. DOE applied this narrative standard to dioxin and determined that discharges above .013 parts per quadrillion may adversely affect public health. The DOE arrived at this numeric standard by using federal guidance and data but without going through the proper state rulemaking procedures.

Under Washington law a regulation is defined as any order or directive of general applicability. The Washington Supreme Court held that the .013 standard was in fact a regulation thereby triggering the formal state rulemaking procedures. (As an interesting note, the Washington State Superior Court even declared Washington's narrative water quality standard unconstitutionally vague as applied to the plaintiff. The Washington State Supreme Court vacated that particular holding however. This is clearly a legal theory worth exploring.)

Administrative case law also supports this argument. In Western Carolina Regional Sewer Authority et al. v. South Carolina Department of Health and Environmental Control et al., Docket Nos. 98-ALJ-07-0267-CC and 98-ALJ-07-0585-CC (State of South Carolina, Administrative Law Judge Division) (Decision dated September 22, 1999 per Judge Marvin F. Kittrell; reversed and vacated by South Carolina Board of Health and Environmental Controls in early March 2000) the State attempted, inter alia, to implement its narrative water quality criteria to control nutrients by creating a de facto water quality standard known as the "Trophic State Index" (TSI). The TSI established a

threshold value of 250 as an instantaneous standard. All waters above this standard would be classified as aquatic use impaired for phosphorous (and then later in some cases for pH). These waters would then be placed on the state's 303(d) list.

The Sewer Authority argued, inter alia, that the TSI was a water quality standard, and since the TSI was never promulgated in accordance with South Carolina's Administrative Procedure Act, as all water quality standards must be, it was illegal, null and void. The State argued that the TSI was merely a discretionary tool for measuring water quality and therefore not subject to the normal rulemaking procedures.

The Judge agreed with the Sewer Authority and held that the TSI was in fact a regulation that was never properly promulgated. In reaching his conclusion that the TSI was a regulation, rather than a mere discretionary policy statement, the Judge applied the "binding norm" test. In essence, the binding norm test holds that if a state uses a policy like a regulation (little or no discretion in its application) then it is a regulation. The fact that the Judge's reasoning applied the binding norm test is excellent news in that many other states also apply the binding norm test in distinguishing between policy and regulation.

The Judge granted relief by ordering that all permitting and regulatory actions taken by the State based on the TSI were null and void and further ordered the State to remove from the State's §303(d) list any waters listed as the result of applying the TSI.

The illegal rulemaking argument is also being made in California state court in Sacramento Regional County Sanitation District v. State Water Resources Control Board et al., No. 98-CS01702, Superior Court of California, Sacramento County, (Complaint filed June 26, 1998). In this case, the State set forth numerous criteria by which waters would be listed on a §303(d) list. The criteria included fishing and swimming advisories that were not promulgated as water quality standards pursuant to the California Administrative Procedure Act.

(iv) The finding of impairment based on the state's narrative water quality standards was arbitrary and capricious

This is never an easy argument to make, but the rationale would be as follows:

Narrative criteria are inherently vague ("no toxics in toxic amounts"). Very few states have numeric criteria for whole effluent toxicity (WET) or numeric biocriteria supporting their narrative criteria. Therefore, narrative criteria have no clear target or endpoint, from which we can make a determination of impairment. The judgment as to when an impairment is found under narrative criteria is inherently and completely subjective.

Making matters worse, however, is in addition to no endpoint, very few states have a well developed methodology for regulating point source discharges based on narrative criteria. This in spite of 40 CFR §131.11(a)(2) which states that "Where a State adopts narrative criteria for toxic pollutants to protect designated uses, the State must provide information identifying the method by which the State intends to regulate point source discharges of toxic pollutants on WQLS based on such narrative criteria."

Therefore, without an endpoint, and without even basic guidelines on the translation methodology, subjective and arbitrary decisions necessarily are used in lieu of nonexistent specific criteria.

The state will argue that based on their best professional judgment, in accordance with some general 304(a) guidance or some existing state guidance, they have legally translated the narrative standard into a finding of impairment. In addition to the arguments made previously, one could bolster the arbitrary and capricious argument by attacking the finding as scientifically flawed or arguably not in conformity with the state's Continuing Planning Process or Water Quality Management Planning documents, to the extent they address this issue.

B. "EXPECTED TO MEET" WATERS

Some WQLS may already have some additional pollution controls being implemented which are expected to provide for the attainment of applicable WQS. If such is the case, must the WQLS be listed under §303(d)(1)(A)? Arguably no. 40 CFR §130.7(b)(1) requires TMDLs only for those WQLS still requiring them. EPA's guidance states that if the additional controls are enforceable and if the controls can be reasonably expected to attain WQS prior to the next listing date, the WQLS need not be placed on the current list. See Memo from Robert Wayland, August 27, 1997.

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EPA's Proposed TMDL Regulations, 64 Fed. Reg. 46011 (August 23, 1999)

Proposed Rule §130.27(a)(4) states that expected to meet waters must still be listed but a TMDL for these waterbodies is not required as long as attainment is expected by the next listing cycle.

C. §305(b) REPORT IS A PREDICATE TO A §303(d)(1)(A) LISTING.

The Act does not specifically predicate a §303(d)(1)(A) listing on the prior identification of the water body as impaired in a §305(b) Report. A specific link between §303(d) and §305(b) is contained in 40 CFR 130.7(b)(5)(i) which requires §303(d) listings to be based upon the assembly and evaluation of "all existing and readily available water quality related data and information." Such readily available data includes: (i) Waters identified by the State in its most recent §305(b) report as "partially meeting" or "not meeting" designated uses or as "threatened." Nevertheless, an argument can be crafted that a §305(b) report identifying the water as impaired is a predicate to a §303(d)(1) listing.

The argument would go as follows. Section 305(b) is the state's biennial water quality inventory report. The report serves as the primary assessment of state water quality and based on its findings the states develop water quality management plans to direct all subsequent control activity. 40 CFR §130.8. Water quality problems identified in the §305(b) report should be analyzed through water quality management planning leading to the development of alternative controls and procedures. Id. Further, §305(b)(1) requires an estimate of the environmental impact and the economic and social costs and benefits of complying with the Clean Water Act.

Therefore, the §305(b) reports are so comprehensive that they provide the foundation for determining where the impaired water body should be listed and, if listed under §303(d), how that water body should be prioritized. Without such a §305(b) report listing, the public is denied information and meaningful participation in the decisions regarding listing and prioritization.

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This argument is now being tested, along with the illegal rulemaking argument, in Sacramento Regional County Sanitation District v. State Water Resources Control Board, et al., No. 98-CSO1702, Superior Court of California, Sacramento County (Complaint filed June 26, 1998).-

D. IMPAIRMENT RESULTS FROM NON COMPLYING SOURCES

Under §303(d)(1)(A), listing occurs where point source effluent limitations are not stringent enough to meet WQS. If there are point sources discharging into the WQLS not in compliance with their permits, it could be argued that the impairment results from the noncompliance and therefore should not be listed. Similarly, if the state has enacted BMPs for nonpoint sources discharging into the WQLS, and these BMPs are not being followed (or are inadequate) a similar argument can be made.

2. Evaluating Data Reliability

IS THERE SUFFICIENT RELIABLE SCIENTIFIC DATA TO SUPPORT THE FINDING THAT THE STREAM IS IMPAIRED?

