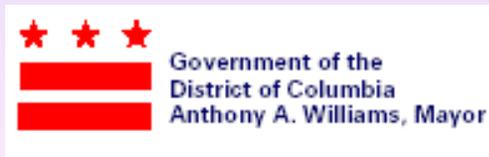


# PCB TMDLs in the Tidal Potomac Watershed

Technical Advisory Committee  
September 29, 2005



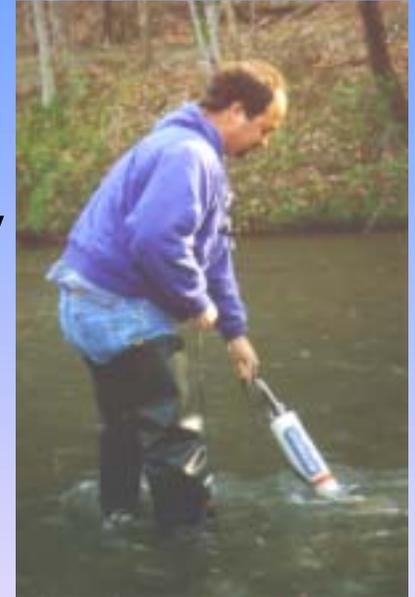
# **Presentation Overview**

- 1. How we got here: the Applicable Water Quality Standard**
- 2. TMDL Programs**
- 3. Stakeholder Involvement Plan**
- 4. Implementation Considerations – the DRBC Experience**

- 1. How we got here:  
the Applicable Water  
Quality Standard**

# 305(b) Assessment and 303(d) Listing Processes

- Monitor and assess water quality for 305(b) Report
- Place waters exceeding water quality standards on 303(d) List
- Develop Total Maximum Daily Load (TMDL) for each listed water



# Water Quality Standards

- Water Quality Standards (WQS) are regulations based on federal and state law that:
  - set **numeric** and **narrative** limits on pollutants
  - consist of **designated use(s)** and water quality **criteria**
- 303(d) “listing” of impaired waters and TMDL development are based on WQS

# Designated Uses

- All VA and MD waters are designated for:
  - aquatic life
  - fish consumption
  - primary contact recreation (swimming)
- Appropriate surface waters are *also* designated for:
  - shellfish
  - drinking water



Potomac “Swim for the Environment” 2004

# Designated Uses (DC)

- *All* DC waters are designated for:
  - aquatic life (fish, shellfish and wildlife)
  - human health (fish and shellfish consumption)
  - primary/secondary contact recreation



**Potomac “Swim for the Environment” 2004**

# Applicable Designated Use

- For this Tidal Potomac PCB TMDL, it is the Fish Consumption use which is impaired, because of elevated PCB levels in fish tissue.



# Jurisdictions' Criteria

	<b>Consumption Advisories Fish Tissue (ng/g)</b>	<b>Water Quality Standards Total PCBs (ng/L)</b>
<b>DC DOH:</b>	20 (EPA)	0.045
<b>MDE:</b>	78	0.64
<b>VADEQ:</b>	54	1.70

## **2. TMDL Programs**

# What is a TMDL ?

- TMDL – stands for **Total Maximum Daily Load**
- TMDL - a pollution budget
- TMDL - a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet **water quality standards**
- TMDL - includes an **allocation** of that maximum amount to the pollutant's sources

# When are TMDLs needed?

- State and federal law require TMDLs to be developed for **impaired** waters
- Impaired waters do not meet applicable **water quality standards (WQS)**
- Waters that do not meet WQS do not support their **designated use(s)**

# TMDL Equation

A TMDL is summarized as:

$$\text{TMDL} = \text{Sum of WLA} + \text{Sum of LA} + \text{MOS}$$

Where:

TMDL = Total Maximum Daily Load

WLA = Waste Load Allocation (point sources incl. permitted stormwater discharges)

LA = Load Allocation (nonpoint sources)

MOS = Margin of Safety

# How is a TMDL developed?

- Identify all **sources** of a given pollutant (e.g., PCBs) within the watershed.
- Calculate the **amount** of pollutant entering the estuary from each source.
- Understand pollutant **fate and transport** through computer model simulations.
- Calculate the **pollutant reductions needed**, by source, to attain water quality standards.
- **Allocate the allowable loading** to each source and include a margin of safety.

# **3. Stakeholder Involvement Plan**

# Role of the TAC in TMDL Development

The Technical Advisory Committee (TAC) represents the interested agencies, utilities, local governments, businesses, and environmental groups. The TAC will:

- review data, methods, processes
- advise on technical issues
- assist with public outreach process
- TAC meetings are public noticed and are open to the public

# TMDL Development Process – the TAC

- Technical Advisory Committee (TAC) meetings (quarterly through process):
  - Review progress
  - Review available data and proposed modeling approach
  - Review source assessment and initial modeling
  - Review modeling output and proposed allocation
- Topic Workgroups also as needed
- Assist in public outreach to interested parties; report to respective Boards

# Role of the Public in TMDL Development

The public is asked to:

- Stay involved, stay informed.
- Let Project Team know specific things about the watershed.
- Review draft reports as they are issued, and provide comments on them during the comment period.
- Contact local government or interested agency for further technical input.
- Continue to be good stewards of the watershed.

# TMDL Development Process

- Public meetings in VA, MD and DC
  1. Get local perspective
  2. Present source assessment
  3. Present allocations and draft TMDL
- Receive and incorporate public comments
- Submit TMDLs to EPA for approval
- Jurisdiction acceptance (e.g., VA SWCB)

# **TMDL - *Total Maximum Daily Load***

**For more information, go to:**

**<http://doh.dc.gov/doh/site/default.asp>**

**[www.mde.state.md.us/Programs/WaterPrograms/TMDL/  
index.asp](http://www.mde.state.md.us/Programs/WaterPrograms/TMDL/index.asp)**

**<http://www.deq.virginia.gov/tmdl/>**

# **4. Implementation Considerations**

# TMDL Development Process - Implementation

- EPA requires “reasonable assurance” of implementation (DC/MD/VA). Virginia also requires an Implementation Plan.
- Note that all NPDES permits must be consistent with the TMDL WLA, and all such permits must be submitted to EPA for review.
- Future ongoing monitoring to detect resulting improvements in water quality.

# **TMDL Development Process - Implementation**

***It is much too early to tell what specific Implementation Activities might be recommended for the Potomac Estuary....***

**But the Delaware River Basin Commission (DRBC) experience can be a useful reference.....**



# DRBCs PCB Implementation Strategies

## PCB Loading Reduction Actions - Pollutant Minimization Plans ("PMPs")

- Contaminated sites
- Permit Requirements for PMPs
- Air sources
- Nonpoint Sources
- Tributaries



# DRBCs PCB Implementation Strategies

## Remove PCBs from the Environment

- Prioritize and clean up PCB-contaminated sites
- Investigate, track and report annually on the progress being made
- Investigate and analyze options for addressing and remediating PCBs behind dams.
- Investigate and periodically consider bio-remediation and other new technologies



# DRBCs PCB Implementation Strategies

## Remove PCBs Currently in Use Before They Enter the Environment

- Institute voluntary program to remove or replace electrical equipment containing PCBs
- Conduct education and outreach activities to targeted groups such as demolition contractors, Brownfields redevelopers, municipalities, building inspectors, scrapyards, fire departments, recyclers and others.



# DRBCs PCB Implementation Strategies

## Human Risk Reduction

- Recognize and endorse programs that are addressing risk reduction strategies (e.g., multicultural outreach for fish consumption advisories)





**Implementation is  
likely to include  
risk management...**

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