Implementation Strategy for Stage 2 TMDLs for PCBs in the Delaware Estuary

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Presentation Outline

- Implementation Strategy for NPDES Discharges
  - History
  - Strategy Elements
  - NPDES Response Levels
  - Examples
- Stage 2 TMDLs

TMDL History

- The estuary consists of 5 water quality management units called Zones.
- EPA Regions II & III establish Stage 1 PCB TMDLs for Zones 2 – 5 in December 2003.
- EPA Regions II & III establish Stage 1 PCB TMDL for Zone 6 in December 2006.

TMDL History (cont.)

- These TMDLs were based upon the current criteria of both the states and the DRBC at that time.
- A new methodology for deriving human health water quality criteria had been issued by U.S. EPA in 2000.
- In March 2003, the Commission directed staff to develop revised human health criteria based upon this new methodology.
- In December 2005, the Commission directed the Executive Director to proceed with rulemaking on a revised PCB criterion of 16 pg/L.

TMDL History (cont.)

- In December 2005 resolution, the Commission also requested the Executive Director to work with other federal and state regulatory agencies develop recommendations for implementing criteria for bioaccumulative pollutants.
- These recommendations should be consistent with the existing Clean Water Act NPDES framework while also reflecting principles of adaptive management.
- The proposed PCB TMDL Implementation Strategy is the result of this effort.

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NPDES Permitting Strategy

- In August 2013, the DRBC invited comment on a proposed implementation strategy for point as well as non-point sources to implement Stage 2 TMDLs.
  - ✓ The point source strategy developed by the co-regulators includes 6 elements.
  - ✓ The strategy requires that each discharger attain its wasteload allocation as soon as possible.
  - ✓ It builds upon the implementation requirements of the Stage 1 TMDLs that required PMPs and monitoring using Method 1668A.

NPDES Permitting Strategy

- ✓ New provisions include:
  a. An Action Level based upon Existing Effluent Quality (EEQ).
  b. Technology-based requirements for TSS.
  c. A requirement to submit a PMP Progress Report to accompany a permit renewal application.
  d. A requirement to submit a revised PMP if the permitting agency determines that the PMP will not likely achieve the maximum practicable reduction of PCBs.
  e. A requirement that these elements remain in place until the discharger's wasteload allocation (WLA) is achieved.

NPDES Permitting Strategy

- The major addition to the implementation of the PCB TMDLs is the provision for an Action Level.
- Action Level Principles:
  - Purpose - to elicit a prompt response to elevated PCB concentrations above levels already achieved.
  - Establish the duration and magnitude of elevated concentrations.
  - Document actions taken and return to PCB concentrations previously observed, or proposed actions to be included in a revised PMP.

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NPDES Response Levels

- Two Response Levels are proposed:
  - ✓ Based upon the last 10 data points collected under normal operating conditions.
  - ✓ Incorporate Outlier Test and BPJ by permitting staff.
  - ❶ Confirmatory Monitoring Trigger Level (CMTL) - based upon 95th confidence interval of the *median*.
    - Objective is to obtain additional monitoring data given the low frequency of permit monitoring currently required.
    - Permittee has primary responsibility – Reporting to DRBC required.

NPDES Response Levels

- Two Response Levels are proposed:
  - ❷ Action Level - based upon maximum projected effluent concentration.
    - Objective is to require notification, monitoring and submittal of a report of actions taken.
    - Permittee and DRBC/State permitting agency share responsibility.
    - Monitoring frequency is increased to 3, 4 or 6 times per year depending on whether the confirmatory sample is <CMTL, >CMTL but <AL, or is >AL.
    - Report of Actions Taken due 60 days from receipt of confirmatory sample results.

NPDES Response Levels

- Notes:
  - ✓ Implementations of CMTL and AL are applicable to all discharges to the Delaware Estuary identified in the PCB Stage 2 TMDLs.
  - ✓ Separate CMTLs and ALs are proposed for DRY and WET weather conditions.
  - ✓ A newly calculated CMTL or AL in the following permit cycle must be less than or equal to levels contained in the current permit.

NPDES Response Levels

- Notes:
  - ✓ State permitting agency in consultation with the DRBC may:
    - adjust the AL by using an alternative CV (default or higher CV) and/or
    - utilize BPJ to adjust the CMTL

    for selected cases where the representative data trend is flat and concentrations are low (e.g., ≤500 pg/L).

