MDE
Science Services Administration
Interpreting the Water Quality Maps and TMDLs

What are impaired waters?

Impaired waters are waters that have been assessed by the state to be in violation of water quality criteria. Code of Maryland Regulations (COMAR) specifies numerous water quality criteria including criteria for dissolved oxygen, bacteria, pH, metals, and other toxic contaminants, and biological criteria in order to support the designated uses (e.g. aquatic life, fishing, etc) for a water body. The federal Clean Water Act requires that these impaired waters be addressed as part of a State water quality management program. The impaired waters list (also known as the Integrated Report) is reviewed and revised, with public comment every two years, on the even year.

What are 8-digit watersheds?

Small streams flow into successively larger streams. Each stream has its own drainage area or watershed. The watersheds of small streams are nested or contained in larger watersheds. Watersheds are assigned identification codes at various scales. "8-digit watershed" simply describes an average watershed draining about 90 square miles, although it may be considerably larger or smaller depending on the configuration of the streams and the elevation of the land. The higher the number of digits, the smaller the watershed.

What are TMDLs?

Total Maximum Daily Loads (TMDLs) are based on assessments that are required to be completed for impaired waters. TMDLs include estimates of pollution loads from all sources and provide allocations to those sources that will reduce pollution loads to the point at which the water quality standards are attained.

How do we achieve the pollution reductions in the TMDLs?

There are numerous programs that help achieve the reductions. Some are regulatory like the National Pollution Discharge Elimination System (NPDES) permits. The Bay Restoration Fund provides funding for sewage plant upgrades. Other programs are voluntary incentive programs, particularly for agriculture, like cover crops, manure transport, EQIP, and others. The part that has been missing for many years is appropriate planning and development guidelines to prevent new development from counteracting the pollution reduction achieved by existing programs and to contribute proportionately to pollution reduction. House Bill 1141, passed in the 2006 session of the General Assembly, adds a requirement to address sensitive areas, water supply and water quality issues in local comprehensive plans, and for MDE to provide technical assistance to their effort. This new planning requirement will help significantly in meeting water quality goals.

What are these assessment maps telling me?

Water Quality Assessments - Consistent with federal guidance, Maryland characterizes all waters of the State with respect to attainment of water quality standards in a biennial report to the U. S. Environmental Protection Agency. This document, known as the Integrated Report, is prepared by MDE and addresses both Sections 305(b) and 303(d) of the Clean Water Act. The report includes waters that attain quality standards as well as those that do not attain standards for one or more reasons, consistent with the five Integrated Reporting categories described below in the water quality maps legend section.

Water Quality Maps Legend

Assessment information was aggregated based on major pollutant/pollution groupings. For instance, all metal assessments (e.g. copper, mercury, etc) can be found in the same water quality map (Metals). There are currently 12 major pollution groupings. Within each of these water quality maps, symbology reflects the following, as applicable:

Not Impaired (Categories 1 and 2) - Green
Waters shown as the color green meet the applicable water quality criterion for the specific pollutants assessed. These areas may be able to handle careful development that minimizes water quality impacts. Consideration should be given to protecting high quality waters that provide amenities to your communities.

Insufficient Information (Category 3) – Yellow
Waters shown in yellow do not have enough water quality information to determine if water quality criteria are being attained. These waters are generally prioritized for follow-up monitoring to determine their water quality status.

Impaired, TMDL Not Needed (Category 4)
Waters assessed and assigned to Category 4 (a, b, or c) are impaired and have water quality solutions identified. Any development that occurs in these areas should not only offset pollution loads generated by that development, but also reduce existing loads by some additional increment to help eventually achieve required water quality standards.

Category 4a - Orange
These are waters where pollution thresholds have been exceeded and a TMDL has been completed to address this pollutant.

Category 4b – Purple
These are waters for which a pollution threshold has been exceeded but a TMDL is not needed as other pollution control requirements are in place that are expected to bring about attainment of the water quality criterion. An example of a Category 4b water might include a water body where fixing a single NPDES discharge will bring about attainment.

Category 4c – Grey
These are waters that have an impaired designated use but the cause of impairment is not a conventional pollutant. Instead these waters are impaired for things like habitat

degradation caused by human alterations. Examples of Category 4c impairments could be inadequate riparian buffers or stream channelization.

Impaired, TMDL Needed (Category 5) - Red
These are waters where pollutant thresholds have been exceeded and no TMDL has yet been completed or other management solution identified. Any development that occurs in these areas should not only offset pollution loads generated by that development, but also reduce existing loads by some additional increment to help eventually achieve required water quality standards.

How will this information help me plan and prioritize?

By indicating areas with the greatest (or least) limitations with respect to water quality, this information will help you focus your development and planning efforts to facilitate meeting water quality needs, limiting delays and complications related to water quality permitting and maximizing your development potential.

In planning for the intermediate term, it is also important to recognize that once the loads have been reduced sufficiently to achieve water quality standards, the loads cannot be allowed to increase again, or the water will again be impaired and the whole TMDL process will happen again.

Should I be aware of other water quality information that may come into play regarding planning for new development?

Anti-degradation – In addition to protecting existing uses and meeting the minimum water quality goals (sometimes referred to as "fishable and swimmable"), federal and State laws and regulations also require protection of waters that are of higher quality than the minimum standard. These waters are protected by what is known as "Tier II" designation as part of the State's anti-degradation policy. The goal of MDE anti-degradation review for projects in watersheds containing Tier II waters is to ensure that water quality is not degraded beyond the capacity to maintain a high quality status. Applicants proposing activities that will potentially impact Tier II waters must undergo anti-degradation review before permits are approved or activities can be added to a county's water and sewer plan. The location of Tier II waters located within Maryland, along with additional information about State anti-degradation policy, are in COMAR at 26.02.08.04-1. Readers are encouraged to view the most current information on designated and pending Tier II waters on MDE's website: http://www.mde.state.md.us/programs/Water/TMDL/Water%20Quality%20Standards/Pages/Antidegradation_Policy.aspx or contact SSA for more information.