The Texas Commission on Environmental Quality (commission or TCEQ) proposes amendments to §§307.1 - 307.10.

BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE PROPOSED RULES

The Federal Water Pollution Control Act, §303 (commonly referred to as the Clean Water Act, 1972, 33 United States Code, §1313(c)), requires all states to adopt water quality standards for surface water. A water quality standard consists of the designated beneficial use or uses of a water body or a segment of a water body and the water quality criteria that are necessary to protect the use or uses of that particular water body. Water quality standards are the basis for establishing discharge limits in wastewater and storm water discharge permits, setting instream water quality goals for total maximum daily loads (TMDLs), and providing water quality targets to assess water quality monitoring data.

The states are required under the Clean Water Act to review their water quality standards at least once every three years and revise them, if appropriate. States review standards because new scientific and technical data may be available that have a bearing on the review. Further, environmental changes over time may also warrant the need for a review. Where standards do not meet established uses, the standards must be periodically reviewed to see if uses can be attained. Additionally, water quality standards may have been previously established for the protection and propagation of aquatic life and for recreation in and on the water without sufficient data to determine whether the uses were attainable. Finally, changes in the Texas Water Code (TWC), in the Clean Water Act, or in the United States Environmental Protection Agency's (EPA) regulations may necessitate reviewing and revising standards to ensure compliance with current statutes and regulations.

Following adoption of revised water quality standards by the commission, the Governor or designee must submit the officially adopted standards to the EPA Region 6 Administrator for review. The Regional Administrator reviews the state's standards to determine compliance with the Clean Water Act and implementing regulations. Standards are not applicable to regulatory actions under the Clean Water Act until approved by EPA.

The Texas statewide surface water quality standards were last amended in July 2000. The EPA approved the majority of the state's revised standards by 2007.

Reviews and revisions of the water quality standards address many provisions that apply statewide, such as criteria for toxic pollutants. Other revisions address the water quality uses and/or criteria that are applicable to individual water bodies. An extensive review of water quality standards for individual water bodies is often initiated when the existing standards appear to be inappropriate for water bodies that are listed as impaired under the Clean Water Act, §303(d), or that are potentially affected by permitted wastewater discharges or other permitting actions.

States may modify non-existing designated uses when it can be demonstrated, through a Use Attainability Analysis (UAA), that attaining the current designated uses and/or criteria is not appropriate. Most changes in designated uses are based on a demonstration that natural characteristics of a water body cannot attain the currently designated uses and/or criteria. Natural characteristics include temperature, pH, dissolved oxygen, diversity of aquatic organisms, amount of streamflow, physical conditions such as depth, or natural background pollutant levels. Conversely, a UAA might demonstrate that the currently designated uses and criteria are appropriate, or even that they should be more stringent.

UAAs can require several years of additional sampling studies, or they may focus on a long-term evaluation of existing historical data. For UAAs on water bodies that are potentially impacted by pollutant loadings above natural background, sampling and evaluation is often conducted on similar but relatively unimpacted water bodies in order to determine reference conditions that can be applied to the water body of concern.

The focus of UAAs depends on the uses and criteria that need to be re-evaluated. The applicable category of aquatic life use is determined by repeatedly sampling fish or invertebrates in relatively unimpacted areas and by applying quantitative indices such as indices of biotic integrity to the sampling data of the biological communities. UAAs to assign aquatic recreational uses include assessing physical and hydrological conditions, observing existing recreation, and collecting information on current and historical recreational activities. Dissolved oxygen criteria are evaluated by monitoring dissolved oxygen over numerous (usually ten) 24-hour periods in relatively unimpacted areas. Site-specific criteria for toxic pollutants are evaluated by placing selected small aquatic organisms in water samples from the site and exposing them to different doses of the toxic pollutant of concern. Criteria for pH, dissolved minerals, and temperature are often evaluated by analyzing extensive long-term recent and historical data for the water body of concern and similar water bodies in the same area.

The commission is proposing editorial revisions as well as substantive changes. Editorial revisions would be adopted to improve clarity, to make grammatical corrections, and to renumber or reletter subsections as appropriate.

The commission is also proposing changes to the general criteria that are intended to improve statewide qualitative and quantitative criteria and to ensure that the general criteria are compatible with other proposed revisions. Numerous revisions of toxic criteria are proposed to incorporate new data on toxicity effects, and changes are proposed to provide clarity to the basic requirements for toxicity effluent testing. Other proposed changes provide additional categories of recreational uses and provide more definition on assigning recreational uses. New criteria are proposed to protect numerous reservoirs from excessive growth of aquatic vegetation related to nutrients. The commission is soliciting comment on the proposed nutrient criteria, as noted in the SECTION BY SECTION DISCUSSION in this preamble for Appendix F in §307.10. The proposed revisions provide clarity on how water quality standards apply under different stream flow conditions and on how attainment of water quality standards would be assessed using instream monitoring data. Numerous revisions are proposed for the uses and criteria of individual water bodies in order to incorporate new data and the results of recent UAAs.

In conjunction with this rule proposal, the commission is proposing revisions to the implementation procedures for applying the proposed standards to wastewater discharge permits. These proposed revisions incorporate the proposed changes to the water quality standards contained in this rule proposal. Proposed revisions to the implementation procedures also include numerous updates to incorporate more recent data and information. The implementation procedures are contained in a guidance document entitled *Procedures to Implement the Texas Surface Water Quality Standards* (RG-194). This document provides guidance and explanation of the general and technical procedures used in implementing the standards in wastewater discharge permits. The document includes proposed changes that would be consistent with the changes proposed for the water quality standards in Chapter 307. Updates are proposed for minimum analytical levels for chemicals in wastewater effluent, whole effluent toxicity

testing procedures, and critical low-flows in streams to determine standards applicability. Extensive new procedures are proposed to evaluate the need for nutrient effluent limits for wastewater discharges to reservoirs, streams, and rivers; and a new process is proposed to assess recreational uses.

An overview of the standards implementation procedures and a description of the steps to revise the procedures are presented in Series 23 of the commission's Continuing Planning Process for the Water Quality Management Program. The procedures must be approved by the commission and submitted to the EPA for approval. Although not part of the regulatory action covered by the proposed revisions to the water quality standards, the revisions to the implementation procedures are being proposed at the same time as the revisions to the standards to allow for a more coordinated and consistent review by the commission and the public.

SECTION BY SECTION DISCUSSION

To conform to commission and *Texas Register* formatting requirements, non-substantive revisions would be made throughout the sections to correct citations, acronym usage, and other minor issues.

*§307.1, General Policy Statement*

The proposed change to §307.1, General Policy Statement, reflects changes made in 2001 by House Bill 2912, §1.26, which amends TWC, §26.003 by adding the words "taking into consideration" before the words "economic development."

*§307.2, Description of Standards*

Proposed changes to §307.2, Description of Standards, include removing the content from Appendix B in §307.2(a)(10)(B), relating to low-flow criteria and replacing it with new content concerning sole-source surface drinking water supplies. Proposed Appendix F in §307.2(a)(10)(F) lists numeric chlorophyll *a* criteria and supplemental screening levels for total phosphorus and transparency for selected reservoirs and proposed Appendix G in §307.2(a)(10)(G) relates to site-specific recreational uses and criteria for unclassified water bodies are summarized for proposal. Presumed uses are proposed for inclusion with narrative provisions, designated uses, and numerical criteria as standards that can be changed to account for local conditions. Temporary variances would be extended to include storm water permits as well as discharge permits, and wording has been proposed to clarify that temporary variances can only apply to existing discharge permits.

*§307.3, Definitions and Abbreviation*

Proposed changes to §307.3, Definitions and Abbreviations, include revisions to the definitions for "critical low-flow", "criteria", "designated use", "incidental fishery", "mixing zone", "noncontact recreation", "nonpersistent toxic", "persistent toxic", "presumed use", "segment", "standards", "standards implementation procedures", and "surface water in the state". New definitions have been added for "aquatic vegetation", "baseflow conditions", "commission", "main pool station", "nutrient criteria", "nutrient", ″primary contact recreation″, "protection zone", "secondary contact recreation 1", "secondary contact recreation 2", "sole-source surface drinking water supply", "thalweg", and "toxic equivalency factor". The definition for "contact recreation" is proposed to be deleted and replaced with the new definitions for primary and secondary contact recreation. The definition for "significant aquatic life use" is proposed to be deleted since minimal aquatic life use would be added to the standards. The revisions and additions to definitions are proposed in response to stakeholder comments requesting that an

expansion of technical and frequently used terms in the standards could provide additional clarity to the requirements. Proposed revisions to definitions would also be needed to make them consistent with current scientific technical practices and EPA definitions as they relate to activities such as those associated with Texas Pollutant Discharge Elimination System (TPDES) permitting. Definitions are also proposed to be revised or added to clarify changes being proposed in the standards. The proposed changes would also add new abbreviations in §307.3(b) for "aquatic life use (ALU)", "Assessment Tools for the Evaluation of Risk (ASTER)", "cubic feet per second (cfs, $ft^3/s$)", "county road (CR)", "farm to market (FM)", "Health Effects Assessment Summary Tables (HEAST)", "International Boundary and Water Commission (IBWC)", "Integrated Risk Information System (IRIS)", "kilometer (km)", "minimal aquatic life use (M)", "multiplier (m)", "meters per kilometer (m/km)", "method detection limit (MDL)", "mile (mi)", "primary contact recreation (PCR)", "reference dose (RfD)", "ranch road (RR)", "secondary contact recreation (SCR)", "state highway (SH)", "standard units (SU)", "Texas Commission on Environmental Quality (TCEQ)", "toxic equivalency factor (TEF)", "toxicity reduction evaluation (TRE)", "United States (US)", and "water-effect ratio (WER)". The abbreviations for "best management practices (BMP)", "contact recreation (CR)", "municipal separate storm sewer system (MS4)", and "National Pollution Discharge Elimination System (NPDES)" are proposed to be deleted since these words are either not found in the standards or being replaced by alternate terminology.

*§307.4, General Criteria*

Proposed changes to §307.4, General Criteria, include clarifying that general criteria apply to surface water in the state and specifically applies to substances attributed to waste discharges or human activities. Sheen is proposed for inclusion with the general criteria for oil, grease, and related residue. The proposed changes include the location of site-specific numeric criteria for chlorophyll *a*. The revision of the

temperature portion is proposed for clarification. Presumed uses would be included with existing, designated, and attainable uses for the aquatic life uses and dissolved oxygen portion of this section. In addition, language regarding perennial streams and the statewide ecoregion studies is proposed for removal and this portion is proposed for revision to reference applicable dissolved oxygen criteria in §307.7(b)(3)(A). The aquatic life uses and habitat portion is proposed for revision for clarification. The revision to this section is proposed to clarify that intermittent streams not listed in Appendix A or D, which are located in §307.10, are considered to have a minimal aquatic life use.

The aquatic recreation portion would be revised to include four categories of recreational use (primary contact recreation, secondary contact recreation 1, secondary contact recreation 2, and noncontact recreation waters) and a reference to §307.7(b)(1). The revisions to this section also propose that classified segments are designated for primary contact recreation, unless site-specific information, such as a UAA, demonstrates that different recreational uses and/or criteria may be justified. This section would be revised to explain that primary contact recreation is a presumed use and that secondary contact recreation 1 is a presumed use for certain types of unclassified waters if primary contact recreation does not occur and if certain depth characteristics are met. Proposed changes also include descriptions for secondary contact recreation 2 and noncontact recreation and that no water bodies are presumed to have these two uses. This section would be revised to explain how presumed recreational uses are applied and assigned and how uses less stringent than presumed uses are assigned to water bodies.

Additional changes to this section would include clarification that the assessment of unclassified waters pertains to aquatic life uses and that waters that are not in Appendix A or D, which are located in §307.10,

are assigned specific uses that are attainable or characteristic of those waters. This section would be revised to include general criteria for pH.

*§307.5, Antidegradation*

Proposed changes to §307.5, Antidegradation, are strictly editorial. Editorial revisions are proposed to improve clarity.

*§307.6, Toxic Materials*

Proposed changes to §307.6, Toxic Materials, clarify that toxic criteria do not apply in instances where surface water, as a result of natural phenomena, exhibit characteristics beyond the limits established by this section. This section would be revised to clarify that chronic aquatic life criteria apply to all water bodies with a designated aquatic life use of limited, intermediate, high, or exceptional and to allow for the use of other methodologies for deriving $LC_{50}$ data for calculating aquatic life criteria for substances not listed in Table 1 of §307.6(c)(1). Table 2 of §307.6(c)(8), along with all references to Table 2, would be removed from the rule under this proposal. This table, which listed pH and hardness values for each basin, would now be included in the *Procedures to Implement the Texas Surface Water Quality Standards* (RG-194). The use of the biotic ligand model to develop site-specific aquatic life criteria for copper would also be in this revision.

Section 307.6(c)(1), Table 1, which lists numeric criteria for the protection of aquatic life, would include revisions to arsenic, chromium, dieldrin, endrin, hexachlorocyclohexane, mercury, nickel, petachlorophenol, and zinc based on revisions to the EPA's *1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water* (EPA-820-B-96-001). Proposed copper

criteria would be recalculated from the EPA's 1995 updates by removing non-native species from the dataset. Proposed cadmium criteria would be revised based on the national criteria that were released in 2001 by recalculating the acute aquatic life criteria by removing non-native species from the dataset. The chronic cadmium aquatic life criterion is proposed directly from the 2001 national criteria document. Tributlytin saltwater criteria would be revised based on national criteria which were released in 2003. Nonylphenol and diazinon would be added as a result of newly released national criteria documents, and freshwater copper aquatic life criteria calculations would be revised to reflect the ability to use a biotic ligand model or a water-effect ratio study to develop site-specific copper criteria. The conversion factors for both cadmium and lead would now include the hardness-based equations as opposed to being calculated on a presumed hardness.

Human health revisions would include changing fish consumption rates from ten grams per person per day for freshwater fish and 15 grams per person per day for saltwater fish to 17.5 grams per person per day for all types of fisheries and would revise the consumption rate for incidental fisheries to 1.75 grams per person per day. Therefore, the same toxic criteria to protect for fish consumption could be used for both fresh and saltwater. Human health criteria for all noncarcinogens would be revised based on childhood exposure with a fish and shellfish consumption rate of 5.6 grams per child per day, drinking water consumption rate of 0.64 liters per child per day, and a child body weight of 15 kilograms (33.1 pounds). Reference to carcinogens as Types A, B, B2, and C would be removed because this classification system is no longer used by the EPA. Instead, the rule refers to the Integrated Risk Information System (IRIS) for confirmation of carcinogenicity. The specificity of 70 years as an average human lifespan would be removed from this section since the average life expectancy is now longer. Proposed revisions also would clarify that human health criteria would be applicable to water in the state

that has sustainable fisheries and/or designation or use as a public drinking water supply, except within mixing zones and below critical low-flow conditions as specified in §307.8 as opposed to merely referencing the mixing zone.

The human health criteria in Table 3 would be relocated in proposed §307.6(d)(1) Table 2 and would be revised to reflect the latest data provided by the EPA. Lipid correction factors would be removed from all equations because all bioconcentration factors used were adjusted to reflect the edible portions of fish. Proposed mercury revisions would be based on the EPA's 2001 national criteria document and 2004 study results on residents from Caddo Lake conducted by the Texas Department of State Health Services. The arsenic criterion for fish and water consumption would be lowered to reflect the new drinking water maximum contaminant level and eight congeners for dioxin would be added to the congener list, which now includes dioxin-like polychlorinated biphenyls (PCBs). The dioxin and dioxin-like PCB congener list would also be updated to reflect the World Health Organization's latest updates. Human health criteria would be added for antimony, anthracene, bis(2-chloroethyl)ether, bis(2-ethylhexyl)phthalate, m-dichlorobenzene, o-dichlorobenzene, 3-3'-dichlorobenzidine, dichloromethane, 1,2-dichloropropane, 2,4-dimethylphenol, di-n-butyl phthalate, ethylbenzene, hexachlorocyclopentadiene, nickel, 1,1,2,2-tetrachloroethane, thallium, toluene, and 1,1,2-trichloroethane per EPA request, and chemical specific human health criteria would be added for bromodichloromethane and bromoform. Human health criteria for dichlorodiphenyltrichloroethane (also known as DDT), dichlorodiphenyldichloroethane (also known as DDD), dichlorodiphenyldichloroethylene (also known as DDE), dioxins/furans, mercury, and PCBs would be revised as tissue-based criteria. The chemical name "dibromochloromethane" would be updated to the synonym "chlorodibromomethane," which is used in 40 Code of Federal Regulations Part 122.

Proposed edits would be made to §307.6(e) to further clarify where chronic toxicity would be applicable for biomonitoring testing and what facilities would be required to perform toxicity testing by adding the reference to the *Procedures to Implement the Texas Surface Water Quality Standards* (RG-194), and to clarify that toxicity reduction evaluations may be required if toxicity biomonitoring results indicate that a discharge is not sufficiently controlled to preclude toxicity. Additional explanation would be provided regarding provisions that may be added to a permit if toxicity is not controlled. The diazinon abatement language would be removed due to the addition of diazinon aquatic life criteria.

*§307.7, Site-Specific Uses and Criteria*

Proposed changes to §307.7, relating to Site-Specific Uses and Criteria, include proposed changes to the general provisions in §307.7(a) and (b), include the rewording of the general provisions for recreational criteria that describes recreational use as four categories (primary contact recreation, secondary contact recreation 1, secondary contact recreation 2, and noncontact recreation waters). The revisions to this section also propose that classified segments are designated for primary contact recreation, unless site-specific information demonstrates that different recreational uses and/or criteria may be justified based on specific reasons provided in this section. Other proposed changes include the option of applying noncontact recreation or primary contact recreation criteria to classified segments where contact recreation would be considered unsafe for reasons unrelated to water quality.