A major flaw in the TMDL process is that there is no federal statutory, regulatory or guidance documents which establish the minimum quantity and quality of data necessary to list a water body under §303(d)(1)(A). Note however that EPA has produced an Interim Final Guidance for Planning for Data Collection in Support of Environmental Decision Making Using the Data Quality Objectives Process (EPA QA/G-4) which at page 26 recommends that a one percent false positive and a one percent false negative decision error be the starting point for setting decision error rates. It further recommends that if the decision maker increases the decision error rate from one percent, that person "should document the reasoning behind setting the decision error rate and what the potential impacts may be on cost, resource expenditure, human health and ecological conditions."

Since a listing triggers a TMDL, with all of its economic and social ramifications, a listing must be based on sound science. However, because of litigation pressure, timing and resource limitations, many states list water bodies based on the most tenuous of data. Even EPA has recognized that states with more rigorous data requirements tend to have shorter lists than those with less demanding requirements.

Therefore, the data that the state relied on in making its impairment finding and placing the water body on the §303(d)(1)(A) list should be carefully examined. The following questions should be asked regarding the data, and if the answers are unsatisfactory, the state's action could be challenged as arbitrary and capricious and unsupported by reliable scientific data.

1. What specific data did the state rely on? Is it traceable?

2. Is the data of sufficient quality that it can be relied on? Was their sufficient QA/QC in the monitoring and analysis? If the impairment was related to metals, were clean sampling techniques used? (In many cases, clean techniques are a prerequisite for collection of reliable water quality data for metals).

3. Is there a sufficient quantity of data so as to be statistically significant?

4. Is the data temporally representative or is it too old to be of use?

5. Does the spatial extent of the impairment match the actual data points demonstrating an impairment?

6. What assumptions were made regarding the interpretation and analysis of the data? (pollutant loadings, flow, water chemistry, etc.)

7. Does the data show, to a sufficient level of quantification and accuracy, that point sources cause or contribute to the impairment?

8. Is the data appropriately applied for evaluating compliance with the water quality standards (e.g., was a grab sample used for determining compliance with a daily average?)?

<u>May 2000 Update</u>

EPA's Proposed TMDL Regulations, 64 Fed. Reg. 46011 (August 23, 1999)

(a) The use of "all existing and readily available data".

The current regulations in effect at 40 CFR §130.7(b)(5) state that "all existing and readily available water quality – related data and information" must be used in the listing determination. The proposed regulations at §130.25(a) continue this requirement that listing be based on all existing and readily available data.

The problem with this requirement is that it does not distinguish between good data, bad data, new data or old data. States could have information available to it that indicates an exceedance of water quality standards but may not have the underlying QA/QC documents to validate its reliability. The regulation, in essence, creates an assumption that the data is good and therefore must be used. Such an assumption makes absolutely no sense.

As it stands now, the state has the burden of explaining why data was not used. If the state has no sampling or analytical history behind the data, it could be compelled to consider data that it deems suspect.

In the preamble to the proposed TMDL rule, EPA states that "The best science, coupled with rigorous and accurate data, is the best foundation upon which to establish TMDLs". EPA, however, then rejected provisions requiring that the data meet certain quality and analytical standards. EPA's apparent rationale was that requiring minimum data standards would reduce the number of TMDLs established and since TMDLs are an iterative process they can always be revised later based on new or additional data.

The lesson to be learned here is that sampling data is only as good as the technique used to collect the sample and the analytical rigor by which it was evaluated. These things can not be assumed – rather it makes far more sense to assume the data is questionable until the underlying sampling and analytical procedures are validated. This is especially true if the data is to stand up in a court of law.

Finally, it should be noted that while there are no data quality standards in the existing or proposed regulations EPA Guidance documents already exist that define data quality requirements. For example, see EPA's *Guidance for the Data Quality Objectives Process* and

Permit Writers Guide to Data Quality Objectives. **These documents should establish an absolute minimum baseline for data quality assurance.**

(b) Monitored v. Evaluated Data

In the Preamble to the proposed TMDL rule, EPA discusses the distinction between "monitored" and "evaluated" data. Monitored data refers to direct measurements of ambient water quality. Evaluated data refers to an indirect evaluation of water quality through the use of predictive modeling. EPA supported the Federal Advisory Committee's recommendation that preferred listing decisions be based on monitored data but acknowledged that it is appropriate to use both monitored and evaluated data. The proposed regulation contains no references to this distinction.

EPA should affirmatively state that monitored data is preferred in the TMDL process. Further, while AMSA agrees that both monitored and evaluated data are appropriate to use, the TMDL process should not be based solely on evaluated data but must include some actual ambient monitoring.

The rationale for using actual ambient monitoring data for TMDLs is that even the best water quality models, fully calibrated and validated, will never be as precise as actual in-stream sampling and observation. Despite the advances in modeling and computers, we still lack the ability to reduce complex watershed hydrology into simple mathematical equations that will precisely predict water quality levels or impact. Unfortunately, since it is so much cheaper and easier to run off the shelf models using historic data (regardless of their validity) and default assumptions then it is to engage in a sampling program for a waterbody, there is now an almost exclusive reliance on modeling.

This is especially true today given the enormous TMDL workload that now confronts virtually every state in the country. In the rush to get TMDLs done, there seems to be an almost irrational willingness to commit enormous time and resources into resolving alleged impairments based solely on a relatively cheap, easy and imprecise modeling approach indicating water quality impairment. AMSA believes this to be an absolutely unsupportable approach.

This unfortunate trend to reject actual monitored data over evaluated data is wonderfully articulated in a U.S.G.S. book entitled "*Watershed Research in the U.S. Geological Survey*" Committee on U.S. Geological Survey, Water Resources Research, Water Science and Technology Board, Commission on Geosciences, Environment and Resources (National Academy Press, Washington D.C. 1997). At page 26 the book recognizes how with the advances of computers, hydrological research began to shift towards mathematical modeling. It goes on

to state how this should have stimulated new and better field measurements but did not due to budget constraints. Its conclusion was as follows:

> **The National Research Council's Committee on Opportunities in the Hydrologic Sciences concluded that "hydrologic science is currently data-limited" and that "Interest in ever-increasing scale has outrun the financial support for observation, and the balance of hydrologic science is now seriously skewed toward modeling. It is important that observation and analysis proceed hand in hand" (NRC, 1991). This fact had been recognized a decade earlier by the renowned USGS hydrologist Walter Langbein. The "ability to solve complex mathematical systems has now outpaced understanding of the physical, chemical and biological processes, or even the appropriate data". (Langbein, 1981,).**

Therefore, POTWs should urge their states to engage in actual monitoring and not base impairment decisions on modeled data alone. Since the state will not have the resources to do this, dischargers should consider funding the sampling and analysis. We ignore actual monitored data at our own peril.

> **NOTE: The legal issue of how much data, and what degree of scientific certainty, is necessary to support a TMDL is discussed in Section 9A.**

3. Designated Use Modifications

CAN THE DESIGNATED USE OF THE WATER BODY BE CHANGED SO THAT THE WATER BODY IS NO LONGER DEEMED IMPAIRED?

The water quality criteria that are applicable to a given water body are determined by the water's designated use. If the use can be changed (refined), the water quality criteria necessary to protect the use will also change, thus potentially bringing the water body into compliance with applicable water quality standards. Unfortunately, the Act makes changing designated uses very difficult.

A. Designated uses can not be changed where there are existing uses (a use actually attained in the water body on after November 28, 1975, 40 C.F.R. §131.3(e)) or where the designated use is attainable through point source technology control and cost effective and reasonable BMPs for nonpoint sources. 40 CFR §§131.10(h); 131.10(d).

