Considerations for Revising and Withdrawing TMDLs

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1 Purpose

This memorandum (1) identifies a variety of situations in which it might be appropriate for the State (or EPA) to revise established and approved TMDLs, as well as situations where revising the TMDL might not be as useful or pertinent; (2) identifies situations in which the state should submit such revisions for EPA review and approval , as well as types of TMDL changes that do not need to be submitted to EPA for approval; (3) discusses circumstances and procedures appropriate to a TMDL's withdrawal; and (4) discusses how changes in nutrient and pathogen water quality criteria may impact existing TMDLs. This memorandum also recommends that States develop new TMDLs in a way that minimizes the need for future changes requiring EPA review and approval by including language making them more adaptable to changing watershed conditions. The intent of this memo is not necessarily to encourage states to revise TMDLs; but rather, where a state has determined that circumstances have changed since a TMDL was approved, to outline important considerations for whether or not such a TMDL should be revised and re-submitted to EPA.

Note that this memorandum is not a regulation and does not impose legally binding requirements on EPA or the States. As appropriate under the circumstances, the States, Tribes, and EPA have the discretion to develop TMDLs in a manner and form that might differ from the recommendations contained herein.

2 Background

Current Total Maximum Daily Load (TMDL) regulations and guidance do not specifically address the appropriate circumstances or procedures for revising or withdrawing TMDLs established or approved by EPA. However, the need to revise or withdraw TMDLs is increasing as States make progress in implementing over 46,000 existing TMDLs. Additionally, adoption of numeric nutrient criteria and new pathogen criteria may impact existing TMDLs. In general, developing new TMDLs and implementing existing TMDLs may lead to greater water quality benefits than revising old TMDLs. However, in certain circumstances TMDL revision might facilitate watershed planning and adaptive implementation of TMDLs. This memo is intended to provide important considerations to states as they balance the need for, and resources involved in, revising existing TMDLs with the need to implement existing TMDLs and develop new TMDLs.

3 Statutory and Regulatory Provisions

EPA's regulations addressing the identification of impaired waters and establishment of TMDLs can be found at 40 CFR § 130.2 and § 130.7. These regulations implement section 303(d) of the Clean Water Act.

4 Definitions

Total Maximum Daily Load (TMDL): "The sum of the individual WLAs [waste load allocations] for point sources and LAs [load allocations] for nonpoint sources and natural background." 40 CFR § 130.2(i). A TMDL calculation also includes a margin of safety (MOS) and accounts for seasonal variations. 40 CFR § 130.7(c)(1).

The term "TMDL" also can refer broadly to the "TMDL document" submitted by the State for EPA's approval. This document includes written information explaining and supporting the loading capacity calculation (LC), WLA, and LA. For purposes of this memo, when we refer to the TMDL, we generally mean the TMDL document.

Loading capacity (LC): "The greatest amount of loading that a water body can receive without violating water quality standards." 40 CFR § 130.2(f). For purposes of this memo, the LC represents the quantitative calculation equal to the sum of the WLA, the LA, and the MOS.

Wasteload Allocation (WLA): "The portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution." 40 CFR § 130.2(h). WLAs are generally assigned to NPDES-regulated point source discharges.

Load Allocation (LA): "The portion of a receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources." 40 CFR § 130.2(g). LAs are "best estimates of the loading, which may range from reasonably accurate estimates to gross allotments." 40 CFR § 130.2(g). Where possible, natural background and nonpoint source loads should be distinguished. 40 CFR § 130.2(g). The LA is attributed to sources that are not subject to the NPDES regulation.

Water Quality Trading: Water quality trading is a voluntary, market-based approach under which a facility with a higher pollutant control cost can buy a pollutant reduction credit from a facility with a lower control cost thus reducing its cost of compliance.

Water Quality Trading Credit: A credit is a unit of pollutant reduction usually measured in pounds equivalent. Credits can be generated by a point source over-controlling its discharge or by a nonpoint source installing best management practices (BMPs) to achieve loading reductions beyond its baseline.

TMDL Revision (revision): For purposes of this document, the term "TMDL revision" includes TMDL changes that are subject to EPA review and approval, generally following the same procedures for establishment of a new TMDL. These include, but are not limited to changes to the TMDL's loading capacity or method for calculating the loading capacity, key assumptions, shifts in pollutant loading **between** the WLA and LA, and changes in the margin of safety.

