



Restoring Water Quality in Texas Surface Waters



Total Maximum Daily Load Program
Texas Commission on Environmental Quality

Texas TMDL Program



- ▲ Texas is required under the federal Clean Water Act to list impaired waters and to take action to restore them.
- ▲ A surface water body is considered impaired if it does not meet the criteria for support of one or more of its beneficial uses, as defined in the *Texas Surface Water Quality Standards*.
- ▲ Impaired waters are identified every two years on the *Texas Water Quality Inventory and 303(d) List*.
- ▲ Two part process is used for restoration:
 - 1) establish a total maximum daily load, and
 - 2) develop an implementation plan.

How Are Waters Assessed?



- ▲ Waters are assessed against uses defined in the *Texas Surface Water Quality Standards*, 30 TAC 307
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- ▲ Numeric and narrative criteria are evaluated
- ▲ Four general categories of use are defined:
 - ▲ Aquatic life use
 - ▲ Contact recreation
 - ▲ Public Water Supply
 - ▲ Fish Consumption/Oyster Waters

How Are the Results Reported?



- ▲ The results of the assessment are reported in the *Water Quality Inventory and 303(d) List*
- ▲ Report includes:
 - ▲ Assessment of surface waters to determine if they meet standards [CWA §305(b) report]
 - ▲ Identification of those waters that do not meet standards [CWA §303(d) List]
 - ▲ Schedule for implementing TMDLs and other management measures



The Inventory and List



- ▲ The Water Quality Inventory and List assigns water bodies to one of five categories:
 - ▲ 1. Attaining all uses and no use is threatened
 - ▲ 2. Attaining some uses; no use is threatened; and some uses are not assessed
 - ▲ 3. Uses are not assessed due to insufficient or no data
 - ▲ 4. Uses are not met, but a TMDL is not required
 - ▲ 5. Uses are not met or are threatened [303(d) List]; TCEQ will take appropriate action

Restoring Impaired Waters



- ▲ The best and most appropriate scientific methods are used to evaluate the water body
- ▲ A separate load allocation must be prepared for each pollutant affecting each water body.
- ▲ One project may develop many TMDLs for a single water body. Projects may also address similar impairments in multiple water bodies.
- ▲ Not all projects result in TMDLs; some analyze use attainability, some determine extent of impairment to determine if a TMDL is needed.

Key Elements of the Program

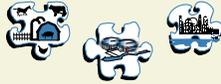


▲ TMDL – Total Maximum Daily Load

Determines the maximum amount (load) of a pollutant that a water body can receive and still maintain uses, and allocates this load to sources in the watershed.

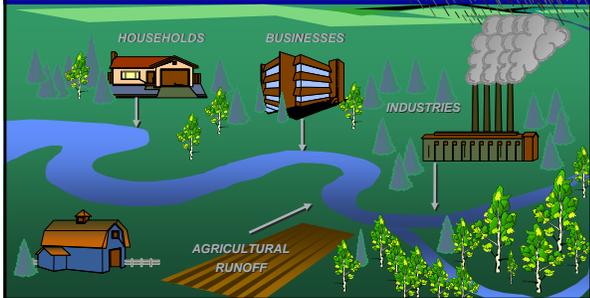
▲ Implementation Plan

A detailed description of the regulatory and voluntary management measures necessary to achieve the pollutant reductions identified in a TMDL.



Benefits

Holistic Problem Assessment and Solution Development



What Is a TMDL?



▲ A TMDL is a scientific model that:

- ▲ determines the maximum amount (or load) of a particular pollutant that a water body can receive and attain and maintain its standards
- ▲ allocates this allowable load to point and nonpoint sources of pollution in the watershed

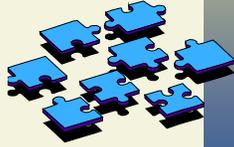
▲ A TMDL is also a document submitted to the EPA. It identifies the pollutant of concern and its sources, and allocates the allowable load.