Proposed changes to the freshwater criteria in §307.7(b)(1)(A) include revising the primary contact recreation geometric mean criteria for *E. coli* from 126 colonies per 100 milliliter (ml) to 206 colonies per 100 ml, revising the primary contact recreation single sample number for *Escherichia coli (E. coli)*

based on new calculations using updated information, adding secondary contact recreation 1 and 2, and noncontact recreation geometric mean criteria for *E. coli* that are based on higher risk levels.

In response to stakeholder comments that *E. coli* bacteria do not survive in high saline inland waters, revisions to this section also propose a change in indicators for certain high saline inland classified segments and their unclassified tributaries from *E. coli* to Enterococci for instream bacteria sampling. Freshwater criteria for Enterococci would be added for the four subcategories of recreational uses.

Proposed changes to the saltwater criteria in §307.7(b)(1)(B) include revising the primary contact recreation single sample number for Enterococci to the recommended federal criteria. Language would be added to clarify that a secondary contact recreation 1 category for tidal streams and rivers can be established on a site-specific basis where a use or criteria change was justified by a UAA and if the water body is not considered a coastal recreation water as defined in the Beaches Environmental Assessment and Coastal Health Act of 2000 (commonly referred to as the Beach Act). Also, a secondary contact recreation 1 geometric mean criterion for Enterococci based on a higher risk level would be added, and the noncontact recreation geometric mean criterion for Enterococci would be revised to be based on a higher risk level.

Changes in §307.7(b)(1)(C) also specify that fecal coliform could be used as an alternative indicator in certain high saline inland water bodies for a transition period of two years after the adoption of the Standards. Proposed changes to this section include adding fecal coliform criteria for primary contact recreation and secondary contact recreation 1 and 2, rewording the noncontact recreation geometric mean

language for clarification purposes, and removing fecal coliform as a surrogate indicator in effluent limits in wastewater discharge permits.

The commission proposes to change §307.7(b)(2)(A) to include sole-source surface drinking water supply use as required by TWC, §26.0286. The title name of Chapter 290 would be revised to reflect the appropriate name contained in the TAC.

Proposed changes to §307.7(b)(3) include the rewording of the general provisions for aquatic life that describes aquatic life use as six categories (minimal, limited, intermediate, high, and exceptional aquatic life and oyster waters). The Aquatic Life Subcategories table would be renumbered to Table 3 in proposed §307.7(b)(3)(A)(i) and revised to include a "minimal" aquatic life use subcategory with corresponding dissolved oxygen criteria. The minimal aquatic life use subcategory would apply to intermittent streams without perennial pools as indicated in §307.4(h)(4). The table containing critical low-flow values for dissolved oxygen for the eastern and southern Texas ecoregions would be renumbered to Table 4, which would be located in proposed §307.7(b)(3)(A)(ii). This section would be revised to clarify that this table is used to determine critical-flow values in certain areas. The revisions to §307.7(b)(3)(A)(ii) and (iii) propose a change in wording from significant aquatic life uses to limited, intermediate, high, and exceptional aquatic life uses. Proposed changes to §307.7(b)(3)(B) include rewording the geometric mean language for clarity and adding human health protection language for determining acceptable toxic concentrations in molluscan shellfish based on federal recommendations. Nutrient criteria language would be added to §307.7(b)(4).

*§307.8, Application of Standards*

Proposed changes to §307.8, Application of Standards, would replace the phrase "seven-day, two-year low-flows" with the term "critical low-flow," which is defined in §307.3. Proposed revisions would also clarify what standards do not apply below the critical low-flow and would remove the rule provision stating that aquatic recreational criteria for unclassified waters do not apply below the 7Q2. Appendix B, a table of segment-specific low-flow values, would be moved from this rule to the *Procedures to Implement the Texas Surface Water Quality Standards* (RG-194). Therefore, proposed revisions in this subsection refer to the new location of the low-flow values table and clarifies that the specific low-flow values were calculated from historical United States Geological Survey or International Boundary and Water Commission daily streamflow records. Additionally, the proposed revisions specify that these low-flow values apply only to river basin and coastal basin waters and not to bay or gulf waters or reservoirs or estuaries. Proposed language would be added to explain that the values were set to 0.1 cubic foot per second when the calculated critical low-flow or harmonic mean flow is equal to or less than 0.1 cubic foot per second. The term "low-flow criterion" would be revised to "critical low-flow and harmonic mean flow" to clarify that values would not be criteria and that the types of low-flows would also include alternative critical low-flows for classified segments that are dominated by springflow. The flows differ depending on the presence or absence of federally listed endangered or threatened aquatic or aquatic dependent species. The rule provision stating that human health criteria to protect fish and shellfish for human consumption did not apply below harmonic mean flow would be removed. A provision would be added that states that harmonic mean flow is the applicable upstream flow when calculating wastewater permit limits for criteria that are assessed as long-term means. The revision would also clarify that discharge points means permitted discharge points.

*§307.9, Determination of Standards Attainment*

Proposed changes to §307.9, Determination of Standards Attainment, clarifies that procedures listed in this section would be solely for the purpose of assessing water quality monitoring data to determine if water quality standards are attained in individual water bodies. A reference to laboratory accreditation requirements would be added to this section. Proposed revisions also include an elaboration on what makes a sample representative of a water body. Depth collection for bacteria and temperature would be clarified and depth collection for chlorophyll *a* samples and screening levels for total phosphorus would be added to the section. Procedures for collection of dissolved oxygen samples for non-tidal flowing streams, impoundments, and tidal water would be added to an existing paragraph and would be removed as a separate one to clarify that samples from the surface can be used for standards attainment in those water bodies. Providing specificity for those water bodies would not be necessary since they would be assessed using 24-hour dissolved oxygen values. Standards attainment for chloride, sulfate, and dissolved solids would be revised to be based on the median of measurements taken over at least a two-year period as opposed to the average of measurements taken over a year. The proposed revision would clarify that radioactive discharges means radioactive sources. Impacts of radioactive sources would be evaluated in accordance with applicable rules in 30 TAC Chapter 290 and Chapter 336.

Bacteria standards attainment would be revised to be based solely on the geometric mean of all applicable samples collected over at least a two-year period. Single sample measurements would be evaluated with the maximum criterion for the purposes of swimmer safety notification and wastewater permit compliance. A high-flow exemption for bacteria would be added to this section so that samples taken during extreme hydrologic conditions immediately after heavy rains would not be used for assessment purposes. The time period and the hydrologic conditions that the high-flow exemption would apply to are also added to this section.

Aquatic life criteria attainment would be revised so the attainment is based on the extent of criteria exceedance over a period of at least two years. Human health criteria attainment would be revised so it is based on the median of samples collected over a period of at least two years. Standards attainment for temperature and pH would be clarified so it is based on measurements collected over at least two years. Standards attainment for dissolved oxygen would clarify that the minimum criterion is based on the lowest measurement observed during a 24-hour period. Proposed revisions would also include new text to describe how new criteria related to nutrients for reservoirs would be assessed. Proposed revisions to this section would clarify that site-specific criteria for certain constituents (aquatic recreation, total dissolved solids, chloride, and sulfate) would not apply when perennial streamflows are below 0.1 cubic feet per second or when intermittent streams have pools that cover less than 20% of the stream bed in a 500 meter reach or when extremely dry conditions are indicated by comparable observations of flow severity.

Biological integrity would be revised to be based on indices of biotic integrity and criteria for dissolved oxygen. Proposed revisions would also include new text to describe that water bodies with a presumed high aquatic life use are not automatically considered to be listed as impaired. The new text clarifies how impairment listings would be deferred, specifies the timeframe that water bodies might be deferred from listing as impaired, and describes how site-specific aquatic life use standards would be established.

*§307.10, Appendices A-E*

Proposed changes to §307.10, relating to Appendices A-E, include the removal of Appendix B, Low-Flow Criteria; the addition of a new Appendix B, Sole-source Surface Drinking Water Supplies; the

addition of Appendix F, Site-specific Nutrient Criteria and Screening Levels for Selected Reservoirs; and Appendix G, Site-specific Recreational Uses and Criteria for Unclassified Water Bodies.

The commission is soliciting general comments on changes to classified water bodies in Appendix A. Proposed changes to the narrative section in Appendix A clarify that dissolved oxygen absolute minima and seasonal criteria are listed in §307.7, unless different criteria are specified in Appendix A. The language for recreational use would be revised to reflect the proposed revisions in §307.7 and language regarding segments that include reaches that are dominated by springflow is proposed.

Additional proposed changes to Appendix A include changes to aquatic life uses for Black Bayou (Segment 0406) and James' Bayou (Segment 0407) from intermediate to high and from high to intermediate for the West Fork Trinity River Above Bridgeport Reservoir (Segment 0812), the Clear Fork Trinity River Above Lake Weatherford (Segment 0833), and the North Sulphur River (Segment 0305). A footnote is proposed to clarify that a limited aquatic life use is appropriate for assessment of the benthic community located in the North Sulphur River. The commission solicits comments on whether other designated aquatic life uses for the North Sulphur River, such as a limited or high for fish communities, should be considered. The commission also solicits comments on the designation of separate aquatic life uses for fish and benthic communities. These proposed changes are based on the results of UAAs that were performed. In addition, site-specific dissolved oxygen criteria for the following segments are proposed to change based on the results of UAAs. The segments are: Little Wichita River (Segment 0211), Black Bayou (Segment 0406), James' Bayou (Segment 0407), Little Cypress Bayou (Creek) (Segment 0409), West Fork Trinity River Above Bridgeport Reservoir (Segment 0812), Clear Fork Trinity River Above Lake Weatherford (Segment 0833), Clear Fork Trinity River Below Lake

Weatherford (Segment 0831), Upper Oyster Creek (Segment 1245), Caney Creek Above Tidal (Segment 1305), Oso Bay (Segment 2485), and Laguna Madre (Segment 2491). The small changes proposed for 24-hour average dissolved oxygen criteria for Oso Bay and Laguna Madre are supported by the large abundance of dissolved oxygen measurements. The commission solicits comments on setting the 24-hour average dissolved oxygen criteria at the decimal fraction of 4.5 mg/L rather than at a whole number such as 4.0 mg/L or 5.0 mg/L. A footnote would be added that includes a site-specific multiple regression equation that must be used for predicting dissolved oxygen in Black Bayou, James' Bayou, Little Cypress Bayou (Creek), and Black Cypress Bayou (Creek). The equation is based on data from the Black Cypress Bayou (Creek) UAA. Additional footnotes would be added to explain that the North Sulphur River, Black Bayou, James' Bayou, West Fork Trinity River Above Bridgeport Reservoir, and Clear Fork Trinity River Above Lake Weatherford are intermittent streams with perennial pools. Footnotes would also provide the site-specific 24-hour dissolved oxygen criteria for Little Wichita River, West Fork Trinity River Above Bridgeport Reservoir, Clear Fork Trinity River Below Lake Weatherford, Clear Fork Trinity River Above Lake Weatherford, Upper Oyster Creek, Caney Creek Above Tidal, Oso Bay, and Laguna Madre.

Proposed aquatic life use and dissolved oxygen criteria changes to the Angelina River/Sam Rayburn Reservoir (Segment 0615) from intermediate to high would be due to the EPA's disapproval of the intermediate aquatic life use and associated dissolved oxygen criteria for the segment in the 2000 Texas Surface Water Quality Standards.

The critical low-flows for 15 spring-fed segments (Segments 0218, 1243, 1415, 1424, 1430, 1808, 1811, 1813, 1814, 1817, 1905, 2109, 2113, 2309, and 2313) and the method for calculating those critical low-

flows would be changed to provide additional protection to segments with federally listed endangered or threatened aquatic or aquatic dependent species and to ensure that spring-fed water bodies, with or without these species, would receive at least the same level of protection that non spring-fed water bodies are given based on the critical low-flow used to screen impacts from permitted discharges. The existing footnote for Segment 1814 would be removed since the critical low-flow for that segment would be revised.

Proposed changes in Appendix A also include the creation of a new segment (Black Cypress Bayou (Creek)) (Segment 0410) from the lower portion of unclassified Black Cypress Bayou in Appendix D to account for different hydrological conditions, and name changes in three segments (Segments 0307, 1428, and 1429). An acute aquatic life use criteria for zinc would be included for the Nueces Bay (Segment 2482) for assessment purposes only after the completion and approval of a TMDL and Implementation Plan. Mission Lake would be added to the name for Segment 2462 to clarify that it is part of the segment. The temperature criteria would be lowered for specified portions of the Comal River (Segment 1811) and Upper San Marcos River (Segment 1814) is to provide additional protection to listed federally endangered species. The public water supply use would be removed from the Navidad River Tidal (Segment 1603), the Rio Grande Below International Dam (Segment 2308), and a portion of Upper Oyster Creek (Segment 1245) because there are no public water supplies located in Segments 1603 and 2308 or the specified area of Segment 1245.

Appendix A includes proposed changes to the dissolved minerals criteria for some segments based on new calculations using updated information. The changes are proposed for the following 20 segments: Cooper Lake (proposed Jim L. Chapman Lake) (Segment 0307), Lake Tawakoni (Segment 0507), Lake

Livingston (Segment 0803), West Fork Trinity River Above Bridgeport Reservoir (Segment 0812), Lavon Lake (Segment 0821), Brazos River Below Possum Kingdom Lake (Segment 1206), Nolan River (Segment 1227), Salt Fork Brazos River (Segment 1238), White River (Segment 1239), White River Lake (Segment 1240), Double Mountain Fork Brazos River (Segment 1241), Brazos River Below Whitney Lake (Segment 1257), E.V. Spence Reservoir (Segment 1411), Colorado River Below Lake J.B. Thomas (Segment 1412), Lake J.B. Thomas (Segment 1413), Concho River (Segment 1421), Colorado River Below E.V. Spence Reservoir (Segment 1426), O.H. Ivie Reservoir (Segment 1433), Nueces/Lower Frio River (Segment 2106), and Choke Canyon Reservoir (Segment 2116). The proposed increases in dissolved minerals criteria for Lake Tawakoni, Lavon Lake, and the Nolan River are due to water reuse projects. The criteria change for the Nolan River is in response to the City of Cleburne's request that the Nolan River's dissolved minerals criteria reflect the future conditions of a city project that includes adding water sources, possibly from Whitney Lake (Segment 1203), that have higher dissolved minerals concentrations than the current criteria for the Nolan River. The criteria change to Lavon Lake would be to account for the high saline inland water it receives from the Red River Basin as a result of permitted interbasin transfers. The proposed criteria change to Lake Tawakoni responds to a request from the Sabine River Authority-Texas to increase the dissolved minerals criteria in anticipation of a water reuse project in the Lake Tawakoni watershed. Since the proposed criteria change for Lake Tawakoni is contingent upon the continuation and progress of a future water reuse project and is not an existing project like the water reuse projects associated with the Nolan River and Lavon Lake, a footnote would be added that the criteria and the status of the water reuse project would be reviewed during the next water quality standards revision.

The pH range for Upper South Sulphur River (Segment 0306), Cooper Lake (proposed Jim L. Chapman Lake) (Segment 0307), Caddo Lake (Segment 0401), Big Cypress Creek Below Lake O' the Pines (Segment 0402), Black Bayou (Segment 0406), James' Bayou (Segment 0407), and Village Creek (Segment 0608) would be revised based on additional data.

Proposed freshwater indicator bacteria, Enterococci, for high saline inland water bodies and its corresponding primary contact recreation geometric mean criterion (54 colonies/100 ml) would be included for 15 segments that are considered high saline inland waters. These segments are: Red River Above Lake Texoma (Segment 0204), Red River Below Pease River (Segment 0205), Red River Above Pease River (Segment 0206), Lower Prairie Dog Town Fork Red River (Segment 0207), Lake Kemp (Segment 0217), Wichita/North Fork Wichita River (Segment 0218), Upper Pease/North Fork Pease River (Segment 0220), South Fork Wichita River (Segment 0226), Pease River (Segment 0230), Brazos River Above Possum Kingdom Lake (Segment 1208), Salt Fork Brazos River (Segment 1238), Double Mountain Fork Brazos River (Segment 1241), Colorado River Below Lake J.B. Thomas (Segment 1412), Upper Pecos River (Segment 2311), and Red Bluff Reservoir (Segment 2312).

Other proposed recreational revisions would include changing the current designated contact recreation use and corresponding geometric mean criterion (126 colonies/100 ml) for *E. coli* to primary contact recreation with a corresponding geometric mean criterion of 206 colonies/100 ml (*E. coli*) for classified freshwater rivers and reservoirs (with exception to the 15 high saline inland waters previously discussed). Contact recreation use for tidal waters and bays and estuaries would be revised to primary contact recreation use and the corresponding Enterococci geometric mean criterion (35 colonies/100 ml). The Indicator Bacteria column would contain either *E. coli* or Enterococci criteria for recreational purposes

since the transition period to *E. coli* and Enterococci is complete except for segments with high saline inland waters. Fecal coliform criteria (14 colonies per 100 ml) for oyster water use would remain in the Indicator Bacteria column for segments designated as having oyster water use. A footnote would be revised for the Bays and Estuaries and Gulf of Mexico to clarify that in oyster waters, Enterococci would be the indicator bacteria to measure recreational suitability and fecal coliform would be the indicator bacteria for oyster waters purposes only. The footnotes describing indicator bacteria for freshwater and saltwater would be revised to omit fecal coliform. A footnote would be added for segments that are high saline inland waters to clarify that Enterococci are the indicator bacteria, but that fecal coliform may still be used as an alternate indicator during a transition period of two years until sufficient data are available for Enterococci for monitoring purposes.