5 *Setting the Stage within a New TMDL to Minimize Need for Future Revisions*

Because revising TMDLs involves time, resources, and State and Federal administrative action, EPA recommends that States develop new TMDLs in a way that minimizes the need for future revisions requiring EPA approval. This can be done in a number of ways. For example, States can allocate part of the assimilative capacity to future sources to ensure there is capacity under the TMDL's loading cap for new and increasing sources, as well as facilities subject to general permits, such as construction sites.

Alternatively, a State may build into a TMDL the ability to make future modifications within the TMDL's LA(s) or WLA(s) without subsequent EPA approval of those modifications by including in the TMDL document specific language (itself subject to public comment and EPA review and

approval) stating that, where review of new information indicates that modifications within the TMDL's WLA(s) or LA(s) are appropriate and such modifications would not increase the TMDL's overall loading capacity, the State may make such adjustments upon notification to EPA and the public. In this situation, EPA recommends that the TMDL be as specific as possible in identifying the circumstances under which the State anticipates adjustments might take place and the criteria and process the State intends to apply and follow (e.g., documentation, process for notifying EPA). Another approach might be for the original TMDL document to include a specific set of alternative future WLAs or LAs that would be approved in advance by EPA. It will also be helpful if the TMDL explicitly identifies the WLA "assumptions and requirements" that a permit writer would consider (per 122.44(d)(1)(vii)(B) in developing WQBELs based on the TMDLs. Here is an example of language a state might consider including in a TMDL:[1]

> "In the future, the State may make changes to the load and/or wasteload allocations in this TMDL when new information becomes available or circumstances arise during the implementation of the TMDL that suggests such modifications are appropriate. The state will notify EPA and the public regarding any shifts in loading it makes *within* the sum of the load allocations or *within* the sum of the waste load allocations. Any changes or re-allocation *between* the WLA and LA or changes in the TMDL's loading capacity will be submitted to EPA for review and approval as a revised TMDL according to the same procedures as for a new TMDL. New information generated during TMDL implementation may include: monitoring data, BMP effectiveness information and land use information. The State will provide an opportunity for public comment on any shifts in loading between WLAs and LAs. For shifts in loading within the sum of the WLAs, the state will provide public notice as part of the NPDES permitting process. The state will make such shifts only in the event that the shifts will not result in a change to the sum of the WLAs, the sum of the LAs, or the total loading capacity. In addition, any adjusted WLAs or LAs will be set at a level necessary to implement the applicable water quality standards. Reasonable assurance will be provided where appropriate. The Agency will notify EPA of any anticipated changes to this TMDL 30 days prior to proposing those changes."

If post-TMDL trading is anticipated, States should consider including specific trading authorization provisions in the TMDL (WQT Policy, p. 5). At a minimum, the state should consider including language explaining that an assumption of the individual WLA is that it may be implemented in an NPDES permit through the acquisition of appropriate water quality trading credits. EPA recommends that a State identify the process and criteria it will use to revise TMDLs in either its Continuing Planning Process (CPP), a Memorandum of Agreement (MOA) with EPA, or, in some circumstances, a Water Quality Trading Agreement with EPA.

Section 7 of this document describes in a general way situations that might constitute a TMDL "revision" that should be submitted to EPA for review and approval. Section 8 generally describes situations where the TMDL is not being "revised" but where EPA should be notified of any adjustments made. There may, of course, be case- or state-specific situations and exceptions that are

[1] States should contact their EPA Regional TMDL offices to discuss the appropriate language to include in the TMDL document.

not addressed in this document. EPA recommends that states consult with their EPA Regional TMDL office regarding specific circumstances that arise and determine in consultation with EPA whether or not a specific circumstance constitutes a TMDL "revision" needing EPA review and approval. States should also work with EPA to develop state-specific procedures for notifying EPA and submitting TMDL revisions to EPA as appropriate.

6 *Situations Where it May be Appropriate to Revise an Approved TMDL*

Changes in water quality standards

Following TMDL establishment, the situation may arise where a State may choose to adopt (and EPA may approve) either more or less stringent water quality standards. For example, if a State TMDL has calculated a loading capacity for a stream based on a dissolved oxygen (DO) standard of 5 mg/l and the newly adopted and approved standard is a less stringent level of 4 mg/l, the State may wish to recalculate the TMDL's loading capacity, as well as its WLAs and LAs. A similar situation could occur if States adopt and EPA approves site-specific criteria that are different from the water quality criteria endpoints used in the TMDL.