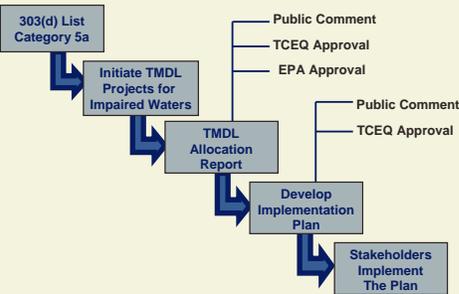
Main Elements of a TMDL



- ▲ Problem Definition
- ▲ Endpoint Identification
- ▲ Source Analysis
- ▲ Linkage Between Sources and Receiving Waters
- ▲ Margin of Safety
- ▲ Pollutant Load Allocation (both point, nonpoint, and natural)



TMDL Development Process



Two Kinds of Restoration Plans



- ▲ TMDL Implementation Plans (I-Plans)
- ▲ Watershed Protection Plans (WPPs)
- ▲ Both have the same goal — improving water quality in rivers, lakes, or bays.
- ▲ I-Plans are remedial actions for impaired waters; WPPs may be either remedial or preventive.
- ▲ I-Plans are based on total maximum daily loads; WPPs use other measurable goals for water quality.



What Are WPPs and IPs?



- ▲ Watershed protection plans and TMDL I-Plans:
 - ▲ Define actions needed to reduce pollution and restore water quality
 - ▲ Include both regulatory and voluntary actions
 - ▲ Are developed in cooperation with regional and local stakeholders
 - ▲ Are based on the best available scientific methods and tools



Implementing TMDLs



- ▲ Implementation plans are collaborative and involve a wide variety of stakeholders.
 - ▲ Citizens, watershed interest groups
 - ▲ State, local, and federal agencies
 - ▲ Regulated organizations
- ▲ *Control actions* for point source discharges; *management measures* for nonpoint source discharges
- ▲ Often, plans are phased in based on progress in achieving water quality improvement.
- ▲ Water quality improvement may take years.
- ▲ Follow-up monitoring is crucial.

Control Actions



- ▲ Point source TMDL allocations affect permits:
 - ▲ New, amended, or renewed permitted loads must be consistent with the TMDL allocation.
 - ▲ TCEQ may initiate amendments to impose new limits, or may impose them with routine renewals or amendments.
 - ▲ Permitted loading from existing facilities may be substantially reduced.
 - ▲ New facilities may be required to meet more stringent effluent limits than expected.



Control Actions, Continued



- ▲ Point source TMDL allocations affect permits:
 - ▲ In some cases or areas, storm water permits may receive new or more stringent limits consistent with TMDL allocations.
 - ▲ Permittees may no longer be eligible for general permits.
 - ▲ Additional monitoring and reporting requirements may be needed.
 - ▲ Permittees may have the opportunity to negotiate effluent trading agreements in order to meet net load limit for watershed.



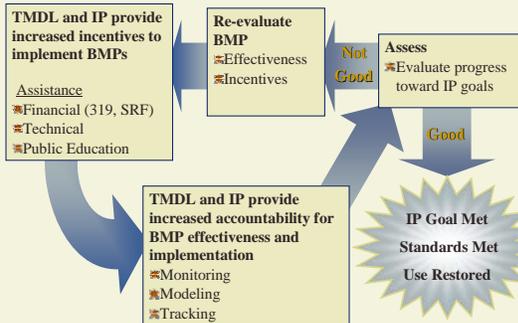
Management Measures



- ▲ Nonpoint source TMDL allocations may result in implementation of best management practices (BMPs):
 - ▲ Management of runoff
 - ▲ Detention basins, filter strips, infiltration basins, porous pavement, retention ponds, swales.
 - ▲ Management of operations to decrease or eliminate pollutants in runoff
 - ▲ Spill prevention and control, source controls, education
- ▲ Managing nonpoint sources is an iterative process.



Management Measures



www.tceq.state.tx.us/implementation/water/



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