Proposed changes to Appendix B include repealing the current Appendix B, Low-Flow Criteria, which contains flow values intended as guidelines and moving it to the *Procedures to Implement the Texas Surface Water Quality Standards* (RG-194). A new Appendix B, Sole-source Surface Drinking Water Supplies, would be added to comply with TWC, §26.0286 to designate water bodies as sole-source surface drinking water supplies in the Texas Surface Water Quality Standards.

Proposed changes to Appendix C include descriptions for new segments, revisions due to name changes, updated normal pool elevations, and revised descriptions for those segments affected by the creation of the new segments in Appendix A. Black Cypress Bayou (Creek) would be added as new Segment 0410 based on the results of an aquatic life UAA. Segment boundary revisions are proposed for Clear Fork Trinity River Above Lake Weatherford (Segment 0833), Spring Creek (Segment 1008), Caney Creek Above Tidal (Segment 1305), Lavaca River Above Tidal (Segment 1602), and Salado Creek (Segment

1910) based on results of aquatic life UAAs to account for different hydrologic characteristics of the water bodies. The boundaries of the Neches River Tidal and the Neches River Below B.A. Steinhagen Lake (Segment 0601 and 0602) would be updated to reflect the addition of a saltwater barrier. The description of the Neches River Above Lake Palestine (Segment 0606) would be revised as a result of the Rhine Lake Dam breach that occurred in 2001. The description of Lake Weatherford (Segment 0832) would be revised to include the correct Farm to Market Road. The upstream boundary of Bastrop Bayou Tidal (Segment 1105) and Tres Palacios Creek Tidal (Segment 1501) would be updated to reflect the tidal influence, which is up to the five-foot contour line farther upstream. As a result, the downstream boundary of Tres Palacios Creek Above Tidal (Segment 1502) would be updated to reflect the boundary change for Segment 1501. The description for Lake Waco (Segment 1255) would be updated to incorporate the change in normal pool elevation of the lake and to more accurately describe the upper boundaries of the lake that extend into the South, Middle, and North Bosque rivers. As a result, the downstream boundaries of the South, Middle, and North Bosque rivers would be updated to reflect the newer pool elevation. The boundary of the Gulf of Mexico would be updated to incorporate the mouth of the Rio Grande River. The normal pool elevations would be updated for Farmers Creek Reservoir (Segment 0210), Diversion Lake (Segment 0215), Wright Patman Lake (Segment 0302), Sam Rayburn Reservoir (Segment 0610), Lake Worth (Segment 0807), Lake Palo Pinto (Segment 1230), Lake Graham (Segment 1231), Fort Phantom Hill Reservoir (Segment 1236), White River Lake (Segment 1239), Lake Lyndon B. Johnson (Segment 1406), Lake Buchanan (Segment 1408), Lake Brownwood (Segment 1418), and Medina Lake (Segment 1904). The name or description for the Sulphur/South Sulphur River (Segment 0303), Cooper Lake (Segment 0307), Colorado River Below Town Lake (Segment 1428), Town Lake (Segment 1429), and Barton Creek (Segment 1430) would be revised to incorporate name changes to lakes.

Proposed changes to Appendix D include updating the title and narrative language to further clarify the purpose of this appendix. Designated aquatic life uses, dissolved oxygen criteria, and descriptions for where these apply are proposed for numerous water bodies. The additions are mainly due to the results of receiving water assessments (RWA); however, some are the result of the more extensive investigation of UAAs. Water bodies proposed to be added because of a UAA are indicated with an asterisk (*). All water bodies are tributaries within the watershed of the listed segment numbers. Proposed new entries are: Dixon Creek* (Segment 0101); Anderson Creek (Segment 0302); White Oak Creek* (Segment 0303); Harrison Bayou* (Segment 0401); Meddlin Creek (Segment 0403); Black Cypress Bayou/Creek* (Segment 0410); Prairie Creek (Segment 0504); Campbells Creek (Segment 0505); Mill Creek and No. 5 Branch (Segment 0506); Sandy and Shawnee Creeks (Segment 0604); Linney Creek and Spring Branch (Segment 0801); Crooked Creek and an unnamed tributary of Crooked Creek (Segment 0802); Bassett, Town, and Walnut creeks (Segment 0804); Walnut and Ash creeks (Segment 0809); Spring Creek (Segment 0840); Woodsons Gully and an unnamed tributary to Woodsons Gully (Segment 1004); Arnold, Mink, and Sulphur branches (Segment 1008); Mound Creek (Segment 1009); Dry and White Oak creeks (Segment 1010); Mound Creek (Segment 1015); Big, Bessies, and Clear creeks (Segment 1202); North Fork Rocky Creek* (Segment 1217); Gonzales Creek (Segment 1232); Deer Creek (Segment 1242); Cluck Creek (Segment 1244); Tonk Creek (Segment 1246); Dry Creek, Harris Branch, and an unnamed tributary of Harris Branch (Segment 1428); Maha Creek (Segment 1434); Wilson Creek (Segment 1501); Lavaca River* (Segment 1602); Camp Meeting Creek* (Segment 1806); Salado Creek* (Segment 1910); and West Prong Atascosa River (Segment 2107). Spring Branch (Segment 0801) was inadvertently not included in the 2000 standards after being approved by the EPA and is proposed for addition by this revision.

Site-specific dissolved oxygen criteria for the following water bodies are proposed based on the results of UAAs. The water bodies are: Dixon Creek (Segment 0101); Harrison Bayou (Segment 0401); Black Cypress Bayou/Creek (Segment 0410); North Fork Rocky Creek (Segment 1217); Lavaca River (Segment 1602); Camp Meeting Creek (Segment 1806); and Salado Creek (Segment 1910). Footnotes would be added to define site-specific dissolved oxygen criteria for these water bodies.

Proposed changes to Appendix D would also include: segment number updates for water bodies in Segments 0402, 0501, 0503, and 0610 due to changes in segment boundaries; the addition of newly described portions of Gilleland Creek in Segment 1428 and Thompsons Creek in Segment 1242 to more appropriately define their stream characteristics, aquatic life uses, and criteria due to additional information; and a change in aquatic life use from limited to high for Sandy Creek in Segment 0506 based on an RWA.

Other proposed changes to Appendix D would include boundaries for existing entries. Corrections would be proposed for the description of the following water bodies: Rocky Creek (Segment 0505); Turkey Creek (Segment 0803); Pin Oak Creek (Segment 0836); Dry Creek (Segment 1009); South Mayde Creek (Segment 1014); Garners Bayou (Segment 1016); Rabbs Bayou, Brookshire and New Year Creeks (Segment 1202); Comanche Creek (Segment 1221); Palo Pinto Creek (Segment 1230); and Gilleland Creek (Segment 1428). Lake Fayette is added as another name for Cedar Creek Reservoir (Segment 1402).

Channelized streams in Harris County that drain to the San Jacinto Basin (Basin 1000), the San Jacinto-Brazos Coastal Basin (Basin 1100), and Bays and Estuaries (Basin 2400), were described in a UAA sent to the EPA for the 1995 standards. Specific streams were listed in the 1995 standards; however, a generic listing to cover these types of streams in the county was inadvertently excluded. A generic list with uses, criteria, and descriptions would be added for channelized water bodies in Harris County that drain to these basins. The uses and criteria are based on the morphology of the water body and degree of maintenance by the Harris County Flood Control District as described in the Harris County UAA report.

Proposed changes to Appendix E include revising the title and narrative language to further clarify the purpose of this appendix. The proposed addition of the word "toxic" to the title would remove the ambiguity of the current title. Proposed narrative revisions elaborate on all criteria; the current narrative speaks primarily of water-effect ratio studies. The purpose of the appendix is to define all site-specific toxic criteria that have been developed for water bodies as opposed to only site-specific water-effect ratio studies. The "Site-Specific Standards" column would be removed to eliminate the need to recalculate the acute and chronic criteria every time the equations for metals are updated in Table 1, and the "Water-Effect Ratio" column would be renamed "Site-Specific Adjustment Factor" as this column reflects results from other studies in addition to water-effect ratio studies. Columns would be added for the TPDES permit number and name of the facility that performed the study to assist staff in recognizing the permitted facilities associated with the study results. The water body descriptions for 11 entries would be enhanced to better define where the site-specific studies are applied. Footnotes would also be added to the "Parameter" column to clearly state if the site-specific parameter applies to an entire water body or only a portion of the water body. A column would be added to describe additional site-specific

considerations (such as hardness and total suspended solids), which negated the need for several existing footnotes.

A single copper water-effect ratio entry for five segments that make up the Houston Ship Channel would be separated into each individual segment. The site-specific selenium standards for Dixon Creek (Segment 0101) and Heldenfels Ditch in Segment 2484 were disapproved by the EPA in the 2000 standards revision and are therefore proposed for removal from the appendix. The site-specific standard for Segment 1304 is also proposed for removal because the facility that performed the study moved the discharge location. Twenty new site-specific copper water-effect ratio results would be added to the appendix in addition to four site-specific aluminum water-effect ratio results.

New Appendix F would be added and contains chlorophyll *a* criteria and supplemental screening values for total phosphorus and transparency that are used to confirm if a water body is attaining the nutrient criteria. The commission solicits comments on the proposed criteria and screening levels in comparison to other potential forms of criteria, such as applying stand-alone criteria for chlorophyll *a* without supplemental screening levels. An example of an alternative approach using stand-alone chlorophyll *a* criteria can be found on the TCEQ Water Quality Standards website at: *http://www.tceq.state.tx.us/nav/eq/eq_swqs.html*. In that example, the statistical confidence level for assessing compliance is the same for the stand-alone chlorophyll *a* criteria as for the proposed chlorophyll *a* criteria with supplemental screening levels. If stand-alone chlorophyll *a* criteria were to be adopted, then references to supplemental screening levels for total phosphorus and transparency would be omitted in proposed language in §307.2, §307.7, §307.9, and §307.10, and only the statistically adjusted stand-alone chlorophyll *a* criteria would appear in Appendix F.

New Appendix G would be added to track site-specific changes to recreational uses and criteria for unclassified water bodies where recreational UAAs or other sufficient site-specific information exists to provide a recreational use designation. Approximately three unclassified water bodies would be incorporated into Appendix G. The commission is proposing to change the presumed contact recreation use and corresponding criteria of 126 colonies per 100 ml for these water bodies to a secondary contact recreation use and corresponding criteria of 630 colonies per 100 ml based on results from a Recreational UAA.

FISCAL NOTE: COSTS TO STATE AND LOCAL GOVERNMENT

Jeff Horvath, Analyst in the Strategic Planning and Assessment Section, has determined that for the first five-year period the proposed rules are in effect, fiscal implications in the form of cost savings are anticipated for the commission as a result of administration or enforcement of the proposed rules. Fiscal implications (costs), which may be significant, are also anticipated for some government entities that own and operate wastewater facilities that discharge into Texas water bodies. These entities include state agencies, cities, water districts, utility districts, and river authorities. A relatively small number of government entities that have permits for industrial wastewater discharges may also be affected by the proposed rules.

The proposed rules amend the Texas Surface Water Quality Standards. These standards establish the instream water quality conditions for surface waters in the state. A water quality standard for a specific water body consists of a designated beneficial use and the water quality criterion that is necessary to protect the use. Water quality standards are the basis for establishing discharge limits in wastewater and

storm water discharge permits, setting instream water quality goals for TMDLs, and providing water quality targets to assess water quality.

Revisions to the water quality standards are proposed to address new information and studies on the appropriate uses and criteria of individual water bodies, incorporate new scientific data on the effects of specific chemicals and pollutants, and address new provisions in the TWC, federal regulations, and guidance of the EPA.

Proposed revisions include changes to the general criteria that are intended to improve statewide qualitative and quantitative criteria and to ensure compatibility with other proposed changes in the standards. Numerous revisions of toxic criteria are proposed to incorporate new data on toxicity effects, and changes are proposed to clarify the basic requirements for toxicity effluent testing. Other proposed changes provide additional categories of recreational uses and provide more definition on assigning recreational uses. New criteria are proposed to protect numerous reservoirs from excessive growth of aquatic vegetation related to nutrients. Revisions are also proposed to provide clarity on how water quality standards apply under different stream flow conditions and on how attainment of water quality standards is assessed using instream monitoring data. Numerous revisions are proposed for the uses and criteria of individual water bodies in order to incorporate new data and the results of recent UAAs.

For the proposed statewide human health toxic criteria, 38 are new, 81 are more stringent than the current standards, and 25 are less stringent. For the aquatic life toxic criteria, eight are new, 19 are more stringent, and four are less stringent. For the proposed site-specific aquatic life uses, 106 are new, 27 are more stringent, and 54 are less stringent. For the proposed site-specific dissolved oxygen criteria, 107 are

new, 23 are more stringent, and 68 are less stringent. For the proposed criteria for chlorides, sulfates, total dissolved solids, pH, and temperature, 11 are new, 13 are more stringent, and 40 are less stringent. For the proposed site-specific bacteria criteria to protect recreation, one is new, none are more stringent, and 293 are less stringent. For proposed site-specific toxic criteria, 31 are new, and one is more stringent. New additions to the standards include numerical nutrient-related criteria for 93 reservoirs and the designation of 73 sole-source surface water supplies.

The addition of numerical nutrient criteria to state water quality standards is a requirement of the EPA, but the specific structure and numerical values of the criteria allow substantial state flexibility. Most of the revisions of statewide toxic criteria are based on federal guidance, but the state is afforded a measure of discretion on which criteria to revise and on the numerical values of the criteria when there are valid scientific reasons to depart from federal guidelines.

No additional costs are anticipated for the TCEQ to implement the revisions to the Texas Surface Water Quality Standards. The revised water quality standards are primarily operational and procedural. The statewide monitoring and assessment of surface water quality data and the review of wastewater permit applications may need to incorporate numerous changes and additions. The TCEQ is anticipating conducting and coordinating numerous recreational UAAs under the proposed revised framework for recreational standards. New nutrient criteria for 93 reservoirs would require additional screening for the statewide monitoring assessment and for the review of wastewater permit applications.

Several of the proposed revisions to the recreational criteria and many of the proposed site-specific revisions to criteria for individual water bodies in §307.10 are intended to address inappropriate water

quality standards for impaired water bodies. In these cases, the proposed water quality standards can help streamline the water quality management programs of the TCEQ by curtailing unnecessary restorative activities such as establishing TMDLs.

One of the proposed revisions in recreational criteria is to change criterion for primary contact recreation from 126 to 206 *E. coli* bacteria per 100 ml for freshwaters. If this proposed change is adopted, then 62 water bodies are projected to be removed from the *2008 List of Impaired Water Bodies*, and these water bodies would no longer require a UAA to define recreational uses. A UAA is an evaluation or survey used to assess the appropriate water quality standard. A reduction in the number of required UAAs is expected to result in cost savings for the commission. If each of the 62 UAAs for recreational uses is eliminated, cost savings at a minimum are estimated to be $1 million divided equally over a three-year period.

In addition, the proposed changes in Appendix A for dissolved oxygen criteria in classified segments is projected to remove 12 water bodies from the *2008 List of Impaired Water Bodies*. The proposed changes in Appendix D for dissolved oxygen criteria in small unclassified streams are projected to remove eight water bodies from the *2008 List of Impaired Water Bodies*. Where appropriate, the removal of water bodies that are listed for dissolved oxygen impairment also eliminates the need for a study to define a TMDL for these water bodies. If each of the 20 TMDL or other studies for dissolved oxygen is eliminated, a minimum of $3 million in state and federal funds is expected to be saved over a three-year period. Total savings for the reduction in UAAs and TMDLs would be estimated at a minimum to be $4 million over a three-year period ($1.3 million each year). Approximately 65% of the funds ($2.6 million)

would be federal Clean Water Act, §106 funds and approximately 35% ($1.4 million) would be state General Revenue.

*State Government*

No additional costs have been identified to other state agencies as a result of the proposed standards. Any potential cost increases would primarily be for certain units of state governments that own and operate wastewater facilities to perform additional monitoring and reporting. These entities may also be required to upgrade their facilities. These upgrades may range from making changes to treatment processes to the renovation or construction of new wastewater treatment facilities. State agencies that operate permitted domestic wastewater discharges include the Texas Department of Criminal Justice, Texas Parks and Wildlife Department, the Texas Department of Transportation, and certain state universities and schools. Domestic wastewater permits are primarily affected by the applicable dissolved oxygen criteria in the proposed standards.

In addition, the water quality standards have indirect effects on the operation of environmental programs of other state agencies. The Texas State Soil and Water Conservation Board coordinates non-point source programs and watershed plans related to agriculture under the Clean Water Act, §319, and the location of watershed plans is affected in part by whether a water body is considered to be meeting water quality standards. Changes to the water quality standards may result in some water bodies being added or removed from the current List of Impaired Water Bodies and thus affect priorities for watershed plans.

The Texas Water Development Board administers loans for wastewater treatment plant construction under Title 2 of the Clean Water Act, and the water quality standards for dissolved oxygen have a bearing

on the level of wastewater treatment needed and therefore on the appropriate amount and priority of a loan. The proposed changes to site-specific water quality standards for dissolved oxygen can increase or decrease the required treatment levels. In rare instances, numerical toxic criteria can affect domestic wastewater permits of state agencies, but the number of affected permits cannot be predicted.

*Local Government*

Local governments with permitted discharges of domestic wastewater include cities, water districts, utility districts, and river authorities. A relatively small number of government entities have permits for industrial wastewater discharges, and these permits are primarily for discharges related to public electrical generating facilities or discharges related to salt reduction at public drinking water treatment plants.

