Guidance On Submitting Water Quality Data For Use By The Georgia Environmental Protection Division In 305(b)/303(d) Listing Assessments

Georgia Department of Natural Resources
Environmental Protection Division
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Guidance On Submitting Water Quality Data For Use By The Georgia Environmental Protection Division In Listing Impaired Waters
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Requirements for the submission and acceptance of water quality data for use in listing impaired waters by the Environmental Protection Division (EPD) are set forth in the *Rules And Regulations For Water Quality Control, Chapter 391-3-6-.03-(13)*, hereinafter referred to as the "Rule," (refer to Appendix A). The purpose of this document is to outline the general considerations and, where necessary, the specific requirements and procedures to ensure that submitted data is useful in the listing process.

The most important component in ensuring data acceptance is the preparation of a Sampling and Quality Assurance Plan (SQAP). The Rule requires that the Division concur with the Plan prior to monitoring. Division concurrence with a SQAP will be provided in writing within three weeks of receipt if the Plan is determined to be acceptable. Specific guidance on SQAP preparation may be found in the following section. For on-going, long term monitoring projects, the SQAP does not have to be resubmitted if there are no changes to monitored parameters, certification/accreditation provisions or quality assurance measures. Sampling locations may be added to a project by amending the SQAP, although the reduced data set from new stations may be insufficient for use in making listing decisions. Such amendments must be submitted in writing with the associated map revisions; approval of Plan amendments by the Division will also be made in writing.

EPD has guidelines for the number of measurements necessary for data to be used in listing decisions for all parameters. Special monitoring requirements apply for some parameters based on seasonal or flow variations. These are summarized in Appendix B. The guidelines for sampling frequency and number of observations should be considered carefully in preparation of the SQAP and the overall design of the study.

The data generated during an approved study must be presented in a final report to the Division. These reports are due on or before June 1st of odd numbered years if the data is to be considered for the subsequent year's 305(b)/303(d) listing assessments. Elements of a final report should follow the outline of the SQAP. At a minimum, the final report should include the following:

1. Narrative on water quality conditions documented.
2. Rainfall data for the study period if available.
3. Pollutant sources identified (if any).
4. Parameter values that did not meet Quality Assurance standards.
5. Presentation of all data obtained in tabular form along with sampling dates, times, station numbers, location descriptions and map.
6. Geometric means calculated for bacteria data.
7. If metals data are not dissolved values, the total recoverable metals results should include corresponding total suspended solids and hardness data for calculation of dissolved metals values.

Required Elements Of A "Sampling & Quality Assurance Plan"

PART ONE: Introduction & Study Objectives

1. The organization conducting or coordinating the project should be named and an official liaison with EPD identified. Contact information including telephone and facsimile numbers, mailing address and e-mail parameters (if applicable) should be provided. A listing of individuals or organizations participating in the project should be included but is not required.

2. Background information detailing the need for the study must be discussed. This should include water quality concerns in the study area, the current listing status and designated use categories of the streams to be monitored and the results of any "screening" data (if available).

3. The objective(s) of the project must be identified. In addition to generating water quality data to be used by EPD in listing decisions, this could include documentation of water quality conditions, identification of pollutant sources (point or non-point), long-term stream monitoring or stakeholder involvement in watershed protection.

PART TWO: Sampling Plan

1. The location of the study area must be delineated. This must include county/city jurisdictions and the river basin or watershed and streams to be sampled, by name. Sampling stations must be identified by general narrative and specific location (GPS coordinates, for example). The inclusion of sampling station maps is also required; the preferred scale is that used on United States Geological Survey (USGS) 1:24,000 topographic quadrangle maps.

2. The sampling parameters to be monitored during the study must be identified. If different parameter suites are to be analyzed at different stations or station groups, these must be defined. Parameters should also be differentiated between those that are to be measured in the field, those that will be analyzed in a laboratory by project personnel and those that will be tested by an outside "contract" or commercial laboratory.

3. Sampling schedules must be discussed in a qualitative manner. (These will be largely determined by the parameters analyzed and Assessment Data Sampling Requirements; refer to Appendix B). Special scheduling considerations for individual parameters should be addressed ("wet season" and "dry season" sampling for metals, for example).

4. Personnel and required material resources available should be discussed realistically so as to indicate they are sufficient to perform the planned sampling schedule. In addition to project field personnel, other necessary resources such as vehicles, sample bottles and preservatives, field instruments and standards should be provided for in the plan.

