

Chapter 23

North Carolina's Impaired Waters List

23.1 Reporting Requirements of the Federal Clean Water Act

The *North Carolina Water Quality Assessment and Impaired Waters List* is an integrated report that includes both the 305(b) and 303(d) reports. The *305(b) Report* is compiled to meet the federal Clean Water Act (CWA) Section 305(b) reporting requirements. The 305(b) portion of the integrated report presents how well waters support designated uses (e.g., swimming, aquatic life, water supply), as well as likely stressors (e.g., sediment, nutrients) and potential sources of impairment. The *303(d) List* is a comprehensive account of impaired waters that require total maximum daily loads (TMDLs).

Section 303(d) of the CWA enacted in 1972 required States, Territories and authorized Tribes to 1) identify and establish a priority ranking for waters for which technology-based effluent limitations are not stringent enough to attain and maintain water quality standards, 2) establish TMDLs for the pollutants causing impairment in those waters, and 3) develop and submit the list of impaired waters and TMDLs to the U.S. Environmental Protection Agency (EPA). EPA is required to approve or disapprove the state-developed 303(d) list within 30 days. For each segment impaired by a pollutant and identified in the 303(d) list, a TMDL must be developed.

23.2 Introduction to TMDLs

A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The calculation must include a margin of safety to ensure that the waterbody can still attain its designated uses. The calculation must also account for seasonal variation and critical conditions in water quality.

For more information on TMDLs and the 303(d) listing process, visit the NC TMDL website at <http://h2o.enr.state.nc.us/tmdl/>.

23.3 Contents of the Integrated Report

The Integrated Report includes descriptions of monitoring programs, the use support methodology (see appendix VIII for detail Neuse Methodology), and the impaired waters list. Guidance from EPA encourages placement of all waterbody assessment units into one unique assessment category. Each category is described in detail below:

Category 1: Attaining the water quality standard and no use is threatened. This category consists of those waterbody assessment units where all applicable use support categories are rated "Supporting". Data and information are available to support a determination that the water quality standards are attained and no use is threatened. Future monitoring data will be used to determine if the water quality standard continues to

be attained. However, because of the statewide fish consumption advice for mercury, there are no Category 1 waters.

Category 2: Supporting or not Impaired for all monitored uses. This category consists of those waterbody assessment units where at least one of the applicable use support categories are rated "Supporting" and the other use support categories are rated "Not Rated" or "No Data". Also included in this category are waters where at least one of the applicable use support categories, except Fish Consumption, are rated "Supporting"; the remaining applicable use support categories, except Fish Consumption, are rated "Not Rated"; and the Fish Consumption category is rated "Impaired-Evaluated". Data and information are available to support a determination that some, but not all, uses are attained. Attainment status of the remaining uses is unknown because there are insufficient or no data or information. Future monitoring data will be used to determine if the uses previously found to be in attainment remain in attainment, and to determine the attainment status of those uses for which data and information were previously insufficient to make a determination.

Category 3: No data or insufficient information to determine if any designated use is attained. This category consists of those waterbody assessment units where all applicable use support categories, except Fish Consumption, are rated "Not Rated", and the Fish Consumption category is rated "Impaired-Evaluated". Measured data or information to support an attainment determination for any use are not available. Supplementary data and information, or future monitoring, will be required to assess the attainment status. This category contains distinct sub-categories:

Category 3a- Instream/monitoring data are inconclusive

Category 3c- No Data available for assessment

Category 3t- No Data available for assessment – Assessment Unit is in a watershed with an approved TMDL

Category 4: Impaired or threatened for one or more designated uses but does not require the development of a TMDL. This category contains distinct sub-categories:

Category 4a: TMDL has been completed. This category consists of those waterbody assessment units for which EPA has approved or established a TMDL and water quality standards have not yet been achieved. Monitoring data will be considered before moving an assessment unit from Category 4a to Categories 1 or 2.

Category 4b: Other pollution control requirements are reasonably expected to result in the attainment of the water quality standard in the near future. This category consists of those waterbody assessment units for which TMDLs will not be attempted because other required regulatory controls (e.g., NPDES permit limits, Stormwater Program rules, implemented watershed plan, etc.) are expected to attain water quality standards within a reasonable amount of time. Future monitoring will be used to verify that the water quality standard is attained as expected.

Category 4c: Impaired- Loss of use because impairment is not caused by a pollutant. This category consists of assessment units that are impaired by pollution, not by a pollutant. EPA defines pollution as "The man-made or man-induced alteration of the

chemical, physical, biological and radiological integrity of the water." EPA's staff have verbally stated that this category is intended to be used for impairments related to water control structures (e.g., dams). Future monitoring will be used to confirm that there continues to be an absence of pollutant-caused impairment and to support water quality management actions necessary to address the cause(s) of the impairment.

Category 4cr: Impaired- Loss of recreation use because swimming advisories were posted; however, no data is available for TMDL development.

Category 4cs: Impaired- Loss of shellfish harvesting use because the growing area is not approved for shellfish harvesting by the Department of Environmental Health and no data is available for TMDL development.

Category 4ct: Impaired- Assessment Unit is in a watershed that is part of a TMDL study area for the parameter of interest.

Category 4s: Impaired ecological/biological integrity with a concurrent category 5 aquatic life parameter of interest.