In the event that changes in the water quality standard are pending during development of a TMDL, EPA suggests that the state develop the TMDL (along with allocations) to meet both the existing and expected new water quality standard. When the new water quality standard is adopted by the state and approved by EPA, the TMDL reflecting that new water quality standard, with appropriate WLAs and LAs , would already be approved by EPA, and a TMDL revision would not be necessary.

Changes to basis for deriving the TMDL's loading capacity

States may wish to revise a TMDL when the modeling assumptions, data, or other information originally used to derive the water body's loading capacity have significantly changed since the original TMDL was approved.

Re-allocation between the LAs and WLAs

States may wish to change a TMDL's allocation scheme if the pollutant discharge ratio between the point and nonpoint sources of pollutants has shifted with a corresponding change in the relative volume of pollutants being discharged from the various sources. For example, changes to a TMDL's LA may be desired if nonpoint source contributions increase due to new nonpoint sources operating in the area. Examples may include an increase in the number of farming operations or an expansion of existing operations in a watershed, thereby increasing nutrient discharges to a waterbody. States may also wish to revise load allocations in response to a significant increase or decrease in upstream pollutant contributions. This might result from increased sediment loads due to urban development upstream of the original TMDL area.

Similarly, States may desire to increase WLAs and decrease LAs to accommodate a new NPDES source of the pollutant. For example, increased urbanization of a watershed may lead to a new NPDES discharger (e.g., a municipal wastewater treatment facility) seeking a permit to discharge a pollutant addressed in the original TMDL, but for which the TMDL did not reserve any loading capacity for future growth. In that case, states may wish to increase the WLA to accommodate that new discharger.

Note that it is not necessary to revise a TMDL where a source with a LA (e.g., nonregulated stormwater) is re-categorized as a regulated point source and given a WLA of the same magnitude, character, and location after the TMDL was approved. This could be a source that had originally been considered part of the load allocation but is now considered a point source subject to an NPDES permit due to individual designation or some regulatory change. This situation is described in further detail below.

The TMDL is not resulting in attainment of water quality standards

In keeping with the principles of adaptive implementation, as outlined in EPA's memo "Clarification Regarding 'Phased' Total Maximum Daily Loads" (August 2, 2006), States may conduct water quality monitoring to assess implementation effectiveness. States may wish to change the TMDL or its allocations if follow-up monitoring reveals that implementation is not achieving the reductions anticipated in the TMDL. For example, many TMDLs include wasteload allocations for point sources predicated on anticipated nonpoint source loading reductions. If a State subsequently monitors the effectiveness of controls being implemented for nonpoint sources and finds the implemented controls are not adequate to attain the assigned LA(s), then the State may decide to increase the LA(s) and decrease the waste load allocations to the point sources identified in the TMDL.

7 *Changes Which Should be Submitted to EPA For Review and Approval (TMDL "Revision")*

For the many existing TMDLs where provisions for future changes have not been built into the TMDL itself, or the State's CPP, or an MOA between the State and EPA, EPA makes the following recommendations:

Except for situations described elsewhere in this document, EPA believes that the following situations represent a TMDL "revision," generally subject to EPA review and approval, similar to the establishment of a new TMDL:

- Changes in a TMDL's loading capacity or the method for calculating the loading capacity;

- Re-allocation between the WLAs and LAs[2];
- Changes in the MOS, or changes in the assumptions associated with the MOS;
- Changes in the applicable water quality standard such that the original TMDL is no longer sufficient to meet the new standard (also see sections below on changes in criteria).

As with the development of a new TMDL, EPA recommends that States provide appropriate public notice of the proposed changes, review and address any public comments, and obtain EPA approval of the changes. In addition, where a WLA had been dependent on reductions in nonpoint sources, the State should continue to provide adequate reasonable assurance when shifting loading allocations between the WLA and LA. If the State determines that an increase in the LA beyond the allocation in the original TMDL is needed, then additional reasonable assurance may be needed in the revised TMDL.

Where a TMDL is not resulting in meeting water quality standards, it may be appropriate to revise the allocation balance between WLA or LA, or revise other aspects of the TMDL. Similarly, where there is a change in water quality standards such that the original TMDL endpoint is not sufficient to meet the new water quality standard (e.g., more stringent standard), a revised TMDL may be appropriate. Although a TMDL revision is generally not needed for water quality trading, there may be cases where a trade cannot be accommodated within the original WLA and LA, as described above. In such situations, a revision to the TMDL would provide for a shift between the WLA and LA in order to make trading more feasible.