There are approximately 2,011 domestic discharge facilities with permits issued under the TPDES. An estimated 1,395 of these are government entities. Permits are issued for up to a five-year period, so approximately 279 of the permits to governmental entities are reissued each year. There are approximately 17 wastewater permits associated with electrical generation by governmental entities and approximately 16 industrial wastewater permits for saline discharges associated with drinking water treatment facilities that are operated by governmental entities.

The proposed amendments have cost implications associated with revised criteria for toxic substances to protect human health and aquatic life, revised criteria for recreational uses, and revised dissolved oxygen criteria and aquatic life use for classified and unclassified water segments. These cost implications are generally associated with chemical screening and monitoring and with the additional treatment of wastewater that may be needed to meet the standards for water quality. Dischargers may have to change

or employ new wastewater treatment methods or techniques in order to meet the proposed standards. These changes may range from developing new wastewater processes to building new wastewater treatment facilities.

The proposed changes in dissolved oxygen criteria are anticipated to affect some local governments that operate domestic wastewater facilities. In the absence of site-specific information, unclassified perennial water bodies are assigned a presumed high aquatic life use and associated dissolved oxygen criteria. None of the proposed revisions for dissolved oxygen criteria for classified segments in Appendix A are anticipated to require more stringent treatment by domestic wastewater facilities. However, 22 changes are proposed for dissolved oxygen criteria for unclassified water bodies in Appendix D that are more stringent than required under the general presumptions for small intermittent steams with perennial pools.

Facilities that discharge into unclassified water bodies were evaluated to determine if substantial wastewater treatment upgrades were needed to meet proposed site-specific standards. For this evaluation, TCEQ staff modeled instream dissolved oxygen to determine treatment levels necessary to meet the proposed standards. Potential costs to upgrade the treatment levels were based upon EPA estimated construction costs to upgrade wastewater treatment facilities. Four domestic (city-owned) wastewater facilities are projected to need more stringent treatment limits in order to meet the proposed site-specific standards. The overall projected cost to upgrade these four facilities is estimated to be a minimum of $16.9 million.

Conversely, in the proposed amendments in Appendices A and D, 68 water bodies are assigned dissolved oxygen criteria which are less stringent than the criteria that are currently applicable. An analysis was

conducted to estimate potential savings to dischargers where proposed revisions for dissolved oxygen criteria are less stringent. The analysis did not indicate an immediate cost savings for facilities. However, there are approximately 12 domestic facilities and two industrial facilities that discharge directly into or near these water bodies. Future expansion of these facilities may be aided by the proposed less stringent revisions.

PUBLIC BENEFITS AND COSTS

Mr. Horvath has also determined that for each year of the first five years the proposed rules are in effect, the public benefit anticipated from the changes in the proposed rules will be increased protection of public drinking water supplies and aquatic life resources, an improved regulatory process for permitted wastewater discharges, and improved quality of the surface water resources of the state.

On a state-wide basis, wastewater discharge facilities monitor toxic substances to protect human health. There are approximately 760 wastewater permits for industrial facilities in Texas (including power plants, petrochemical facilities, mining operations, etc). It is anticipated that the majority of affected facilities are industrial facilities. When applying for permit renewals or amendments, industrial facilities provide substantial sampling data on a broad range of toxic pollutants that are potentially in their effluents. The screening data are evaluated to ensure compliance with the toxic criteria in the water quality standards and to determine whether permit limits or monitoring requirements may be required.

In the proposed rules, 100 toxic criteria become more stringent, 29 become less stringent, 119 remain unchanged, and 46 new toxic criteria are added. Some industrial facilities with wastewater discharges may experience fiscal implications due to changes in the toxic criteria. The proposed amendments

include new substances and various criteria changes to existing toxic substances that will result in both increases and decreases in permit limits. In general, any costs associated with compliance to the proposed toxic standards will be determined by the size and current condition of a treatment facility, the extent of current controls, and the nature of the wastewater and receiving waters. Because of the variability in receiving waters, the number of toxic substances, and the current condition of treatment facilities, an engineering study and design may be required to determine the extent of any facility or process changes that might be required in order to comply with the proposed rules. This variability precludes calculation of specific costs associated with achieving proposed standards for toxic substances.

Changes proposed for dissolved oxygen criteria in Appendix D for unclassified water bodies are more stringent than required under the general presumptions for small intermittent steams with perennial pools. Facilities that discharge into unclassified water bodies were evaluated to determine if substantial wastewater treatment upgrades were needed to meet proposed site-specific standards. The TCEQ staff modeled instream dissolved oxygen to determine treatment levels necessary to meet the proposed standard. Potential estimated costs to upgrade the treatment levels were based upon EPA construction costs to upgrade wastewater treatment facilities. One industrial wastewater facility was projected to need more stringent treatment limits than are currently imposed in its existing permit in order to meet the proposed site-specific standard. The overall projected cost to upgrade this facility is estimated to be a minimum of $21.1 million.

Businesses and individuals served by municipal or commercial wastewater facilities may indirectly incur increased service rates from local governments or other operators of treatment facilities that must recover

increased wastewater treatment costs from their customers. The extent of any increased costs would be determined by the individual facility characteristics and rates.

SMALL BUSINESS AND MICRO-BUSINESS ANALYSIS

Adverse fiscal implications may be anticipated for some municipal or commercial wastewater facilities that are small or micro-businesses as a result of the proposed rules although no specific small businesses have been identified. There may also be cost savings for some municipal or commercial wastewater facilities, as the proposed amendments include new substances and various criteria changes to existing substances that will result in both increases and decreases in permit limits.

At this time, it is not known how many of the approximately 760 wastewater permits for industrial facilities or approximately 616 wastewater permits for domestic facilities would be classified as small or micro-businesses. The proposed amendments have cost implications associated with revised criteria for toxic substances to protect human health and aquatic life, revised criteria for recreational uses, and revised dissolved oxygen criteria and aquatic life use for classified and unclassified water segments. Dischargers may have to change or employ new wastewater treatment methods or techniques in order to meet the proposed standards. These changes may range from developing new wastewater processes to building new wastewater treatment facilities.

It is also anticipated that the majority of facilities affected by the proposed rules would be industrial facilities. Any costs associated with compliance to toxic standards will be determined by the size and current condition of a treatment facility, the extent of current controls, and the nature of the wastewater and receiving waters. Because of the variability in receiving waters, the number of toxic substances, and

the current condition of treatment facilities, an engineering study and design may be required to determine the extent of any facility or process changes that may be required in order to comply with the proposed requirements. This variability precludes calculation of specific costs associated with achieving proposed standards for toxic substances.

Major municipal wastewater treatment systems are required by the TCEQ and the EPA to establish programs that specify effluent requirements for small industries and businesses that discharge to city sewer systems. The levels of treatment required for these dischargers to sewer systems are affected by the toxic criteria in the water quality standards since the standards determine the effluent limits for a wastewater discharge. Because of the variability in treatment costs and the variability in facility characteristics and rates, the costs to customers are virtually impossible to estimate for the regulated community. However, given the limited impact of the proposed amendments, if facility upgrade costs are capitalized and annualized, the effect on ratepayers should be minimal if the customer base is of a moderate size.

SMALL BUSINESS REGULATORY FLEXIBILITY ANALYSIS

The commission reviewed this proposed rulemaking and determined that a small business regulatory flexibility analysis is not required because the proposed rules are necessary to protect the health, safety, and environmental and economic welfare of the state. The proposed rules are anticipated to increase protection of public drinking water supplies and aquatic life resources, improve the regulatory process for permitted wastewater discharges, and improve the quality of the surface water resources of the state.

LOCAL EMPLOYMENT IMPACT STATEMENT

The commission reviewed this proposed rulemaking and determined that a local employment impact statement is not required because the proposed rules do not adversely affect a local economy in a material way for the first five years that the proposed rules are in effect.

DRAFT REGULATORY IMPACT ANALYSIS

The commission reviewed the proposed rulemaking in light of the regulatory analysis requirements of Texas Government Code §2001.0225, and determined that the rulemaking may meet the definition of a major environmental rule as defined in that statute. "Major environmental rule" means a rule that has the specific intent of protecting the environment or reducing risks to human health from environmental exposure; and that may adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. The proposed amendments to Chapter 307 may require certain municipal, agricultural, and industrial wastewater dischargers to change or employ new treatment methods or techniques in order to comply with the proposed standards. These changes or methods may range from developing new techniques or changing best management practices to renovating, expanding, or building an entirely new treatment facility. The proposed rules are intended to protect the environment and reduce risks to human health and safety from environmental exposure; and may have adverse effects on certain wastewater dischargers that could be considered a sector of the economy.

Although the proposed amendments may meet the definition of a major environmental rule as defined in the act, it does not meet any of the four applicability requirements for a major environmental rule listed in Texas Government Code, §2001.0225(a). The proposed amendments were developed in order to be consistent with the water quality standard rules in the Clean Water Act and the TWC. The proposed

amendments do not exceed a standard set by federal law, exceed an express requirement of state law, nor exceed a requirement of the NPDES delegation agreement between TCEQ and EPA. The proposed amendments were not developed solely under the general powers of the commission, but were specifically developed to meet water quality standards established under federal and state law. In addition, the proposed standards are being proposed under authority of the TWC, which authorizes the commission to set water quality standards by rule. The TWC directs the TCEQ to consider the existence and effects of nonpoint source pollution, toxic materials, and nutrient loading in developing water quality standards. Therefore, the rulemaking is not subject to the regulatory analysis provisions in Texas Government Code, §2001.0225(b).

The commission invites public comment on the draft regulatory impact analysis. Written comments may be submitted to the contact person at the address listed under the SUBMITTAL OF COMMENTS section of this preamble.

TAKINGS IMPACT ASSESSMENT

The commission prepared a takings impact assessment for these rules pursuant to Texas Government Code, §2007.043. The following is a summary of that assessment. The Texas Surface Water Quality Standards establish instream water quality standards for Texas streams, rivers, lakes, estuaries, and other water bodies such as wetlands. The commission is required to establish water quality standards in TWC, §26.023. The Clean Water Act, §303 requires states to publicly review and revise their surface water quality standards every three years. The current proposed revisions will satisfy the federal requirement for a triennial review.

These revised criteria will be more protective of human health and provide a public benefit. The site-specific standards are needed to incorporate new sampling data and to establish the appropriate revisions in the rule so that permit issues related to specific water bodies may be resolved. Site-specific standards more accurately describe the ambient quality of the water body. These site-specific standards also provide more accurate permit requirements that are protective of human health, in most cases economically affordable, and enhance water quality.

The specific purpose of the proposed action is to satisfy state statute requirements, TWC, §26.023 and Clean Water Act, §303(d) requirements, and to more accurately assess water quality in the state; and revise requirements to protect human health and water quality. The proposed rules would substantially advance this stated purpose by adopting water quality criteria and requirements that are supported by site-specific studies, federal and state research, and statewide monitoring and sampling data. Promulgation and enforcement of these rules will not burden private real property that is the subject of the rules because the proposed amendments revising the state's surface water quality standards do not limit or restrict a person's rights in private real property.

The commission invites public comment on the takings impact assessment. Written comments may be submitted to the contact person at the address listed under the SUBMITTAL OF COMMENTS section of this preamble.

CONSISTENCY WITH THE COASTAL MANAGEMENT PROGRAM

The commission reviewed the proposed rulemaking and found that the proposal is a rulemaking that will affect an action/authorization identified in the Coastal Coordination Act Implementation Rules, 31 TAC

§505.11, and will, therefore, require that applicable goals and policies of the Coastal Management Plan (CMP) be considered during the rulemaking process.

The commission prepared a consistency determination for the proposed rules pursuant to 31 TAC §505.22 and found the proposed rulemaking is consistent with the applicable CMP goals and policies. The following is a summary of that determination. The proposed rulemaking would be consistent with the CMP goal of protecting, preserving, restoring and enhancing the diversity, quality, quantity and functions, and values of coastal natural resources by establishing standards and criteria for instream water quality for Texas streams, rivers, lakes, estuaries, and other water bodies such as wetlands. These proposed water quality standards and criteria will provide parameters for permitted discharges that will protect, preserve, restore, and enhance the quality, functions, and values of coastal natural resources. The proposed rulemaking will also provide for clearer and more protective conditions for variances that will ensure sound management of all coastal resources by allowing for compatible economic development and multiple human uses of the coastal zone. These variance conditions will allow dischargers an opportunity to examine options for upgrades while maintaining water quality that will allow for human uses of the coastal waters.

The proposed rulemaking will require wastewater discharge permit applicants to provide information and monitoring data to the commission so that the commission may make an informed decision in authorizing a discharge permit and ensuring that the authorized activities in a wastewater discharge permit comply with all applicable requirements, thus making the rulemaking consistent with the administrative policies of the CMP. The proposed rulemaking also provides clarity and identifies the circumstances where the commission will consider and grant variances from the water quality standards.

The proposed rulemaking considers information gathered through the biennial assessments of water quality in the commission's Water Quality Inventory to prioritize those coastal waters for studies and analysis in reviewing and revising the state's surface water quality standards. The standards are established to protect designated uses of coastal waters, including protection of uses for recreational purposes and propagation and protection of terrestrial and aquatic life. The proposed rulemaking is consistent with the CMP's policies for discharges of municipal and industrial wastewater to coastal waters and how they relate to specific activities and coastal natural resource areas.

The proposed revisions will be submitted to the Coastal Coordination Council for recertification.

Written comments on the consistency of this rulemaking may be submitted to the contact person at the address listed under the SUBMITTAL OF COMMENTS section of this preamble.

ANNOUNCEMENT OF HEARING

The commission will hold a public hearing on this proposal in Austin on March 11, 2010, at 10:00 a.m. in Building E, Room 201S, at the commission's central office located at 12100 Park 35 Circle. The hearing is structured for the receipt of oral or written comments by interested persons. Individuals may present oral statements when called upon in order of registration. Open discussion will not be permitted during the hearing; however, commission staff members will be available to discuss the proposal 30 minutes prior to the hearing.

Persons who have special communication or other accommodation needs who are planning to attend the hearing should contact Charlotte Horn, Office of Legal Services at (512) 239-0779. Requests should be made as far in advance as possible.

SUBMITTAL OF COMMENTS

Written comments may be submitted to Michael Parrish, MC 205, Office of Legal Services, Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas 78711-3087, or faxed to (512) 239-4808. Electronic comments may be submitted at: *http://www5.tceq.state.tx.us/rules/ecomments/*. File size restrictions may apply to comments being submitted via the eComments system. All comments should reference Rule Project Number 2007-002-307-EN. The comment period closes March 17, 2010. Copies of the proposed rulemaking can be obtained from the commission's Web site at: *http://www.tceq.state.tx.us/nav/rules/propose_adopt.html*. For further information, please contact Debbie Miller, Monitoring and Assessment Section, at (512) 239-1703.

**§§307.1 - 307.10**

STATUTORY AUTHORITY

These amendments are proposed under the Texas Water Code, §26.023, that provides the Texas Commission on Environmental Quality with the authority to make rules setting Texas Surface Water Quality Standards (TSWQS) for all waters in the state. These amendments are also being proposed under Texas Water Code, §5.103, that authorizes the commission to adopt any rules necessary to carry out its powers and duties under the Texas Water Code and other laws of this state. The proposed amendments will satisfy the provision in Federal Clean Water Act, §303(c) that requires states to adopt water quality standards and to review and revise standards from time to time, but at least once each three year period. The revisions to the TSWQS are proposed to incorporate new information and studies on the appropriate 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 Texas Water Code, federal regulations, and guidance of the EPA.

These amendments implement the Texas Water Code, §§5.103, 26.003, 26.023, and 26.026 in addition to Federal Clean Water Act, §303(c).

**§307.1. General Policy Statement.**

It is the policy of this state and the purpose of this chapter to maintain the quality of water in the state consistent with public health and enjoyment, propagation and protection of terrestrial and aquatic life, operation of existing industries, and taking into consideration economic development of the state; to

encourage and promote development and use of regional and area-wide wastewater collection, treatment, and disposal systems to serve the wastewater disposal needs of the citizens of the state; and to require the use of all reasonable methods to implement this policy.

**§307.2. Description of Standards.**

(a) Contents of the Texas Surface Water Quality Standards.

(1) Section 307.1 of this title (relating to General Policy Statement) contains the general standards policy of the commission.

(2) This section lists the major sections of the standards, defines basin classification categories, describes justifications for standards modifications, and provides the effective dates of the rules.

(3) Section 307.3 of this title (relating to Definitions and Abbreviations) defines terms and abbreviations used in the standards.

(4) Section 307.4 of this title (relating to General Criteria) lists the general criteria that[, which] are applicable to all surface waters of the state unless specifically excepted in §307.8 of this title (relating to Application of Standards) or §307.9 of this title (relating to Determination of Standards Attainment).

(5) Section 307.5 of this title (relating to Antidegradation) describes the antidegradation policy and implementation procedures.

(6) Section 307.6 of this title (relating to Toxic Materials) establishes criteria and control procedures for specific toxic substances and total toxicity.

(7) Section 307.7 of this title (relating to Site-Specific Uses and Criteria) defines appropriate water uses and supporting criteria for site-specific standards.

(8) Section 307.8 of this title (relating to the Application of Standards) sets forth conditions when [under which] portions of the standards do not apply - [--] such as in mixing zones or below critical low-flows.

(9) Section 307.9 of this title describes sampling and analytical procedures to determine standards attainment.

