The Alphabet Soup of Water Regulations

April 2015
Overview

• What are the Pieces

• Tying the Pieces Together

• Putting it all in perspective

• How Water Quality Concerns have Evolved
What are the Pieces

• Federal Law
  – Clean Water Act – 1972
  – Others (HSCA, CERCLA, RCRA)

• State Law
  – Clean Stream Law
  – Act 167 – Stormwater Management - 1978
  – Act 537 – Sewage Facilities Planning - 1966
What are the Pieces

- Federal Regulations and Programs
  - 40 CFR 122 – 130: Covers (NPDES, Monitoring and Assessment, Continuing Planning Process)

- Water Quality Standards

- Permitting

- Follow up Actions

- Integrated Water Quality Report
What are the Pieces

- State Regulation
  - Chapter 91 – General Provisions – WQM Permits
  - Chapter 92a – NPDES Permits
  - Chapter 93 – Water Quality Standards (WQS)
  - Chapter 95 – Wastewater Treatment Requirements
  - Chapter 96 – WQS Implementation
  - Chapter 102 – Erosion and Sediment Control
  - Chapter 105 – Dam Safety & Waterway Management
Tying the Pieces Together

• Water Quality Standards
  – Numeric Criteria
  – Designated Uses
  – Special Protection Waters
  – Monitoring and Assessment
  – Integrate Water Quality Report
**Permitting**

- **NPDES permits**
  - Authorization to Discharge
  - Written to insure that WQS are met
  - Covers (MS4, CAFO, Sewage, Industrial Waste)
  - Implement TMDLs

- **Water Quality Management Permits (WQM)**
  - Authorize the construction of wastewater treatment facilities
  - Permit non-stream discharge systems (spray, drip irrigation)
Follow Up

• Inspections at Facilities
  – Is the permittee complying with the terms and conditions of their permit
  – Can be opportunities to better understand responsibilities

• Review of Annual Report Submittals

• Streams Assessment
  – Did the Department do a good job writing the permit
  – Are Designated uses being met
Watershed Management Cycle

- A stream/watershed assessment
- Streams that fail assessment criteria are included on Pennsylvania’s Impaired Waters List
- The TMDL or Alternative is completed to address the Impairments
- TMDL Implementation
- Reassess the waters
Evolving Water Quality Concerns

• The Shift in Pollutants of Concern
  – Dissolved Oxygen/ Ammonia Toxicity
  – Metals
  – Nutrients/Sediment
  – Emerging Contaminants

• 303(d) revisioning
  – What is it
  – How does this affect you
  – Why did DEP Pick Sediment as the Focus
Opportunities for Collaboration – MS4

• MCMs
  – Education/outreach
  – Training

• Plans
  – TMDL
  – Chesapeake Bay Pollutant Reduction Plans

• Permits
• TMDL Plans

• Chesapeake Bay Pollutant Reduction Plans

• Watershed Restoration/Maintenance Plan
Conceptual Model of Wadeable Stream ALU Nutrient Impact Assessment Methodology

Macroinvertebrate Community Aquatic Life Use (ALU) Impaired and Nutrients a Potential Cause of Impairment

Nutrient Impairment Screening
TP ≥ 0.10 mg/l, or TN ≥ 4.1 mg/l, or EPT < 5, or Becks < 4

No
Yes

Conduct Continuous Instream Monitoring of DO

30-Day Mean Diurnal DO Range >5.0 mg/l or Max Diurnal DO Range >7.0 mg/l During Critical Periods

No
Yes

Nutrients Not a Cause of ALU Impairment

Nutrients Are a Cause of ALU Impairment
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