Category 5: Impaired for one or more designated uses by a pollutant(s) and requires a TMDL. This category consists of those waterbody assessment units that are impaired by a pollutant and the proper technical conditions exist to develop TMDLs. As defined by the EPA, the term pollutant means "dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into the water". When more than one pollutant is associated with the impairment of a single waterbody assessment unit in this category, the assessment unit will remain in Category 5 until TMDLs for all listed pollutants have been completed and approved by the EPA.

Category 5s: Impaired ecological/biological integrity and stressor study does not indicate any aquatic life standard violations.

The draft 2008 North Carolina 303(d) list for the State of North Carolina only includes Category 5 waters. An impaired waters list (Categories 4 & 5) and the complete use support summary of monitored waterbodies in the North Carolina (Integrated Report/305(b)) will be available for downloading on the DWQ website:

http://h2o.enr.state.nc.us/tmdl/General_303d.htm.

23.4 How North Carolina Delists Waters

Waters appearing on the previously approved impaired waters list will be moved to Categories 1, 2, 3 or 4 under the following circumstances:

- Applicable water quality standards are being met (i.e., no longer impaired for a given pollutant).
- The basis for putting the water on the list is determined to be invalid (i.e., was mistakenly identified as impaired in accordance with 40 CFR 130.7(b)(6)(iv) and/or National Clarifying Guidance for State and Territory 1998 Section 303(d) Listing

Decisions. Robert Wayland, III, Director. Office of Wetlands, Oceans and Watersheds. Aug 27, 1997).

- A water quality variance has been issued for a specific standard (e.g., chloride).
- Removal of fish consumption advisories or modification of fish eating advice.
- Typographic listing mistakes (e.g., the wrong water was identified).
- EPA has approved a TMDL.

23.5 Scheduling TMDLs

Category 5 waters, those for which TMDLs are required, are at many different stages on the path to an approved TMDL. Some require additional data. Some require more outreach to increase stakeholder involvement. Others need to have a technical strategy budgeted, funded and scheduled. Some are ready for EPA submittal.

According to EPA guidance (EPA 2004), prioritization of waterbody assessment units for TMDLs need not be reflected in a “high, medium or low” manner. Instead, prioritization can be reflected in the TMDL development schedule. Generally, North Carolina attempts to develop TMDLs within 8-13 years of the original pollutant listing. TMDLs under development are listed on the NC TMDL website at <http://h2o.enr.state.nc.us/tmdl/>.

23.6 Revising TMDLs

Current federal regulations do not specify when TMDLs should be revised. However, there are several circumstances under which it would seem prudent to revisit existing TMDLs. The TMDL analysis of targets and allocations is based upon the existing water quality standards, hydrology, water quality data (chemical and biological), and existing, active NPDES wastewater discharges. Conditions related to any of these factors could be used to justify a TMDL revision. Specific conditions that the Division will consider prior to revising an existing, approved TMDL include the following:

- A TMDL has been fully implemented and the water quality standards continue to be violated. If a TMDL has been implemented and water quality data indicate no improvement or a decline in overall water quality, the basis for the TMDL reduction or the allocation may need to be revised;
- The addition or removal of hydraulic structures to a waterbody (e.g., dams). Substantial changes to waterbody hydrology and hydraulics have the potential to change many aspects of target setting, including the water quality standard upon which the TMDL was developed, the water quality data, and the water quality modeling;
- Incorrect assumptions were used to derive the TMDL allocations. This would include errors in calculations and omission of a NPDES permitted discharge.

Should a TMDL be revised due to needed changes in TMDL targets, the entire TMDL would be revised. This includes the TMDL target, source assessment, and load and wasteload allocations. However, the Division may elect to revise only specific portions of the TMDL. For example, changes may be justifiable to the load and wasteload allocation portions of a TMDL due to incorrect calculations or inequities. In these cases, revisions to the TMDL allocations would not necessarily include a revision of TMDL targets. Any TMDL revisions would include a public notice and comment period.

23.7 Alternatives to TMDLs

Watershed restoration efforts include many other activities besides TMDLs. Protection and prevention of impairment are least expensive and most efficient in the long term. Local direct action to correct water quality problems, before a TMDL is developed, is preferable in many cases. The division will consider postponing TMDL development at the request of local governments and/or organizations actively attempting to achieve water quality standards. Factors such as funding, ordinances, expertise, planning, and timetable will be evaluated. Another more formal alternative to TMDL development is a Category 4b demonstration. Such demonstrations must include the following six EPA required elements:

- 1) Identification of segment and statement of problem causing the impairment;
- 2) Description of pollution controls and how they will achieve water quality standards;
- 3) An estimate or projection of the time when WQS will be met;
- 4) Schedule for implementing pollution controls;
- 5) Monitoring plan to track effectiveness of pollution controls; and
- 6) Commitment to revise pollution controls, as necessary.

For more information about the Clean Water Act Sections 303(d), 305(b), and 314 integrated reporting and listing decisions see EPA's watershed website:

http://www.epa.gov/owow/tmdl/2008_ir_memorandum.html.

For more information on watershed planning see EPA's website:

<http://iaspub.epa.gov/watershedplan/watershedPlanning.do?pageId=48&navId=35>