

Basics of Monitoring Program Design

SRWP Monitoring Education Workshop

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Ten Basic Questions

- Ref: USEPA Office of Water
- First Step: Form a Planning Committee
 - Coordinator
 - Science advisors
 - Stakeholders
 - Data Users

1. Why is the Monitoring Taking Place?

- Develop baseline information
- Assess changes over time
- Screen for problems
- Facts to support management decisions
- Assess impact of a discharge or source area
- Raise local awareness and involvement

2. Who will use the Data?

- Federal, state or local agencies
- Local watershed groups
- Researchers
- Agricultural community
- Environmental organizations
- Downstream water users

3. How will Data be Used?

- Local planning
- Protect resources
- Water quality assessment
- Setting priorities
- TMDL or other management actions

4. What parameters or conditions will be monitored?

- Physical – flow, land use, stream characteristics
- Chemical – metals, pesticides, temperature, minerals, nutrients, oxygen
- Biological – toxicity, habitat, species abundance

5. How good does the Data need to be?

- Data Quality Objectives
 - Accurate
 - Precise
 - Representative
 - Comparable
- Quality Assurance Project Plan (QAPP)

6. What methods should be used?

- Sampling types – grab, composite, probe
- Sampling equipment
- “Clean” sampling techniques
- Analytical methods and detection limits
- Analytical laboratory

7. Where are the monitoring sites?

- Match purpose for monitoring
- Accessibility
- Prior monitoring data
- Flow gauging stations
- Special use areas
- Vicinity to sources
- Reference sites

8. When will the monitoring occur?

- Regular versus episodic
- Long term versus short term
- Frequency
- Seasonal or land use considerations
- Time of day / Daily variations

9. How will the monitoring data be managed and presented?

- Data quality control
- Data management
- Report format and content
- Schedule for report issuance
- Web access

10. How will the program ensure that the data are credible?

- Written plan – (QAPP)
- Comparability to other credible programs
- Pilot programs

Missing Question – Cost?

- Available funding
- Tradeoffs: Sites/frequency/parameters
- QA/QC samples – they cost too
- Travel time – sample event planning

Write It Down

- Provide a record of your work
- Communication tool to Data Users
- Educate newcomers
- Basis for future program review and adjustments