

# Key Strategies for Solving the Water Monitoring Problem in EPA Region 7



# PRESENTATION OBJECTIVES

- 1) SHARE AND DISCUSS THE WATER MONITORING PROBLEM AND REGION 7'S PROBLEM SOLVING STRATEGIES
- 2) CONVEY A SENSE OF HOPE THAT THE PROBLEM CAN BE SOLVED
- 3) ??????????????

# DISCUSSION TOPICS

THE WATER MONITORING PROBLEM STATEMENT

EVIDENCE TO SUPPORT THE PROBLEM STATEMENT

CONSEQUENCES OF THE PROBLEM

ROOT CAUSES OF THE PROBLEM

*REGION 7's STRATEGIES TO SOLVE THE PROBLEM*

# Water Monitoring Problem Statement:

Current ambient water monitoring efforts and funding are inadequate to comprehensively and confidently characterize the condition of all water resources of the US including EPA Region 7 and its states.

# Water Monitoring Reality vs Need

**REALITY:** Nationally and Regionally (but variable state to state) we can draw general conclusions about the status of some resource classes based upon scattered, incomplete, anecdotal or programmatic information.

**NEED:** To have enough of the right kind of data and information at various spatial scales to assess the condition of each water resource class so that confident management decisions can be made about each water resource class (streams, rivers, lakes, wetlands) we're charged to protect.

# Evidence to Support the Problem Statement

- 2000 GAO Report on EPA and State Data: “Key EPA and State Decisions Limited by Inconsistent and Incomplete Data”
  - “National Water Quality Report does not portray conditions nationwide” and, “is of limited usefulness”
  - “Only a small percentage of waters are assessed”
  - “Most monitoring is not done in a way that allows statistically valid assessments”
  - “Monitoring limitations and problems are considerable and solutions will entail significant expenditures”

# Water Monitoring Problem Statement:

Current ambient water monitoring efforts and funding are inadequate to comprehensively and confidently characterize the condition of all water resources of the US including EPA Region 7 and its states.

# Consequences of the Monitoring Problem

**Programmatic:** Nationally and Regionally, EPA and the states will not be able to meet the requirements of the Clean Water Act (CWA) and the Government Performance and Results Act (GPRA).

**Legal:** We leave ourselves open to lawsuits (e.g., TMDL)

**Social/ethical:** Erosion of Public Trust

**Environmental:** *We fail to effectively protect human health and the environment.*

# Root Causes of the Problem

- Lack of problem recognition and commitment to solve it
- Monitoring is Expensive
- Shortage of Monitoring Resources, Infrastructure
- Restricting/Conflicting Priorities
- Not Enough Coordination within & between Agencies
- Political Will
- Institutional Mindset
- It's an important problem but it is not an urgent one
- EPA
- Easier to manage without data & information
- Clean Water Act language

# Clean Water Act Issues

- CWA does not specify how states are to monitor their waters (unlike Clean Air Act).
- There are currently no set criteria or guidance to evaluate the adequacy of a state monitoring program.
- CWA does not provide dedicated funding for monitoring (unlike Clean Air Act).

# CWA Monitoring Objectives

- 305(b); Report on Status of all waters (streams, lakes, wetlands, groundwater, etc.)
- 303(d) list; Identify the number and location of all impaired waters and causes of the impairments for each water.
- Develop and implement a TMDL for all impaired waters.

# Demands on State Monitoring

- Status of all waters = 305(b) report
- Identify all impaired waters = 303(d) list
- Data to develop and verify TMDLs
- Point sources NPDES and NPDES Pretreatment
- Non-point sources (319 program)
- Biological & water quality standards development
- Characterize Reference conditions (biol. & chem.)
- Toxic compounds in water, sediment & fish tissue
- Special Investigations (UAAs, fish kills, etc.)
- Radar Screen (identify new & future threats)
- Multiple spatial scales (statewide, watershed, local)

# Resources Needed for a State Monitoring Program

- To run an adequate state monitoring program, one that answers all the important questions at relevant spatial scales, Iowa and Nebraska independently estimated it would cost 5 to 7 million per year.
- This does not include “radar screen” components such as air deposition monitoring.
- Add 1-2 million per year for TMDLs
- Total = 6 to 9 million dollars per year

# Strategies to Solve the Monitoring Problem

- 1) Get **recognition** of the problem and **commitment** to actively work on solutions at all levels. Saying monitoring is a high priority is not enough.
- 2) Drive and get support more **funding** for monitoring (preferably dedicated) at the state, Regional and HQ's levels.
- 3) Provide a mechanism for internal program **coordination** and communication then, develop a **common vision** for meeting all programs' monitoring needs:

Region 7's vision = State/Regional Assessment Framework

# Strategies to Solve the Water Monitoring Problem (continued)

4) **Invest** in External Coordination of Monitoring (not just activities & logistics but, on design and vision)

5) **Invest** in Monitoring and Assessment Tools (e.g.,)

- Remote sensing technologies

- Air monitoring/deposition networks

- Indicators, criteria, reference conditions

# Strategies to Solve the Water Monitoring Problem (continued)

6) Conduct Public Information Forums to disclose and discuss in a **forthright** manner, what we know and, **what we don't know** about the environment.

A) Brings attention to the problem

B) Builds trust with the public

C) Generates support for more monitoring

# Strategies to Solve the Monitoring Problem

- 1) Get **recognition** of the problem and **commitment** to solve
- 2) Drive and get more **funding**
- 3) Provide internal **coordination** and a **common vision**
- 4) Invest in **External Coordination**
- 5) Develop **Tools**
- 6) Increase **Public awareness** (especially what we don't know)

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