Water Quality Standards, Permitting and Costs

MINNESOTA POLLUTION CONTROL AGENCY

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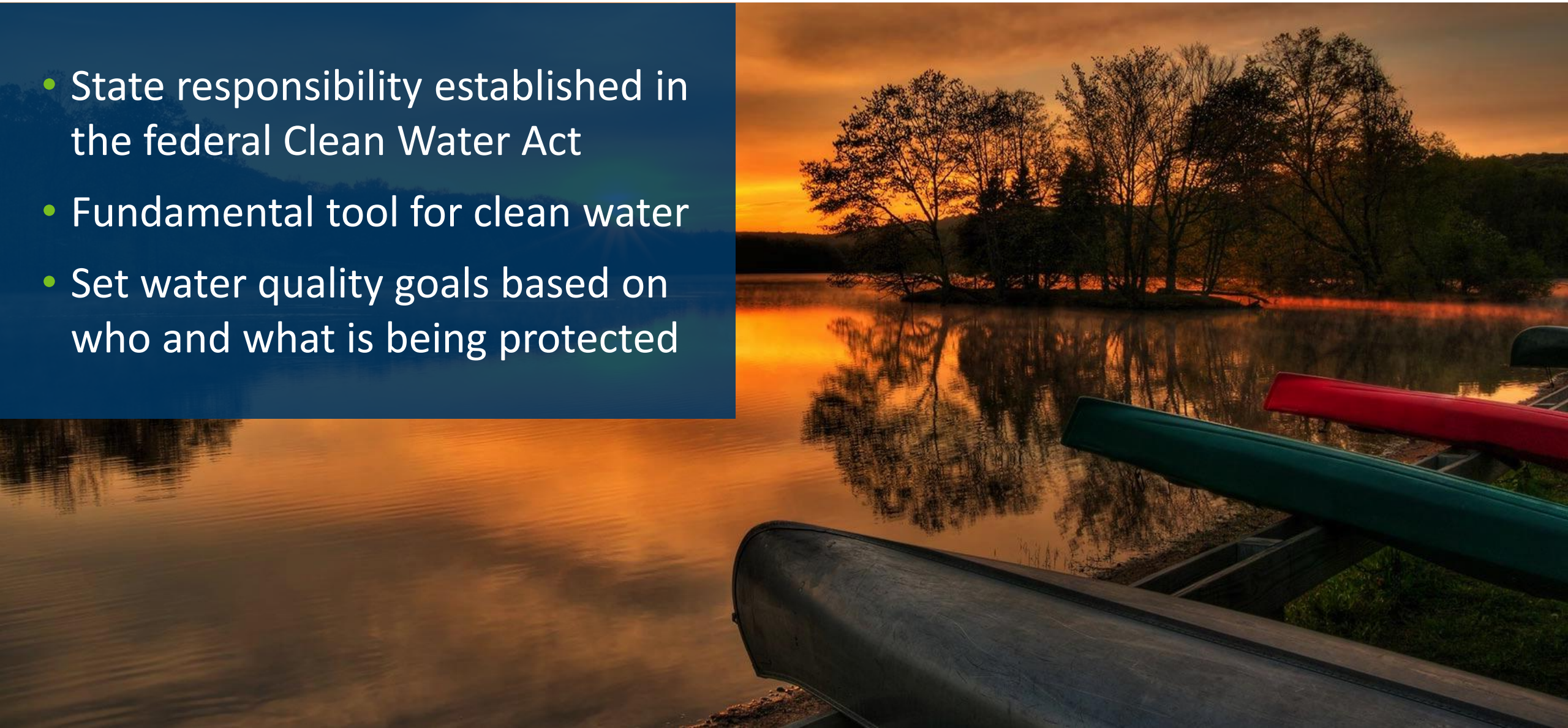
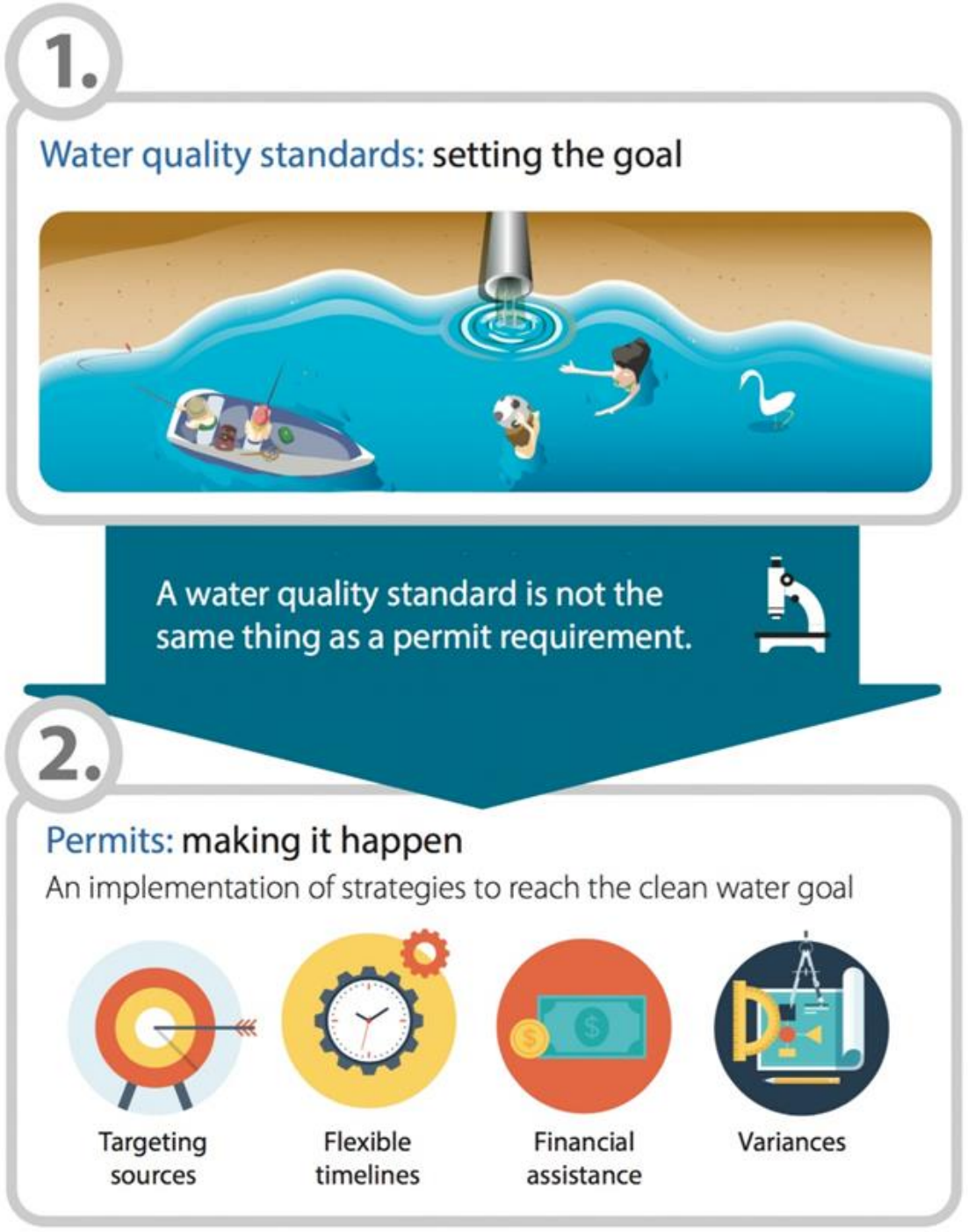
Water Quality Standards

