

Below is an Electronic Version of an Out-of-Print Publication

You can scroll to view or print this publication here, or you can borrow a paper copy from the Texas State Library, 512/463-5455. You can also view a copy at the TCEQ Library, 512/239-0020, or borrow one through your branch library using interlibrary loan.

The TCEQ's current print publications are listed in our catalog at <http://www.tceq.state.tx.us/publications/>.

State of Texas
1998 Clean Water Act
Section 303(d) List and
Schedule for Development of
Total Maximum Daily Loads

Prepared by the
Water Quality Division

SFR-58
June 26, 1998



Barry R. McBee, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
John M. Baker, *Commissioner*

Jeffrey A. Saitas, *Executive Director*

Authorization for use or reproduction of any original material contained in this publication, i.e., not obtained from other sources, is freely granted. The Commission would appreciate acknowledgement.

Published and distributed
by the
Texas Natural Resource Conservation Commission
Post Office Box 13087
Austin, Texas 78711-3087

The TNRCC is an equal opportunity/affirmative action employer. The agency does not allow discrimination on the basis of race, color, religion, national origin, sex, disability, age, sexual orientation or veteran status. In compliance with the Americans with Disabilities Act, this document may be requested in alternate formats by contacting the TNRCC at (512)239-0010, Fax 239-0055, or 1-800-RELAY-TX (TDD), or by writing P.O. Box 13087, Austin, TX 78711-3087.

Table of Contents

Introduction	vii
Section I: 1998 Clean Water Act Section 303(d) List and Schedule for Development of Total Maximum Daily Loads	
State of Texas 1998 Clean Water Act Section 303(d) List	1-1
Draft TNRCC Statewide Schedule for TMDL Candidates	1-21
Section II: Methodology for Establishing Surface Water Quality Priorities for Texas River Basins	
Coordination with the Watershed Management Cycle	2-1
The Listing Process	2-3
Data and Information Used	2-3
Readily Available Data	2-4
Other Data and Information	2-6
Consideration of Additional Lists	2-6
Consideration of Antidegradation Policy	2-7
Preparation of the First Draft	2-7
Removal of Water Bodies from the 1996 List	2-8
Assessment of Water Bodies in Basin Groups B and C	2-8
Assessment of All Water Bodies for Selected Designated Uses and Parameters	2-9
Review of Additional Data and Information	2-9
Assessment of Threatened Water Bodies	2-10
Priority Ranking of Listed Water Bodies	2-10
Public Participation	2-11
Refinement of the First Draft List	2-11
Consideration of Addenda 1 and 2	2-11
Refinement of List Based on Public Comment	2-11
Refinement of Criteria for Threatened Designation	2-12
Refinement of Priority Ranking	2-13
Completion of Second Draft	2-13
Preparation of the Final 303(d) List	2-13
Targeting of Listed Water Bodies	2-14
Statewide Schedule for Developing and Implementing Total Maximum Daily Loads ..	2-15
Management Activities Currently Underway	2-15
Appendices, Section II	
Appendix 1. The Statewide Watershed Management Schedule	A1-1
Appendix 2. Water Quality Data and Information	A2-1

List of Figures, Section II

Figure 1. TNRCC Watershed Management Planning Areas 2-2
Figure 2. Planning Basin Groups B and C 2-5

Section III: Guidance for Assigning Priority for TMDL Development

Guidance for Assigning Priority for TMDL Development in 1998-Listed Water Bodies . . . 3-1

Section IV: Guidance for Screening and Assessing Texas Surface and Finished Water Quality Data

General Assessment Methodology 4-1
Sources of Data 4-2
Period of Record 4-2
Minimum Number of Samples 4-3
Values Below Limits of Detection 4-3
Waters Covered in Assessments 4-3
Spatial Coverage 4-4
Assignment of Causes and Sources of Pollutants 4-4
Depth of Water Quality Measurements 4-4
Determination of the Mixed Surface Layer 4-4

Methodology for Screening and Assessing Use Support 4-9
 Aquatic Life Use 4-9
 Dissolved Oxygen Criteria 4-9
 Toxic Substances in Water Criteria 4-10
 Ambient Water and Sediment Toxicity Tests 4-15
 Biological Monitoring 4-15
 Contact Recreation Use 4-15
 Noncontact Recreation Use 4-16
 Public Water Supply Use 4-16
 Fish Consumption Use 4-16
 Oyster Waters Use 4-17
 Approved Area 4-18
 Conditionally Approved Area 4-18
 Restricted Area 4-18
 Prohibited Area 4-18
 Threatened Water Bodies 4-23

