

**2002 Strategy for a Comprehensive Assessment
and Categorization of Waters in Texas
(October 1, 2002)**

Water Quality Categories and Management Strategy

One of five categories is assigned to each parameter and area of a water body, known as an assessment unit (AU), to provide more information to the public, EPA, and agency staff about water quality status, management plans, and management activities. When an assessment unit has multiple parameters, the highest category is assigned to the assessment unit. When a water body has multiple assessment units, an overall category is assigned to the entire water body. The categories are described in detail below. Table 1 summarizes the categorization of water bodies in Texas.

The Texas Commission on Environmental Quality (TCEQ) has developed a specific water quality management strategy for each of these categories which includes water quality data collection, water quality standards review projects, projects to characterize non-support of water quality standards, and water quality remediation projects including those known as total maximum daily loads (TMDLs).

Category 1. Attaining the water quality standard and no use is threatened.

Assessment Units are included in this category if there are data and information that meet the requirements of the assessment guidance and listing methodology and support a determination that the water quality standard is attained and no use is threatened.

These water bodies are scheduled for monitoring to determine if the water quality standard continues to be attained.

Category 2. Attaining some of the designated uses; no use is threatened; and insufficient or no data and information are available to determine if the remaining uses are attained or threatened.

AUs are included in this category if there are data and information which meet the requirements of the assessment guidance and listing methodology, to support a determination that some, but not all, uses are attained and none is threatened. Attainment status of the remaining uses is unknown because there is insufficient or no data or information.

Monitoring is scheduled for these AUs to determine if the uses previously found to be in attainment remain in attainment. Additionally, monitoring may be conducted to determine the attainment status of those uses and criteria for which available data indicate potential risk and for which data and information were previously insufficient to make a determination.

Table 1. Categories for Water Bodies in Texas

| Category | Definition | Number of Water Bodies | Stream Miles | Reservoir Acres | Estuary Square Miles | Ocean Square Miles |
|----------|--|---------------------------------|--------------|-----------------|----------------------|--------------------|
| 1 | Attaining the water quality standard and no use is threatened | 10 | 881 | 65,827 | 11 | 0 |
| 2 | Attaining some of the designated uses; no use is threatened; and insufficient or no data and information are available to determine if the remaining uses are attained or threatened | 337 | 11,915 | 848,458 | 1,342 | 0 |
| 3 | Insufficient or no data and information to determine if any designated use is attained | with insufficient data: 68 | 2,496 | 12,213 | 269 | 0 |
| | | with no data: unknown number | 170,941 | 407,749 | 390 | 0 |
| 4 | Standard is not supported or is threatened for one or more designated uses but does not require the development of a Total Maximum Daily Load (TMDL) | | | | | |
| | A TMDL has been completed and approved by EPA | 6 | 78 | 3,081 | 0 | 0 |
| | B Other pollution control requirements are reasonably expected to result in the attainment of the water quality standard in the near future | 7 | 104 | 110,112 | 0 | 0 |
| | C Nonsupport of the water quality standard is not caused by a pollutant | 5 | 118 | 606 | 0 | 0 |
| 5 | The water body does not meet applicable water quality standards or is threatened for one or more designated uses by one or more pollutants | | | | | |
| | A A TMDL is underway, scheduled, or will be scheduled | 101 | 700 | 390,436 | 345 | 3,879 |
| | B A review of the water quality standards will be conducted before a TMDL is scheduled | 35 | 1,105 | 4,964 | 0 | 0 |
| | C Additional data and information will be collected before a TMDL is scheduled | 162 | 2,890 | 151,154 | 36 | 0 |
| Totals | | | 191,228 | 1,994,600 | 2,393 | 3,879 |

Category 3. Insufficient or no data and information to determine if any designated use is attained.

AUs are included in this category when data or information, consistent with the requirements of the assessment guidance and listing methodology, are not available or are insufficient to support any attainment determination.

To assess the attainment status of these AUs in the future, TCEQ has proposed the use of a statistically-based monitoring program that will provide overall assessment information on various classes of water bodies, such as small streams. This information will be used to further refine a routine monitoring schedule to identify nonsupport of standards and concerns in unassessed water bodies. Additionally, monitoring may be conducted to determine the attainment status of those uses and criteria for which available data indicate potential risk and for which data were previously insufficient to make a determination.

Category 4. Standard is not supported or is threatened for one or more designated uses but does not require the development of a Total Maximum Daily Load (TMDL).

4 a. TMDL has been completed and approved by EPA.

AUs are included in this subcategory after TMDL(s) for all pollutants and conditions causing nonsupport of water quality standards have been developed and are approved by EPA.

There are six water bodies with 18 EPA-approved TMDLs in Category 4a. Only water bodies where all parameters causing nonsupport have an EPA-approved TMDL are listed in Category 4a.

