

CHAPTER 1

INTRODUCTION

Purpose

This publication serves as a comprehensive source of information on procedures for monitoring surface water quality in Texas. These procedures on surface water quality monitoring (SWQM) are generated and used by the SWQM Program of the Texas Commission on Environmental Quality. The purpose of this document is to help ensure that these procedures are standardized across the state and between the TCEQ's regional offices and the various internal and external monitoring programs that submit water quality data to the TCEQ. The detailed procedures outlined in this manual also help ensure that sampling precision, accuracy, representativeness, comparability and completeness of the data are achieved and documented. Ensuring the comparability of data between various entities is a primary quality objective of the SWQM Program.

The procedures in this manual are to be used by all surface water quality data collection programs within the TCEQ unless a program's data-collection activities are specifically covered by a separate Quality Assurance Project Plan. In addition to TCEQ water quality programs, the procedures in this manual are also used by the Texas Clean Rivers Program partner agencies and other contractors collecting water quality data for the TCEQ. Working together, these programs gather the data our state needs to ensure the quality of surface water in Texas.

SWQM and Clean Rivers Programs

The SWQM Program and the CRP allow for an integrated evaluation of physical, chemical, and biological characteristics of aquatic systems in relation to human health concerns, ecological conditions, and designated uses. In order to balance the needs of multiple programs, monitoring is divided among the following categories:

- routine monitoring
- special-project monitoring
- permit-support monitoring
- systematic watershed monitoring

See Chapter 2 for details on these categories.

How SWQM Procedures Are Used

The guidelines outlined in *SWQM Procedures* are important because they document the quality-assurance procedures that must be used to demonstrate that SWQM data collected by monitoring personnel are of known and comparable quality across the state.

The SWQM Program and the CRP are the programs primarily responsible for the collection of data that accurately describe the physical, chemical, and biological characteristics of state waters. Data collected as part of the statewide monitoring program and for special projects are used to achieve the following goals:

- Characterize existing water quality and emerging problems.
- Define long-term trends.
- Determine compliance with water quality standards.
- Describe seasonal variation and frequency of occurrence of selected water quality constituents.
- Produce the *State of Texas Integrated Report*, which is required by Sections 305(b) and 303(d) of the federal Clean Water Act. This assessment enables the public, local governments, state agencies, the Texas Legislature, the U.S. Environmental Protection Agency, and Congress to make decisions about water quality management.

Legal Authority

Texas law requires monitoring personnel who collect and analyze water samples for the SWQM Program to follow procedures outlined in two TCEQ manuals on SWQM. The rule is in Title 30 of the Texas Administrative Code (TAC), Section 307.9.

This revision to Volume 1 of the manual is to be used with the companion publication, *Surface Water Quality Monitoring Procedures, Volume 2: Methods for Collecting and Analyzing Biological Assemblage and Habitat Data* (TCEQ publication RG-416).

Contact Information

For questions or comments about this manual or SWQM, you can contact the SWQM Program at the TCEQ. A list of substantive changes to this manual will be proposed and discussed, as needed, at the TCEQ's annual SWQM workshop.

You can reach the SWQM Team in the following ways—

By e-mail: swqm@tceq.texas.gov

By mail: SWQM Program, MC 234
 TCEQ
 PO Box 13087
 Austin TX 78711-3087

By fax: 512-239-4410

On the Web: Go to <www.tceq.texas.gov/waterquality/monitoring>

Getting Resources

Volumes 1 and 2 of the *SWQM Procedures* are available both in print and electronically. To order a printed copy, call TCEQ Publications at 512-239-0028, or fax your request to 512-239-4488. These manuals and other SWQM publications and resources, including those that are referenced later in this document can be found at the TCEQ website (see Appendix A).