B. For those designated uses that can be changed, the criteria set forth in 40 CFR §131.10(g) must be proven. A state may remove a designated use or establish subcategories of a use if the state can demonstrate that attaining the present designated use is not feasible because of one of the following six reasons:

(1) naturally occurring pollutant concentrations
(2) natural, ephemeral, intermittent or low flow conditions
(3) human caused conditions which can not be remedied or would cause more environmental damage to correct than leave in place
(4) dams, hydrological modifications where it is not feasible to restore the water body to its original condition
(5) natural physical conditions (cover, flow, depth, substrate)
(6) controls, more stringent than technology controls, would result in substantial and widespread economic and social impact.

C. The use change is done within the context of a Use Attainability Analysis (UAA) §131.10(j). A "UAA is a structured scientific assessment of the factors affecting the attainment of the use which may include physical, chemical, biological and economic factors as described in §131.10(g)." 40 CFR §131.3(g).

D. Note that the regulations permit seasonal uses, as an alternative to a permanent downgrade of the use. Seasonal uses, and their attendant WQC, may not preclude the attainment and maintenance of a more protective use in another season. 40 CFR §131.10(f).

E. Query: Could the derivation of a subcategory of a use be defined merely as a "more explicit definition" of that use and therefore not be subject to the downgrading criteria of 131.10(g)?

4. Water Quality Criteria Changes

CAN THE WATER QUALITY CRITERIA BE CHANGED SO THAT THE WATERBODY IS NO LONGER DEEMED IMPAIRED?

A. Site-Specific Criteria

While the regulatory framework makes changes to designated uses extremely difficult, changes to WQC are, from a regulatory point of view, much easier to accomplish. 40 CFR §131.11(b) allows WQC to be based upon federal national criteria guidance under 304(a), site specific modifications to the 304(a) guidance or any other scientifically defensible method.

Most states have adopted the national water quality criteria guidance issued under 304(a) and currently published in EPA's "Gold Book" as their state water quality criteria. There are two problems with using the national water quality criteria. First, the chemical and physical properties of your water body - its site-specific water chemistry and physical attributes - will always differ from the lab water used by EPA in establishing the national criteria. The unique chemical (e.g. hardness, pH) and physical properties of the particular stream will alter the bioavailability and/or toxicity of a given pollutant. While theoretically this could mean that the national criteria could be either overprotective or under protective of WQS in your water body, experience seems to indicate that site specific criteria tend to be less restrictive than EPA's national WQC because EPA was inherently conservative and overprotective when they ran their bioassays.

Secondly, the species that reside in your water body will differ from the species used to establish the national criteria data set. Your indigenous species may either be more tolerant (hence higher WQC) or less tolerant (hence lower WQC) for any given pollutant. Even where the same species exist, your indigenous species may have adapted over time to become tolerant to particular toxicants.

Not only are site-specific criteria critical from a technical, scientific point of view, they are also necessary from a political, economic and administrative viewpoint. Their could be no worse result than expending large amounts of money and effort on a TMDL designed to achieve specific WQC and find that after the TMDL has been implemented that the impairment still exists. Accurate site-specific criteria are an absolutely critical prerequisite to funding and implementing any TMDL.

Currently, there are three scientifically defensible procedures used for creating site-specific WQC: (1) Water Effects Ratio (WER) (which is the technique most commonly and effectively used); (2) Recalculation Procedure (not used very often due to data and cost concerns); and (3) Resident Species Procedure. All of these techniques are technically complex, costly and time consuming. (A more detailed explanation of these techniques is found in EPA's Water Quality Standards Handbook, 2nd Edition, Section 3.7.1, 1995). Some of the issues that flow from their use are as follows:

(1) Should POTWs use these techniques or could more or better sampling (clean sampling for metals) resolve your issue?

(2) Under a WER analysis, if site water has greater attenuating powers then the POTW gets the benefit of less stringent WQC. But what if the POTW finds the site water inherently more toxic? Will this automatically lower the WQC thus giving the POTW stricter limits? Must the POTW share this data with the state? Can a "quick screen" be performed?

(3) Is it worth performing the recalculation procedure (adding indigenous species, removing species not present) or is the statistical calculation so inherently conservative that it does little good?

B. The Wet Weather Criteria Problem

Many WQLS listed on the §303(d)(1)(A) list have wet weather contributors - either CSOs or municipal separate storm sewers. Some, in fact, are listed as impaired specifically because of impacts associated with wet weather discharges.

The problem here is that the national criteria, as well as the state criteria if different, were developed assuming steady state exposures to toxicants. For example, the criteria for chronic aquatic toxicity (the Criterion Continuous Concentration (CCC) is set at the highest ambient concentration of a toxicant to which aquatic organisms can be continuously exposed over a 4 day period without causing an unacceptable effect. If the CCC for a given toxicant is being exceeded, thus causing the impairment, a TMDL and wasteload allocations (WLAs) will be developed for point sources based on that CCC.

Yet, your wet weather discharge does not last for four days (Even if it did, the level of pollutants being discharged at any given time would differ tremendously.) Thus, WQC are not representative of the potential impacts to aquatic life associated with transient wet weather events.

Therefore, before EPA pushes the states to develop TMDLs for wet weather loadings, EPA should first develop wet weather WQC. Otherwise, existing WQC will be used which are scientifically indefensible and would result in wet weather controls that are unnecessary at best and draconian at worst. (Congress has recognized that water quality standards attainment for wet weather discharges is a major issue for local governments, and has specifically directed that EPA develop a guidance document to facilitate the conduct of water quality and designated use reviews for CSO-receiving waters).

Further, not only are the WQC inapplicable in a wet weather situation, but so are the low flow assumptions used in determining the WLAs. Conservative low flow assumptions are used in order to protect waters under virtually all flow conditions. For example, some states require the use of the 1Q10 flow (the lowest one day flow with an average recurrence frequency of once in ten years) for determining acute WLAs and the 7Q10 flow (the lowest average 7 day consecutive flow with an average recurrence frequency of once in ten years) for determining chronic WLAs. Of course, streams increase their flow in wet weather situations therefore making these low flow assumptions

completely inapplicable. The concept of seasonal uses, 40 CFR §131.10(f), and therefore seasonal TMDLs, could provide some relief in this area.

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WET WEATHER TMDLs

While, as mentioned above, wet weather criteria are needed they presently do not exist. Yet, TMDLs are now being developed nationwide in waters that have wet weather impacts from municipal separate storm sewer systems (MS4s) and combined sewer overflows (CSOs). The question then becomes how will these wet weather sources be incorporated into the TMDL process if the traditional water quality criteria and wasteload allocation calculations do not work within the context of CSOs and MS4s?

The answer to this question lies mostly in common sense and to some extent, as it relates to MS4s, in the law.

First, the common sense. Wet weather discharges, such as CSOs and MS4s, are unique. As mentioned above, wet weather issues have always provided an imperfect fit into the water quality standards program where criteria and discharge assumptions are predicated on predictable flows and loadings. Congress, EPA, dischargers and environmental groups alike recognized that the special problem of wet weather discharges called for special solutions.

Thus, over the past decade, wet weather regulations, policy and guidance have emerged. National approaches to wet weather discharges, where they have been developed, are the product of years of discussion and debate, where consensus has come about through lengthy (and often painstaking) negotiation by all parties.

