

TOTAL MAXIMUM DAILY LOADS

What Are TMDLs?

TMDL stands for Total Maximum Daily Load, and can apply to any pollutant found in a wastewater stream. TMDL refers to a clean-up plan for surface waters whose quality doesn't meet prescribed standards.

How TMDLs Help Impaired Waters

The Clean Water Act establishes quality standards for water bodies based on their designated use such as swimming, fishing, and wildlife habitat. The quality standards address a variety of pollutants such as nutrients, turbidity, salinity, oxygen demanding substances, and fecal coliform. A water that does not meet the quality standards for its designated use is "impaired."

In accordance with further provisions of the Clean Water Act, States must develop a clean-up plan that will reverse an impairment and bring a water body into compliance with its quality standards. The plan—the TMDL—works by identifying all sources of the pollutant and determining the amount of pollutant reduction needed at each source to achieve compliance. In addition to wastewater discharges, TMDLs can address stormwater and non-point sources.



Pre-TMDL Strategies

A TMDL requires detailed study of the water body and may include several years of data collection and analysis to complete. While the TMDL is being developed, the water body may not be further impaired. This means discharges that will cause or contribute to an existing impairment are prohibited. This particular part of the regulations may be protective of the environment but can be problematic for a community seeking to meet the demands of growth by expanding its wastewater system.

A useful pre-TMDL strategy offered by regulatory agencies to communities wishing to grow is to purchase phosphorus reduction credits from another source.

Phosphorus Credits

Take, for example, a pre-TMDL phosphorus strategy that was implemented in Minnesota. Say Community "A" wishes to expand its discharge, creating an increase in its effluent phosphorus loading. In a pre-TMDL situation, Community "A" can either install a better phosphorus-removal system—provided that the system will result in a phosphorus loading that is "frozen" at the current level—or purchase phosphorus credits from another community discharging to the same impaired water body. If Community "B" has voluntarily reduced its phosphorus loading to the impaired water body beyond its own reduction obligation, it has created credits for itself to sell to Community "A." While the selling price is strictly a matter between the two communities, the phosphorus sale is regulated through their individual discharge permits.

TMDL Trading

In general, TMDLs are likely to include trade provisions like the Minnesota pre-TMDL phosphorus strategy. Credit trading between stormwater and wastewater discharges, and between wastewater discharges and non-point sources, will most likely be offered as an alternative approach to environmental protection. Thus, there will be opportunities to be creative, such as developing ways to monitor the performance of trades and ensure that TMDL goals are being met.