(10) Section 307.10 of this title (relating to Appendices A - G [A - E]) lists site-specific standards and supporting information for classified segments (Appendices A and C [A - C]), water bodies that are sole-source surface drinking water supplies (Appendix B), site-specific uses and criteria for unclassified [partially classified] water bodies (Appendix D), [and] site-specific toxic criteria that may be derived for any water in the state (Appendix E), chlorophyll *a* criteria and supplemental screening levels for total phosphorus and transparency for selected reservoirs (Appendix F), and site-specific recreational uses and criteria for unclassified water bodies (Appendix G). Specific appendices are as follows:

(A) Appendix A - [--] Site-specific [Water] Uses and [Numerical] Criteria for Classified Segments;

(B) Appendix B - [--] Sole-source Surface Drinking Water Supplies [Low-Flow Criteria];

(C) Appendix C - [--] Segment Descriptions;

(D) Appendix D - [--] Site-specific Uses and Criteria for Unclassified Water Bodies; [Receiving Water Assessments; and]

(E) Appendix E - [--] Site-specific Toxic Criteria;[.]

(F) Appendix F - Site-specific Nutrient Criteria and Screening Levels for Selected Reservoirs; and

(G) Appendix G - Site-specific Recreational Uses and Criteria for Unclassified Water Bodies.

(b) Applicability. The Texas Surface Water Quality Standards apply to surface waters in the state - [--] including wetlands.

(c) Classification of surface waters. The major surface waters of the state are classified as segments for purposes of water quality management and designation of site-specific standards. Classified segments are aggregated by basin, and basins are categorized as follows:

(1) River basin waters. Surface inland waters comprising the major rivers and[,] their tributaries, including listed impounded waters[,] and the tidal portion of rivers to the extent that they are confined in channels.

(2) Coastal basin waters. Surface inland waters, including listed impounded waters but exclusive of paragraph (1) of this subsection, discharging, flowing, or otherwise communicating with bays or the gulf, including the tidal portion of streams to the extent that they are confined in channels.

(3) Bay waters. All tidal waters, exclusive of those included in river basin waters, coastal basin waters, and gulf waters.

(4) Gulf waters. Waters that [which] are not included in or do not form a part of any bay or estuary but that [which] are a part of the open waters of the Gulf of Mexico to the limit of the state's jurisdiction.

(d) Modification of standards.

(1) The commission reserves the right to amend these standards following the completion of special studies.

(2) Any errors in water quality standards resulting from clerical errors or errors in data may be corrected by the commission through amendment of the affected standards. Water quality standards not affected by such clerical errors or errors in data remain valid until changed by the commission.

(3) The narrative provisions, presumed uses, designated uses, and numerical criteria of the Texas Surface Water Quality Standards may be amended for a specific water body to account for local conditions. A site-specific standard is an explicit amendment to this title, Chapter 307 (Texas Surface Water Quality Standards), and adoption of a site-specific standard requires the procedures for public notice and hearing established under the Texas Water Code, §26.024 and §26.025. An amendment that [which] establishes a site-specific standard requires [will require] a use-attainability analysis that [which] demonstrates that reasonably attainable water-quality related uses are [will be] protected. Upon adoption, site-specific amendments to the standards will be listed in §307.10 of this title.

(4) Factors that [which] may justify the development of site-specific standards are described in §§307.4, 307.6, 307.7, and 307.8 of this title.

(5) Temporary variance. When scientific information indicates that a site-specific standards amendment is justified, the commission may allow a corresponding temporary variance to the water quality standards in a permit for a discharge of wastewater or storm water.

(A) A temporary variance is only applicable to an existing permitted discharge.

(B) A permittee may apply for a temporary variance prior to or during the permit application process. The temporary variance request must [shall] be included in a public notice during the permit application process. An opportunity for public comment is [will be] provided, and the request may be considered in any public hearing on the permit application.

(C) A temporary variance for a Texas Pollutant Discharge Elimination System [TPDES] permit [will] also requires [require] review and approval by the United States Environmental Protection Agency (EPA) [EPA] during the permitting process.

(D) The permit must [shall] contain effluent limitations that protect existing uses and preclude degradation of existing water quality, and the term of the permit must [shall] not exceed three years. Effluent limitations that are needed to meet the existing standards are [will be] listed in the permit and are effective [will go into effect] immediately as final permit effluent limitations in the succeeding permit, unless the permittee fulfills the requirements of the conditions for the variance in the permit.

(E) When the permittee has complied with the terms of the conditions in the temporary variance, then the succeeding permit may include a permit schedule to meet standards in accordance with subsection (f) of this section. The succeeding permit may also extend the temporary variance in accordance with subsection (f) of this section in order to allow additional time for a site-specific standard to be adopted in this title. This extension can be approved by the commission only after

a site-specific study that supports a standards change is [has been] completed and the commission agrees the completed study supports a change in the applicable standard(s).

(F) Site-specific standards that [which] are developed under a temporary variance must [will] be expeditiously proposed and publicly considered for adoption at the earliest opportunity.

(e) Standards implementation [Implementation] procedures. Provisions for implementing the water quality standards are described in a document entitled *Procedures to Implement the Texas Surface Water Quality Standards* (RG-194) as amended and approved by the Texas Commission on Environmental Quality and EPA.

(f) Permit schedules to meet standards. Upon permit amendment or permit renewal, the [executive director or] commission[, as appropriate,] may establish interim effluent limitations to allow a permittee time to modify effluent quality in order to attain final effluent limitations. The duration of any interim effluent limitations may not be longer than three years from the effective date of the permit issuance, except in accordance with a temporary variance as described in subsection (d)(5) of this section.

(g) Temporary standards. Where a criterion is not attained and cannot be attained for one or more of the reasons listed in 40 Code of Federal Regulations (CFR) §131.10(g), then a temporary standard for specific water bodies may be adopted in §307.10 of this title as an alternative to changing uses. A criterion that [which] is established as a temporary standard must be adopted in accordance with the provisions of subsection (d)(3) of this section. Specific reasons and additional procedures for justifying a temporary standard are provided in the standards implementation procedures. A temporary standard must

[shall] identify the water body or water bodies where the criterion applies. A temporary standard identifies [will identify] the numerical criteria that [will] apply during the existence of the temporary standard. A temporary standard does not exempt any discharge from compliance with applicable technology-based effluent limits. A temporary standard expires [shall expire] no later than the completion of the next triennial revision of the Texas Surface Water Quality Standards. When a temporary standard expires, subsequent discharge permits are [will be] issued to meet the applicable existing water quality standards. If a temporary standard is sufficiently justified in accordance with the provisions of subsection (d)(3) [(b)(3)] of this section, it can be renewed during revisions of the Texas Surface Water Quality Standards. A temporary standard cannot be established that [which] would impair an existing use.

(h) Effective date of standards. Except as provided in 40 CFR §131.21 (EPA review and approval of water quality standards), these rules [shall] become effective 20 days after the date [on which] they are filed in the office of the secretary of state. As to actions covered by 40 CFR §131.21, the rules [shall] become effective upon approval by EPA.

(i) Effect of conflict or invalidity of rule.

(1) If any provision of this chapter or its application to any person or circumstances is held invalid, the invalidity does not affect other provisions or applications of the provisions contained in this chapter that [which] can be given effect without the invalid provision or application, and to this end the provisions of this chapter are severable.

(2) To the extent of any irreconcilable conflict between provisions of this chapter and other rules of the commission, the provisions of this chapter [shall] supersede.

**§307.3. Definitions and Abbreviations.**

(a) Definitions. The following words and terms, when used in this chapter, [shall] have the defined meanings, unless the context clearly indicates otherwise.

(1) **Acute toxicity -** Toxicity that [which] exerts a stimulus severe enough to rapidly induce an effect. The duration of exposure applicable to acute toxicity is typically 96 hours or less. Tests of total toxicity normally use lethality as the measure of acute impacts. (Direct thermal impacts are excluded from definitions of toxicity.)

(2) **Ambient** - Refers to the existing water quality in a particular water body.

(3) **Aquatic vegetation** - Refers to aquatic organisms, i.e., plant life, found in the water and includes phytoplankton; algae, both attached and floating; and vascular and nonvascular plants, both rooted and floating.

(4) [(3)] **Attainable use** - A use that [which] can be reasonably achieved by a water body in accordance with its physical, biological, and chemical characteristics whether it is currently meeting that use or not. Guidelines for the determination and review of attainable uses are provided in the

standards implementation procedures. The designated use, existing use, or presumed use of a water body may not necessarily be the attainable use.

(5) [(4)] **Background** - Refers to the water quality in a particular water body that would occur if that water body were relatively unaffected by human activities.

(6) **Baseflow conditions** - Sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

(7) [(5)] **Bedslope** - Stream gradient, or the extent of the drop in elevation encountered as the stream flows downhill. One measure of bedslope is the elevation decline in meters over the stream distance in kilometers.

(8) [(6)] **Best management practices** - Schedules of activities, maintenance procedures, and other management practices to prevent or reduce the pollution of water in the state from point and nonpoint sources, to the maximum extent practicable. Best management practices also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

(9) [(7)] **Bioaccumulative toxic** - A chemical that [which] is taken up by aquatic organisms from water directly or through the consumption of food containing the chemical [chemicals].

(10) [(8)] **Bioconcentration factor** - A unitless value describing the degree to which a chemical can be concentrated in the tissues of an organism in the aquatic environment and that [which] is absorbed directly from the water. The bioconcentration factor is the ratio of a chemical's concentration in the tissue of an organism compared to that chemical's average concentration in the surrounding water.

(11) [(9)] **Biological integrity** - The species composition, diversity, and functional organization of a community of organisms in an environment relatively unaffected by pollution.

(12) [(10)] **Chronic toxicity** - Toxicity that [which] continues for a long-term period after exposure to toxic substances. Chronic exposure produces sub-lethal effects, such as growth impairment and reduced reproductive success, but it may also produce lethality. The duration of exposure applicable to the most common chronic toxicity test is seven days or more.

(13) [(11)] **Classified** - Refers to a water body that is listed and described in Appendix A and [or] Appendix C in §307.10 of this title (relating to Appendices A - G [A - E]). Site-specific uses and criteria for classified water bodies are listed in Appendix A.

(14) **Commission** - Texas Commission on Environmental Quality.

[(12) **Contact recreation** - Recreational activities involving a significant risk of ingestion of water, including wading by children, swimming, water skiing, diving, and surfing.]

(15) [(13)] **Criteria** - Water quality conditions that [which] are to be met in order to support and protect desired uses, i.e., existing, designated, attainable, and presumed uses.

(16) [(14)] **Critical low-flow -** Low-flow condition that includes the seven-day, two-year low-flow (7Q2 flow) or the alternative low-flows for spring-fed streams as discussed in §307.8(a)(2) of this title (relating to Application of Standards) and [(e.g., 7Q2 flow)] below which some standards do not apply. [The impacts of permitted discharges are analyzed at critical low-flow.]

(17) [(15)] **Designated use -** A use that [which] is assigned to specific water bodies in Appendix A, [or in] Appendix D, or Appendix G in §307.10 of this title. Typical uses that [which] may be designated for specific water bodies include domestic water supply, categories of aquatic life use, recreation categories, and aquifer protection.

(18) [(16)] **Discharge permit -** A permit issued by the state or a federal agency to discharge treated effluent or cooling water into waters of the state.

(19) [(17)] **$EC_{50}$ -** The concentration of a toxicant that produces an adverse effect on 50% of the organisms tested in a specified time period.

(20) [(18)] ***E. coli* -** *Escherichia coli*, a subgroup of fecal coliform bacteria that is present in the intestinal tracts and feces of warm-blooded animals. It is used as an indicator of the potential presence of pathogens.

(21) [(19)] **Effluent** - Wastewater discharged from any point source prior to entering a water body.

(22) [(20)] **Enterococci -** A subgroup of fecal streptococci bacteria (mainly *Streptococcus faecalis* and *Streptococcus faecium*) that is present in the intestinal tracts and feces of warm-blooded animals. It is used as an indicator of the potential presence of pathogens.

(23) [(21)] **Epilimnion -** The upper mixed layer of a lake (including impoundments, ponds, and reservoirs).

(24) [(22)] **Existing use** - A use that [which] is currently being supported by a specific water body or that [which] was attained on or after November 28, 1975.

(25) [(23)] **Fecal coliform -** A portion of the coliform bacteria group that [which] is present in the intestinal tracts and feces of warm-blooded animals; heat tolerant bacteria from other sources can sometimes be included. It is used as an indicator of the potential presence of pathogens.

(26) [(24)] **Freshwaters -** Inland waters that [which] exhibit no measurable elevation changes due to normal tides.

(27) [(25)] **Halocline -** A vertical gradient in salinity under conditions of density stratification that is usually recognized as the point where salinity exhibits the greatest difference in the vertical direction.

(28) [(26)] **Harmonic mean flow -** A measure of mean flow in a water course that [which] is calculated by summing the reciprocals of the individual flow measurements, dividing this sum by the number of measurements, and then calculating the reciprocal of the resulting number.

(29) [(27)] **Incidental fishery -** A level of fishery that [which] applies to water bodies that are not considered to have a sustainable fishery but that [which] have an aquatic life use of limited, intermediate, high, or exceptional.

(30) [(28)] **Industrial cooling impoundment -** An impoundment that [which] is owned or operated by, or in conjunction with, the water rights permittee, and that [which] is designed and constructed for the primary purpose of reducing the temperature and removing heat from an industrial effluent.

(31) [(29)] **Intermittent stream -** A stream that [which] has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second [$ft^3/s$] is considered intermittent.

(32) [(30)] **Intermittent stream with perennial pools -** An intermittent stream that [which] maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second [$ft^3/s$].

(33) [(31)] **$LC_{50}$ -** The concentration of a toxicant that is lethal (fatal) to 50% of the organisms tested in a specified time period.

(34) **Main pool station** - A monitoring station that is located in the main body of a reservoir near the dam and not located in a cove or in the riverine portion or transition zone of a reservoir.

(35) [(32)] **Method detection limit -** The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte. The method detection limit (MDL) is estimated in accordance with 40 Code of Federal Regulations Part 136 [CFR 136], Appendix B.

(36) [(33)] **Minimum analytical level -** The lowest concentration that [at which] a particular substance can be quantitatively measured with a defined accuracy and precision level[,] using approved analytical methods. The minimum analytical level is not the published MDL [method detection limit] for a [an] United States Environmental Protection Agency (EPA)-approved [EPA-approved] analytical method that[, which] is based on laboratory analysis of the substance in reagent (distilled) water. The minimum analytical level is based on analyses of the analyte in the matrix of concern (e.g. [i.e.], wastewater effluents). The commission [executive director] establishes [will establish] general minimum analytical levels that are [will be] applicable when information on matrix-specific minimum analytical levels is unavailable.

(37) [(34)] **Mixing zone -** The area contiguous to a permitted discharge where mixing with receiving waters takes place and where specified criteria, as listed in §307.8(b)(1) of this title (relating to Application of Standards), can be exceeded. Acute toxicity to aquatic organisms is not allowed in a mixing zone, and chronic toxicity to aquatic organisms is not allowed beyond a mixing zone.

(38) [(35)] **Noncontact recreation -** Activities that do not involve a significant risk of water ingestion and where primary and secondary contact recreation should not occur because of unsafe conditions, such as ship and barge traffic. Activities would include those with limited body contact incidental to shoreline activity, such as birding, hiking, and biking. [Aquatic recreational pursuits not involving a significant risk of water ingestion; including fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity.]

(39) [(36)] **Nonpersistent toxic -** A toxic substance that readily degrades in the aquatic environment, exhibits a half-life of less than 60 days [96 hours], and does not have a tendency to accumulate in organisms.

(40) **Nutrient criteria** - Numeric and narrative criteria that are established to protect surface waters from excessive growth of aquatic plants that includes phytoplankton, floating algae, floating vascular plants, attached algae, and rooted plants. Nutrient numeric criteria for reservoirs are expressed in terms of chlorophyll *a* concentration per unit volume as a measure of phytoplankton density. Associated screening levels for total phosphorus are expressed in terms of concentration per unit volume in water and associated screening levels for transparency are expressed in terms of the depth of secchi disk visibility.

(41) **Nutrient** - A chemical constituent, most commonly a form of nitrogen or phosphorus, that in excess can contribute to the growth of nuisance aquatic vegetation and impact uses as defined in this title.

(42) [(37)] **Oyster waters -** Waters producing edible species of clams, oysters, or mussels.

(43) [(38)] **Persistent toxic -** A toxic substance that is not readily degraded and exhibits a half-life of 60 days [96 hours] or more in an aquatic environment.

(44) [(39)] **Pollution -** The alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any water in the state that renders the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property or to the public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.

(45) [(40)] **Point source -** Any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants or wastes are or may be discharged into or adjacent to any water in the state.

(46) [(41)] **Presumed use -** A use that [which] is assigned to generic categories of water bodies (such as perennial streams). Presumed uses are superseded by designated uses for individual water bodies in Appendix A, [or] Appendix D, or Appendix G of §307.10 of this title (relating to Appendices A - G).

(47) **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 whitewater kayaking, canoeing, and rafting).

(48) **Protection zone -** Any area within the watershed of a sole-source surface drinking water supply that is:

(A) within two miles of the normal pool elevation of a body of surface water that is a sole-source surface drinking water supply;

(B) within two miles of that part of a perennial stream that is:

(i) a tributary of a sole-source surface drinking water supply; and

(ii) within three linear miles upstream of the normal pool elevation of a sole-source surface drinking water supply; or

(C) within two miles of that part of a stream that is a sole-source surface drinking water supply, extending three linear miles upstream from the water supply intake (Texas Water Code, §26.0286).

(49) [(42)] **Public drinking water supply -** A water body designated to provide water to a public water system as defined in Chapter 290 of this title (relating to Public Drinking Water).

(50) [(43)] **Saltwater -** A coastal water that [which] has a measurable elevation change due to normal tides. In the absence of tidal information, saltwater is generally considered to be a coastal water that [which] typically has a salinity of two parts per thousand or greater in a significant portion of the water column.