- State responsibility established in the federal Clean Water Act
- Fundamental tool for clean water
- Set water quality goals based on who and what is being protected



Water Quality Standards ≠ Permit Requirements

- Standards identify the goal based on desired use and environmental science
- Permits specify facility requirements including costs, timeline and feasibility considerations



From Standards to Permit Requirements

Considerable analysis and expertise goes into developing effluent limits (i.e. permit requirements)

Facility-specific considerations of:

- Design capacity/flow
- Effluent quality and sources
- Receiving water quality and characteristics
- Treatment technology
- Costs, timelines, economic and technical feasibility

These specifics make general analyses of costs difficult

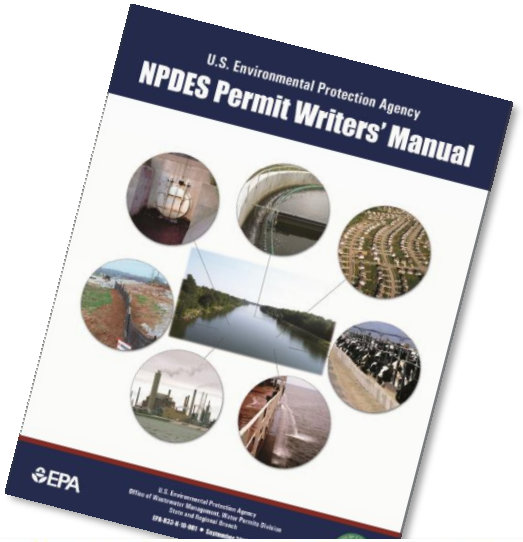
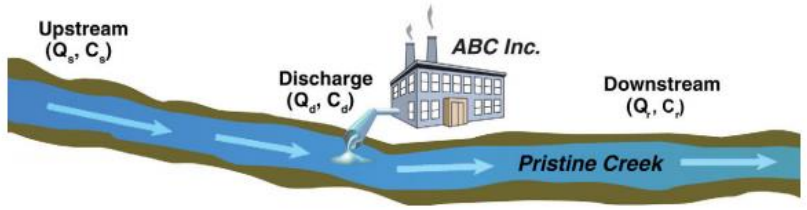


Exhibit 6-13 Mass-balance equation for reasonable potential analysis for conservative pollutant under conditions of rapid and complete mixing

