MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

PRIORITIZATION FRAMEWORK FOR THE DEVELOPMENT OF TOTAL MAXIMUM DAILY LOADS

Updated
August 11, 2022

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1. Introduction

Section 303(d) of the federal Clean Water Act and Title 40 of the Code of Federal Regulations (CFR) Part 130 requires states to develop total maximum daily loads (TMDLs) for waters not meeting applicable water quality standards. The purpose of a TMDL is to determine the pollutant loading a water body can assimilate without exceeding state water quality standards. The TMDL then allocates that loading to the various point source and nonpoint sources in the watershed. Reducing pollutant loading from those sources to meet those allocations become the goal for restoring water quality.

Waters requiring TMDLs are included in Missouri's Section 303(d) list of impaired waters. The Missouri Department of Natural Resources develops the Section 303(d) list every two years on even numbered years. Per federal regulations at 40 CFR §130.7(b)(4), the list shall include a priority ranking for all impairments and such prioritization should take into account the severity of pollution as well as the water bodies' designated uses. The priority ranking shall specifically include the identification of waters targeted for TMDL development in the next two years.

For Missouri's Section 303(d) list, the Department ranks water body impairments as "High," "Medium," or "Low" for TMDL development. Schedules for TMDL development are provided using a range of years. The Department will schedule TMDL development for those impairments identified as High priority in the two-year period prior to approval of the next subsequent 303(d) list. It is the Department's goal to complete and submit to the U.S. Environmental Protection Agency (EPA) final TMDLs for all water body impairments identified as High priority within that two-year period. Actual progress towards completing TMDL development will be dependent upon data availability, model complexity, available resources, and staff workload. The Department will reevaluate all priority rankings and development schedules during the development of each consecutive 303(d) list.

Priority Rank	TMDL Development Schedule and Goals for Completion
High	Completion planned within 1 to 2 years following 303(d) list approval
Medium	Development may occur within 2 to 6 years following 303(d) list approval
Low	Development may not occur for more than 6 years following 303(d) list approval

The purpose of this document is to provide transparency regarding the Department's considerations for prioritizing and scheduling TMDL development. Prioritizing waters for TMDL development will largely follow both the short-term and long-term goals established by this document. For purposes of TMDL development, short-term prioritization reflects the specific scheduling of TMDLs during the immediate two-year period between 303(d) listing cycles. Long-term prioritization reflects where the Department will focus resources for TMDL development in order to inform the more specific short-term scheduling. The Department may update this framework periodically to adjust to departmental or programmatic shifts in overall water quality restoration goals, as well as to adapt to the ever-changing science and regulatory framework that inform and govern the development of water quality standards.

2. Short-Term Prioritization

The Department will reevaluate prioritization and scheduling of TMDL development during the development of every new Section 303(d) list. Those impairments identified on the Section 303(d) list as High priority reflect the Department's short-term (2-year) priorities for TMDL development within its overall water quality planning goals. Consistent with 40 CFR §130.7(b)(4), water body impairments identified as High priority reflect the waters targeted for TMDL development in the two years before the subsequent 303(d) listing cycle. It will be the Department's goal to complete and submit to EPA final TMDLs for all water body impairments identified as High priority within that two-year period. The ability to adjust TMDL schedules every two years allows the Department to focus on TMDL development to where it provides the greatest benefit for restoring water quality and reduces duplication of efforts where other water quality restoration activities are already in progress. This approach also allows needed flexibility to maintain an adaptive TMDL program that can shift development goals in light of new data, stakeholder needs, or changes to Water Quality Standards.

Specific to the development of the 2022 303(d) list, impairments identified as High priority and identified on the 303(d) list as scheduled to begin development in 2022 will be provided to EPA through the ATTAINS database for inclusion in national bridge metric goals.[1] Bridge metrics represent state commitments for TMDL development to be included as national measures prior to the 2024 listing cycle. Beginning with the 2024 303(d) List, a more formalized national 303(d) framework from which to base national measures will be implemented. This framework represents a collaboration between states and EPA to focus attention on priority waters and acknowledges that states have flexibility in using available tools beyond TMDLs to attain water quality restoration. This framework does not alter state and EPA responsibilities or authorities under existing CWA 303(d) regulations. Identification of TMDLs (or alternative restoration approaches) included in both bridge metrics and future national metrics will be made on the Department's TMDL webpage.