(51) [(44)] **Salinity -** The total dissolved solids in water after all carbonates have been converted to oxides, all bromide and iodide have been replaced by chloride, and all organic matter has been oxidized. For most purposes, salinity is considered equivalent to total dissolved salt content. Salinity is usually [normally] expressed in parts per thousand.

(52) [(45)] **Seagrass propagation -** A water-quality-related existing use that [which] applies to saltwater with significant stands of submerged seagrass.

(53) **Secondary contact recreation 1 -** Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing and 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.

(54) **Secondary contact recreation 2 -** Activities with limited body contact incidental to shoreline activity (e.g. fishing and 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.

(55) [(46)] **Segment -** A water body or portion of a water body that [which] is individually defined and classified in Appendices A and C of §307.10 of this title (relating to Appendices A - G) in the Texas Surface Water Quality Standards. A segment is intended to have relatively homogeneous chemical, physical, and hydrological characteristics. A segment provides a basic unit for assigning site-specific standards and for applying water quality management programs of the agency. Classified segments may include streams, rivers, bays, estuaries, wetlands, lakes, or reservoirs.

(56) [(47)] **Settleable solids -** The volume or weight of material that settles [which will settle] out of a water sample in a specified period of time.

(57) [(48)] **Seven-day, two-year low-flow (7Q2) -** The lowest average stream flow for seven consecutive days with a recurrence interval of two years, as statistically determined from historical data. As specified in §307.8 of this title (relating to Application of Standards), some water quality standards do not apply at stream flows that [which] are less than the 7Q2 flow.

(58) [(49)] **Shellfish -** Clams, oysters, mussels, crabs, crayfish, lobsters, and shrimp.

[(50) **Significant aquatic life use -** A broad characterization of aquatic life which indicates that a subcategory of aquatic life use (limited, intermediate, high, or exceptional) is applicable. Some aquatic life is expected to be present even in water bodies which are not designated for specific categories of aquatic life use. Some provisions to protect aquatic life apply to any water body in the state whether an aquatic life use is assigned or not. These provisions include the general criteria in §307.4 of

this title (relating to General Criteria), the numerical acute aquatic life criteria in §307.6(c) of this title, and the whole effluent toxicity requirements to preclude acute toxicity to aquatic life in §307.6(e) of this title.]

(59) **Sole-source surface drinking water supply** - A body of surface water that is identified as a public water supply in rules adopted by the commission under Texas Water Code, §26.023 and is the sole source of supply of a public water supply system, exclusive of emergency water connections (Texas Water Code, §26.0286).

(60) [(51)] **Standard Methods for the Examination of Water and Wastewater** - A document describing sampling and analytical procedures that[, which] is published by the American Public Health Association, American Water Works Association, and Water Environment Federation. The most recent edition of this document is to be followed whenever its use is specified by these rules.

(61) [(52)] **Standards** - Desirable [The designation of water bodies for desirable] uses (i.e., existing, attainable, designated, or presumed uses as defined in this title) and the narrative and numerical criteria deemed necessary to protect those uses in surface waters.

(62) [(53)] **Standards implementation procedures** - Methods and protocols in the guidance document [Procedures entitled] *Procedures to Implement the Texas Surface Water Quality Standards* (RG-194), as amended and approved [which are adopted] by the commission and [approved by] EPA [as part of the State Continuing Planning Process].

(63) [(54)] **Storm water -** Rainfall runoff, snow melt runoff, surface runoff, and drainage.

(64) [(55)] **Storm water discharge -** A point source discharge that is composed entirely of storm water associated with an industrial activity, a construction activity, a discharge from a municipal separate storm sewer system, or other discharge designated by the agency.

(65) [(56)] **Stream order -** A classification of stream size, where the smallest, unbranched tributaries of a drainage basin are designated first order streams. Where two first order streams join, a second order stream is formed; and where two second order streams join, a third order stream is formed, etc. For purposes of water quality standards application, stream order is determined from United States Geological Survey [USGS] topographic maps with a scale of 1:24,000.

(66) [(57)] **Surface water in the state -** Lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, wetlands, marshes, inlets, canals, the Gulf of Mexico inside the territorial limits of the state as defined in the Texas Water Code, §26.001 [(from the mean high water mark (MHWM) out 10.36 miles into the Gulf)], and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, navigable or nonnavigable, and including the beds and banks of all water-courses and bodies of surface water, that are wholly or partially inside or bordering the state or subject to the jurisdiction of the state; except that waters in treatment systems that [which] are authorized by state or federal law, regulation, or permit, and that [which] are created for the purpose of waste treatment are not considered to be water in the state.

(67) [(58)] **Sustainable Fisheries -** Descriptive of water bodies that [which] potentially have sufficient fish production or fishing activity to create significant long-term human consumption of fish. Sustainable fisheries include perennial streams and rivers with a stream order of three or greater; lakes and reservoirs greater than or equal to 150 acre-feet [and/] or 50 surface acres; all bays, estuaries, and tidal rivers. Water bodies that [which] are presumed to have sustainable fisheries include all designated segments listed in Appendix A unless specifically exempted.

(68) **Thalweg -** The deepest portion of a stream or river channel cross-section.

(69) [(59)] **Tidal -** Descriptive of coastal waters that [which] are subject to the ebb and flow of tides. For purposes of standards applicability, tidal waters are considered to be saltwater. Classified tidal waters include all bays and estuaries with a segment number that begins with 24xx, all streams with the word tidal in the segment name, and the Gulf of Mexico.

(70) [(60)] **To discharge -** Includes to deposit, conduct, drain, emit, throw, run, allow to seep, or otherwise release or dispose of, or to allow, permit, or suffer any of these acts or omissions.

(71) [(61)] **Total Maximum Daily Load (TMDL) -** The total amount of a substance that a water body can assimilate and still meet the Texas Surface Water Quality Standards.

(72) [(62)] **Total dissolved solids -** The amount of material (inorganic salts and small amounts of organic material) dissolved in water and commonly expressed as a concentration in terms of

milligrams per liter. The term is equivalent to the term filterable residue, as used in the publication entitled, *Standard Methods for the Examination of Water and Wastewater*.

(73) [(63)] **Total suspended solids -** Total suspended matter in water, which is commonly expressed as a concentration in terms of milligrams per liter. The term is equivalent to nonfilterable residue, as used in the publication entitled, *Standard Methods for the Examination of Water and Wastewater*.

(74) [(64)] **Total toxicity -** Toxicity as determined by exposing aquatic organisms to samples or dilutions of instream water or treated effluent. Also referred to as whole effluent toxicity or biomonitoring.

(75) **Toxic equivalency factor (TEF) -** A factor to describe an order-of-magnitude consensus estimate of the toxicity of a compound relative to the toxicity of 2,3,7,8-tetraclorodibenzo-*p*-dioxin (2,3,7,8-TCDD). The factor is applied to transform various concentrations of dioxins and furans or dioxin-like polychlorinated biphenyls (PCBs) into equivalent concentrations of 2,3,7,8-TCDD, expressed as a toxic equivalency (TEQ).

(76) **Toxic equivalency (TEQ) -** The sum of the products from the concentration of each dioxin and furan, or dioxin-like PCB congeners, multiplied by its respective TEF to give a single 2,3,7,8-TCDD equivalent.

(77) [(65)] **Toxicity -** The occurrence of adverse effects to living organisms due to exposure to toxic materials. Adverse effects caused by conditions of temperature and dissolved oxygen are excluded from the definition of toxicity. With respect to the provisions of §307.6(e) of this title (relating to Toxic Materials), which concerns total toxicity and biomonitoring requirements, adverse effects caused by concentrations of dissolved salts (such as sodium, potassium, calcium, chloride, carbonate) in source waters are excluded from the definition of toxicity. Source water is defined as surface water or groundwater that is used as a public water supply or industrial water supply (including a cooling-water supply). Source water does not include brine water that is produced during the extraction of oil and gas, or other sources of brine water that are substantially uncharacteristic of surface waters in the area of discharge. In addition, adverse effects caused by concentrations of dissolved salts that [which] are added to source water by industrial processes are not excluded from the requirements of §307.6(e) of this title, except as specifically noted in §307.6(e)(2)(B) of this title, which concerns requirements for toxicity testing of 100% effluent. This definition of toxicity does not affect the standards for dissolved salts in this chapter other than §307.6(e) of this title. The standards implementation procedures contain provisions to protect surface waters from adverse effects of dissolved salts and methods to address the effects of dissolved salts on total toxicity tests.

(78) [(66)] **Toxicity biomonitoring -** The process or act of determining total toxicity. Documents that [which] describe procedures for toxicity biomonitoring are cited in §307.6 of this title (relating to Toxic Materials). Also referred to simply as biomonitoring.

(79) [(67)] **Water-effect [Water-effects] ratio (WER) -** The [water-effects ratio] WER is calculated as the toxic concentration ($LC_{50}$ ) of a substance in water at a particular site, divided by the

toxic concentration of that substance as reported in laboratory dilution water. The WER [water-effects ratio] can be used to establish site-specific acute and chronic criteria to protect aquatic life. The site-specific criterion is equal to the WER [water-effects ratio] times the statewide aquatic life criterion in §307.6(c) of this title.

(80) [(68)] **Water quality management program -** The agency's overall program for attaining and maintaining water quality consistent with state standards, as authorized under the Texas Water Code, the Texas Administrative Code, and the Clean Water Act, §§106, 205(j), 208, 303(e) and 314 (33 United States Code, §§1251 *et seq*.).

(81) [(69)] **Wetland -** An area (including a swamp, marsh, bog, prairie pothole, or similar area) having a predominance of hydric soils that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and that under normal circumstances supports the growth and regeneration of hydrophytic vegetation. The term "hydric soil" means soil that, in its undrained condition, is saturated, flooded, or ponded long enough during a growing season to develop an anaerobic condition that supports the growth and regeneration of hydrophytic vegetation. The term "hydrophytic vegetation" means a plant growing in: water or a substrate that is at least periodically deficient in oxygen during a growing season as a result of excessive water content. The term "wetland" does not include irrigated acreage used as farmland; a man-made wetland of less than one acre; or a man-made wetland where [for which] construction or creation commenced on or after August 28, 1989, and that [which] was not constructed with wetland creation as a stated objective, including but not limited to an impoundment made for the purpose of soil and water conservation that [which] has been approved or requested by soil

and water conservation districts. If this definition of wetland conflicts with the federal definition in any manner, the federal definition prevails.

(82) [(70)] **Wetland water quality functions -** Attributes of wetlands that protect and maintain the quality of water in the state, which include storm water storage and retention and the moderation of extreme water level fluctuations; shoreline protection against erosion through the dissipation of wave energy and water velocity, and anchoring of sediments; habitat for aquatic life; and removal, transformation, and retention of nutrients and toxic substances.

(83) [(71)] **Zone of initial dilution -** The small area at the immediate point of a permitted discharge where initial dilution with receiving waters occurs[,] and that [which] may not meet certain criteria applicable to the receiving water. A zone of initial dilution is substantially smaller than a mixing zone.

(b) Abbreviations. The following abbreviations apply to this chapter:

(1) ALU - aquatic life use.

(2) [(1)] AP - aquifer protection.

[(2) BMP - best management practices.]

(3) AS - agricultural water supply.

(4) ASTER - Assessment Tools for the Evaluation of Risk.

(5) BCF - bioconcentration factor.

(6) [(4)] CASRN - Chemical Abstracts Service Registry number.

(7) [(5)] CFR - Code of Federal Regulations.

(8) cfs - cubic feet per second.

(9) [(6)] $Cl^{-1}$ - chloride.

(10) CR - county road.

[(7) CR - contact recreation.]

(11) [(8)] DO - dissolved oxygen.

(12) [(9)] E - exceptional aquatic life use.

(13) [(10)] EPA - United States Environmental Protection Agency.

(14) [(11)] degrees F - Degree(s) Fahrenheit.

(15) FM - Farm to Market Road.

(16) [(12)] $ft^3/s$ - cubic feet per second.

(17) [(13)] H - high aquatic life use.

(18) HEAST - Health Effects Assessment Summary Tables.

(19) [(14)] I - intermediate aquatic life use.

(20) IBWC - International Boundary and Water Commission.

(21) IRIS - Integrated Risk Information System.

(22) [(15)] IS - industrial water supply.

(23) km - kilometer.

(24) [(16)] L - limited aquatic life use.

(25) M - minimal aquatic life use.

(26) m - multiplier.

(27) m/km - meters per kilometer.

(28) [(17)] MCL - maximum contaminant level (for public drinking water supplies).

(29) MDL - method detection limit.

(30) [(18)] mg/L - milligrams per liter.

(31) mi - mile.

(32) [(19)] ml - milliliter.

[(20) MS4 - municipal separate storm sewer system.]

(33) [(21)] N - navigation.

(34) [(22)] NCR - noncontact recreation.

[(23) NPDES - National Pollutant Discharge Elimination System, as set out in the Clean Water Act, §402 (33 United States Code 1342).]

(35) [(24)] O - oyster waters.

(36) PCR - primary contact recreation.

(37) [(25)] PS - public water supply.

(38) RfD - reference dose.

(39) RR - ranch road.

(40) [(26)] 7Q2 - seven-day, two-year low-flow.

(41) SCR - secondary contact recreation.

(42) SH - state highway.

(43) [(27)] $SO_4^{-2}$ - sulfate.

(44) SU - standard units.

(45) TCEQ - Texas Commission on Environmental Quality.

(46) [(28)] TDS - total dissolved solids.

(47) TEF - toxic equivalency factor.

(48) [(29)] TMDL - total maximum daily load.

(49) [(30)] TPDES - Texas Pollutant Discharge Elimination System.

(50) TRE - toxicity reduction evaluation.

(51) [(31)] TSS - total suspended solids.

(52) US - United States.

(53) [(32)] USFDA - United States Food and Drug Administration.

(54) [(33)] USGS - United States Geological Survey.

(55) WER - Water-effect ratio.

(56) [(34)] WF - waterfowl habitat.

(57) [(35)] WQM - water quality management.

(58) [(36)] µg/L - micrograms per liter.

(59) [(37)] ZID - zone of initial dilution.

**§307.4. General Criteria.**

(a) Application. The general criteria set forth in this section apply to surface water in the state and specifically apply to substances attributed to waste discharges or human activities [the activities of man]. General criteria do not apply to those instances when [in which] surface water, as a result of natural phenomena, exhibit characteristics beyond the limits established by this section. General criteria are superseded by specific exemptions stated in this section or in §307.8 of this title (relating to the Application of Standards), or by site-specific water quality standards for classified segments. Provisions of the general criteria remain in effect in mixing zones or below critical low-flow conditions unless specifically exempted in §307.8 of this title.

(b) Aesthetic parameters.

(1) Concentrations of taste and odor producing substances must [shall] not interfere with the production of potable water by reasonable water treatment methods, impart unpalatable flavor to food fish including shellfish, result in offensive odors arising from the waters, or otherwise interfere with the reasonable use of the water in the state.

(2) Surface water must [shall] be essentially free of floating debris and suspended solids that are conducive to producing adverse responses in aquatic organisms or putrescible sludge deposits or sediment layers that [which] adversely affect benthic biota or any lawful uses.

(3) Surface waters must [shall] be essentially free of settleable solids conducive to changes in flow characteristics of stream channels or the untimely filling of surface water in the state. This provision does not prohibit dredge and fill activities that [which] are permitted in accordance with the Federal Clean Water Act.

(4) Surface waters must [shall] be maintained in an aesthetically attractive condition.

(5) Waste discharges must [shall] not cause substantial and persistent changes from ambient conditions of turbidity or color.

(6) No [There shall be no] foaming or frothing of a persistent nature is permissible.

(7) Surface waters must [shall] be maintained so that oil, grease, or related residue do [will] not produce a visible film or sheen of oil or globules of grease on the surface or coat the banks or bottoms of the watercourse; or cause toxicity to man, aquatic life, or terrestrial life in accordance with subsection (d) of this section.

(c) Radiological substances. Radioactive materials must [shall] not be discharged in excess of the amount regulated by Chapter 336 of this title (relating to Radioactive Substance Rules).

(d) Toxic substances. Surface waters must [will] not be toxic to man from ingestion of water, consumption of aquatic organisms, or contact with the skin, or to terrestrial or aquatic life. Additional requirements and criteria for toxic substances are specified in §307.6 of this title (relating to Toxic Materials). Criteria to protect aquatic life from acute toxicity apply to all surface waters in the state except as specified in §307.8(a)(3) [§307.8(a)(2)] of this title. Criteria to protect aquatic life from chronic toxicity apply to surface waters with an [a significant] aquatic life use of limited, intermediate, high, or exceptional as designated in §307.10 of this title (relating to Appendices A - G [A - E]) or as determined on a case-by-case basis in accordance with subsection (l) of this section. Toxic criteria to protect human health for consumption of fish apply to waters with a sustainable or incidental fishery, as described in §307.6(d) of this title. Additional criteria apply to water in the state with a public drinking water supply use, as described in §307.6(d) of this title. The general provisions of this subsection do not change specific provisions in §307.8 of this title for applying toxic criteria.

(e) Nutrients. Nutrients from permitted discharges or other controllable sources must [shall] not cause excessive growth of aquatic vegetation that [which] impairs an existing, attainable, or designated use. Site-specific nutrient criteria, nutrient permit limitations, [and/] or separate rules to control nutrients in individual watersheds are [will be] established where appropriate after notice and opportunity for public participation and proper hearing. Site-specific numeric criteria related to chlorophyll *a* are listed in Appendix F of §307.10 of this title.