Methodology for Screening and Assessing Water Quality Concerns 4-24
 Nutrients and Chlorophyll *a* Screening Levels 4-24
 Sediment Quality Screening Levels 4-24
 Fish Tissue Screening Levels 4-24
 Public Water Supply Concerns 4-26

Methodology for Screening and Assessing Water Temperature, pH, Chloride, Sulfate, Total Dissolved Solids, and Enterococcus Criteria	4-38
---	------

Methodology for Screening and Assessing Narrative Criteria	4-40
--	------

List of Tables, Section IV

1. List of Causes/Stressors	4-5
2. List of Sources	4-6
3. Framework for Evaluating Use Support	4-11
4. Criteria in Water for Specific Metals for Protection of Aquatic Life	4-13
5. Criteria in Water for Specific Organic Substances for Protection of Aquatic Life	4-14
6. Maximum Contaminant Levels for Organic Chemicals in Public Drinking Water Supplies	4-18
7. Maximum Contaminant Levels for Inorganic Chemicals in Public Drinking Water Supplies	4-19
8. Human Health Criteria in Water	4-20
9. Framework for Identifying Water Quality Concerns for Evaluating Pollution Impacts	4-27
10. Screening Levels for Metals in Sediment	4-29
11. Screening Levels for Organic Substances in Sediment	4-30
12. Screening Levels for Metals in Tissue	4-31
13. Screening Levels for Organic Substances in Tissue	4-32
14. Framework for Evaluating Water Temperature, pH, Chloride, Sulfate, Total Dissolved Solids, and Enterococcus Criteria	4-39

Section V: Water Bodies and Constituents Considered But Not Listed and Water Bodies Removed from the List

List of Water Bodies and Constituents Considered But Not Listed on the 1998 List of Impaired and Threatened Water Bodies	5-1
--	-----

Water Bodies Removed from the List	5-15
--	------

Section VI: Response to Public Comment on the State of Texas 1998 Clean Water Act Section 303(d) List

Response to Public Comment on the State of Texas 1998 Clean Water Act Section 303(d) List	6-1
---	-----

Introduction

This document contains the Texas Natural Resource Conservation Commission's (TNRCC's) submission of its 1998 Clean Water Act Section 303(d) List of Texas water bodies that do not meet or are not expected to meet applicable water quality standards. This document fulfills the requirements of the federal Clean Water Act, Section 303(d) and 40 Code of Regulations (CFR), Section 130.7, as well as applicable EPA guidance. This submission addresses all comments received from EPA Region 6 and the public regarding draft versions of the List.

As required by 40 CFR §130.7(b)(6), this document includes:

- *Section I: State of Texas 1998 Clean Water Act Section 303(d) List and Schedule for Development of Total Maximum Daily Loads.* This section includes the state's list of impaired and threatened water bodies and its draft schedule for development of total maximum daily loads (TMDLs).
- *Section II: Methodology for Establishing Surface Water Quality Priorities for Texas River Basins.* This section describes the methodology used to develop the list and describes what was considered as "existing and readily available data and information" in developing the list.
- *Section III: Guidance for Assigning Priority for TMDL Development.* This section explains the TNRCC's methodology for determining priority ranking of water bodies on the 1998 303(d) List.
- *Section IV: Guidance for Screening and Assessing Texas Surface and Finished Water Quality Data.* This section describes the data used to compile the 1998 Clean Water Act Section 305(b) Water Quality Inventory and the 1998 303(d) List. Also described are the screening and assessment methodologies used in evaluating the data.
- *Section V: Water Bodies and Constituents Considered But Not Listed and Water Bodies Removed from the List.* This section describes the relevant water bodies and constituents considered and the reasons for not listing them. This section also identifies 1996-listed water bodies removed from the 1998 303(d) List, with the rationale for de-listing.
- *Section VI: Response to Public Comment on the State of Texas 1998 Clean Water Act Section 303(d) List.* This section summarizes the comments received on the published drafts of the 1998 303(d) List, with TNRCC's responses, including a description of actions taken, where appropriate.

The TNRCC appreciates the participation of the public in the preparation of the 1998 303(d) List; many valuable suggestions were received at public meetings and in written comments. The TNRCC hopes to improve opportunities for public participation in subsequent listing cycles.

