

QUALITY ASSURANCE PROJECT PLAN OUTLINE

- I. Project Organization**
 - A. Identify by job titles those individuals using data
 - B. Identify Project Officers:
 0. Project Director - reviews all work
 1. WQM Specialist - oversees QA
 2. Technicians - field and lab
 3. Sampling Specialist - oversees field work
 4. Lab Specialist - oversees lab work
 5. Data Specialist - oversees data QC
 6. Data Reviewer - analyzes data accuracy
 7. Regional WQM Coordinator
 8. State CZM contact
- II. Problem Definition/Background**
 - A. Describe original rationale for project
 - B. Define problem
- III. Project Description**
 - A. Data quality objectives
 - B. Project narrative
 - C. Special training and certification
 - D. Documentation and record-keeping
- IV. Sampling Process Design**
 - A. Justify monitoring plan design
 0. Justify Sites
 - a. Site location - longitude & latitude
 - b. River mile
 - c. Data representativeness, comparability
 - d. Homogeneity of system
 1. Access
 2. Stream flow & depth
 3. Tidal fluctuations
 4. Weather variables
 - B. Schedule of milestones
- V. Sampling Process Procedures Table**
 - A. Parameter
 - B. Procedure
 - C. Container
 - D. Preservation
 - E. Sample number and location
- VI. Sample Handling (chain of custody)**
- VII. Analytical Methods**
 - A. Project objectives in numeric terms
 - B. Why doing project/what is data used for?
 0. Testing ecological hypothesis
 1. Verify permit compliance
 2. Support permit issuance/revision
 3. Verify WQ standards
 - C. Detection levels
 - D. Reporting units
 - E. Levels of confidence
 0. Standard deviation
 1. % Bias
 - F. Comparability
 0. Consistent reporting units
 1. Standardized analytical methods

2. Standard data format
 - G. Representativeness
 0. Degree data accurately and precisely represents water's characteristics
- VIII. QC Requirements for Each Analysis**
- A. QC procedure
 0. Spike
 1. Split
 2. Replicate
 3. Blank
 4. Calibration check
 - B. Per cent of samples that are QC
 0. Project beginning 50%
 1. Maintenance of project 5% field samples/10% lab samples
 2. Data validity and verification methods
 - a. Process
 - b. Response to problems
- IX. Data Reconciliation**
- A. Process to assure data meets requirements & objectives
 - B. Actions to correct invalid data



Adapted from "*Integrating Quality Assurance Into Tribal Water Programs*", Chris Lehnertz, EPA Region 8.

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"*WET Manual*". Wells National Estuarine Research Reserve. Wells, Maine, 1993.

"*Volunteer Estuary Monitoring: A Methods Manual*". US Environmental Protection Agency, Office of Water. December, 1993.

"*Rapid Bioassessment Protocols for Use in Streams and Rivers - Benthic Macroinvertebrates and Fish*". US Environmental Protection Agency, Office of Water. May, 1989.

Clear Water: A Guide to Water Quality Monitoring. Esperanza Stancioff, University of Maine Cooperative Extension Service. University of Maine, Orono. November, 1992.



Back to [Quality Assurance and Quality Control](#)
SAMPLE OF QUALITY CONTROL PROTOCOLS - BIOLOGICAL SAMPLING:
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[Curriculum Activities](#) | [Data Directory](#)