Immediately after submission of the TMDL to EPA, TCEQ staff lead the effort to develop an implementation plan (IP) to carry out the TMDL. In some cases other agencies play a partnership role in the development of the IP. Approximately six to nine months after submission of a TMDL to EPA, TCEQ finalizes the implementation plan. Attainment of the standard is expected upon full implementation of the plan, although in some cases an adaptive management approach is used which recognizes the possibility for periodic revisions of the TMDL or the IP.

The implementation plan includes a description of the monitoring needed to show the effectiveness of control actions (regulatory) and management measures (voluntary). In addition, routine monitoring for these water bodies will be conducted as determined by the strategies (discussed below on page 6) for concerns and unassessed waters.

4b. Other pollution control requirements are reasonably expected to result in the attainment of the water quality standard in the near future.

AUs are included in this subcategory when TCEQ staff have determined that other pollution controls, including those required by local, state, or federal authority (other than TMDLs) are stringent enough to implement any water quality standard (WQS) applicable to the water body.

There are seven water bodies in Category 4b. These water bodies were listed as “threatened” in 1998 for

atrazine. An implementation strategy was developed to reduce the threat and ensure that the use as a drinking water supply will continue to be supported. The strategy has two components: (1) monthly monitoring to confirm that the drinking water standard is not violated; and (2) implementation of best management practices (BMPs) in the watersheds to reduce atrazine runoff. Both components are in place (the BMPs will be initiated in the fall of 2002 for the seventh watershed) and a decision on the use attainment status will be made in the spring of 2003 in accordance with this strategy.

In addition, routine monitoring for these water bodies will be conducted as determined by the strategies (discussed below on page 6) for concerns and unassessed waters.

4c. Nonsupport of the water quality standard is not caused by a pollutant.

AUs are included in this subcategory if nonsupport of the water quality standard is not caused by a pollutant. For example, high temperature caused by natural conditions or low dissolved oxygen resulting from an upstream dam release cannot be allocated as a pollutant load.

There are six areas in five water bodies identified for Category 4c: four for nonsupport of the temperature criterion where there are no thermal discharges, and two for low dissolved oxygen immediately downstream of a dam caused by bottom-water releases. A restoration plan has already been developed to address the low dissolved oxygen in Lake Austin.

TCEQ will develop a Watershed Plan for water bodies in Category 4c which may include:

- (A) Monitoring to further characterize nonattainment of the uses and criteria to confirm that there continues to be no pollutant-caused nonsupport of standards, and to document the effectiveness of water quality management actions.
- (B) A review of the water quality standards to determine if uses and criteria are attainable.
- (C) Control actions (i.e., regulatory) and/or management measures (i.e., non-regulatory) to restore attainable uses of the water body.

In addition, routine monitoring for these water bodies will be conducted as determined by the strategies (discussed below on page 6) for concerns and unassessed waters.

Category 5. The water body does not meet applicable water quality standards or is threatened for one or more designated uses by one or more pollutants.

5a. A TMDL is underway, scheduled, or will be scheduled.

An AU is identified in this subcategory if it is determined, in accordance with the assessment and listing methodology, that a pollutant has caused, is suspected of causing, or is projected to cause nonsupport of the water quality standards. In areas where more than one pollutant is associated with the nonsupport of water quality standards in a single AU, the AU will remain in Category 5a until TMDLs for all pollutants have been completed and approved by EPA.

There are 101 water bodies in Category 5a with some of them having more than one Category 5a parameter. For these Category 5a parameters:

- 3 % have completed TMDLs that are awaiting EPA action
- 52 % have TMDL projects already initiated
- 16 % have recently identified parameters causing nonsupport of water quality standards that can be easily incorporated into a current TMDL project— *pending new funding*
- 29 % would require new, stand-alone startup projects *and new funding*.

TCEQ prioritizes, schedules, and initiates TMDLs for all water bodies in category 5a, unless a TMDL is already underway or has been adopted by the Commission but is waiting for EPA approval. EPA and TCEQ agreed in 1997 to the 8-13 year time frame for developing TMDLs from the date of listing. Based on the 1998 303(d) List (the last list approved by EPA), all but three water bodies have been either delisted, have a completed TMDL, or TMDL work has been initiated.

In addition to TMDL activities, routine monitoring for these water bodies will be conducted as determined by the strategies (discussed below on page 6) for concerns and unassessed waters.