When setting its short term priorities for TMDL development, the Department considers numerous factors, including, but not limited to, the severity of the pollution, designated uses, pollutants of concern, data availability, existing work plans, suitability for a watershed approach, complexity of modeling, age of listing, and potential alternative restoration approaches. Newly listed waters are typically assigned lower priority for TMDL development than waters that have been listed for a number of years. However, in cases where a watershed approach can be used, the Department may assign newly listed impairments the same higher prioritization of a water body located in the same watershed and impaired by the same sources or pollutants. Other primary factors influencing priority ranking include:

- **Public health concerns:** The Department gives primary consideration to pollutants associated with risks to human health and such impairments are typically ranked as High

[1] The Assessment, Total Maximum Daily Load Tracking and Implementation System (ATTAINS) is an online system for accessing information about the conditions in the Nation's surface waters. Information reported to EPA by states is available in ATTAINS and accessible through various EPA web services and tools. Visit https://www.epa.gov/waterdata/attains for more information.

priorities for TMDL development. For example, *E. coli* impairments in waters designated for whole body contact recreation (e.g., swimming) are typically ranked as High priority for TMDL development.

- **Toxicity to aquatic life:** Metal toxicity is given special consideration in Missouri because there are numerous historical and active metals mining activities in the state. Metal contamination can adversely affect a variety of aquatic habitats, and can be detrimental to the growth and reproduction of aquatic organisms. Extremely high concentrations of metals may result in acute toxicity and death. The Department commonly ranks metal toxicity impairments as High or Medium priority for TMDL development depending upon age of listing, known remediation efforts, and the extent of pollution impact in the watershed.

- **Nutrient Reduction:** The Department details its nutrient reduction goals in Missouri's Nutrient Loss Reduction Strategy. In addition to the goal of reducing nutrient loading to Missouri's surface waters, the Department is also a member of the multi-state Gulf Hypoxia Taskforce whose goal is to reduce nutrient loading to the Gulf of Mexico. Impairments associated with exceedances of Missouri's numeric lake nutrient criteria first appeared on Missouri's 2020 303(d) List. The Department generally ranks newly listed lakes as Low priority for TMDL development. However, in accordance with the Department's goals for reducing nutrient pollution in Missouri waters, certain lakes may be given higher priority for TMDL development as data become available and modeling approaches are developed. Although Missouri does not currently have numeric nutrient criteria for streams, many of the pollutant sources and best management practices to reduce loading from those sources are the same as those addressed by *E. coli* TMDLs. For this reason, the Department produces supplemental implementation strategies documents that accompany each TMDL document. The implementation strategies documents include optional nutrient reduction targets that citizens or watershed groups may voluntarily implement to reduce nonpoint nutrient loading (i.e. not from a permitted discharger).

- **Sources of impairment:** Missouri issues permits authorizing point source pollutant discharges under National Pollutant Discharge Elimination System (NPDES) authority delegated by the EPA. When a point source discharger is determined or suspected to be a primary contributor to a water body impairment, TMDL development is typically ranked as Medium priority to allow time for water quality improvements to occur through enforcement of existing permit limits or establishment of more stringent water quality-based permit limits. TMDL development may be ranked as Low priority when facility upgrades are anticipated because planning and construction of facility upgrades takes many years. Water quality is then reassessed after attaining compliance with permit limits or completion of facility upgrades. If a water body still does not meet water quality standards after contributions from point source dischargers are minimized, TMDL development will be reprioritized based on other priority ranking factors. Where there is reasonable certainty that a point source discharger is the sole cause of an impairment, TMDL development will be ranked Low because the Department will determine appropriate protective water quality-based permit limits and may submit the discharge permit to EPA in lieu of a TMDL as part of a category 4b demonstration. Category 4b waters do not require a TMDL because other water pollution

controls required by a local, state, or federal authority are expected to correct the impairment in a reasonable period.

Conversely, the Department does not regulate nonpoint sources of pollution through permits. Pollutant load reductions from these sources typically rely on the voluntary implementation of best management practices by landowners and local communities. TMDLs can aid in these efforts through source identification and by providing the pollutant loading targets necessary to implement restoration practices that will result in attainment of water quality standards. For these reasons, impairments for which there is likely a substantial pollutant contribution from nonpoint sources will typically be given higher priority for TMDL development within the framework of the other priority ranking factors.

