

OVERVIEW OF MAJOR REVISIONS TO THE WATER QUALITY STANDARDS JUNE 30, 2010

Background:

The Texas Surface Water Quality Standards (Title 30, Chapter 307 of the Texas Administrative Code) describe the chemical, physical, and biological conditions to be attained in the surface waters of Texas. Authority for adopting and revising water quality standards is contained in §26.023 of the Texas Water Code (TWC), and in §303(c) of the Federal Clean Water Act. Standards are periodically revised to adjust uses and criteria of individual water bodies, to incorporate new scientific data on the effects of specific chemicals and pollutants, and to address new provisions in the TWC, federal regulations, and EPA guidance. The guidance document *Procedures to Implement the Texas Surface Water Quality Standards* details the procedures used by the TCEQ to develop wastewater discharge permits in accordance with the water quality standards.

Status:

After extensive coordination with stakeholders and an advisory workgroup, the TCEQ adopted revision to the standards and approved changes to the implementation procedures on June 30, 2010, with some additional changes in response to public comment. The proposed standards were published in the Texas Register on January 29, 2010 and a public hearing for both of these revised documents was conducted on March 11, 2010. TCEQ received 172 comment letters from organizations, affiliations, and elected officials on the rule and 22 comment letters on the implementation procedures. Numerous comments were received from individuals, including 1455 form letters on the standards, and six attendees provided oral comments at the public hearing. The adopted standards revisions were published in the Texas Register on July 16, 2010. The adopted standards revisions and the changes to the implementation procedures have been submitted to EPA for review and approval.

Recreation Standards and Bacteria Criteria:

- Notes:
 - Almost all water bodies are assigned contact recreation in the 2000 standards.
 - Revised standards established additional recreational use categories and associated criteria. A framework for conducting recreation use-attainability analyses (UAAs) to assign site-specific recreational uses were established in the revised Standards and Implementation Procedures.
 - Methodology for recreation use-attainability analyses (UAAs) includes:
 - Coordination with local entities (e.g. river authorities, etc.)
 - Simple surveys to assess unclassified stream types
 - Comprehensive UAAs for classified segments
 - Comprehensive UAAs for unclassified streams where presumed standards are inappropriate

- Adopted:
 - Expanded recreational use categories:

Uses	Geometric Mean Criteria (colonies/100 ml)			
	<i>E. coli</i> (FW)	Enterococci (Salty inland FW)	Enterococci (SW)	Fecal coliform (FW& SW)
2000 Standards:				
Contact recreation	126	--	35	200
Noncontact recreation	605	--	168	2000
2010 Standards:				
Primary contact (PCR)	126	33	35	200**
Secondary contact 1 (SCR1)	630	165	175***	1000
Secondary contact 2 (SCR2)	1030	270	--	1000
Noncontact recreation (NCR)	2060	540	350	2000

- * Salty (high saline) inland FW = High saline inland water bodies (conductivity ≥ 9000 $\mu\text{mhos/cm}$)
- ** Fecal coliform will be gradually phased out as criteria for salty inland waters
However, fecal coliform would continue to be used for oyster waters criterion (14/100ml median)
- *** Secondary contact 1 for SW would only be applicable when not in conflict with the federal Beach Act

- Revised standards applicability to classified segments:
 - PCR – apply to all classified fresh waters and tidal waters
 - SCR1, SCR2, NCR – apply only as a site-specific standards revision, after a UAA
- Revised standards applicability to unclassified water bodies:
 - PCR – apply to unclassified fresh waters and tidal waters, except:
 - SCR1 – apply to intermittent & perennial freshwater streams where (1) PCR is unlikely to occur based on site-specific information, (2) thalweg (channel) is < 0.5 meters deep, and (3) substantial pools ≥ 1 meter deep do not occur.
 - SCR1 – apply to tidal waters when not in conflict with the federal Beach Act only as a site-specific standards revision, after a UAA
 - SCR2, NCR – apply as a site-specific standards revision, after a UAA
- Assess attainment with only geometric mean criteria; not single-sample criterion
 - To assess attainment, exclude “unrepresentative” samples (with respect to flow, location)
 - Specified a high flow exemption: (1) exclude bacteria data taken when flows exceed 90th percentile, and/or (2) exclude data based on SWQM flow severity index

Toxic Criteria:

- Notes:
 - EPA has substantially updated guidance for human-health toxic criteria
 - EPA has new guidance criteria for mercury, to apply directly to fish tissue
 - New toxicity data are available for a variety of aquatic-life and human-health toxic criteria
 - EPA requests including other background sources in criteria for some toxicants
- Adopted:
 - Added new human-health criteria for 28 toxicants; new aquatic-life criteria for 2 toxicants
 - Revised numerous human-health and aquatic-life criteria
 - Included child exposure rates (EPA); assume people eat more fish (17.5 grams per day)
 - Set mercury criterion as 0.7 ppm in fish tissue; (EPA criterion is 0.3 ppm)
 - Added fish-tissue criteria for other highly bioaccumulative toxicants (such as PCBs, dioxin)

Nutrient Criteria:

- Notes:
 - EPA is requiring numerical criteria for nutrients for major water bodies
 - TCEQ submitted an updated nutrient development plan in Nov 2006, and EPA concurred
 - The plan calls for criteria for reservoirs first; then rivers and estuaries
- Adopted:
 - Established criteria for chlorophyll *a* only for 75 major reservoirs based on historical data
 - Applied criteria as a median long-term average for the main body of each reservoir
 - Clearly specified minimum default criteria when calculated values less than quantification levels.