(f) Temperature. Consistent with §307.1 of this title (relating to General Policy Statement) and in accordance with state water rights permits, temperature in industrial cooling lake impoundments and all

other surface water in the state must [shall] be maintained so as to not interfere with the reasonable use of such waters. Numerical temperature criteria have not been specifically established for industrial cooling lake impoundments, which in most areas of the state contribute to water conservation and water quality objectives. [With the exception of industrial cooling impoundments, temperature elevations due to discharges of treated domestic (sanitary) effluent, and within designated mixing zones,] The [the] following temperature criteria, expressed as a maximum temperature differential (rise over ambient) are established except for industrial cooling impoundments, temperature elevations due to discharges of treated domestic (sanitary) effluent, and within designated mixing zones. The maximum temperature differentials are:

(1) freshwater streams - [--]5 degrees Fahrenheit (degrees F);

(2) freshwater lakes and impoundments - [--]3 degrees F [Fahrenheit]; and

(3) tidal river reaches, bay, and gulf waters - [--]4 degrees F [Fahrenheit] in fall, winter, and spring, and 1.5 degrees F [Fahrenheit] in summer (June, July, and August).

(4) Additional temperature criteria (expressed as maximum temperatures) for classified segments are specified in Appendix A of §307.10 of this title.

(g) Salinity.

(1) Concentrations and the relative ratios of dissolved minerals such as chlorides, sulfates, and total dissolved solids must [will] be maintained such that existing, designated, presumed, and attainable uses are [will] not [be] impaired.

(2) Criteria for chlorides, sulfates, and total dissolved solids for classified freshwater segments are specified in Appendix A of §307.10 of this title.

(3) Salinity gradients in estuaries must [will] be maintained to support attainable estuarine dependent aquatic life uses. Numerical salinity criteria for Texas estuaries have not been established because of the high natural variability of salinity in estuarine systems, and because long-term studies by state agencies to assess estuarine salinities are still ongoing. Absence of numerical criteria must [shall] not preclude evaluations and regulatory actions based on estuarine salinity, and careful consideration must [will] be given to all activities that [which] may detrimentally affect salinity gradients.

(h) Aquatic life uses and dissolved oxygen.

(1) Dissolved oxygen concentrations must [shall] be sufficient to support existing, designated, presumed, and attainable aquatic life uses. Aquatic-life use categories and corresponding dissolved oxygen criteria are described in §307.7(b)(3) of this title (relating to Site-Specific Uses and Criteria).

(2) Aquatic life use categories and dissolved oxygen criteria for classified segments are specified in Appendix A of §307.10 of this title. Aquatic life use categories and dissolved oxygen criteria

for other specific water bodies are specified in Appendix D of §307.10 of this title. Where justified by sufficient site-specific information, dissolved oxygen criteria that [which] differ from §307.7(b)(3) of this title may be adopted for a particular water body in §307.10 of this title.

(3) Perennial streams, rivers, lakes, bays, estuaries, and other appropriate perennial waters that [which] are not specifically listed in Appendix A or D of §307.10 of this title are presumed to have a high aquatic life use and corresponding dissolved oxygen criteria. Applicable dissolved oxygen criteria are described in §307.7(b)(3)(A) of this title. [In accordance with results from statewide ecoregion studies, unclassified perennial streams in southeast and northeast Texas are assigned dissolved oxygen criteria as indicated in §307.7(b)(3)(A)(ii) of this title.] Higher uses are [will be] protected where they are attainable.

(4) When water is present in the streambed of intermittent streams, a 24-hour dissolved oxygen mean of at least 2.0 mg/L and an absolute minimum dissolved oxygen concentration of 1.5 mg/L must [will] be maintained. Intermittent streams that [which] are not specifically listed in Appendix A or D of §307.10 of this title are considered to [not] have a minimal [significant] aquatic life use except as indicated below in this subsection. For intermittent streams with seasonal aquatic life uses, dissolved oxygen concentrations commensurate with the aquatic life uses must [will] be maintained during the seasons when [in which] the aquatic life uses occur. Unclassified intermittent streams with [significant aquatic life uses created by] perennial pools are presumed to have a limited aquatic life use and corresponding dissolved oxygen criteria. Higher uses are [will be] protected where they are attainable.

(i) Aquatic life uses and habitat. Vegetative and physical components of the aquatic environment must [will] be maintained or mitigated to protect aquatic life uses. Procedures to protect habitat in permits for dredge and fill are specified in Federal Clean Water Act, §404 and in Chapter 279 of this title (relating to Water Quality Certification).

(j) Aquatic recreation.

(1) Existing, designated, presumed, and attainable uses of aquatic recreation must be maintained, as determined by criteria that indicate the potential presence of pathogens. Categories of recreation and applicable criteria are established in §307.7(b)(1) of this title.

(2) Recreational use categories and criteria for classified segments are specified in Appendix A of §307.10 of this title. Site-specific recreational use categories and criteria for selected unclassified water bodies are specified in Appendix G of §307.10 of this title. Where justified by sufficient site-specific information, recreational uses and criteria that differ from §307.7(b)(1) of this title may be adopted for a particular water body in §307.10 of this title. For water bodies not specifically listed in Appendix A or Appendix G of §307.10 of this title, the following recreational uses are presumed to apply.

(A) Primary contact recreation. Primary contact recreation is presumed for lakes, reservoirs, and tidal water bodies. Primary contact recreation is presumed to apply to intermittent streams, intermittent streams with perennial pools, nontidal wetlands, and perennial freshwater streams and rivers, except where site-specific information indicates that recreational activities that involve a

significant risk of ingestion have little to no likelihood of occurring, in accordance with subparagraph (B) of this paragraph.

(B) Secondary contact recreation 1. Secondary contact recreation 1 applies to water bodies where water recreation can occur, but the nature of the recreation does not involve a significant risk of ingestion. Secondary contact recreation 1 applies to intermittent and perennial freshwaters where site-specific information demonstrates that primary contact recreation has little to no likelihood of occurring. At a minimum, the following characteristics must be demonstrated for a presumed use of secondary contact recreation 1 to apply:

(i) during base flow conditions, the average depth at the thalweg (mid-channel) is less than 0.5 meters and there are not substantial pools with a depth of 1 meter; and

(ii) there are not existing recreational activities that create a significant risk of ingestion or a use for primary contact recreation.

(C) Secondary contact recreation 2. Secondary contact recreation 2 applies to water bodies where water recreation activities do not involve a significant risk of water ingestion and where activities occur less frequently than for secondary contact recreation 1 due to physical characteristics of the water body or limited public access. No water body is presumed to have a use of secondary contact recreation 2. This use is applicable when designated for an individual water body as listed in Appendix A or G in §307.10 of this title.

(D) Noncontact recreation. Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion and where primary and secondary contact recreation uses should not occur because of unsafe conditions. No water body is presumed to have a use of noncontact recreation. This use is applicable when designated for an individual water body as listed in Appendix A or G in §307.10 of this title.

(3) Assigning recreational uses to an unclassified water body.

(A) Applying presumed uses. Recreational uses and associated numerical criteria are assigned to an unclassified water body in accordance with the presumed uses and guidelines established in paragraph (2) of this subsection. To assign uses other than primary contact recreation, a reasonable level of inquiry is conducted to determine if a different presumed use is appropriate for a particular water body. A reasonable level of inquiry includes review of available relevant information or completed site surveys.

(B) Assigning presumed uses. Presumed uses of primary contact recreation and secondary contact recreation 1 can be assigned to an individual water body for regulatory action without individually designating the recreational use and criteria in Appendix G in §307.10 of this title. Regulatory action may include issuing Texas Pollutant Discharge Elimination System permits, revising the list of impaired water bodies under Clean Water Act, §303(d), or setting and implementing a total maximum daily load. The presumed secondary contact recreation 1 use is included in the public notice of a regulatory action that could affect recreational water quality, and the assigned recreational uses are subject to applicable public comment and approval by the United States Environmental Protection

Agency (EPA). For tracking purposes, presumed recreational uses that have been determined to be less stringent than primary contact recreation are noted in a publicly available list such as the EPA's Water Quality Standards Repository prior to a water quality standards revision. Presumed uses that have been determined for particular water bodies are listed in Appendix G in §307.10 of this title when the water quality standards are revised.

(C) Assigning a use less stringent than presumed use. A recreational use that is less stringent than the applicable presumed use can only be assigned to an individual water body for a regulatory action after that use is approved by the EPA and designated in Appendix A or G in §307.10 of this title. Support for designating a use less stringent than an applicable presumed use requires a use-attainability analysis (UAA). 40 Code of Federal Regulations §131.1(g) lists six reasons for a change in use in a water body. At least one of these reasons must be included in the UAA.

[(j) Aquatic recreation. Existing, designated, and attainable uses of aquatic recreation will be maintained, as determined by criteria that indicate the potential presence of pathogens. Categories of recreation and applicable criteria are established in §307.7(b)(1) of this title. Contact recreation is presumed as a use for all water bodies except where listed otherwise for specific water bodies in Appendix A of §307.10 of this title.]

(k) Antidegradation. Nothing in this section is intended to [shall] be construed or otherwise used [utilized] to supersede the requirements of §307.5 of this title (relating to Antidegradation).

(l) Assessment of unclassified waters for aquatic life uses. Waters that [which] are not specifically listed in Appendices A or D of §307.10 of this title are assigned [designated for] the specific uses that are attainable or characteristic of those waters. Upon administrative or regulatory action by the [executive director or] commission that [which] affects a particular unclassified water body, the characteristics of the affected water body must [will] be reviewed by the commission [agency] to determine which aquatic life uses are appropriate. Additional uses so determined must [shall] be indicated in public notices for discharge applications. Uses that [which] are not applicable throughout the year in a particular unclassified water body are [will be] assigned and protected for the seasons where [in which] such uses are attainable. Initial determinations of use are [shall be] considered preliminary, and in no way preclude redeterminations of use in public hearings conducted under the provisions of the Texas Water Code. For unclassified waters where the presumed minimum uses or criteria specified in this section are inappropriate, site-specific standards may be developed in accordance with §307.2(d) of this title (relating to Description [Modification] of Standards). Uses and criteria are [will be] assigned in accordance with this section and with §307.7(b)(3) of this title. Procedures for assigning uses and criteria are described in the standards implementation procedures.

(m) pH. Consistent with §307.1 of this title, pH levels in all surface water in the state must be maintained so as to not interfere with the reasonable use of such waters.

**§307.5. Antidegradation.**

(a) Application. The antidegradation policy and implementation procedures set forth in this section [shall] apply to actions regulated under state and federal authority that [which] would increase

pollution of the water in the state. Such actions include authorized wastewater discharges, total maximum daily loads (TMDLs), waste load evaluations, and any other miscellaneous actions, such as those related to man-induced nonpoint sources of pollution, that [which] may impact the water in the state.

(b) Antidegradation policy. In accordance with the Texas Water Code, §26.003, the following provisions establish the antidegradation policy of the commission [agency].

(1) Tier 1. Existing uses and water quality sufficient to protect those existing uses must [will] be maintained. Categories of existing uses are the same as for designated uses, as defined in §307.7 of this title (relating to Site-Specific Uses and Criteria).

(2) Tier 2. No activities subject to regulatory action that [which] would cause degradation of waters that [which] exceed fishable/swimmable quality are [will be] allowed unless it can be shown to the commission's satisfaction that the lowering of water quality is necessary for important economic or social development. Degradation is defined as a lowering of water quality by more than a de minimis extent, but not to the extent that an existing use is impaired. Water quality sufficient to protect existing uses must [will] be maintained. Fishable/swimmable waters are defined as waters that [which] have quality sufficient to support propagation of indigenous fish, shellfish, and wildlife and recreation in and on the water.

(3) Tier 3. Outstanding national resource waters are defined as high quality waters within or adjacent to national parks and wildlife refuges, state parks, wild and scenic rivers designated by law,

and other designated areas of exceptional recreational or ecological significance. The quality of outstanding national resource waters must [will] be maintained and protected.

(4) Discharges that [which] cause pollution that are authorized by the Texas Water Code, the Federal Clean Water Act, or other applicable laws must [will] not lower water quality to the extent that the Texas Surface Water Quality Standards are not attained.

(5) Anyone discharging wastewater that [which] would constitute a new source of pollution or an increased source of pollution from any industrial, public, or private project or development are [will be] required to provide a level of wastewater treatment consistent with the provisions of the Texas Water Code and the Clean Water Act (33 United States Code, §§1251 *et seq*.). As necessary, cost-effective and reasonable best management practices established through the Texas Water Quality Management Program are [shall be] achieved for nonpoint sources of pollution.

(6) Application of antidegradation provisions does [shall] not preclude the commission [or executive director] from establishing modified thermal discharge limitations consistent with the Clean Water Act, §316(a) (33 United States Code, §1326).

(c) Antidegradation implementation procedures.

(1) Implementation for specific regulatory activities.

(A) For TPDES permits for wastewater, the process for the antidegradation review and public coordination is described in the standards implementation procedures.

(B) For federal permits relating to the discharge of fill or dredged material under Federal Clean Water Act, §404, the antidegradation policy and public coordination is implemented through the evaluation of alternatives and mitigation under Federal Clean Water Act, §404(b)(1). State review of alternatives, mitigation, and requirements to protect water quality may also be conducted for federal permits that [which] are subject to state certification, as authorized by Federal Clean Water Act, §401 and conducted in accordance with Chapter 279 of this title (relating to Water Quality Certification).

(C) Other state and federal permitted [permitting] and regulated [regulatory] activities that [which] increase pollution of water in the state are also subject to the provisions of the antidegradation policy as established in subsections (a) and (b) of this section [§307.5(a) and (b) of this title (relating to Antidegradation)].

(2) General provisions for implementing the antidegradation policy.

(A) Tier 1 reviews must [will] ensure that water quality is sufficiently maintained so that existing uses are protected. All pollution that [which] could cause an impairment of water quality is subject to Tier 1 reviews. If the existing uses and criteria of a potentially affected water body have not been previously determined, then the antidegradation review must [will] include a preliminary determination of existing uses and criteria. Existing uses must [will] be maintained and protected.

(B) Tier 2 reviews apply to all pollution that [which] could cause degradation of water quality where water quality exceeds levels necessary to support propagation of fish, shellfish, wildlife, and recreation in and on the water (fishable/swimmable quality). Guidance for determining [which] water bodies that exceed fishable/swimmable quality is contained in the standards implementation procedures. For dissolved oxygen, analyses of degradation under Tier 2 must [will] utilize the same critical conditions as are used to protect instream criteria. For other parameters, appropriate conditions may vary. Conditions for determining degradation are [will be] commensurate with conditions for determining existing uses. The highest water quality sustained since November 28, 1975 (in accordance with EPA Standards Regulation 40 Code of Federal Regulations Part 131 [CFR 131]) defines baseline conditions for determinations of degradation.

(C) Tier 3 reviews apply to all pollution that [which] could cause degradation of outstanding national resource waters. Outstanding national resource waters are those specifically designated in this chapter.

(D) When degradation of waters exceeding fishable/swimmable quality is anticipated, a statement that the antidegradation policy is [will be] pertinent to the permit action must [will] be included in the public notice for the permit application or amendment. If no degradation is anticipated, the public notice must [will] so state.

(E) Evidence can be introduced in public hearings, or through the public comment process, concerning the determination of existing uses and criteria; the assessment of degradation under Tier 1, Tier 2, and Tier 3; the social and economic justification for lowering water

quality; requirements and conditions necessary to preclude degradation; and any other issues that [which] bear upon the implementation of the antidegradation policy.

(F) Interested parties are [will be] given the opportunity to provide comments and additional information concerning the determination of existing uses, anticipated impacts of the discharge, baseline conditions, and the necessity of the discharge for important economic or social development if degradation of water quality is expected under Tier 2.

(G) The antidegradation policy and the general provisions for implementing the antidegradation policy apply to the determination of TMDLs and to waste load evaluations that [which] allow an increase in loading. If the TMDL or waste load evaluation indicates that degradation of waters exceeding fishable/swimmable quality is expected, the public hearing notice must [will] so state. Permits that [which] are consistent with an approved TMDL or waste load evaluation under this antidegradation policy are [will] not [be] subjected to a separate antidegradation review for the specific parameters that are addressed by the TMDL or waste load evaluation.

**§307.6. Toxic Materials.**

(a) Application. The toxic criteria set forth in this section apply to surface water in the state and specifically apply to substances attributed to waste discharges or human activity. Toxic criteria do not apply to those instances where surface water, solely as a result of natural phenomena, exhibit characteristics beyond the limits established by this section. Standards and procedures set forth in this

section are [shall be] applied in accordance with §307.8 of this title (relating to Application of Standards) and §307.9 of this title (relating to Determination of Standards Attainment).

(b) General provisions.

(1) Water in the state must [shall] not be acutely toxic to aquatic life in accordance with §307.8 of this title.

(2) Water in the state with designated or existing aquatic life uses of limited or greater must [shall] not be chronically toxic to aquatic life, in accordance with §307.8 of this title.

(3) Water in the state must [shall] be maintained to preclude adverse toxic effects on human health resulting from contact recreation, consumption of aquatic organisms, consumption of drinking water or any combination of the three. Water in the state with sustainable fisheries [and/] or public drinking water supply uses must [will] not exceed applicable human health toxic criteria, in accordance with subsection (d) of this section and §307.8 of this title.

(4) Water in the state must [shall] be maintained to preclude adverse toxic effects on aquatic life, terrestrial wildlife, livestock, or domestic animals, resulting from contact, consumption of aquatic organisms, consumption of water, or any combination of the three.

(c) Specific numerical aquatic life criteria.

(1) Numerical criteria are established in Table 1 of this paragraph for those specific toxic substances where [for which] adequate toxicity information is available[,] and that [which] have the potential for exerting adverse impacts on water in the state.