These regulations, policies and guidance must be incorporated into the TMDL process. The TMDL process should not attempt to reinvent wet weather controls but rather should formally incorporate them into the TMDL process. Thus, for example, a POTW that is implementing its approved Long Term Control Plan for CSOs should be deemed to be fully complying with any TMDL based water quality limitation.

Next, the law. CSOs are treated like any other point source discharge and are therefore subject to the same water quality based controls found in the Clean Water Act (See CWA §301(b)(1)(C)). However, MS4s are not. When Congress enacted the Water Quality Amendments of 1987, it required MS4s to reduce the discharge of pollutants "to the maximum extent practicable". CWA §402(p)(3)(B)(iii). A question then arose as to whether MS4s need only comply with the "maximum extent practicable" standard found in 402(p) or must, in addition, comply with water quality standards as required by CWA §301(b)(1)(C).

The question was answered in Defenders of Wildlife v. Browner, 191 F. 3rd 1159 (9th Cir. 1999). The Court ruled that Congress did not require MS4s to comply with water quality standards in accordance with CWA §301(b)(1)(C).

Therefore, can it be argued that MS4s are completely and absolutely exempt from WLAs pursuant to a TMDL process? Since TMDLs implement water quality standards, and since MS4s need not comply with water quality standards, MS4s should not be part of the TMDL equation. Sorry. Life is just not that simple. The Court in Defenders of Wildlife also found that §402(p)(3)(B)(iii) contained a clause at the very end that gave EPA the power to require "such other provisions as the Administrator … determines appropriate for the control of such pollutants." Under that provision, the Court ruled that EPA had the authority to determine that ensuring strict compliance with water quality standards by MS4s is within EPA's discretion. (Also, states always have the ability to be more stringent than required by the federal CWA. Thus, states have similar discretion.)

Remember, however, that such discretion must be exercised in a non arbitrary and scientifically defensible manner. EPA acknowledges that WQBELs for storm water discharges are not supportable at this time. See *Questions and Answers For Interim Permitting Approach For Water Quality Based Effluent Limitations In Storm Water Permits, 61 Fed. Reg. 57,425-27, November 6,1996.*

Examining Defenders of Wildlife in its totality, AMSA believes that the ruling offers even further support that the policies in place for MS4s – essentially Best Management Practices as set forth in Phase I and II permits – embody the intended contribution of MS4s to any load reductions required within a TMDL context.

Finally, a quick note on fecal coliforms and wet weather TMDLs. Probably the most critical pollutant discharged from wet weather sources is fecal coliform. Regulated agencies should consider whether changing WQC from fecal coliform to e-coli, as EPA is encouraging, would be advantageous, considering that e-coli more precisely addresses human pathogens. Also, be sure that the TMDL accounts for the animal loading portion of a fecal coliform loading.

C. Human Health Criteria

WQC are not only set to protect aquatic organisms but are also set to prevent adverse human health impacts.

EPA is modifying its approach to calculating human health WQC. For noncarcinogens, EPA's new methodology authorizes using a range around the Reference Dose (the estimate of the daily acceptable level of exposure without appreciable risk of deleterious health effects over a lifetime) and site-specific fish consumption data in order to derive the appropriate human health WQC. This could result in less stringent human health WQC for nonbioaccumulatives.

If the WQC for human health for a specific parameter proves to be the most troublesome (i.e. the one triggering the impairment) perhaps the POTW could persuade the state to review and repromulgate the criterion based on EPA's new methodology.

D. Physical Impossibility

The Great Lakes Guidance allows for less stringent site-specific aquatic life criteria where it can be demonstrated that physical or hydrological conditions preclude aquatic life from remaining at a site for a period of time sufficient to cause acute or chronic effects. See EPA's Advance Notice of Proposed Rulemaking on Water Quality Standards, 63 Federal Register 36741, 36764.

E. Were the Criteria Properly Adopted?

For some criteria, such as disssolved oxygen, it may be appropriate to question whether the criteria was appropriately adopted. Qualifications, such as "does not apply to bottom waters," or appropriate frequency, duration, and magnitude factors are critical to consider in application of the standard, however, may not be included in the water quality standard itself or may be misapplied.

5. *Proper Application of Water Quality Criteria*

ASSUMING THE WQC ARE CORRECT, ARE THEY BEING CORRECTLY APPLIED?

While most WQC consist of fixed values, for some metals, (e.g. cadmium, copper, lead, nickel, silver, zinc) the WQC are a function of the hardness of the water. Many agencies, lacking good data, will simply assume a low stream hardness, (their default value) resulting in low permit limits. This should be carefully checked.

6. *A Discharger-led TMDL Process*

IF THE TMDL IS UNAVOIDABLE SHOULD THE PROCESS BE LED BY THE STATE OR THE DISCHARGERS?

Many states are now under federal TMDL Consent Decrees to assess their waters and to list and develop TMDLs for impaired waters within a relatively short time frame. The states simply lack the manpower and resources to do a thorough job on all their waters within the given time frames. Hence, TMDLs will be based on limited monitoring and modeling.

Limited data causes greater uncertainty that leads to a conservative TMDL with a greater margin of safety and ultimately lower WQBELs.

Assuming the §303(d)(1)(A) listing was proper, a TMDL must be generated which leaves the discharger with two options. First, it can simply challenge the process in court based on the legal, scientific and policy arguments contained in this outline.

Second, the dischargers to the WQLS can offer to lead the TMDL process thus assuring it is done correctly. There are numerous benefits to this approach.

The dischargers can create a TMDL process that meets their needs. They can ensure that the designated use is carefully evaluated to determine its present feasibility. They can generate scientifically defensible site-specific WQC to support the use. They can put together a monitoring and modeling program that generates reliable, scientific data and WQBELs that would be more realistic. Defensible scientific data could then justify the expenditure of additional dollars (if necessary). They could look at more cost-effective alternative remediation strategies such as habitat improvement. They could agree on an allocation scheme in which everyone contributes to the remedy considering cost effectiveness. They could even move the concept of watershed based effluent trading forward. The group could recognize the iterative nature of the TMDL process and move forward sensibly and cost effectively. Finally, many states would appreciate this effort, recognizing their own internal resource limitations.

There are downsides, of course. The money, time and effort put in the process could be extensive. Attempting to convene multiple dischargers- industrial, municipal, point source and nonpoint source-from different counties and/or states to agree on common objectives, assessment plans, solutions and implementation strategies can be daunting, if not impossible. Lack of incentive from nonpoint sources and/or political subdivisions can frustrate a common solution. Many thousands of hours and dollars could be wasted with little result.

7. Removing Waters from Section 303(d)(1)(A) Lists

ONCE YOUR WQLS IS LISTED UNDER §303(d)(1)(A) HOW DO YOU GET IT REMOVED?

There are currently no federal statutory or regulatory provisions regarding when and how a WQLS should be removed from a §303(d)(1)(A) list. Probably, most states don't have any provisions for removal either. At a minimum, it seems removal would be warranted under the following circumstances:

(1) New data showing that WQS are actually being attained;

(2) Successful completion of UAA that results in changing the designated use;

(3) Calculation of revised site-specific WQC which now demonstrates compliance;

(4) Successful completion of the TMDL (the use is now achieved).

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EPA's Proposed TMDL Regulations, 64 Fed. Reg. 46011, (August 23, 1999)

Proposed Rule §130.29 states that a listed waterbody can be removed when the next list is developed if new data or information indicates that the waterbody has attained water quality standards.

