

The Surface Water Quality Monitoring Guidance Advisory Work Group Meeting
August 5, 2004
Meeting Summary

Welcome and introductions - Patrick Roques

Patrick Roques explained the objectives of this advisory group... to provide suggestions to TCEQ for revisions of the Guidance for Assessing Texas Surface and Finished Drinking Water Quality Data. This guidance will be used to prepare the 2006 Texas Water Quality Inventory and 303(d) List. The group will meet three or four times this summer and fall. The next meeting is scheduled for September 21 in Austin. A likely fourth meeting will be needed and is tentatively scheduled for October 7. TCEQ will prepare a draft document based on our discussions from all of these meetings and hold a 30-day public comment period on the draft in late fall.

Preceding each meeting, a "handout" will be posted on this advisory group's TCEQ web page and distributed by email to workgroup members. It will summarize the issues from the previous meeting, propose alternate methods for these issues as well as potential outcomes of using new methods, and introduce new topics for discussion.

The following was discussed:

Time-line for New Guidance

June-September, 2004	Stakeholder Meetings (June 8, Aug. 5, Sept. 21, Oct. 7)
November, 2004	Management Briefings
December, 2004	Public Comment Period
January, 2005	Management Briefings
April, 2005	Final Version Published on TCEQ Website
January through April 2006	Use of the New Guidance to Prepare the 2006 Assessment and 303(d) List

The Year 2006 assessment period of record for sample dates is December 1, 1999 through November 30, 2004. A call for data will be made at the end of the period of record.

The revised levels of support for uses and criteria were reviewed including:

- discontinuing the use of "Partially Supporting" which will be proposed to management
- Naming conventions for the identification of nonsupport and concerns are currently being revised by internal staff and will be introduced at the next meeting.

Number of samples for assessment:

- No changes will be recommended for increasing and decreasing the minimum number of samples for assessment (ten), the minimum time period for monitoring (at least two years), and the seasonal requirements for 24-hour and biological sampling.
- In general, a review of the last four 303(d) lists has shown that water bodies are not moving on and off the list for the same parameter as a result of small sample sizes that are

especially sensitive to small changes in the number of noncompliant samples.

Mixed surface layer was discussed including:

- Staff will recommend the use of the median for characterizing the mixed-surface layer (application of criteria in reservoirs). Staff will investigate the use of both the specific conductance (salinity) and temperature, or the use of a density calculation to define the mixed surface layer for stratified coastal waters.

Use of data below critical flows was briefly reviewed:

- Current assessment practices are being reviewed for consistency with the standards.
- Suggestions were made to consider eliminating assessment data in reservoirs when water elevations are extremely low, altering water quality, or in headwaters which are riverine at the time.
- The TCEQ staff outlined the Transition Zone Study that will address the unique water quality conditions in the upper parts of reservoirs that transition to riverine conditions.

Representative monitoring was discussed including:

- optimal geographic locations for monitoring sites
- recommendation that more complete direction for choosing appropriate geographic locations be included in future monitoring guidance
- The assessment guidance should discuss the assessment of data from wetland areas, especially at the edges of designated segments.
- Data contributors should be included early in the assessment process when assessment units are developed and data is evaluated for representativeness.

Narrative Criteria... continued from the previous meeting including:

- Fish advisories and fish tissue screening: The 2004 methodology identifies specific pollutants that result in risk to human consumers of fish, and is based on the Texas Department of Health (TDH) consumption-risk analysis report which support the fish advisory or closure. A general overview of this methodology was presented by TCEQ staff as it has been implemented in current assessments. Staff clarified the use of contaminant information from a few target specimens to identify “concerns” and “no concern” (rather than “no concern limited data”) for fish consumption use. Assessments will identify non-support of the use as either a consumption advisory or a total ban on consumption.
- Water bodies may be listed for nutrients that cause the excessive growth of aquatic plants where it can be demonstrated that this impairs a use as documented by fishkills, excessive aquatic weeds, degradation of the biological community, etc.
- Multiple lines of evidence will be considered for establishing sediment instream toxicity:
 - health of the biological community
 - ambient water toxicity tests
 - sediment elutriate tests
 - whole sediment toxicity tests
 - concentration of toxic substances in water and in sediment
 - factors controlling insitu toxicity such as grain size, organic content, binding

capacity of sulfides

Evidence of toxic effects from any of these tests or conditions can be used to plan collection of additional data and information. Agency staff will further evaluate this approach and develop guidelines for evaluating these lines of evidence and describe strength of each for making listing decisions. A definitive matrix for evaluating these multiple lines of evidence will not be possible.

- Staff have completed a statewide survey of instream color. Very few Texas streams are colored by wastewater. Quantitative measures of instream color, the few instances of colored wastewater, and the natural range of color were investigated. Staff are currently reviewing options outlined in a draft report for identifying color impairment caused by wastewater.
- Staff discussed radioactive materials as a potentially emerging issue. As a first step, the drinking water program has provided maps of areas of potential contamination. These areas will be targeted for monitoring.
- Excessive sedimentation (suspended sediment, silt) is another emerging issue and quantitative measures for assessment should be developed. Over the next several years, staff will develop guidance and field methods for future use.

The binomial method for determining compliance with criteria was discussed:

- A comprehensive explanation of the binomial approach was presented that illustrated the balances between Type I and Type II errors. Alternatives were briefly discussed that consider the frequency and magnitude of an impairment. De-listing decisions should be evaluated considering both Type I and Type II error rates. Future guidance should present a clearer explanation of the effects of sample size, error rates and the power of decisions made with a particular method. Discussion on this topic will continue.

Use of statistically-based (randomized) monitoring data was reviewed including:

- project results that can be reported in the Texas Surface Water Quality Inventory
- review of a cooperative EPA project with a randomized design to assess wadeable streams in the nation including Texas

Monitoring planning for water bodies with concerns was discussed:

- TCEQ staff outlined the coordinated monitoring process that requires the monitoring water bodies of concern as a first priority including waters with incomplete data sets but potential impairments, waters near non-attainment, and waters where low dissolved oxygen is indicated by grab samples. Impaired water bodies on the 303(d) list are not scheduled as a priority for routine monitoring, rather, monitoring is targeted to develop a more complete characterization of the impairment, to review the accuracy of the standard, or to support a TMDL.

Bacterial indicators...a comparison of fecal coliform and e. coli assessments was discussed:

- Tables were presented demonstrating that the “switch” to E. coli will not result in a substantial change in listings for nonsupport of contact recreation.

A discussion of issues for review at future meetings included the following requests:

1. Movement of water bodies from 5a to 5c.
2. Characterizing balanced indigenous populations
3. Determination of the critical period and conditions for sampling... considering more than just calendar dates
4. Considering the influence of seasonality on water quality
5. Application of criteria at low flows - develop guidance tables for this complex issue
6. Add to the list of narrative criteria issues... endangered species, invasive species
7. Can the Maximum Contaminant Levels (MCL) for drinking water be used to determine use support when applied to ambient waters... the new guidance should clarify the use of MCLs

The next two meetings will take place on September 21 and October 7, 2004.