- **Recovery potential:** The Department will rank water bodies for which there is data showing a trend towards attainment of water quality standards as Low priority for TMDL development to allow time for additional data collection efforts to take place. If new data confirms continued impairment, then prioritization for TMDL development will be reevaluated based on the other priority ranking factors. Where known implementation activities are occurring, such as actions occurring through Superfund remediation, integrated management plans, or an implemented Clean Water Act Section 319 watershed-based plan, waters are often ranked as Medium priority for TMDL development to allow time for measurable water quality improvements to occur. Alternatively, in some cases the Department may rank such impairments as High priority due to the need for a TMDL to provide those implementation actions with an appropriate restoration target. Where actions or plans outside the development of a TMDL can be reasonably demonstrated to provide certainty that water quality standards will be re-attained, such actions may act as an alternative restoration approach (e.g. category 5-alt plan), and water bodies are ranked as Low priority for TMDL development. A summary of information that should be provided to the Department to demonstrate how a plan, or combination of plans and actions, may serve as an alternative restoration approach is available online at dnr.mo.gov/document-search/tmdl-alternative-category-5-alt-components.

- **Uncertainty:** Where there is substantial uncertainty as to the cause or source of the impairment (i.e., biological impairments caused by unknown pollutants), or substantial barriers to pollutant load reduction (e.g., atmospheric mercury), waters are ranked as Low priority for TMDL development in order to allow time for additional planning, data collection, more complex modeling, or interagency coordination.

3. Long-Term Prioritization

In addition to the factors informing prioritization of TMDL development for individual water body impairments, TMDL development considers the Department's overall water quality planning goals to ensure appropriate use of resources and to provide the greatest assurance that the necessary pollutant load reductions can be implemented. In Missouri, nonpoint source pollution is the primary contributor or cause of impairment to Missouri's lakes and streams. The Department does not regulate nonpoint sources and pollutant reduction from these sources

typically relies on the voluntary best management practices implemented by citizens living in the affected watershed. To address nonpoint source pollution the U.S. Congress established the Section 319 grant program to provide funding for efforts to implement such practices. The Department's Section 319 Nonpoint Source program distributes this funding through subgrants and ranks projects higher if they are implementing the goals of an approved TMDL. For these reasons, long-term planning for the development of TMDLs largely follows the planning goals established in Missouri's Nonpoint Source Management Plan.

Missouri's Nonpoint Source Management Plan is a five-year action plan that prioritizes 8-digit hydrologic unit code (HUC) watersheds in the state based upon a strategic planning effort initiated by the Department in 2012 (Figure 1). Technical experts from the Department defined Missouri's Focus Watershed Groups through a ranking and stakeholder process that considered preservation, restoration, nutrient impacts, and source water protection.