8. TMDL Calculation and NPDES Permits

ASSUMING A PROPERLY LISTED WQLS, A TMDL WILL BE CALCULATED FOR THE WATER BODY. TMDLs WILL LEAD TO THE CALCULATION OF WASTELOAD ALLOCATIONS AND ULTIMATELY WATER QUALITY BASED EFFLUENT LIMITS FOR POINT SOURCE DISCHARGES TO THE WATER BODY. WILL ALL POINT SOURCE DISCHARGERS INTO THE WQLS HAVE WQBELs PLACED IN THEIR NPDES PERMITS?

No. It will depend on whether the discharger has a reasonable potential to cause or contribute to an excursion of numeric or narrative WQS. 40 CFR §122.44(d). (Commonly referred to as the "reasonable potential" test).

Again, there is no specific statutory or regulatory test for when a discharger has "reasonable potential." EPA, however, does provide guidance and examples in their Technical Support Document for Water Quality based Toxics Control, March 1991 ("TSD").

Essentially, reasonable potential is determined by looking at the highest discharge value in the data set and increasing it by applying a multiplier. (Since, statistically speaking, there is a probability that even a discharger's worst case actual discharge from it's data set will be exceeded). This multiplier is based on the coefficient of variation (CV) (standard deviation divided by the mean). From the discharger's CV, the discharger applies Table 3-1 of the TSD and gets its multiplier.

A facility's actual worst case discharge times the multiplier gives the discharger its maximum receiving water concentration (RWC). This RWC is then compared with the discharger's maximum wasteload allocation numbers for the acute, chronic and human health criteria of the pollutant. (The discharger's maximum wasteload allocation numbers will be dependent on the WQC, river and effluent flow and the concentration of pollutant in the effluent). If a discharger's RWC exceeds any applicable WLA, the discharger has the reasonable potential to violate WQS and will receive a WQBEL in your permit. See TSD, p.47-54.

In evaluating a facility's reasonable potential dischargers should consider the following:

(1) Has the state adopted the reasonable potential test or are they more stringent?

(2) If the state has adopted the reasonable potential test, how does the state they apply it? Is it based purely on the judgment of the permit writer or are there provisions in the state's WQS for its application? Does the state follow the TSD guidance?

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Also consider what the state has done with other permits. Is the reasonable potential analysis consistent with other permits in the same watershed or other watersheds in the State? If not, consider an arbitrary and capricious argument and/or a denial of equal protection argument.

(3) Dischargers should consider ways that they can affect the outcome of the reasonable potential test. Is the state using the correct stream and effluent flows in calculating dischargers' maximum WLAs? If the pollutant data set is limited, dischargers should consider increasing the number of samples to reduce the multiplier.

9. Achieving Reasonable TMDL-Based Permit Limits

ASSUMING THE POTW HAS FAILED THE REASONABLE POTENTIAL TEST, AND THE POTW IS ASSIGNED A WQBEL, HOW CAN THE POTW ACHIEVE A MORE REASONABLE (HIGHER) LIMIT?

Sensible WQBELs can only be achieved by thoroughly understanding the data and assumptions used in the water quality modeling process. Water quality models are based on data and assumptions -- both of which need to be carefully evaluated for their accuracy. The areas of the model that need to be examined are as follows:

(1) Flow

(a) When it comes to WQBELs, dilution is everything. Are the low flow assumptions in the model required by the state's WQS? If they are, are the low flow numbers (the 7Q10, 1Q10) accurate? Where is the supporting data? Development of seasonal flow data might also be in the POTW's interest.

(b) Is the POTW getting the full allowable flow of the river in your model? If not, due to incomplete mixing, would a diffuser help? What assumptions are being made about stream velocity?

(c) If the POTW is getting an allocated mixing zone, how is that mixing zone being calculated? Where, if at all, in the state's WQS are the calculations for mixing zone dimensions described or is it all best professional judgment of the permit writer?

(2) Data

Is the data going into the model of sufficient quantity and quality that it will generate a scientifically supportable result? (See Question 2 of this Outline).

(3) Effluent Characterization

Is the POTW's effluent being properly characterized in terms of concentration, flow and variability?

(4) Chemical Translators

While NPDES regulations require that metals be reported in terms of total recoverable metal, 40 CFR §122.45(c), EPA recognized in 1993 that it is the dissolved fraction of the metal that best represents the biologically available portion. Therefore, the POTW's WQBEL should be based only on the dissolved fraction of the metal which occurs in the receiving stream. Since effluents will contain both dissolved and particulate metals, be sure that the correct dissolved/total ratio is being used.

(5) Default Values

States may use default values for critical in stream parameters (e.g. hardness) which could reduce the

POTW's allocated discharge. Carefully examine these default values and use site specific criteria where it is to your benefit.

(6) Pollutant Fate/Background
Examine whether the assumptions being made about these factors are justified.

(7) The Model
Is the model commonly used and accepted? Does it make overly conservative assumptions? Has it been properly validated?

(8) The Math
Assuming the POTW's wasteload allocation was properly calculated, has it been properly translated into the facility's permit limit?

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9A. How much data, and what degree of scientific certainty, is necessary in order to support a TMDL? Or, in other words, how bad does the TMDL have to be in order for a Court to remand it back to the Agency?

This is the million-dollar question. Let's face it – we'll never have all the data we would like or even need. Despite our scientific advancements over the past half-century the science of TMDLs will never be perfect (what scientific endeavor is for that matter). So how much data and scientific certainty is needed for a valid TMDL?

The answer is, unfortunately, that it depends on two factors – the first reasonably clear and the second less so. First, the general principles of law that govern a Court's deference to agency decision making are fairly clear and will be discussed below.

Second, and perhaps even more importantly, is how a judge will apply these broad principles of administrative law to the TMDL being litigated before the Court. This will depend on the specific facts and strengths of your technical arguments, the judge's own unique interpretation of the level of deference the judge believes complies with the review standard and how experienced the judge is in working with technical/scientific matters. The second factor is mentioned because while the legal standards for overturning a TMDL might appear stringent, what is actually being done is simply convincing a decision maker that a sensible and rational person would not reach such a conclusion.

With that said, let's examine the legal hurdles over which a POTW will need to jump. (For purposes of analysis, it is assumed that the TMDL is issued by EPA. State Administrative Procedures Acts and case law will probably be similar).

When EPA takes administrative action and issues a TMDL, the Court will apply the review standard contained in the federal Administrative Procedure Act. The reviewing court will set aside agency action if found to be "arbitrary, capricious, an abuse of discretion or otherwise not in accordance with law" 5 U.S.C. §706(2)(A).

The Courts have defined "arbitrary and capricious" to mean that the agency: (1) relied on factors which Congress has not intended it to consider; (2) entirely failed to consider an important aspect of the problem; (3) offered an explanation for its decision that runs counter to the evidence before the agency; (4) or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise. Dioxin/Organochlorine Center v. Clarke, 57 F.3rd 1517 (9th Cir. 1995) (upholding the TMDL for dioxin in the Columbia River and granting EPA considerable discretion against challenges from both industry and environmental groups).

In addition to the Administrative Procedure Act, Section 303 itself must also be met. Section 303(d)(1)(C) directs EPA to establish loads with "… a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality". This margin of safety can be used to justify sparse data or even questionable assumptions.

Further, when it comes to the specifics of data, science and modeling the case law requires great deference to EPA. When it comes to data, the amount and how its gathered, Courts provide EPA considerable discretion. "EPA typically has wide latitude in determining the extent of data gathering necessary to solve a problem. We generally defer to an agency's decision to proceed on the basis of imperfect scientific information rather than to invest the resources to conduct the perfect study". Sierra Club v. U.S. EPA, 167 F.3rd 658, 662 (D.C.Cir. 1999).

