



Facing The TMDL Challenge - Virginia's Perspective -

Alan Pollock
Office of Water Quality Programs
Virginia Department of Environmental Quality

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Background

Virginia's TMDL Program

- Virginia is under a Federal Consent Decree (CD)
 - May 1, 2000 through May 1, 2010
- In addition to federal TMDL regulations, the Code of Virginia directs VADEQ to develop TMDLs **and** Implementation Plans to restore impaired waters
- Have developed a number of TMDL implementation plans (IPs), but priority has been CD schedule to produce TMDLs

Number of Impairments Addressed During the 10-year CD Schedule

Due Date	CD Impairments	Non-CD Impairments	Total Completed
2000	12	0	12
2002	27	0	27
2004	90	8	98
2006	171	36	207
2008	120	82	202
2010	165	77	242
Total	585	203	788

NOTE: During the 10 year consent decree schedule, approximately 150 other CD waters were either delisted or Re-categorized as "no TMDL required".

Number of TMDLs with TMDL Implementation Plans

Completion Date	Number of TMDLs
2001	12
2004	7
2005	21
2006	26
2007	11
2008	26
2009	14
Total	117

Where We Have Been - Lessons Learned -

1. We continue to meet the daunting schedule contained in the CD

Lesson Learned:

Legal requirement of CD provided impetus for federal and state funding to support production of TMDLs

Where We Have Been - Lessons Learned -

2. Will have completed 788 TMDLs
 - Includes 203 non-CD TMDLs that are:
 - adjacent to the CD watersheds
 - included with CD watershed for efficiency

Lesson Learned:

Taking broader watershed approach provides greater efficiencies and is favored by the public

Where We Have Been - Lessons Learned -

3. Completed 117 TMDL IPs, just 15% of TMDLs completed; active implementation is even a smaller percentage due to lack of both resources and incentives to install needed practices

Lesson Learned:

Implementing TMDLs remains the major challenge to restoring water quality

Where We Are Going?

- Currently working with EPA on MOU with development schedule to replace CD
 - MOU schedule to address 1,200 impaired waters based in 2008 list and EPA's expectation of a TMDL within 12 years of listing
- MOU pace is 200 TMDLs per biennium
 - equivalent to pace in last 2 biennia of CD
- Will resources be available to maintain that pace?

To Maintain Pace Need To Improve Efficiencies

Budget reductions have slowed down pace;
to keep to our mandate we will need to:

1. Maintain funding and staffing
2. Incorporate more time and fiscal efficiencies into TMDL process
 - do similar types of TMDLs with in-house resources
 - increase use of simpler load duration method for bacteria TMDLs

Additional Efficiencies to be Incorporated

- Move from simple segment TMDLs to a larger or ecoregion TMDL platform
 - currently working on the development of a prototype
- Have limited, but positive, experiences with third party TMDLs and TMDL IPs
 - will promote and encourage more stakeholder TMDLs

Building a Better TMDL Process

- TMDLs provide a **systematic process** for restoring impaired waters that can be applied to many types of stressors
- Exacerbated **flow** in some urban watersheds is primary stressor of benthic community
- **PCBs** not just a legacy issue
 - TMDLs identify active transports from contaminated sites
- Interstate, high-profile TMDL for **Chesapeake Bay** will break the mold

Systematic TMDL Restoration Process in Virginia

- TMDL WLAs have resulted in permit limits or requirements for nitrates, TP, TSS, bacteria, additional discharge monitoring, and pollutant minimization plans.
- TMDL LAs highlight need for significant NPS pollutant reductions in most TMDL watersheds
- Coal mining TMDLs have resulted in the development and implementation of innovative pollutant offset program
- Bottom Line: TMDLs will continue to push towards new ways of solving old problems

Further Information: Virginia's TMDL Progress Report
<http://www.deq.virginia.gov/tmdl/homepage.html>

Stream Flow as Stressor

- Benthic data shows Accotink Creek in Fairfax County with a VA Stream Condition Index of about 30 (need 60 for attainment)
- TMDL modeling shows minimal sediment (TSS) transported from watershed to stream
- High TSS concentrations in stream result from bottom scour and bank erosion
- Flow frequency analysis of data from long term stream gage in watershed shows significant shift through time toward high and low stream flows as function of increasing impervious cover

Accotink Creek Flow TMDL

- VADEQ and EPA are working with local governments to develop flow/TSS TMDL and IP
- TMDL will focus on flow retarding components of stormwater BMPs
 - address runoff in urban renewal projects
 - stress green infrastructure and other innovative methods to reduce urban runoff
 - Requirements will need to be in MS4 permits

PCBs

Only a Legacy Pollutant?

- Virginia currently has 39 PCB impairments due to elevated fish tissue concentrations
- TMDLs using EPA's low level detection Method 1668B are identifying a number of land based sources with active transports
- TMDLs have identified previously remediated contaminated sites as PCB sources needing additional remediation

PCB Monitoring – Key is Using Low Detection Method

- DEQ Guidance was developed with assistance from a stakeholder group and review by EPA Region 3
- Guidance recommends the use of EPA's un-promulgated high resolution Method 1668B for sampling and analytical procedures
- Provides key data for TMDL development
- Facilities selected for monitoring by SICs associated with PCB use and staff knowledge

TMDL Remediation for PCB Reductions

- TMDLs recommend “pollutant minimization plans” for PCB reductions in point source discharges
- TMDLs recommend existing remediation programs be used to reduce PCB transport from contaminated sites or “hot spots” to receiving stream

Chesapeake Bay TMDL Will Break the Mold!

- Most complex TMDL undertaken in EPA Region 3
- EPA developing TMDL with state partners
- There is a full array of technical, policy, legal, and interstate management issues that need to be resolved
- TMDL must be completed by May 2011 in accordance with Virginia's CD schedule – target date is December 2010.

Chesapeake Bay TMDL Will Break the Mold!

- EPA expects reasonable assurance will be demonstrated through IPs
- Staged Implementation contemplated
 - Does it apply to WLAs, as well as LAs?
- States to focus on two-year milestones, with contingencies, to document progress
- Later this year, EPA to identify the consequences for falling behind on implementation
- Restoration goal is 2025

So.....How do we
know what loads to
put in permits?

Need for TMDL WLA Tracking System

- To date, over a thousand VPDES permits are affected by the WLAs in approximately 600 TMDL mass balance equations
- As permitted facilities are modified and TMDL offsets emerge, VADEQ must develop an effective and efficient procedure to make WLAs and permit information available to DEQ staff, EPA, other Virginia state agencies, the regulated community, and the general public.

Developing TMDL WLA Tracking System

- DEQ is developing an interactive TMDL WLA data base with interface to permits and GIS linkage
- This TMDL WLA data base will provide improved user friendly access for permit staff and public to obtain up-to-date TMDL WLAs directly from the user-friendly interface.
- Funding for development of tracking system through 604b Planning grant from EPA

Too **M**any **D**arn **L**istings

but.....

**It's The Way to
Water Quality Improvements**

The Final Word

- TMDLS provide a structure within which to address impairments
- To keep up with the pace, we will need to group similar types of TMDLs and estimate loads for simple impairments
- We need to add flexibility to the system to be able to deal with complex impairments
- The proof is in the implementation – we must develop realistic and timely plans and then put them into practice