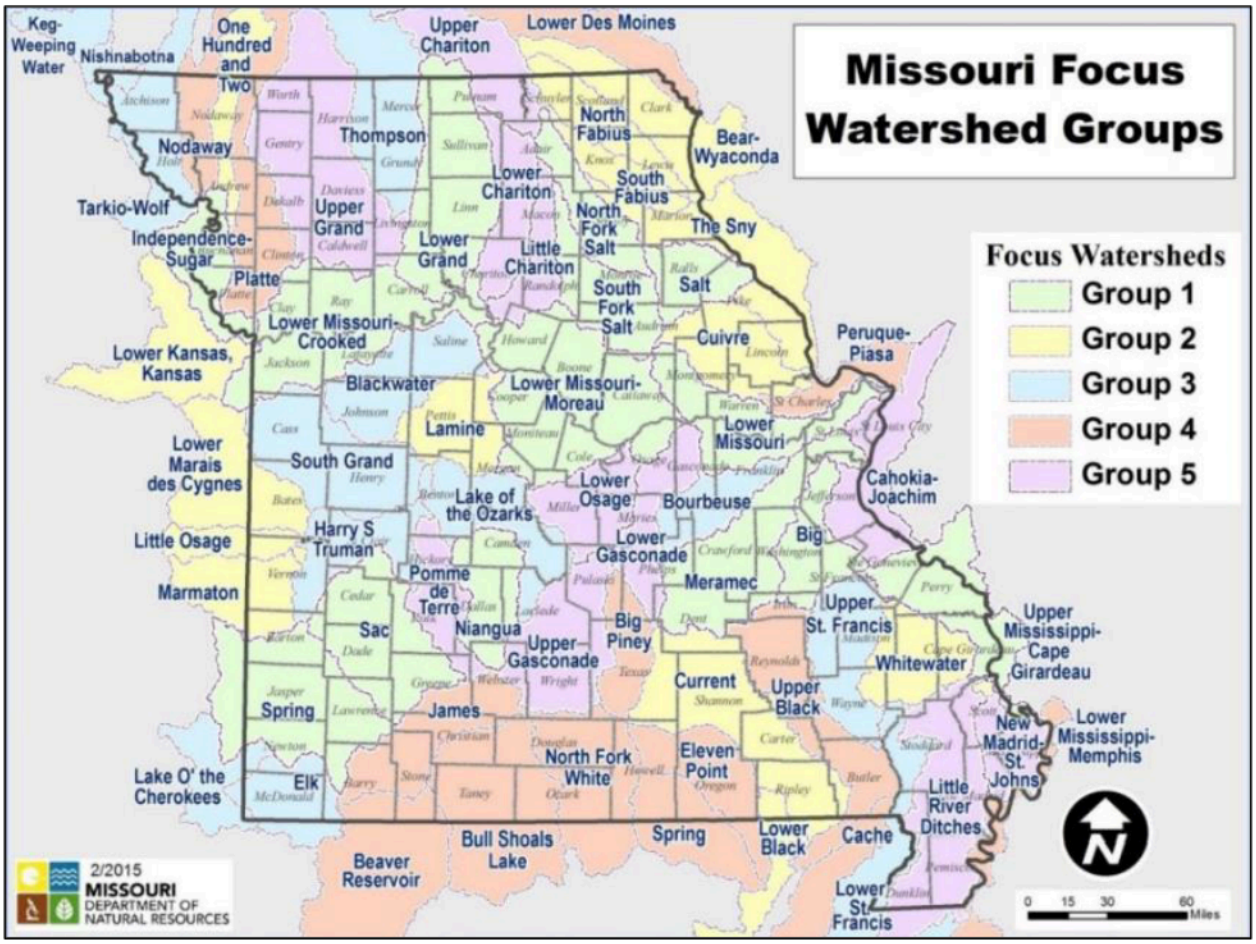

Figure 1. Missouri's Nonpoint Source Management Plan Focus Watershed Groups

Group 1 watersheds represent areas where it is the Department's priority to address nonpoint source pollution for the 2020 – 2025 planning period through the Section 319 Nonpoint Source Program. TMDLs are not regulatory documents and are not self-implementing; therefore,

coupling TMDL planning goals with those of the Section 319 Nonpoint Source Program provides greater certainty that implementation actions and water quality improvements will occur. As such, initial long-term planning and prioritization for TMDL development will focus more heavily within these watersheds for impairments caused primarily by nonpoint sources. In this way, TMDLs will inform current or future watershed-planning activities in these areas with appropriate pollutant loading targets and estimates of needed pollutant reductions necessary for water quality restoration. As the Section 319 Nonpoint Source Program shifts its prioritization to Group 2, Group 3, and so forth, the planning and prioritization goals for TMDL development will progress accordingly. It should be noted that although these Focus Watershed Groups reflect the primary long-term prioritization goals for TMDL development in Missouri, the Department is committed to developing TMDLs for all water quality impairments identified on the Section 303(d) list regardless of their location within the state.

Impairments commonly caused by nonpoint sources that the Department may prioritize for TMDL development within the Focus Watershed Groups include:

- *E. coli*;
- Nutrients (e.g., nitrogen, phosphorus, or chlorophyll-a);
- Sediment;
- Low Dissolved Oxygen;
- Chlorides; and
- Pesticides

4. Opportunity for Public Comment and Participation

Feedback from the public regarding the prioritization and scheduling of TMDL development is welcomed and encouraged. The Department will offer opportunities for the public to provide comments regarding the prioritization of TMDL development as part of the public notice process for Missouri's Section 303(d) list. The Department develops the Section 303(d) list every two years on even-numbered years as part of its integrated reporting on the status of Missouri's waters as required by the Clean Water Act.

Information regarding public notices and meetings associated with development of the Section 303(d) list are available on the Department's website at dnr.mo.gov/water/what-were-doing/water-planning/quality-standards-impaired-waters-total-maximum-daily-loads/impaired-waters.

The Department also maintains an email distribution list for notifying subscribers of significant 303(d) updates or activities, including public notice and comment periods. Those interested in subscribing can submit their email addresses using the online form at public.govdelivery.com/accounts/MODNR/subscriber/new?topic_id=MODNR_66

For more information regarding the development of TMDLs, please email TMDL@dnr.mo.gov