PART THREE: Quality Assurance Plan

1. Statements that the requirements of the *Water Protection Branch Quality Assurance Manual* (June, 1999) and *Title 40* of the *Code of Federal Regulations, Part 136* will be adhered to must be included in all plans. (These requirements are specified in the Rule).

2. The project provisions for field quality assurance must be comprehensively addressed. This shall include the following topics:

a. Sample collection technique (by parameter) and sample representativeness

b. Considerations for proper sample containers, required preservatives, refrigeration/ storage and adherence to holding time limitations

c. Field instrument calibration, quality assurance measures on meter and probe response; analytical duplicates, standards and record keeping

d. Sampling personnel training in all applicable procedures

3. Laboratory Analyst Certification / Laboratory Accreditation: The Rule requires that laboratory analyses be performed by a Certified Laboratory Analyst or an Accredited Laboratory.

a. If analyses will be performed by a Certified Laboratory Analyst, the analyst must be identified and their certification number and expiration date must be provided.

b. If analyses will be conducted by an Accredited Laboratory, the accrediting organization and the accreditation expiration must be cited. The laboratory must be accredited for the media and specific analyses it is expected to perform. The plan must include a statement that the accredited laboratory will perform all Quality Assurance/Quality Control measures required by the accrediting organization on samples analyzed for the study.

c. For all laboratories, the Quality Assurance/Quality Control measures required by specific methods referenced in 40 CFR Part 136 must be implemented, and a statement to that effect must be included in the plan. The plan shall also state that adequate records on analytical procedures ("bench sheets") and the Quality Assurance/Quality Control measures shall be maintained to document their proper implementation and performance, and that the records shall remain on file and available for review for a minimum of three years.

Appendix A

Rule 391-3-6-.03 -- Water Use Classifications and Water Quality Standards.

(13) **Acceptance of Data.** Sampling methods for water quality samples collected and reported by any person to the Division for its use in listing or delisting impaired waters pursuant to the State's responsibilities under Sections 303(d) and 305(b) of the Federal Act shall conform to the guidance in the *Water Protection Branch Quality Assurance Manual* (June, 1999), Georgia Department of Natural Resources, Environmental Protection Division, Water Protection Branch, Atlanta, GA 30354. Analytical standards for these samples must comply with the requirements of *Title 40, Code of Federal Regulations*, Part 136. Sample analyses shall be performed by an analyst certified in compliance with the *Georgia State Board of Examiners for Certification of Water and Wastewater Treatment Plant Operators and Laboratory Analysts Act*, as amended, or by a laboratory facility accredited in compliance with the *Georgia Rules for Commercial Environmental Laboratory Accreditation* (O.C.G.A. 12-2-9). A site-specific sampling and quality assurance plan is required if the data is to be considered and Division concurrence must be obtained prior to monitoring. Laboratories operated by Federal and State government agencies and laboratories at academic institutions with active or current contracts with the Division are exempt from these provisions.

APPENDIX B

Minimum Number of Samples for Assessment of Data for 303(d) Listing Purposes		
Criterion	**Type of Sample**	**No. of Samples**
Dissolved Oxygen	Instantaneous Field Reading	20 measurements within a 12 month period (1-2 measurements per month)
pH	Instantaneous Field Reading	20 measurements within a 12 month period (1-2 measurements per month)
Temperature	Instantaneous Field Reading of Water Temperature	20 measurements within a 12 month period (1-2 measurements per month)
Bacteria	Grab	16 Samples (4 samples collected within a 30 day period over 4 calendar quarters to calculate 4 geometric means). **Note: The 30 day sampling period should not overlap the months of April/May and October/November due to changes in the in-stream water quality standards for bacteria.**
Metals (including Mercury)	Grab using Clean Sampling Techniques. **Note: Samples may be analyzed for dissolved or total recoverable metals. If dissolved is used, total recoverable must also be analyzed and reported. Total Suspended Solids and hardness must also be analyzed and reported for every sample.**	2 Samples (collected during one winter season and one summer season)
Organic Chemicals (including Pesticides)	Grab	2 Samples (collected during one winter season and one summer season)
Flow/Precipitation	If stream gage is in the vicinity of the sampling location, a gage height must be reported. Flow conditions at the time of sampling and recent precipitation measurements from the weather service should be reported.	Noted for each sampling event.