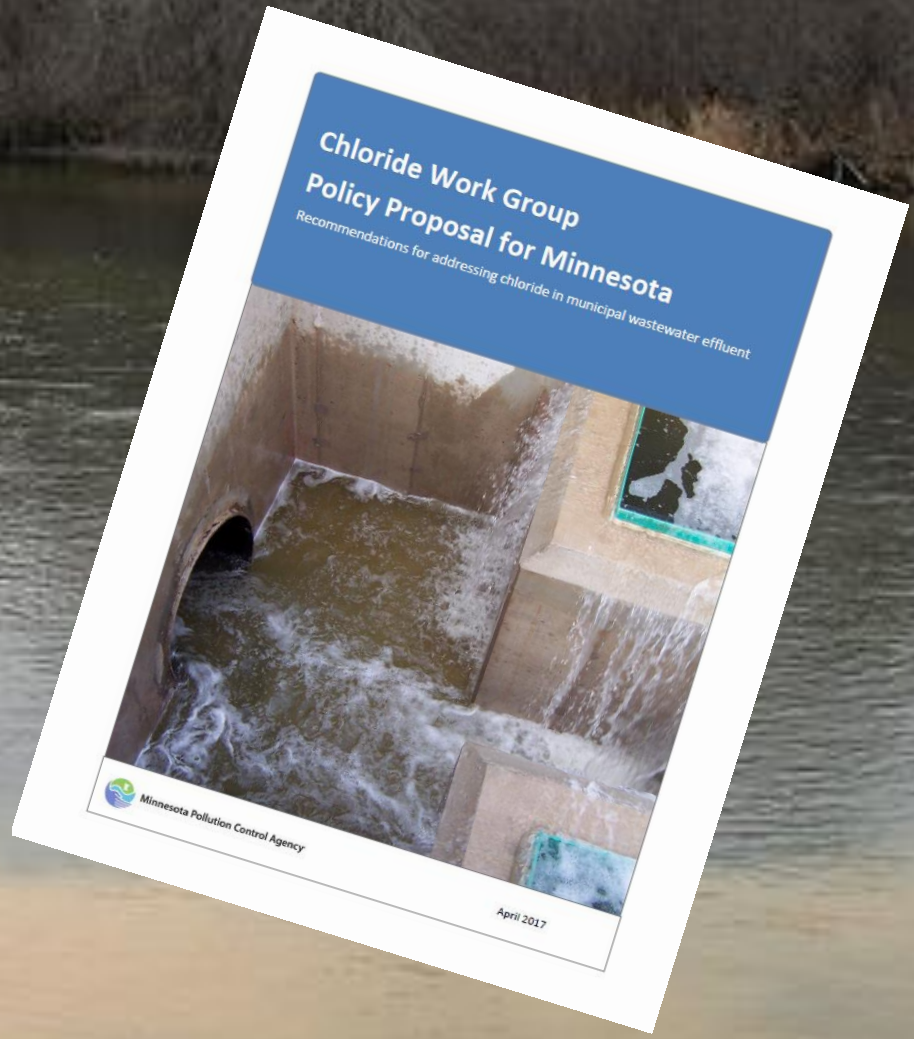


Uses and Limitations of Standards Cost Analysis

- Study makes conservative assumptions about permit limits derived from water quality standards
- Does not factor in permitting tools like schedules of compliance, variances
- Assumes structural approaches to meeting limits (rather than less-costly source reduction, optimization, innovation, trading)
- Looks at total pollutant loading, not time of greatest wastewater impacts
- Therefore:
  - Represents a worst-case cost scenario (what “could be”)
  - Very useful for identifying opportunities to avoid/reduce/manage costs
  - Not as useful for documenting actual water quality standards costs and benefits

Example: Chloride

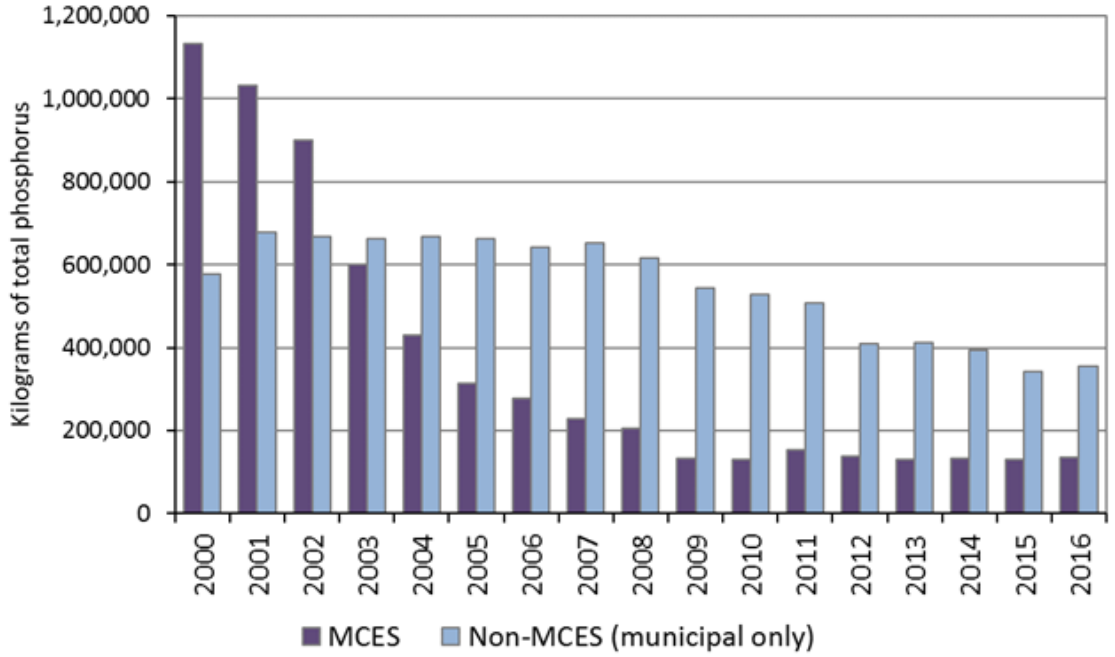
- About 78% of the wastewater costs estimated in the study are to meet the 1990 chloride standard
- Chloride treatment is generally not affordable; variances are the best tool