Other Adopted Changes of Note:

- Deferred listing unclassified water bodies as impaired based on “presumed” aquatic-life use
- Expanded description of “representative” samples to be used to assess impairment
- Deleted proposed revision to assess total dissolved solids and human health using a median
- Deleted proposed revision referencing minimum number of samples and time period required for assessment purposes

Site-specific Standards:

- Notes:
 - Numerous standards, such as at permit sites and for impaired waters, may need adjusting

- TCEQ and others have conducted numerous supporting studies (UAAs)
- Adopted:
 - Revised uses and/or criteria for numerous larger water bodies (classified segments)
 - Designated PCR for all classified freshwater segments
 - Changed TDS, chloride, or sulfate criteria changes for 19 classified segments
 - Changed pH criteria changes for 7 classified segments
 - Lowered temperature criteria in upper parts of San Marcos and Comal Rivers – from 80° F to 78° F
 - Lowered aquatic life use and dissolved oxygen criteria for 2 classified segments
 - Raised aquatic life use and dissolved oxygen criteria for 1 classified segment
 - Raised aquatic life use and lowered dissolved oxygen criteria for 2 classified segments
 - Lowered aquatic life use for 1 classified segment
 - Lowered dissolved oxygen criteria for 7 classified segments
 - Added Black Cypress Bayou (Creek) as a new segment
 - Removed public water supply use for 2 segments, and for part of 1 segment
 - Revised boundary descriptions for several classified segments
 - Added aquatic-life uses for 48 new small streams based on receiving water assessments or UAAs
 - Added site-specific toxic criteria for 24 water bodies
 - Added new appendix to list sole-source drinking water supplies (legislative requirement)
 - Assigned SCR1 to 3 very small and/or concrete-lined tributaries in the Houston area, based on a recreation UAA for the watersheds of Buffalo and White Oak Bayous

Recreational Use Attainability Analyses: Excerpt from TCEQ Website, 8/27/10:

http://www.tceq.state.tx.us/permitting/water_quality/wq_assessment/standards/ruaas/index

RUAAs planned, in progress, or completed for Texas rivers and streams.

- [UAA: What They Are and How They Are Used](#)
- [Recreational Uses](#)
- [RUAA Procedures](#)
- [Public Participation, Meetings](#)
- [Find RUAAs by Basin](#)
- [For More Information](#)

UAAs: What They Are and How They Are Used

The TCEQ uses a watershed-based approach to address water quality. This approach supports integration of various state water quality programs by providing a framework and a mechanism for coordination among water quality management agencies, stakeholders, and the public. As part of this approach, it is essential to develop meaningful, yet attainable, water quality standards.

A use-attainability analysis (UAA) is one of the tools the TCEQ uses to implement its watershed-based approach. A UAA reevaluates designated or presumed uses if there is reason to believe the standards for a water body are inappropriate due to local conditions. A UAA is a scientific assessment of the physical, chemical, and biological characteristics of a water body.

RUAAs

An RUAA is a specific type of UAA that is conducted to evaluate and determine whether the recreational use is appropriate for a particular water body. RUAAs are typically conducted to determine the appropriate recreational use of a water body that is listed as impaired for bacteria. The results of RUAAs are used by the TCEQ to develop site-specific recreational uses for individual water bodies.

▲ [Return to top](#)

Recreational Uses

Texas protects the quality of the state's surface waters to ensure that they are safe for various levels of recreational uses. Previous Texas Surface Water Quality Standards considered only two recreational use categories—contact and noncontact recreation. Contact recreation was designated or presumed for virtually all surface water bodies in the state. However, there are many water bodies in the state that do not have sufficient depth or other characteristics that support primary contact recreation.

In 2010, the commission adopted changes to the Texas Surface Water Quality Standards that added two new levels of recreational use. The standards, as adopted, include four categories of recreational uses that can be assigned to individual streams:

- **Primary Contact Recreation**
Activities that are presumed to involve a significant risk of ingestion of water (e.g., wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).
- **Secondary Contact Recreation 1**
Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g., wading by adults, fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
- **Secondary Contact Recreation 2**
Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.
- **Noncontact Recreation**
Activities that do not involve a significant risk of water ingestion, such as those with limited body contact incidental to shoreline activity, including birding, hiking, and biking. Noncontact recreation use may also be assigned where primary and secondary contact recreation activities should not occur because of unsafe conditions, such as ship and barge traffic.

The TCEQ will be conducting numerous RUAs over the next several years to determine the most appropriate recreational use category for rivers and streams.

[▲Return to top](#)

RUAA Procedures

[Procedures for a Comprehensive RUAA and a Basic RUAA Survey \(May 2009\)](#)

Public Participation

The TCEQ actively seeks the participation of various water quality management agencies and the public. Local participation is crucial to identifying the most appropriate recreation use category. During the RUAA process, stakeholders will have the opportunity to give information about recreational uses based on their local knowledge and expertise. Strong participation will ensure that the most appropriate use category and criteria are recommended for inclusion in the Texas Surface Water Quality Standards.