Consistent with EPA's guidance "Establishing TMDL 'Daily' Loads in Light of the Decision by the U.S. Court of Appeals for the D.C. Circuit in *Friends of the Earth, Inc. v. EPA, et al*., No.05-5015, (April 25, 2006) and Implications for NPDES Permits," EPA recommends that any revised TMDL include a daily expression of the loads.

8 *Changes or Other Actions Which Need Not be Submitted to EPA for Review and Approval (No TMDL Revision); Advanced Notification to EPA Recommended*

In certain situations, it may not be necessary to revise a TMDL and submit it to EPA for review and approval. These include the following situations:

- Issuance of an NPDES permit with WQBEL based on water quality trading (no change in the TMDL's WLAs or LAs);
- Pollutant loadings shifted between the TMDL's WLAs for point sources concurrent with NPDES permitting, where the sum of the WLAs is unchanged;

[2] Note that this does not apply to situations where a source (e.g., stormwater) of the same magnitude, character, and location that was previously part of the load allocation is now considered a regulated point source subject to a wasteload allocation.

- Pollutant loadings shifted between the TMDL's LAs where the sum of the LAs is unchanged;
- A source's allocation is re-categorized from a LA to WLA, e.g., newly designated or permitted stormwater, and its magnitude, character, and location remain unchanged;
- Use of reserve capacity to permit new or increased discharges; and
- Addition of a daily load expression to an existing TMDL's LA or WLA.

EPA recommends that States notify EPA 30 days in advance if one of the situations above is anticipated and discuss the particular circumstances and details with EPA to confirm that a TMDL revision is not necessary. If appropriate, EPA will notify the state if it determines that the proposed shift or adjustment would constitute a TMDL revision, subject to EPA review and approval. In addition, for many of these scenarios, EPA recommends that certain conditions be met as described below, and that documentation be included in the TMDL file.

Water Quality Trading

Water quality trading is a voluntary, market-based option that regulated point sources can use, where appropriate, to meet the water quality-based effluent limits (WQBELs) in their NPDES permits. EPA's 2003 Water Quality Trading Policy (WQT Policy) supports trading for total nitrogen, total phosphorus, and sediment and indicates that other pollutants may be considered for trading on a case-by-case basis. The WQT Policy states, "where a TMDL has been approved or established by EPA, the applicable point source waste load allocation or nonpoint source load allocation would establish the baselines for generating credits." If a state would like to allow for trading after a TMDL is established, EPA recommends that the TMDL include provisions for trading to occur and/or develop a trading framework.[3]

The WLAs and LAs in a TMDL serve as the baselines for generating water quality trading credits. Thus, implementing a water quality trading program on a particular water body after establishing or approving a TMDL **should not involve adjustments to the individual load and individual waste load allocations in the TMDL (i.e., the TMDL is not revised).** Instead, EPA recommends that appropriate trading provisions be incorporated into NPDES permits.

Note, however, that there may be situations where implementation activities eventually reveal that the individual LAs contained in the TMDL are not achievable and, therefore, credits would not be available for point-nonpoint source trading. In such a situation, the State may decide to re-allocate between the WLA and LA in the TMDL via a TMDL "revision" to make trading feasible. If so, the procedures for revising a TMDL should be followed.

[3] When EPA makes a decision with regard to any particular permit, TMDL, water quality standards , or water quality management plan that includes provisions for trading to occur, it will make each decision on a case-by-case basis guided by the applicable requirements of the CWA and implementing regulations and the specific facts and circumstances involved. (Water Quality Trading Policy)

Shifts Between WLAs Concurrent with NPDES Permitting

Where trading is not possible, or where the pollutant is not appropriate for trading, states may make pollutant loading shifts between WLAs concurrent with NPDES permitting, provided that the following conditions are met: the aggregate sum of the affected WLAs is unchanged, there is no change to the total TMDL or loading capacity, there is no localized exceedance of water quality standards and the shifts are public noticed as part of the NPDES permits process.