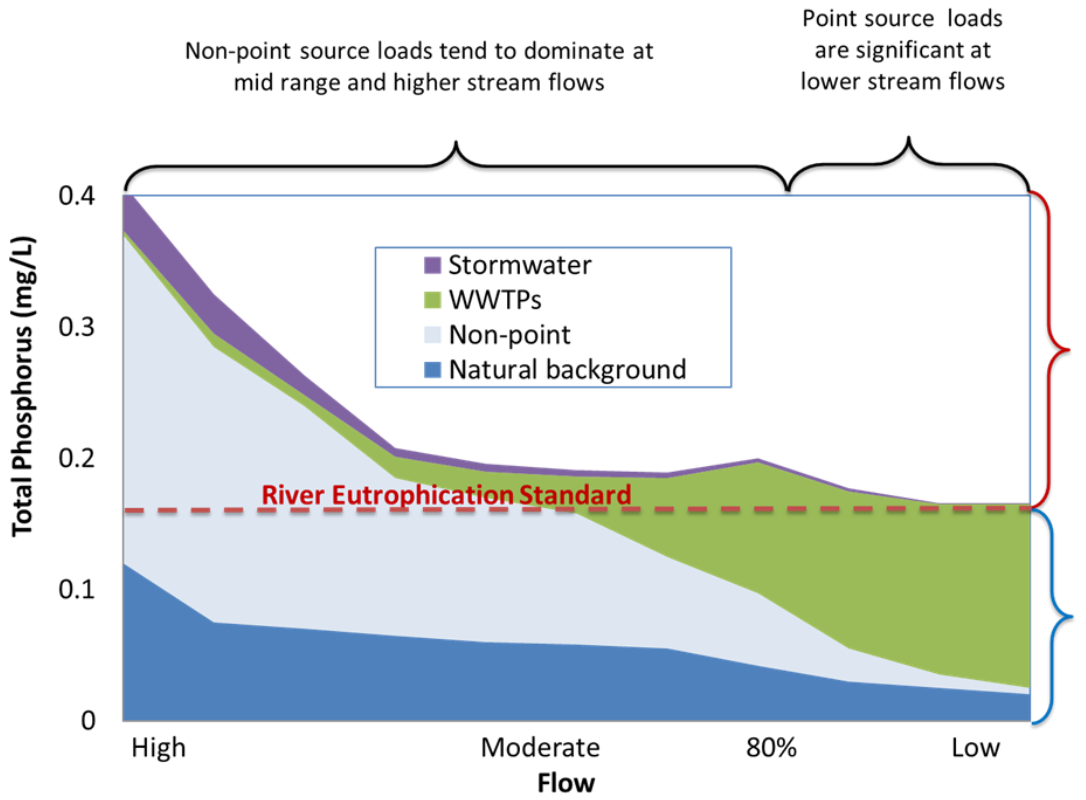


Example: Stormwater BMPs and MIDs

Example: River Eutrophication Standards

Progress reducing phosphorus





Timing matters as well as amount

Wastewater Infrastructure Costs

Costs of upgrading/replacing wastewater treatment facilities can be daunting for cities.

Aged-out infrastructure – **not** new water quality standards – are driving these costs.

We are working to minimize costs as much as possible and still maintain public health and water quality.

2017 Bonding appropriation of $90.7 million for PFA water infrastructure programs will help; ongoing dialogue also needed.

Thank you!

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