Regarding modeling, the Courts have stated that the agency's choice of a model will be rejected as arbitrary only if it "bears no rational relationship to the reality it purports to represent". Sierra Club; American Iron and Steel Institute v. U. S. EPA, 115 F.3rd 979, 1005 (D.C. Cir. 1997) (Court upholds EPA's methodology for determining the mercury bioaccumulation factor in the Final Water Quality Guidance Document for the Great Lakes since the method was not proven to be "irrational").

The Courts also grant EPA considerable latitude in how they make scientific determinations and apply statistical measures. "When reviewing an agency's scientific determinations in an area within the agency's technical expertise a reviewing Court must be at its most deferential" Chemical Manufacturer's Association v. U.S. EPA., 870 F.2d 177 (5th Cir. 1989); See also American Steel Institute, infra. "The choice of statistical methods is committed to the sound discretion of the Administrator" Chemical Manufacturer's Association, 870 F.2d at 227

(upholding EPA's use of weighted averaging in determining the long term averages for OCPSF compounds).

With all these general principles of law so weighted in favor of agency discretion, it would appear that setting aside a TMDL would be impossible. But that simply is not the case.

In Sierra Club, the Court, applying all the traditional principles of agency deference stated above, remanded EPA's maximum achievable control technology (MACT) floor determination under the Clean Air Act since even under the most deferential standard EPA failed to justify its data gathering methodology. Sierra Club, 167 F.3rd at 663-4.

While an agency may use a predictive model it must explain the assumptions and methodology it used in preparing the model. If the model is challenged, the Agency must provide a full analytic defense. Eagle- Picher Industries v. U. S. EPA, 759 F.2d 905, 921 (D.C. Cir. 1985).

In American Trucking Association v. U.S. EPA, 175 F.3rd 1027 (D.C. Cir. 1999), the Court carefully scrutinized EPA's new National Ambient Air Quality Standards for ozone and particulate matter and soundly rejected them. The Court held, inter alia, that EPA simply failed to explain why it selected .08 ppm as the new ozone standard. The Court even went so far as to state that EPA failed to articulate any "intelligible principles" for selecting the standard and that EPA's interpretation of the Clean Air Act was so broad that it violated the nondelegation doctrine.

In Chlorine Chemistry Council, et al. v. EPA, 206 F.3rd (D.C. Cir., 2000) EPA was again reminded of the importance in following the best available science. In this case, the plaintiffs sought to vacate the maximum contaminant level goal (MCLG) of zero for chloroform promulgated pursuant to the Safe Drinking Water Act (SDWA). The plaintiff argued that chloroform was a threshold carcinogen-- meaning that there was a level above zero at which no carcinogenic effects would occur. Despite EPA's own Science Advisory Board agreeing with plaintiffs, EPA nevertheless promulgated a zero MCLG for chloroform. The Court vacated the zero MCLG reminding EPA that the SDWA itself required the use of the best available scientific evidence.

While the legal standards are tough to meet, strong scientific arguments and equally strong advocacy can successfully challenge a flawed TMDL.

Finally, it is appropriate to revisit a concept discussed in Section I A(3)(iii). The section describes how discretionary implementation of narrative water quality standards constituted an illegal rulemaking. In the world of TMDLs, a tremendous amount of decision making and compliance determinations are based on EPA guidance. Nothing is wrong with guidance, per

se, but when guidance starts to broaden regulation or be treated by EPA as if it was a regulation, then the legal boundaries of guidance have been exceeded.

This concept was wonderfully articulated in a recent case entitled Appalachian Power Company, et al. v. EPA, U.S.C.A., D.C. Cir., Case No. 98-1512, (decided April 14, 2000), 2000 U.S. App LEXIS 6826. In this case, EPA issued a Periodic Monitoring Guidance affecting a specific regulatory provision under the Clean Air Act. The Court vacated the Guidance in its entirety finding it an illegal rulemaking and in doing so used analysis that is equally applicable to the regulation of wastewater discharges in a TMDL context.

The Court first discussed how prevalent guidance documents have become and the advantages gained by agencies in using them. (They are relatively quick, inexpensive and free from any statutorily prescribed procedures). Next, the Court discussed when a guidance document crosses the line and becomes a regulation. (For example, when an agency treats it as controlling, bases enforcement and/or permitting decisions on it, etc.)

Therefore, when contemplating a challenge to a TMDL, not only should one evaluate the data and underlying scientific assumptions but also carefully understand why the agency is taking the position. Is it based on some guidance that it is treating as binding? Does this guidance expand or modify existing regulation? If so, an illegal rulemaking challenge should be considered.

9B. What are Whole Effluent Toxicity (WET) TMDLs? Are they valid? What arguments can I make against them?

The short, and only slightly facetious, answers to these questions are: (1) they are like TMDLs – only much worse; (2) are they valid? – as far as anyone can tell – NO; (3) you can make a lot of arguments against them.

In order to understand the problems with WET TMDLs, an understanding of the problems inherent in WET testing.

In addition to the chemical specific control of pollutants discharged to a receiving water, EPA and the states utilize whole effluent toxicity (WET) testing to protect aquatic organisms against lethal and sublethal (impaired growth and/or reproduction) effects. WET testing measures the aggregate toxicity of pollutants in the water body to the specific test species utilized. The major advantage of WET testing is that it is capable of considering the interactions of all pollutants, even for those pollutants not commonly analyzed for or for which toxicological information may not be available. In addition, because of the enormous complexity, time and cost it takes to set water quality based permit limitations pollutant by pollutant, EPA and the states have begun to utilize WET testing more frequently.

On October 26, 1995, EPA promulgated a final rule under the CWA that added whole effluent toxicity testing methods to the list of nationally applicable methods in 40 C.F.R. Part 136 (60 Fed. Reg. 53, 529). Immediately thereafter, Edison Electric Institute and the Western Coalition of Arid States (WESTCAS) filed petitions for review of the final rule alleging numerous scientific flaws with the testing methodology. Edison Electric Institute et. al. v. U.S. EPA, U.S. Ct. of Appeals, D.C. Circuit, Case No. 96-1062 (commonly referred to as the "WESTCAS" case).

The WESTCAS case pointed out such serious flaws in the WET testing procedures that the entire WET testing program was called into question. For example, EPA failed to determine the variability inherent in WET testing and failed to establish acceptable levels of toxicity test variability. Simply put, the tests are unable to reliably distinguish inherent variability (due to the genetic differences in the organisms tested, lab procedures, etc.) from the variability that leads to conclusions that toxicity is present in an effluent.

Similarly, EPA failed to adequately address the accuracy of WET test results. (Accuracy is how close the test results are to the true level of toxicity). For chemical-specific test methods, accuracy is determined by measuring a known concentration of a particular substance (known as the reference standard) and seeing how close the test method comes to that concentration. Unfortunately, there is no true level of toxicity for a particular effluent. It simply is not known in advance. Therefore, when one laboratory finds toxicity and another does not which is the more accurate?

Also, EPA failed to consider the false positive rate – the frequency with which WET testing will show toxicity when none exists. The now famous Moore study asked sixteen labs to analyze 26 samples for chronic toxicity. Unbeknownst to the labs they were analyzing methods blanks – simple, pure non-toxic dilution water. The laboratories reported that almost 40% of these dilution water samples were toxic—a 40% false positive rate. (See Developing a Method Detection Limit for Whole Effluent Toxicity Testing, by Tim Moore, et al, Risk Sciences, 1998).