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  - Examples - Greg Cavallo
- ✓ Stage 2 TMDLs

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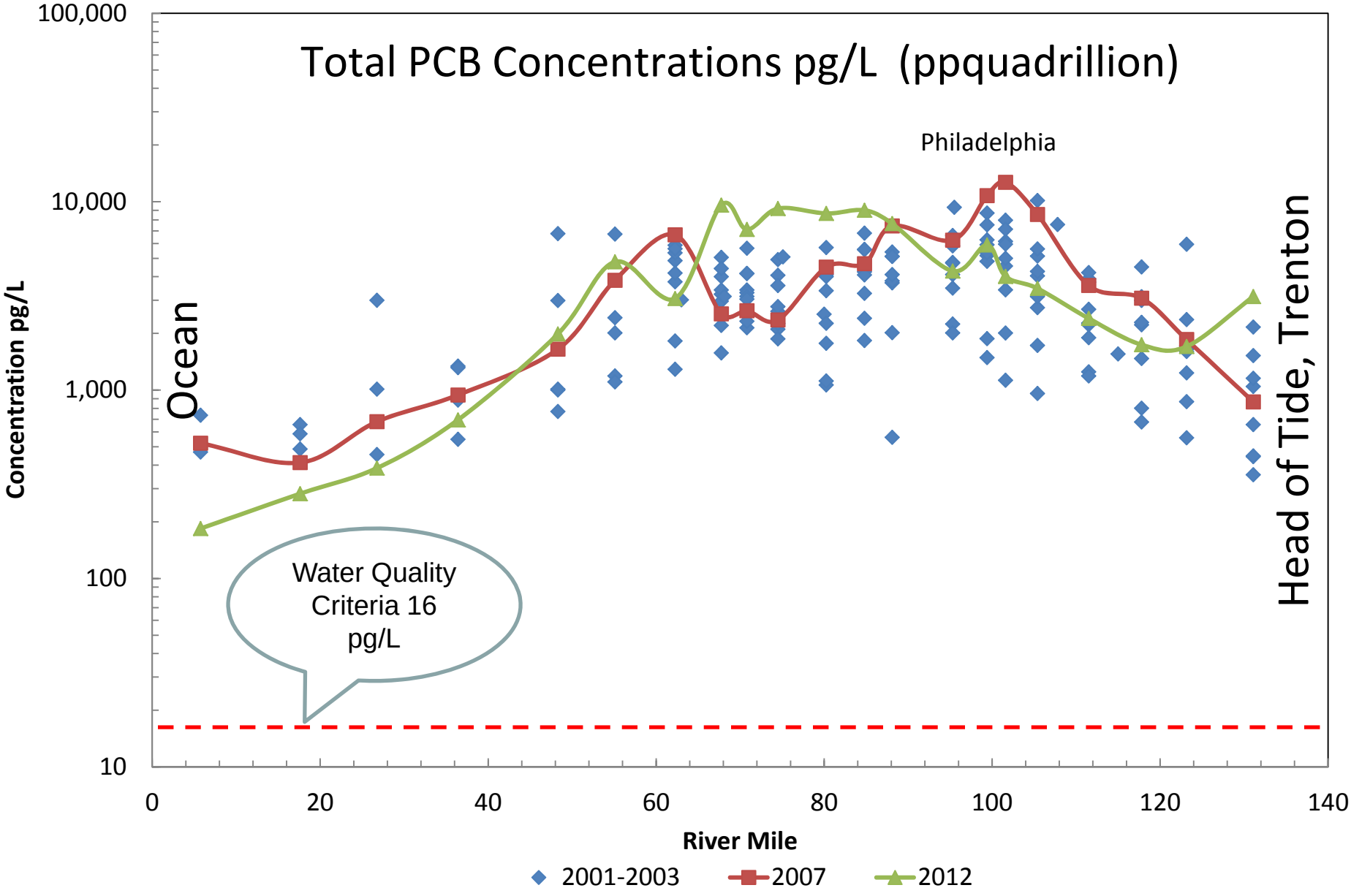
Achieving the PCB WQ Criterion

- Reductions in PCB loadings will not immediately result in lower ambient water concentrations or in reduced tissue levels of PCBs in resident fish species.
- This is due to the continuing flux of PCBs from the sediments to the water column. As solids uncontaminated by PCBs settle to the bottom, this flux will ultimately reach equilibrium with the water column.

Ambient Water Concentrations



Stage 2 TMDLs

- Stage 2 TMDLs are needed to:
  - ✓ Update the TMDLs using the revised uniform WQ criterion for all Zones.
  - ✓ Utilize a new, more equitable wasteload allocation procedure agreed upon by stakeholders.
  - ✓ Utilize an improved PCB water quality model.
  - ✓ Include an implementation strategy for point and non-point sources as an Appendix to the Stage 2 TMDL report.
  - ✓ Provide certainty to this process.

Stage 2 TMDLs

- DRBC staff is preparing the basis and background documentation for the Stage 2 TMDLs for the Estuary and Bay.
- U.S. EPA Regions 2 and 3 will notice and solicit comment, and formally establish the TMDLs.
  - ✓ These TMDLs will replace the Stage 1 TMDLs.
  - ✓ Implementation strategy elements will be effective with the establishment of the Stage 2 TMDLs.

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Information on the TMDLs, model development, sampling and analytical information, and PMP requirements and resources are available on the DRBC website at:

http://www.state.nj.us/drbc/quality/toxics/pcbs/

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