TMDLs to Stormwater Permits Handbook
WASHCOG, November 13, 2008
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Today's Presentation

- Quick summary of History leading up to the TMDL-SW Handbook
- What is in the Handbook
- Next steps

Background: TMDLs and Permits

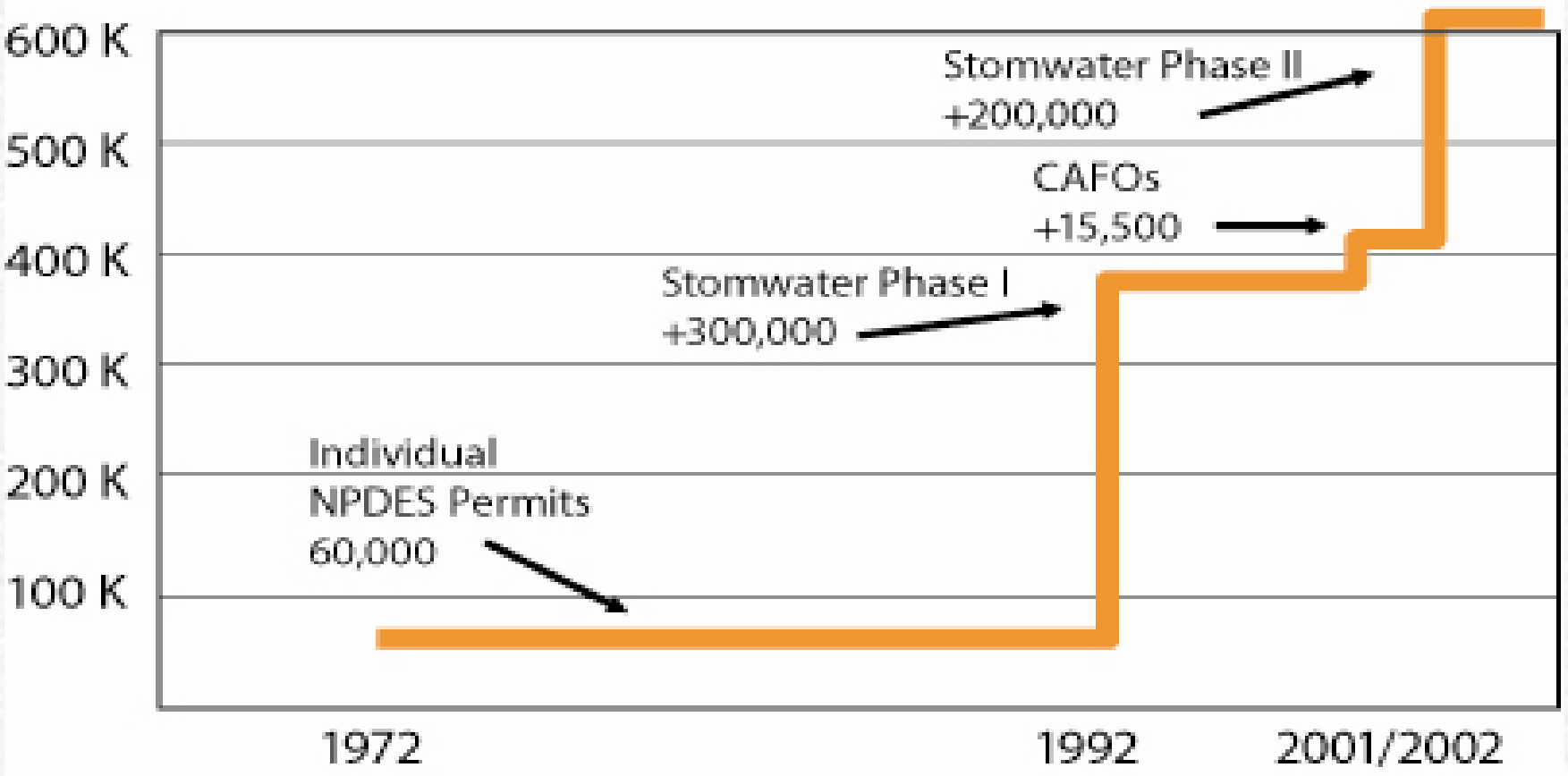
- Thousands of waters listed for impairments from storm water sources that need a TMDL
  - Pathogens
  - Sediment
  - Nutrients, toxics
  - Biological impairments linked to sw sources
- Also, excess stormwater flow typically is linked to impairments

TMDLs and SW Permits

- States and Regions gaining experience developing SW-source WLA's
- TMDL implementation occurring through all types of sw permits
  - Individual and general
  - MS4, industrial, construction

Growth of the NPDES Program

(Number of facilities or sources)



Promoting TDML Implementation through SW Permits: EPA efforts

- 2002 Memorandum on TMDLs and NPDES Stormwater permits
- Technical Assistance www.epa.gov/owow/tmdl/stormwater/
  - Summary of State Practices (Region 5)
  - Summary of 17 TMDLs with SW sources (HQ)
  - Understanding TMDL Requirements for MS4s (Region 3)
  - Stormwater TMDL Implementation Support Manual (R1)
- Numerous EPA Regional Program Meetings
- EPA Regions working with States in both programs

Remaining Questions

- How to develop thousands of TMDLs with sw sources with limited data and funds
- How to develop more detailed stormwater wasteload allocations (WLAs)?
- How to translate WLAs into permit requirements and implementation strategies
- How to incorporate BMP monitoring, tracking and adaptive management into TMDLs and permits?

AND...