Prioritizing TMDLs: The TCEQ process for prioritizing TMDLs was established in 1998 and was modified slightly in 1999, 2000 and 2002. The factors used to prioritize are:

- Priority ranking of the water body (High, Medium, Low) for urgency to initiate a TMDL
- Geographic focus area. Within the state-wide five-year rotating basin water quality management cycle, higher priority is given to one of the basin groups each year.
- Watershed proximity, related pollutants, and the ease of incorporating a newly identified parameter of nonsupport into an existing project. For example, if a TMDL is underway for bacteria in a classified segment, a recently identified nonsupport of the bacteria criterion in a tributary may be easily incorporated into the ongoing project.
- Data availability for TMDL development
- Local and regional support for TMDL development
- Year of listing: under the commitment by agency leadership in 1997 to develop TMDLs within 10 years of listing, water bodies listed earlier have a higher priority.

Scheduling TMDLs: The TCEQ uses the factors indicated above in combination with the best available funding information to schedule projects. The first priority is to fund ongoing projects to completion.

TCEQ has committed (as a deliverable in the FY 2002 federal Clean Water Act Section 106 Supplemental Workplan) to submit a TMDL schedule to EPA along with the 2002 Texas Water Quality Inventory and 303(d) List. This schedule includes the following TMDL strategy information, if that information is available as of as of October 1, 2002: (1) the projected schedule of TMDL completions during FY03-05; and (2) the resources used to complete the TMDL (Clean Water Act Section 106, 104(b)(3), 319, 604(b), state funds, etc.).

5b. A review of the water quality standards will be conducted before a TMDL is scheduled.

AUs are identified in this subcategory if agency staff have determined that the designated use or water quality criteria should be reviewed.

There are 35 water bodies in Category 5b. Review of the water quality standards are underway or scheduled in 27 of the water bodies.

The TCEQ has developed a process for prioritizing these water bodies for the development of a Use Attainability Analysis or site-specific criterion. Attainability analysis of the use and criteria for each of these water bodies is planned or is underway. A rank of “S” for these water bodies is assigned on the 303(d) list indicating that a standards review will be conducted before a TMDL is scheduled. If appropriate, a new water quality standard will be recommended. The factors used to prioritize water bodies for standards review are:

- Adequacy of the data set describing the extent and severity of the nonsupport, including direct measurements of use support such as biological data
- A comparison of conditions and measurements at similar sites in the ecoregion
- History of recent Use Attainability Analysis or standards work
- Changes in water quality since a previous review of the standards
- The extent to which natural causes and sources contribute to nonsupport of the existing standards

In addition to projects reviewing water quality standards, routine monitoring for these water bodies will be conducted as determined by the strategies (discussed below on page 6) for concerns and unassessed waters.

5c. Additional data and information will be collected before a TMDL is scheduled.

AUs are identified in this subcategory if additional data collection, monitoring and analysis are needed to determine if the water quality standard should be reviewed and/or if the condition or pollutant causing nonsupport of the standards should be scheduled for a TMDL.

There are 162 water bodies in Category 5c. Monitoring to gather more information about nonsupport of water quality standards is scheduled or underway to address approximately 77 % of the parameters causing nonsupport in 5c water bodies.

Parameter/area-specific studies will also be scheduled for these water bodies to determine if the water quality standard should be reviewed and/or if a TMDL should be scheduled. A rank of “D” on the 303(d) list for these water bodies indicates that additional data and information will be collected before a TMDL is scheduled. The TCEQ is developing a process for prioritizing water bodies for initiating a project to characterize nonsupport of water quality standards. This process will consider the intensity of use for the water body, known and potential pollution sources, and the severity and geographic extent of the nonsupport. Studies are scheduled or underway in 37 water bodies to address parameters causing nonsupport of the water quality standards.

In addition to parameter/area-specific studies, routine monitoring for these water bodies will be conducted as determined by the strategies (discussed below on page 6) for concerns and unassessed waters.

Water Quality Monitoring Strategy

TCEQ has developed specific water quality monitoring strategies, outlined above, for the AUs in Categories 4 and 5. In addition, a strategy for routine monitoring has been developed to provide assessment data in AUs where uses are known to be attained or where there are insufficient or no water quality data. Uses and criteria on water bodies with high pollution risk and high intensity of beneficial use are given highest priority for monitoring.

Recent data are used in the assessment to identify concerns for use attainment when there are a limited number of samples or parameters available for the assessment period. This information is used to tailor future monitoring to characterize the specific parameters and conditions that may threaten or result in nonsupport of water quality standards.

Information about pollution risk, intensity of beneficial use, and water quality concerns is considered during an annual river basin planning process involving agency staff and local monitoring entities. Currently, in an informal process, state and local water quality managers allocate monitoring resources. A more formal and quantitative approach to prioritizing water bodies for assessment using these factors is being developed to provide a comprehensive assessment of all watersheds in Texas.

The cooperative multi-agency routine monitoring schedule is available on the TCEQ website at <http://www.tnrcc.state.tx.us/water/quality/data/wqm/index.html#waterdata>