The litigation was settled on July 24, 1998. Pursuant to that settlement EPA was to engage in extensive further study and analysis to address these issues. In November 1999, the plaintiffs threatened to reopen the litigation based on the belief that EPA was not fulfilling its obligations under the Consent Order.

The important point here is that WET testing methods have some very serious flaws that have not yet been resolved. Worse, however, is the idea that flawed WET testing procedure results can then be combined into a TMDL.

Historically, toxicity testing has been used only on individual discharges. However, a few states have tried to develop TMDLs for WET. Thus, toxicity is treated like any other pollutant – a water quality standard for toxicity is established, all the toxicity going into the river is added

up, an impairment determination is made and wasteload allocations are then issued if impairment is found.

However, toxicity is not like other mass based pollutants such as copper or chlorine. Toxicity simply can not be added up because there is no one such thing as "toxicity". Different pollutants cause different effects on different organisms through different mechanisms – thus the nature of toxicity itself is both unique and different.

In order for a WET TMDL to be issued, the state would need to assume the additivity of toxicity of multiple discharges (both point and nonpoint). Such an assumption is arbitrary and capricious. (Ask the state to produce any published peer reviewed scientific literature supporting the additivity of toxicity. Hopefully, just that request alone will be sufficient to stop the idea of WET TMDLs).

If more persuasion is needed, simply refer the state to the *Water Quality Guidance for the Great Lakes System: Supplementary Information Document* (1995) in which EPA admits that TMDLs are not applicable to WET. (Note that in 1978 EPA determined that all pollutants, under the proper technical conditions, are suitable for TMDL calculations. 43 Fed. Reg. 60665 (December 28, 1978). It is doubtful, however, that WET testing and the "toxicity" parameter were even being considered back in 1978. Even if they were, the proper technical conditions simply do not exist.)

10. Evaluating the TMDL Apportioning and Load Reduction Processes

HOW DOES THE TMDL PROCESS APPORTION THE REQUIRED LOADING REDUCTION?

Here again, there are no federal statutory or regulatory criteria on how loading reductions shall be apportioned between various point and nonpoint sources. The TSD includes a long listing of various apportionment schemes but it is ultimately up to each state to decide how apportionment will take place. The areas that should be carefully examined are as follows:

A. Is the state allocating the assimilative capacity of the water body pursuant to a properly enacted regulation? If not, this could be deemed an illegal rulemaking. Policy and common sense would dictate that properly enacted regulations are critical in this area. The state is dispensing an extremely valuable and rare commodity - the assimilative capacity of a river. This is every bit as precious as distributing, for example, grant dollars. Yet, no state would consider even for one second distributing grant funds without carefully crafted regulations regarding eligibility, implementation, etc. Therefore, apportionment should always take place in accordance with properly enacted regulations in which the public had an opportunity to comment.

B. Do the state's Continuing Planning Process (CPP) documents discuss apportionment? Is the state following their guidelines set forth in the CPP? Is the state following any written guidelines regarding apportionment? How were these guidelines developed? Consider an arbitrary and capricious argument.

C. What assumptions are being made about nonpoint source loadings? What assumptions are being made about the effectiveness of nonpoint source BMP reductions? (Thereby defining the total point source loading reduction required). What scientific basis, if any, exists for these assumptions?

D. What is being used for the reserve factors (growth, margin of safety)? How is the reserve for margin of safety being calculated? Is it based on a statistical analysis of the error potential of the data or is the number simply being set arbitrarily?

E. Can the Continuing Planning Process be influenced to assure real nonpoint source control? 40 CFR §130.6(c)(4)(ii) states that regulatory programs should be identified by the State where non-regulatory approaches are inappropriate to attain the designated use. The Environmental Law Institute has produced a publication which identifies the nonpoint source controls available in each state and is available on EPA's TMDL web site.

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10A. How will apportionment deal with the upstream loadings problem?

Many people currently think of a TMDL as a pie that is then divided into slices. The pie consists of the entire allowable mass loadings to the TMDL segment while the slices represent the respective shares of the mass loadings assigned to various interests – such as point sources, nonpoint sources, reservation for growth, margin of error and natural background sources. What happens, however, when loadings originating from upstream of the TMDL segment eat up a significant portion of that pie? For example, the WQS is 30 ppb copper and the upstream boundary condition already contains 15 ppb. The dischargers in the TMDL segment now have had their available pie cut in half before even beginning the allocation process within the TMDL segment. Is this fair? Is this lawful? What can the dischargers in the TMDL segment do to protect their interests?

It clearly is not fair. Whether its lawful to treat the upstream boundary condition as, in effect, background, thereby effectively reducing allowable loadings in the TMDL segment is less clear. Unfortunately, there appears to be precious little law or useful guidance or how to deal with this issue.

EPA merely says that coordination is important. True, but as a practical matter this type of coordination, especially intergovernmental or interstate coordination, may simply not exist. What does the discharger do then?

At the very minimum, it can be argued that the state has acted arbitrarily and capriciously by so narrowly defining the segment.

Further, a discharger in the impacted segment could always seek to intervene in the permit proceedings for upstream dischargers and argue for more stringent limits since these discharges are contributing to downstream impairment. See e.g., 40 CFR §122.4, Prohibitions on the issuance of NPDES permits, which states in pertinent part:

> **"No permit may be issued:**
>
> **(a) When the conditions of the Permit do not provide for compliance with the applicable requirements of the CWA…**
>
> **(f) When the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected states…."**

However, this would be so enormously difficult, time consuming, and politically problematic (suing upstream neighbors) that its practical application would be very limited.

So what is the answer? At this point in the infancy stages of TMDLs, AMSA is not sure anyone knows. Stay tuned for the next Update.

10B. How do you protect yourself during the interim permitting process?

Many years, or decades for that matter, can pass between the time that a waterbody is listed under §303(d) and the time that a TMDL is completed, WQBELs are issued and the TMDL is actually implemented. A discharger's permit, however, comes up every five years like clockwork and therein lies the interim permitting problem.

Recently, a POTW was confronted with the following situation. It was discharging to a §303(d) listed water body and the TMDL had not yet been done. The state argued that since the water body was already impaired, no additional dilutional loadings were available and hence eliminated the POTW's mixing zone. Thus, the POTW had to meet water quality standards at the end of its pipe. The state then took the position that they had no choice and were required to eliminate the mixing zone since the water body was already impaired. Is this true?

Absolutely not. Nothing in the CWA compels a state to eliminate mixing zones while a TMDL is pending. The more difficult question is whether a state has the discretion to require end-of-pipe compliance while a TMDL is pending. Unfortunately, this is another one of those incredibly important but incredibly gray areas in the TMDL program.

Two arguments should be made against the removal of mixing zones in interim NPDES permits. The first is legal, the other operational.

Once a water body is listed as impaired, the state has an obligation to perform a TMDL. It is the TMDL that will determine the proportional reduction in loadings across all affected dischargers. Dischargers, therefore, have a right to proportionate reduction as established under the state's allocation regulations. Eliminating a mixing zone solely because the state has yet to fulfill its TMDL obligation violates the CWA and is inherently arbitrary and capricious. Such an action essentially penalizes a discharger for the actions of other dischargers over which it has no control.

Next, such an interim permitting decision can wreak havoc with a POTW's operations and capital budgeting. The design and operation of systems to meet water quality standards at the end of the pipe could be much different from the design and operation of a system to meet the ultimate permit limit established through the TMDL process. Therefore, millions could be spent on activities to meet WQS at the end of the pipe when such a drastic reduction in loadings may not be necessary to achieve WQS once the TMDL is completed. From an operational and financial perspective eliminating mixing zones as an interim permitting measure is simply irrational.

