MARYLAND (REGION 3)

A Snapshot of Maryland's TMDL Program (August 2008)

The Basics

Key Agency/Department & website

Maryland Department of the Environment
www.mde.state.md.us/Programs/WaterPrograms/TMDL/index.asp

TMDL Program Structure/Placement

Housed in Science Services Administration, together with WQS and monitoring functions; divided into "TMDL Development" and "TMDL Implementation & Sec. 319 NPS Program;" Integrated

By the Numbers

Number of Impaired Waters (on an MD 8-digit basin scale)	126
Number of Waterbodies-pollutant combinations	594
Number of Causes of Impairment	8

Top Five Causes of Impairment
1. Cause Unknown–Impaired Biota
2. Nutrients
3. Sediments
4. PCBs
5. Pathogens

Approximate Number of TMDLs Developed Annually		30-40
Total Number of TMDLs Approved (1995 to present, incl. any est'd by EPA)		271
Total Number of TMDLs Approved in	2005	25 TMDLs/39 WQAs
	2006	30 TMDLs/49 WQAs
	2007	36 TMDLs/40 WQAs
2008 303d/Integrated Report Submission Status (Date)		fall 2008
Approximate Number of FTEs Working on TMDL Issues		difficult to assess because work is distributed widely

TMDLs

EPA Under Consent Decree to Develop TMDLs?	N (MoU)
Broad-Scale? (*e.g.*, watershed, multi-jurisdictional, etc.)	Y

Non-TMDL Options

Use of Non-TMDL Options to Address Impaired Waters?	N

Funding

Approximate Annual Budget for TMDL Program	$8.1+ million (incl. $3.0+ million for data & development)

Primary Source(s) of TMDL Program Funding

Federal 106, 604(b), & 319 funds; general state funds; Bay Restoration Fund & new 2010 Trust Fund

TMDL Implementation

TMDL Implementation Required?   N

Innovations

Example(s) of Any Innovative Approach(es) Employed

--developed or refined numerous methodologies to address various types of impairments (*e.g.*, the Stressor Identification Model used in Sediments TMDL development is now being used in identifying pollutant stressors for non-tidal nutrients and biological impairments; and we use Bacteria Source Tracking (BST) to identify different sources of bacteria contamination in waterbodies)

--institutionalizing TMDL implementation: *Maryland's 2006 TMDL Implementation Guidance for Local Governments* focuses on institutionalizing implementation within routine government decision structures and operating procedures; this is in contrast to developing an "implementation plan" that tends to sit on a shelf because it is disjointed from local government functions

--integrating land use planning and watershed planning: elements of TMDL implementation planning are being incorporated into the local land use planning process via a new Water Resource Element (WRE); the WRE, required by a 2006 state law, calls for nutrient load accounting from PSs and NPSs

--nutrient offsets: phasing in nutrient trading/offset programs to maintain nutrient limits in perpetuity; Phase I addresses point-to-point offsets (adopted); Phase II would address point-to-nonpoint offsets, that is, offsetting PS increases using NPS reductions (under development); Phase III would address offsetting new NPSs (under consideration)

--integrating restoration and protection of non-tidal streams: biological monitoring and other data are being used to prioritize watersheds, and sites within watersheds, for both restoration and protection; the same biological data used to identify impairments are used to identify Tier II (high quality) waters for protection under MD's anti-degradation policy

--<u>bacteria TMDL adaptive implementation</u>: bacteria TMDLs for shellfish waters have been prioritized using bacteria source tracking (BST) information; on the basis of health risk management, 9 cases with human sources are the focus of an implementation initiative; this consists of making weekly commitments to action items and tracking progress as part of the Governor's BayStat process

--regarding a water body that was "on the cusp" of impairment, MDE developed a WQA with an understanding by the local jurisdiction that it would develop a watershed management plan to prevent the water from becoming impaired (Piney Run reservoir, Carroll County)

--<u>3 Levels of TMDL Implementation Assessment</u>:
(1) Tracking BMP implementation and other actions, *e.g.*, adoption of new programs and plans
- BMP tracking builds upon Chesapeake Bay Program tracking (BayStat is a major program success evaluation framework)
- NPDES MS4 permits are being revised to improve accounting
- Tracking watershed plan development
- Tracking bacteria implementation activities
(2) Measuring localized water quality improvements in response to specific implementation projects; the results can be extrapolated to other projects that do not have monitoring, and they constitute incremental progress towards achieving WQSs, which are evaluated at a larger geographic scale
- Measuring nitrogen reductions in groundwater before and after implementing denitrifying septic systems
- Quantified improvement of stream habitat conducive to anticipated improvement in biological integrity
- Assessing incremental improvement in miles of healthy streams on a watershed scale using random sampling of biological integrity
(3) Monitoring water quality according to standards

TMDLs that Represent a Particular Achievement
--Baltimore Harbor Nutrients TMDL

--Anacostia River Fecal Bacteria TMDL

--Anacostia River Sediments TMDL

--Anacostia River Nutrients TMDL

--Potomac River Tidal PCBs TMDL

--Loch Raven/Prettyboy TP and Sediments TMDLs

Links to MD TMDLs:
http://www.mde.state.md.us/Programs/WaterPrograms/TMDL/
ApprovedFinalTMDL/index.asp

Barriers
Top Three Barriers to TMDL Development
1. funding
2. staff shortage
3. technical/scientific limitations

Top Three Barriers to TMDL Implementation
1. funding
2. creating programs to address NPS pollution
3. no clear regulatory requirement