EPA believes that States have the discretion to make certain shifts or adjustments between WLAs for point sources during the NPDES permitting process[4], provided the loading capacity in the original TMDL does not change and the adjustments are set at a level necessary to implement the applicable water quality standards throughout the segments for which the TMDL was developed. States' discretion to make such adjustments is consistent with previous EPA guidance (see "Guidelines for Reviewing TMDLs Under Existing Regulations issued in 1992"):

> "These individual WLAs may be adjusted during the NPDES permitting process. If the WLAs are adjusted, the individual effluent limits for each permit issued to a discharger on the impaired water must be consistent with the assumptions and requirements of the adjusted WLAs in the TMDL. If the WLAs are not adjusted, effluent limits contained in the permit must be consistent with the individual WLAs specified in the TMDL. If a draft permit provides for a higher load for a discharger than the corresponding individual WLA in the TMDL, the State/Tribe must demonstrate that the total WLA in the TMDL will be achieved through reductions in the remaining individual WLAs and that localized impairments will not result. All permittees should be notified of any deviations from the initial individual WLAs contained in the TMDL. EPA does not require the establishment of a new TMDL to reflect these revised allocations as long as the total WLA, as expressed in the TMDL, remains the same or decreases, and there is no reallocation between the total WLA and the total LA."

While it is not necessary to develop a revised TMDL in order to make WLA adjustments during NPDES permitting, EPA recommends that states follow these procedures:

- The State should notify EPA at least 30 days in advance of any proposed adjustments.
- The State should provide an opportunity for the public to comment on both the NPDES permits and WLA adjustments during the NPDES permitting process. EPA recommends that the State or EPA (as appropriate) provide notice to all stakeholders, as well as affected dischargers, of the adjustments.

[4] Note that there may be other circumstances not addressed here where adjustments during the permitting process may be appropriate.

- The permit's fact sheet should describe how the adjustments are consistent with the assumptions of the wasteload allocations in the TMDL.[5] In addition, the permit's documentation should indicate that any adjustments between point sources will not result in a change to the sum of the WLAs, sum of the LAs, or the loading capacity, and that the adjustments are set at a level necessary to implement the applicable water quality standards for the segments for which the TMDL was developed (i.e., no localized water quality standards exceedances). EPA recommends that each state work with EPA to develop a procedure or documentation for making such a determination.

- The State (or EPA as appropriate) should update the TMDL file to ensure that, as permits are issued, the sum of the WLAs in the TMDL is not exceeded and to reflect such adjustments in ATTAINS.

When a state notifies EPA of an anticipated shift or adjustment between WLAs, the Agency will in turn notify the state if a TMDL revision, along with EPA review and approval, is warranted. In addition, EPA would maintain its existing authority to review permits under Section 402.

Note that this approach may not be appropriate for situations in which a TMDL was developed by EPA and the permits are issued by the state. States and EPA should develop an agreement regarding how such situation will be addressed. In addition, for permits that may not have an existing public comment process for permit revisions (e.g., general permits), states should provide an opportunity for public comment on proposed adjustments between individual sources.

Shifts between LAs

EPA believes that for shifts between individual LAs, where the sum of the LAs is unchanged, a TMDL revision, along with EPA review and approval, is generally not necessary. The state should provide public notice of the proposed shifts and ensure that there is no exceedance of the loading capacity or sum of the LAs. Where the WLA(s) had been dependent on reductions in the LA(s), and in turn, the changes in the LAs affect the reasonable assurance provisions in the TMDL, the adjusted LA(s) should be accompanied by a revised demonstration of reasonable assurance. States should discuss with EPA any potential adjustments between LAs to determine whether this may warrant EPA review and approval (e.g., if there may be localized impacts), as well as whether there is adequate reasonable assurance.

Use of Reserve Capacity

A portion of a TMDL's loading capacity may be set aside as a "reserve" to allow for future increases in pollutant loading. The concept of reserving loading capacity for "future" sources of pollutants is expressly included in the definitions of "wasteload" and "load" allocations [40 CFR § 130.2(g), 40 CFR § 130.2(h)]. Thus, a TMDL may assign a WLA or LA to a particular source that is

[5] EPA recommends that, when developing a TMDL, states ensure that the TMDL explicitly identifies the assumptions and requirements that were considered in the formulation of the WLA in the TMDL. It is EPA's expectation that the permit writer will ensure that permit effluent limits are developed to be consistent with these assumptions and requirements.

larger than its current pollutant contribution to allow room for future loading increases by that source (in other words, using design capacity of a facility in setting its WLA). A TMDL may also set aside a gross, unallocated "reserve" (as part of the overall WLA, the overall LA, or the overall total loading capacity) to account for increased future pollutant contributions from a variety of existing or future sources. In all cases, the sum of the WLAs, LAs, the margin of safety (if an explicit load has been defined), and any reserve capacity must be equal to or less than the loading capacity (TMDL=ΣWLA + ΣLA + MOS + Reserve).[6]

A reserve for future pollutant contributions from point sources may be included in the TMDL as a WLA. EPA regulations require that a TMDL include WLAs, which identify the portion of the loading capacity allocated to the individual existing and future point source(s) [40 CFR §130.2(h), 40 CFR §130.2(i)]. Reserve capacity may be incorporated into the individual WLA of each individual point source. One method is to allocate a WLA at design flow of a facility when the facility is currently permitted under capacity.