Getting from Here

To Here

Handbook Goals

Improving the connection between TMDLs and SW permits will:

- Result in more accurate TMDLs that are easier to implement
- Improve stormwater management efforts to address WLAs
- Promote more effective TMDL implementation
- More quickly restore our streams, lakes, rivers, estuaries and coasts

Handbook Structure

- Handbook addresses:
  - Options for incorporating SW sources into TMDL analyses and development
  - Options for SW permit requirements to promote effective TMDL implementation through stormwater management and pollution prevention programs
  - TMDL and permit language examples throughout
- Handbook can assist:
  - TMDL writers (EPA, state, third-party)
  - SW permit writers (EPA, state)
  - SW permittees

Who is Developing the Handbook?

- Initiated by EPA HQ and Region 5
- Led by core team of EPA TMDL and NPDES stormwater permits staff
- Review and input from EPA Regions
- Support from EPA Consultant (TetraTech)

Handbook Content Overview
Current Chapters

1) Understanding the connections between TMDLs and stormwater permits
2) Identifying opportunities to coordinate TMDLs and stormwater permits
3) Characterizing impairments and stormwater sources
4) Developing TMDL allocations with stormwater sources
5) Promoting effective BMP implementation and adaptive management
6) Coordinating TMDL and stormwater permit requirements

Chapter One: Understanding the Connection

- What every SW permit writer should know about the TMDL Program
  - Section 303(d) listing of impaired waters
  - TMDL components and characteristics
  - Implementation plans
  - Challenges of TMDL development
- What every TMDL writer should know about the NPDES Stormwater Program
  - Types of permitted sources
  - Types of permits
  - Basic permit requirements and associated standards (e.g., MEP and BAT)
  - Challenges of permit development and implementation

Chapter Two:
Identifying Opportunities to Coordinate

- Identifies how and when TMDL and SW permit writers can work together
  - Coordinating processes
  - Sharing data
  - Maximizing stakeholder involvement
- Emphasizes importance of stakeholder involvement to the process
- Provides specific examples and resources

Chapter Three: Characterizing Impairments and SW Sources

- Discusses stormwater effects on waterbodies
  - Quality
  - Quantity (i.e., flow)
- Addresses data analysis to characterize sources
  - Causes of impairment
  - Spatial and temporal patterns and trends
  - Critical conditions
- Discusses use of surrogate TMDL targets
  - Flow
  - Impervious cover

Chapter Three: Characterizing Impairments and SW Sources (cont'd)

- Educates TMDL writers on how to identify the type and location of stormwater sources
- Discusses the importance of accurately delineating the regulated drainage area of a stormwater source (e.g., MS4 boundary v. jurisdictional boundary)
- Provides an overview of data generated by stormwater permittees available for analysis
  - Mapping
  - Monitoring
  - Existing BMPs and management measures

Chapter Four: Developing TMDLs with Stormwater Sources

Land-based TMDL Calculation Process

- Watershed models
- Non-modeling approaches
  - Simple Method
  - Impervious Cover Method
  - Export Coefficients

Waterbody-based TMDL Calculation Process

- Receiving water models
- Non-modeling approaches
  - Load duration curve method
  - Percent reduction method
  - Mass balance or steady-state analysis

Chapter Four: Developing TMDLs with Stormwater Sources (cont'd)

- Addresses primary issues for technical analysis
  - How to represent stormwater source characteristics (e.g., discharge flows and concentrations)
  - How to isolate and estimate the loads transported and discharged through the MS4
  - How to use a surrogate target (e.g., impervious cover or flow)
- Presents options for categorizing and expressing WLAs
  - Aggregated (for all sources or by type)
  - Individual (by each source or by outfall)

Chapter Five: Promoting Effective Stormwater Management

- Addresses roles of TMDL and SW permit writers as stormwater planners
  - Evaluating and interpreting SW WLAs
  - Developing list of recommended or required BMPs
  - Identifying appropriate BMPs when a BMP list is not available
  - Developing BMP performance standards
- Acknowledges that sometimes the permittee might perform the role of stormwater planner, depending on the approach used in the permit

Chapter Five: Promoting Effective Stormwater Management (cont'd)

- Presents key questions for selecting and assessing BMPs
  1. What is the current pollutant loading from the stormwater source's discharge accounting for existing BMPs?
  2. What additional loading reduction is necessary to implement the WLA?
  3. What additional BMPs might provide the remaining pollutant load reductions necessary to implement the WLA?
  4. How should permittees measure BMP performance?
  5. Are measured pollutant load reductions adequate to make progress toward implementing the WLA over time?
  6. What modifications are necessary to implement the WLA?
- Provides description of references and modeling tools to assist in the selection of appropriate BMPs

Chapter Six: Coordinating TMDLs and Stormwater Permits

- Describes differences in potential approaches for TMDL implementation based on permit type
  - Individual = more specificity and tailored requirements
  - Statewide General = less specificity, broader requirements
  - Watershed-scale General = potential for more specificity, including tailored BMP performance standards
- Addresses options for SW permit requirements to facilitate TMDL implementation
  - Determining applicability (e.g., if discharge contains pollutant of concern)
  - Identifying and implementing water quality controls (e.g., specifying BMPs or BMP performance standards)
  - Monitoring
- Discusses options for connecting WLAs, stormwater permits, and implementation strategy documents

Handbook Schedule

- First draft distributed to EPA Regions: March 2008
- Comments received from EPA Regions: August 2008
- Significant rewrite based on comments, including thorough review by technical editor
- Distribute Draft Handbook to States and other parties (ASIWPCA, etc) for Review and Comment: November 2008 (90 days for comment)
- Final Draft: Spring 2009
- Will consider information from the NRC Report on Urban Stormwater, which was not available for this Draft version
  - TMDL chapters do include information on approved TMDLs using flow as a surrogate, which NRC supports

Additional TMDL-SW Sources

New TMDL-SW link on HQ TMDL website:
http://epa.gov/owow/tmdl/stormwater/

- See handout

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