While EPA headquarters has not addressed the critical interim permitting issue, EPA Region 9 has just authored draft guidance on this issue. *EPA Region 9 Draft Guidance For Permitting Discharges into Impaired Waterbodies in Absence of a TMDL* (see attached guidance document), dated April 20, 2000. As this is the first formal guidance on this matter, it will certainly be considered by other regions as they develop their policies. The Draft Policy imposes some extremely tough interim permitting requirements.

First, the Draft Policy recognizes that states may use compliance schedules in discharger permits to allow dischargers some additional time to achieve their "final" WQBEL. (It is questionable whether compliance schedules are also available for what Region 9 terms "interim" permit conditions). However, such compliance schedule flexibility must be clearly spelled out and lawfully enacted as part of the state's water quality standards regulations. The permit compliance schedule may not exceed the maximum time allowed for under state regulation.

At the end of the compliance schedule, however, a "final" WQBEL must be achieved. The "final" limit will either be the permit limit derived from a completed TMDL/WLA analysis or, if such analysis is not complete, the "final" WQBEL would be as follows:

(1) for the discharge of nonbioaccumulative or nonpersistent pollutants the discharger must meet the WQC at the end of the pipe. Simply translated, mixing zones are now eliminated.

(2) for the discharge of bioaccumulative or persistent pollutants the limit becomes "no net loading". No net loading is achieved by reducing the effluent concentration below detectable levels or by seeking to offset your discharge through an approved offset program. Simply translated, a zero discharge is applied.

During the "interim" period – the period of time until the TMDL/WLA is complete or the compliance schedule terminates and the default "final" limits are imposed – dischargers' permits would require them to:

(1) implement aggressive source control/pollution minimization; and
(2) perform engineering studies to evaluate additional treatment options; and
(3) identify other sources of the pollutants in the watershed and evaluate the costs and potential offset reductions that can be obtained from these sources.

During this interim period, if pollutant concentrations are causing the impairment, no increase in concentrations would be allowed. If pollutant mass is the issue (bioaccumulative and

persistent pollutants) no increase in mass would be allowed without first going through an antidegradation analysis.

11. Obtaining Variances and Extensions

CAN A VARIANCE OR EXTENSION TO THE POTW'S WQBEL BE OBTAINED?

A. States may, at their discretion, include variances in their WQS. (Some states do not). These variances would be subject to EPA review and approval. 40 CFR §131.13.

B. EPA's guidance on variance approval is extremely strict. Variances will be granted only where a designated use removal criterion (§131.10(g)) has been proven, the effluent limit is established as close to the WQBEL as possible and where the variance lasts only three years. (See EPA's Advanced Notice of Proposed Rulemaking (ANPRM), 63 FR 36741, 36758 for a good discussion of variance approval criteria).

C. Some states have implemented variances for water bodies that are sometimes referred to as "temporary standards." These temporary standards are used where problems in a water body are significant and widespread, involving point and nonpoint sources. States maintain the use and existing criteria for other pollutants, while recognizing that ambient concentrations for certain pollutants cannot be correctable in the short term. In such cases, the temporary standards provide a basis for permit limits in the short term. EPA has approved such "temporary standards" but has again required the use removal criteria to be satisfied. See ANPRM, 63 FR 36760.

Ohio has adopted a statewide mercury variance [OAC 3745-33-07D(10)] that will become effective when the Method Detection Level for mercury drops below current levels in the approved methods. This variance recognizes that for all dischargers the cost of end of pipe removal of mercury is extremely expensive and not cost-effective. By projecting that the effluent levels of mercury will be below a certain level during the permit term and with the discharger's commitment to explore and implement mercury pollution prevention, the discharger may qualify for a variance without making some of the feasibility demonstrations required to qualify for an individual variance. This structure could be useful for other ubiquitous pollutants.

D. States have the authority to include compliance schedules within their WQS regulations. 40 CFR §130.5(b)(1) and (6) permit such compliance schedules and require the states to describe in their CPP documents how these schedules will be used by the state. Compliance schedules could provide the additional time needed to come into compliance with a WQBEL.

12. Effluent Trading and TMDLs

CAN THE CONCEPT OF EFFLUENT POLLUTANT TRADING BE USED TO ENSURE THAT TMDLs AND THE POTW'S WQBEL ARE BEING IMPLEMENTED IN AN ECONOMICALLY SENSIBLE AND EFFICIENT MANNER?

Yes, in theory. The only way to really guarantee that TMDLs will be implemented in an economically sensible manner is to adopt the concept of pollutant trading between all sources (point and nonpoint) within the WQLS. EPA has come out with a Draft Framework for Watershed-Based Training, May 1996, but has not moved beyond the draft stage. Therefore, while everyone agrees that the goal of pollutant trading makes sense -- no one has yet created the road map for how we get there. (It should be noted that not all pollutants are easily amenable to a trading concept - e.g. toxics that must be attained at the end of a mixing zone).

Therefore, assuming EPA takes no further action, consider whether your state could be influenced to move ahead of the curve and adopt such an approach. If feasible, do a cost/benefit analysis between the State's apportionment approach and an approach that utilizes pollutant trading.

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EPA has just made available two documents discussing case studies in effluent trading. They are entitled *A Summary of US Effluent Trading and Offset Projects* and *Results of Water Based Trading Simulations*. They are available on line at www.epa.gov/owow/watershed.

13. Choosing to Appeal a TMDL

WHEN SHOULD POTWs APPEAL?

When a TMDL is developed, the time for appeal at both the state and federal level should be determined. In some states, it may be challenged on its own or it may require the imposition of permit limits to be considered ripe. In the latter case the TMDL would be appealed in conjunction with the appeal of permit limits.

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One would think that at least the issue of when to appeal would be clear. However, this issue, like most under the TMDL program, is not as straightforward as one would think.

TMDLs take place over time involving several discrete actions. First, the state lists the waterbody as impaired. Next, EPA reviews and approves or rejects the list. Third, a TMDL is then developed with WLAs for point source dischargers. Fourth, these WLAs are ultimately translated into NPDES permit limits and placed into the permit. Each one of these activities represents agency action which, depending on state law, may need to be appealed or the discharger's right to challenge the action is waived.

For example, a state lists a waterbody under §303(d). A discharger should decide not to take any action and wait for a more concrete action affecting its rights – such as the assignment of a WLA. By waiting, have any rights to argue the issue of improper listing been waived or is the issue simply a part of the challenge to the WLA?

On the one hand, the placing of a waterbody on a §303(d) list does not, in and of itself, constitute administrative action against permit interests. At this point, the discharger may or may not be issued a TMDL-driven permit limit. It will all depend on the state's reasonable potential analysis conducted as part of the WLA/TMDL process. Further, even if reasonable potential exists, the ultimate WQBEL may be one the discharger would be willing to accept. Thus, at the listing stage, the issues of ripeness, and even standing, could be asserted by the state to dismiss a discharger's claim. Also, some states have the provision that only "final orders" are appealable to the state environmental appeals board.

On the other hand, dischargers must understand the specific state laws under which the state takes the §303(d) listing action. Does the state law have preclusion language forbidding challenges to such actions after a certain period of time?

It is, therefore, absolutely critical that the discharger understand its state's administrative process – both in a general sense and how specifically that process relates to TMDLs.