If a TMDL includes a reserve capacity for future growth, then a State does not need to revise the TMDL to use the reserve capacity. States should notify EPA in advance when anticipating that the reserve will be used, States should also update the TMDL file to reflect use of the reserve capacity and ensure that the reserve capacity is not exceeded. EPA recommends that, when developing new TMDLs, states describe how they expect to allocate the reserve capacity.

Stormwater Re-categorization from LA to WLA[7]

Many approved TMDLs contain load allocations for stormwater sources that were not currently subject to NPDES regulations when the State or EPA developed the TMDL. However, some of these sources may have become subject to NPDES permitting. On November 22, 2002, EPA issued a memorandum discussing the establishment of water quality-based effluent limits and conditions in NPDES permits for stormwater discharges. As stated in the 2002 memorandum, where a State or EPA has established a TMDL, NPDES permits must contain effluent limits and conditions consistent with the assumptions and requirements of the WLAs in the TMDL See 40 CFR 122.44(d)(1)(vii)(B).

In general, recharacterization of a load allocation as a wasteload allocation for stormwater will not automatically require revision and resubmittal of the TMDL to EPA for approval if the overall TMDL loading cap is unchanged.[8] However, if the TMDL's allocation for the newly permitted source had been included in a single aggregated or gross load allocation for all unregulated stormwater

[6] Use of a reserve capacity may be particularly relevant to a TMDL, where there are unknown sources of the pollutant of concern (e.g., PCBs) at the time of TMDL development. .

[7] There may be similar situations where a source previously part of the load allocation is now subject to NPDES permitting and thus part of the WLA, and the magnitude of the source is the same or less. EPA recommends that states consult with EPA regarding such situations and whether a TMDL revision is necessary.

[8] EPA notes that this is an exception to the recommendation described elsewhere that shifts between the WLA and LA would generally be considered a TMDL revision and subject to EPA review and approval. However, EPA notes that in this situation, the change is a shift from an unregulated to a regulated source category and thus provides for potentially greater environmental protection.

sources, it may be appropriate for the NPDES permitting authority to determine a wasteload allocation and corresponding effluent limitation specific to the newly permitted stormwater source. Any additional analysis used to refine the allocation should be included in the administrative record for the permit. In such cases, the record should describe the basis for (1) re-characterizing the load allocation as a wasteload allocation for this source and (2) determining that the permit's effluent limitations are consistent with the assumptions and requirements of this re-characterized wasteload allocation. It is assumed that the additional analysis or re-characterization of the load allocation as a wasteload allocation does not change the TMDL's overall loading cap. Any change in the TMDL loading cap would have to be resubmitted for EPA approval.

In addition, in situations where a stormwater source addressed in a TMDL's load allocation is not currently regulated by an NPDES permit but may be required to obtain an NPDES permit in the future, the TMDL writer should consider including language in the TMDL explaining that the allocation for the stormwater source is expressed in the TMDL as a "load allocation" contingent on the source remaining unpermitted, but that the "load allocation" would later be deemed a "waste load allocation" if the stormwater discharge from the source were required to obtain NPDES permit coverage. Such language, while not legally required, would help ensure that the allocation is properly characterized by the permit writer in the event that the source's regulatory status changes. This will help ensure that effluent limitations in a NPDES permit applicable to the newly permitted source are consistent with the assumptions and requirements of the TMDL's allocation to that source.

Addition of a Daily Load Expression

EPA believes that adding a daily load expression of the loads to an existing approved TMDL does not require development of a revised TMDL for EPA review and approval. EPA should be notified of such an addition.

Case-Specific Situations

EPA notes that there may be some situations or exceptions to the general recommendations in this memo where it may be appropriate for EPA to conduct a review on a case-by-case basis. Examples may include but are not limited to TMDLs that involved complex or novel issues, and complex multi-jurisdictional TMDLs. In such situations, EPA may determine whether such situations would be better addressed through a TMDL revision and follow the procedures for a new TMDL.

9 TMDL Withdrawal

EPA recommends that existing TMDLs not be withdrawn simply because the load and wasteload allocations have been implemented successfully and the water is now attaining water quality standards. EPA recommends that such "successful" TMDLs remain in place to ensure that WQS continue to be maintained in the future, and that their water quality analyses and allocation targets continue to inform permit writers' and stakeholders' efforts to maintain those water quality standards.

In some circumstances, however, a State may want to withdraw a TMDL to reduce any confusion for permit writers or stakeholders, but it is at the State's discretion. At least three scenarios could prompt a desire for TMDL withdrawal:

- EPA approves a State-established TMDL to replace an earlier EPA-established TMDL. Having two TMDLs for the same water could be confusing. In this case, EPA might announce its "withdrawal" of the earlier federal TMDL at the same time it provides notice of its approval of the State TMDL, or alternatively, EPA may indicate that the state-established TMDL supersedes the EPA-established TMDL.

- The State (or EPA) developed a TMDL for a water that was incorrectly placed on the 303(d) list. Subsequent information demonstrates that the water was then, and is now, attaining water quality standards. When withdrawing such TMDLs, the State should notify EPA and provide public notice of the withdrawal. This withdrawal could occur at the same time the State establishes its next 303(d) list.

- EPA approves a State's revised water quality criteria or water quality standard leading to a determination that the water body is no longer impaired. Under the circumstances implementation of the WLA in the TMDL based on the old criteria may lead to permit effluent limits more stringent than necessary under the new criteria. When withdrawing such TMDLs, States should notify EPA and provide public notice of the withdrawal. One option would be for the withdrawal to occur at the same time the State establishes its next 303(d) list. However, if the water body remains impaired under the new water quality standard, the TMDL should remain in place. The State may withdraw the TMDL if it chooses to develop a TMDL revision and EPA approves the revised TMDL; however, it is not necessary to withdraw the TMDL.

Except for the first scenario, where EPA would be involved in approving the state-established TMDL, States should notify EPA in advance before proposing to withdraw a TMDL. EPA does not anticipate that there would be situations other than those listed above where a TMDL could be withdrawn.

10 *TMDLs and the Transition from Narrative to Numeric Nutrient Criteria*

While several states have adopted numeric nutrient criteria, there are numerous existing TMDLs based on narrative nutrient criteria. EPA's recommendation is that existing TMDLs should stay in effect until a two-part evaluation occurs. The first evaluation is to assess if the waterbody is still water quality-limited (also referred to as impaired). States have the option to withdraw TMDLs associated with waterbodies that are no longer water quality-limited when assessed using the new numeric nutrient criteria (see TMDL Withdrawal section). If the waterbody is considered to be water quality-limited based on the new numeric criteria, then the second evaluation should be conducted to

determine whether the existing TMDL load based on the narrative is sufficient to meet the new numeric criteria.

For TMDLs associated with waterbodies that are still considered to be water quality-limited because they exceed the new numeric criteria, several situations may arise regarding the existing TMDL. In the first situation, the loadings identified in the existing TMDL based on the narrative criteria, are sufficient to meet the new numeric criteria. In this case, the existing TMDL would not need to be revised, and the water body could remain in "Category 4a" (TMDL completed for that water body). [9] In the second situation, if the existing TMDL load based on the narrative criteria is not sufficient to meet the new criteria, then the State should move the waterbody onto the 303(d) list of water quality-limited waters requiring a TMDL (i.e. integrated reporting Category 5) and set a schedule to revise the TMDL.[10] In either case, if the State deems the water quality target (based on the narrative criteria) in the TMDL to be more reflective of the conditions of the specific site than the newly adopted numeric nutrient criteria, it may initiate a process to adopt such water quality target as site-specific criteria[11]. There may also be a third situation where a state maintains the narrative criteria and adds numeric criteria; in this situation, the state will need to determine whether both criteria are met.

11 TMDLs and Changes in Pathogen Criteria

In keeping with the EPA's recommendation that existing TMDLs should stay in effect except in specific situations (see TMDL Withdrawal section), EPA believes that changes in WQS pathogen criteria from fecal coliform to E. coli and/or enterococci do not necessarily mean that a State should revise an existing TMDLs written to meet other criteria addressing the same designated use. More than 10,000 TMDLs address pathogens. These TMDLs should remain in place, as many of the WLAs and LAs in these TMDLs are already being implemented through point and nonpoint source management practices and controls.

States have the option to revise a TMDL's pathogen allocations by translating the original fecal coliform-based allocations to E. coli and/or enterococci-based allocations using site-specific or other

[9] Although the TMDL may not need to be revised in this situation, states may need to consider relevant anti-backsliding provisions for existing permits based on the WLA in the TMDL. A permit writer may relax an existing water quality based limit (WQBEL) based on the revised, less stringent criteria only if there is an available exception [CWA section 402(o)(1)]. The exception in CWA section 303(d)(4)(A), applicable where the waterbody is not meeting standards, requires a demonstration that "the cumulative effect of all such revised effluent limitations based on such [TMDL] or wasteload allocation will assure the attainment of such water quality standards." A revised TMDL based on the revised, less stringent criteria may assist a permit writer in making this demonstration.

[10] As described in the Water Quality Standards for the State of Florida; Final Rule "Neither the CWA nor EPA regulations require TMDLs to be completed or revised within any specific time period after a change in water quality standards occurs. TMDLs are typically reviewed as part of States' ongoing water quality assessment programs. Florida may review TMDLs at its discretion based on the State's priorities, resources, and most recent assessments." [US EPA 2010. Water Quality Standards for the State of Florida; Final Rule. Federal Register 75 (233), 75762-75807. December 6, 2010. Available at http://edocket.access.gpo.gov/2010/pdf/2010-29943.pdf]

[11] The process of developing site-specific criteria could also be initiated prior to adoption of numeric nutrient criteria for all waters in the state.

available data. However, if future monitoring data show the water body is still impaired under the new E.coli and/or enterococci criterion despite implementation of the earlier fecal coliform TMDL, revisions to the TMDL's allocations may be necessary. Revisions in either of these scenarios should follow the approaches outlined above for TMDL revisions.

In contrast, if monitoring of a new indicator (e.g. E. coli or enterococci) demonstrates that the designated use of the water body is being met under the newly adopted standard a State may choose to withdraw a pathogen TMDL.

Revision and Withdrawal of Existing TMDLs – Summary[a] **[Refer to Text for Details; Do Not Rely on Table Alone]**
EPA Review and Approval (TMDL "Revision")
1. Re-allocation *Between* WLAs and LAs (except for source category change as described below) 2. Changes to the loading capacity, margin of safety, or method for calculating loading capacity 3. TMDL not resulting in meeting WQS; changes in allocation between WLA/LA or loading capacity may be needed 4. Change in WQS where TMDL endpoint is not sufficient to meet new WQS (e.g., more stringent WQS), including change from narrative to numeric criteria
No EPA Review and Approval (No TMDL Revision); EPA Notified in Advance[b]
1. Water Quality Trading (between point sources or between point and nonpoint sources)[c] 2. Shifts between individual WLAs during NPDES permitting (sum of WLAs unchanged) 3. Shifts between individual LAs (sum of LAs unchanged) 4. Use of reserve capacity in existing TMDL 5. Source (of same magnitude, character, and location) re-categorized from LA to WLA (stormwater, shift from unregulated to regulated source category) 6. Addition of a daily load 7. Changes in WQS where TMDL is still sufficient to meet new WQS (less stringent WQS), including change from narrative to numeric criteria
TMDL Withdrawal
1. State-established TMDL replaces an earlier EPA-established TMDL: EPA approves the state-established TMDL and indicates that the previous TMDL is "withdrawn" or superseded by state TMDL 2. Incorrect 303(d) listing (EPA notification recommended) 3. Revised WQS; water no longer impaired (EPA notification recommended)
[a]There may be other scenarios in which EPA approval is not needed. States should notify EPA 30 days in advance of an anticipated adjustment or revision and discuss case-specific situations with EPA. [b] EPA recommends the following conditions for shifts between WLAs or LAs: : determine there is no localized water quality standards exceedance or exceedance of the loading capacity; documentation that the shifts are consistent with the assumptions and requirements of the WLA(s) and set at a level to achieve water quality standards; EPA notification in advance; and opportunity for public comment;; EPA also recommends there be a tracking system to ensure there is no exceedance of the WLA as well as for tracking use of the reserve capacity. There may also be case-specific situations where EPA review and approval is appropriate, such as TMDLs that had been subject to litigation and multi-jurisdictional TMDLs (see document for details). For new TMDLs, states should include adjustment procedures within the original TMDL and/or state's CPP or MOA with EPA c In a trading situation, WLAs and LAs are not changed, as these are the baseline for the trade. In other situations, e.g., shifts between individual WLAs or LAs, where the sum of the WLA or sum of the LA is not changed, documentation in the TMDL file is recommended