Figure: 30 TAC §307.6(c)(1)

[Figure: 30 TAC §307.6(c)(1)]

TABLE 1

Criteria in Water for Specific Toxic Materials -
AQUATIC LIFE PROTECTION
(All values are listed or calculated in micrograms per liter)
(Hardness concentrations are input as milligrams per liter)

| Parameter | CASRN | Freshwater | Freshwater | Saltwater | Saltwater |
|---|---|---|---|---|---|
| | | Acute Criteria | Chronic Criteria | Acute Criteria | Chronic Criteria |
| | | | | | |
| Aldrin | 309-00-2 | 3.0 | --- | 1.3 | --- |
| Aluminum (d) | 7429-90-5 | 991w | --- | --- | --- |
| Arsenic (d) | 7440-38-2 | 340 [360] w | 150 [190] w | 149w | 78w |
| Cadmium (d) | 7440-43-9 | $\frac{1.136672-(\ln(\text{hardness})(0.041838))}{([0.973]\ we^{(1.0166\ [1.128]\ (\ln(\text{hardness}))-2.4743\ [1.6774])})}$ | $\frac{1.101672-(\ln(\text{hardness})(0.041838))}{([0.909]\ we^{(0.7409\ [0.7852]\ (\ln(\text{hardness}))-4.719\ [3.490])})}$ | 40.0 [45.4] w | 8.75 [10] w |
| Carbaryl | 63-25-2 | 2.0 | --- | 613 | --- |
| Chlordane | 57-74-9 and 12789-03-6 | 2.4 | 0.004 | 0.09 | 0.004 |
| Chlorpyrifos | 2921-88-2 | 0.083 | 0.041 | 0.011 | 0.006 |
| Chromium (Tri) (d) | 16065-83-1 | $0.316we^{(0.8190(\ln(\text{hardness}))+3.7256\ [3.688])}$ | $0.860we^{(0.8190(\ln(\text{hardness}))+0.6848\ [1.561])}$ | --- | --- |
| Chromium (Hex) (d) | 18540-29-9 | 15.7w | 10.6w | 1,090w | 49.6w |
| Copper (d)* | 7440-50-8 | $0.960m\ [w]\ e^{(0.9422(\ln(\text{hardness}))-1.6448\ [1.3844])}$ | $0.960m\ [w]\ e^{(0.8545(\ln(\text{hardness}))-1.6463\ [1.386])}$ | 13.5w | 3.6w |
| Cyanide † (free) | 57-12-5 | 45.8 | 10.7 | 5.6 | 5.6 |
| 4,4'- DDT | 50-29-3 | 1.1 | 0.001 | 0.13 | 0.001 |
| Demeton | 8065-48-3 | --- | 0.1 | --- | 0.1 |

| | | | | | |
|---|---|---|---|---|---|
| Diazinon | 333-41-5 | 0.17 | 0.17 | 0.819 | 0.819 |
| Dicofol | 115-32-2 | 59.3 | 19.8 | --- | --- |
| Dieldrin | 60-57-1 | 0.24 [2.5] | 0.002 | 0.71 | 0.002 |
| Diuron | 330-54-1 | 210 | 70 | --- | --- |
| Endosulfan I (*alpha*) [(alpha)] | 959-98-8 | 0.22 | 0.056 | 0.034 | 0.009 |
| Endosulfan II (*beta*) [(beta)] | 33213-65-9 | 0.22 | 0.056 | 0.034 | 0.009 |
| Endosulfan sulfate | 1031-07-8 | 0.22 | 0.056 | 0.034 | 0.009 |
| Endrin | 72-20-8 | 0.086 [0.18] | 0.002 | 0.037 | 0.002 |
| Guthion | 86-50-0 | --- | 0.01 | --- | 0.01 |
| Heptachlor | 76-44-8 | 0.52 | 0.004 | 0.053 | 0.004 |
| Hexachloro-cyclohexane (*gamma*)(Lindane) | 58-89-9 | 1.126 [2] | 0.08 | 0.16 | --- |
| Lead (d) | 7439-92-1 | 1.46203-(ln(hardness)(0.145712)) ( [0.889] $we^{(1.273(\ln(\text{hardness}))-1.460)}$) | 1.46203-(ln(hardness)(0.145712)) ( [0.792] $we^{(1.273(\ln(\text{hardness}))-4.705)}$) | 133w | 5.3w |
| Malathion | 121-75-5 | --- | 0.01 | --- | 0.01 |
| Mercury | 7439-97-6 | 2.4 | 1.3 | 2.1 | 1.1 |
| Methoxychlor | 72-43-5 | --- | 0.03 | --- | 0.03 |
| Mirex | 2385-85-5 | --- | 0.001 | --- | 0.001 |
| Nickel (d) | 7440-02-0 | $0.998we^{(0.8460(\ln(\text{hardness}))+2.255\ [3.3612])}$ | $0.997we^{(0.8460(\ln(\text{hardness}))+0.0584\ [1.1645])}$ | 118w | 13.1w |
| Nonylphenol | 84852-15-3 and 25154- | 28 | 6.6 | 7 | 1.7 |

| | | | | | |
|---|---|---|---|---|---|
| | 52-3 | | | | |
| Parathion (ethyl) | 56-38-2 | 0.065 | 0.013 | --- | --- |
| Pentachlorophenol | 87-86-5 | $e^{(1.005(pH)-4.869\ [4.830])}$ | $e^{(1.005(pH)-5.134\ [5.290])}$ | 15.1 | 9.6 |
| Phenanthrene | 85-01-8 | 30 | 30 | 7.7 | 4.6 |
| Polychlorinated | 1336-36-3 | 2.0 | 0.014 | 10 | 0.03 |
| Biphenyls (PCBs) ‡ [(PCB's)] | | | | | |
| Selenium | 7782-49-2 | 20 | 5 | 564 | 136 |
| Silver, as free ion | 7440-22-4 | 0.8w | --- | 2w | --- |
| Toxaphene | 8001-35-2 | 0.78 | 0.0002 | 0.21 | 0.0002 |
| Tributyltin [Tributlytin] (TBT) | 688-73-3 | 0.13 | 0.024 | 0.24 | 0.0074 [0.043] |
| 2,4,5 Trichlorophenol | 95-95-4 | 136 | 64 | 259 | 12 |
| Zinc (d) | 7440-66-6 | $0.978we^{(0.8473(\ln(hardness))+0.884\ [0.8604])}$ | $0.986we^{(0.8473(\ln(hardness))+0.884\ [0.7614])}$ | 92.7w | 84.2w |

* In designated oyster waters, an acute saltwater copper criterion of 3.6 micrograms per liter applies outside of the mixing zone of permitted discharges, and specified mixing zones for copper do [will] not encompass oyster reefs containing live oysters.

† Compliance will be determined using the analytical method for available cyanide [amenable to chlorination or by weak acid dissociable cyanide].

(d) Indicates that the criteria for a specific parameter are for the dissolved portion in water. All other criteria are for total recoverable concentrations, except where noted.

‡ These criteria apply to the sum of all congener or all isomer or homolog or Arochlor analysis.

w Indicates that a criterion is multiplied by a water-effect [water-effects] ratio (WER) in order to incorporate the effects of local water chemistry on toxicity. The WER [water-effects ratio] is equal to 1 except where sufficient data is available to establish a site-specific[,] WER [water-effects ratio].

WERs [water-effects ratio] for individual water bodies are listed in Appendix E when standards are revised. The number preceding the w in the freshwater criterion equation is an EPA conversion factor.

m Indicates that a criterion may be multiplied by a WER or a biotic ligand model result in order to incorporate the effects of local water chemistry on toxicity. The multiplier is equal to 1 except where sufficient data is available to establish a site-specific multiplier. Multipliers for individual water bodies are listed in Appendix E when standards are revised. The number preceding the m in the freshwater equation is an EPA conversion factor.

*e* The mathematical constant that is the basis of the natural logarithm. When rounded to four decimal points, *e* is equal to 2.7183.

(2) Numerical criteria are based on ambient water quality criteria documents published by the United States Environmental Protection Agency (EPA) [EPA]. EPA guidance criteria have been appropriately recalculated to eliminate the effects of toxicity data for aquatic organisms that [which] are not native to Texas, in accordance with procedures in the EPA guidance document entitled *Guidelines for Deriving Numerical Site-specific Water Quality Criteria* (EPA 600/3-84-099) and Appendix B of the EPA draft guidance document entitled *Interim Guidance on the Determination and Use of Water-Effect Ratios for Metals* (EPA-823-B-94-001).

(3) Specific numerical acute aquatic life criteria are applied as 24-hour averages, and specific numerical chronic aquatic life criteria are applied as seven-day averages.

(4) Ammonia and chlorine toxicity are [will be] addressed by total toxicity (biomonitoring) requirements in subsection (e) of this section.

(5) Specific numerical aquatic life criteria for metals and metalloids in Table 1 of paragraph (1) of this subsection apply to dissolved concentrations where noted. Dissolved concentrations can be estimated by filtration of samples prior to analysis, or by converting from total recoverable measurements in accordance with procedures approved by the commission in the [latest revision of the] standards implementation procedures (RG-194) as amended. Specific numerical aquatic life criteria for non-metallic substances in Table 1 of paragraph (1) of this subsection apply to total recoverable concentrations unless otherwise noted.

(6) Specific numerical acute criteria for toxic substances are applicable to all water in the state except for small zones of initial dilution (ZIDs) at discharge points. Acute criteria may be exceeded within a ZID and below extremely low streamflow conditions (one-fourth of critical low-flow conditions) in accordance with §307.8 of this title [(relating to Application of Standards)]. There must [shall] be no lethality to aquatic organisms that [which] move through a ZID, and the sizes of ZIDs are limited in accordance with §307.8 of this title. Specific numerical chronic criteria are applicable to all water in the state with designated or existing aquatic life uses of limited or greater, except inside mixing zones and below critical low-flow conditions, in accordance with §307.8 of this title.

(7) For toxic materials where [for which] specific numerical criteria are not listed in Table 1 of paragraph (1) of this subsection, the appropriate criteria for aquatic life protection may be derived in accordance with current EPA guidelines for deriving site-specific water quality criteria. When insufficient data are available to use EPA guidelines, the following provisions are [shall be] applied in accordance with this section and §307.8 of this title. The $LC_{50}$ data used in the subsequent calculations are typically obtained from traditional laboratory studies; however, if $LC_{50}$ data are unavailable or incomplete, other methodologies (such as quantitative structure-activity relationships) may be used:

(A) acute criteria are [will be] calculated as 0.3 of the $LC_{50}$ of the most sensitive aquatic species; $LC_{50}$ x (0.3) = acute criteria;

(B) concentrations of non-persistent toxic materials must [shall] not exceed concentrations that [which] are chronically toxic [(]as determined from appropriate chronic toxicity data obtained in accordance with procedures in the EPA guidance document entitled *Guidelines for Deriving*

*Numerical National Water Quality Criteria for the Protection of Aquatic Life and Their Uses* (EPA 822-R-85-100) or calculated as 0.1 of acute $LC_{50}$ values [)] to the most sensitive aquatic species; $LC_{50}$ x (0.1) = chronic criteria;

(C) concentrations of persistent toxic materials that do not bioaccumulate shall not exceed concentrations that [which] are chronically toxic [(]as determined from appropriate chronic toxicity data obtained in accordance with procedures in the EPA guidance document entitled *Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Life and Their Uses* (EPA 822-R-85-100) or calculated as 0.05 of $LC_{50}$ values [)] to the most sensitive aquatic species; $LC_{50}$ x (0.5) = chronic criteria; and

(D) concentrations of toxic materials that bioaccumulate must [shall] not exceed concentrations that are chronically toxic [(]as determined from appropriate chronic toxicity data obtained in accordance with procedures in the EPA guidance document entitled *Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Life and Their Uses* (EPA 822-R-85-100) or calculated as 0.01 of $LC_{50}$ values [)] to the most sensitive aquatic species; $LC_{50}$ x (0.01) = chronic criteria.

(8) For toxic substances where the relationship of toxicity is defined as a function of pH or hardness, numerical criteria are presented as an equation based on this relationship. [Appropriate pH or hardness values for such criteria are listed for each basin in Table 2. Site-specific values for pH and hardness are used where available.] Site-specific values for each segment are given in the standards implementation procedures (RG-194) as amended.

[Figure: 30 TAC §307.6(c)(8)]

TABLE 2

Total Hardness and pH Values (15th percentile) Used for Determining Select In-stream Toxic Criteria. Individual segment values will be used when there is sufficient data. (A list of these values can be found in the standards implementation procedures. All values are from long-term Statewide Monitoring Network Data.)

Alternative percentile values may be used to determine permit limits which are protective during low-flow conditions.

| Basin Number/ Name | Freshwater | |
|---|---|---|
| | pH (s.u.) | Hardness ($CaCO_3$) mg/L |
| (01) Canadian River Basin | 7.7 | 190 |
| (02) Red River Basin | 7.4 | 140 |
| (03) Sulphur River Basin | 6.8 | 54 |
| (04) Cypress Creek Basin | 6.1 | 20 |
| (05) Sabine River Basin | 6.6 | 30 |
| (06) Neches River Basin | 6.5 | 28 |
| (07) Neches-Trinity Coastal Basin | 6.7 | 60 |
| (08) Trinity River Basin | 7.2 | 86 |
| (09) Trinity-San Jacinto Coastal Basin | 7.4 | 54 |
| (10) San Jacinto River Basin | 7.0 | 37 |
| (11) San Jacinto-Brazos Coastal Basin | 7.4 | 139 |
| (12) Brazos River Basin | 7.4 | 160 |
| (13) Brazos-Colorado Coastal Basin | 7.3 | 65 |
| (14) Colorado River Basin | 7.5 | 170 |
| (15) Colorado-Lavaca Coastal Basin | 7.5 | 88* |
| (16) Lavaca River Basin | 7.2 | 88 |
| (17) Lavaca-Guadalupe Coastal Basin | 7.5 | 88* |
| (18) Guadalupe River Basin | 7.6 | 153 |
| (19) San Antonio River Basin | 7.3 | 200 |

| | | |
|---|---|---|
| (20) San Antonio-Nueces Coastal Basin | 7.2 | 370 |
| (21) Nueces River Basin | 7.6 | 158 |
| (22) Nueces-Rio Grande Coastal Basin | 7.6 | 572 |
| (23) Rio Grande Basin | 7.7 | 250 |
| (24) Bays and Estuaries | 7.8 | n/a |
| (25) Gulf of Mexico | 7.4 | n/a |

* insufficient data--average values of adjacent basins are assumed.

(9) Criteria for most metals are multiplied by a water-effect [water-effects] ratio (WER) in order to incorporate the effects of local water chemistry on toxicity. The WER [water-effects ratio] is assumed to be equal to one except where sufficient site-specific data are available to determine the WER [water-effects ratio] for a particular water body or portion of a water body. A WER [water-effects ratio] is only applicable to those portions of a water body that [which] are adequately addressed by site-specific data. WERs [Water-effects ratios and resulting site-specific criteria] that [which] have been determined for particular water bodies are listed in Appendix E of §307.10 of this title (relating to Appendices A - G) when standards are revised. A site-specific WER [water-effects ratio] that [which] affects an effluent limitation in a wastewater discharge permit, and that [which] has not been incorporated into Appendix E of §307.10 of this title [(relating to Appendices A - E)], must [will] be noted in a public notice during the permit application process. An opportunity for public comment must [will] be provided, and the WER [water-effects ratio] may be considered in any public hearing on the permit application.

(10) Freshwater copper aquatic-life criteria include a multiplier (m) to incorporate effects of local water chemistry on toxicity. This multiplier may be based on either a WER or a biotic ligand model. The multiplier is assumed to be equal to one except where sufficient site-specific data are available to determine the multiplier for a particular water body or portion of a water body. The multiplier is only applicable to those portions of a water body that are adequately addressed by site-

specific data. As multipliers are determined for particular water bodies they are listed in Appendix E of §307.10 of this title when standards are revised. A site-specific multiplier that affects an effluent limitation in a wastewater discharge permit, and that has not been incorporated into Appendix E of §307.10 of this title, is noted in a public notice during the permit application process. An opportunity for public comment must be provided, and the multiplier may be considered in any public hearing on the permit application.

(11) [(10)] Additional site-specific factors may indicate that the numerical criteria listed in Table 1 of paragraph (1) of this subsection are inappropriate for a particular water body. These factors are applied as a site-specific standards modification in accordance with §307.2(d) of this title (relating to Description [Modification] of Standards). The application of a site-specific standard must not impair an existing, attainable, or designated use. Factors that [which] may justify a temporary variance or site-specific standards amendment include the following:

(A) background concentrations of specific toxics of concern in receiving waters, sediment, [and/] or indigenous biota;

(B) persistence and degradation rate of specific toxic materials;

(C) synergistic, additive, or antagonistic interactions of toxic substances with other toxic or nontoxic materials;

(D) measurements of total effluent toxicity;

(E) indigenous aquatic organisms, which may have different responses to particular toxic materials;

(F) technological or economic limits of treatability for specific toxic materials;

(G) bioavailability of specific toxic substances of concern, as determined by WER [water-effect ratio] tests or other analyses approved by the commission [agency]; and

(H) new information concerning the toxicity of a particular substance.

(d) Specific numerical human health criteria.

(1) Numerical human health criteria are established in Table 2 of this paragraph [3].

Figure: 30 TAC §307.6(d)(1)

[Figure: 30 TAC §307.6(d)(1)]

TABLE 2 [3]
Criteria in Water for Specific Toxic Materials
HUMAN HEALTH PROTECTION
(All values are listed or calculated in micrograms per liter unless otherwise noted)

| A | B | [C] |
|---|---|---|

| COMPOUND | CASRN | Water and Fish µg/L | [FW] Fish Only µg/L | [SW Fish Only] [µg/L] |
|---|---|---|---|---|
| Acrylonitrile | 107-13-1 | 0.80 [1.28] | 3.8 [10.9] | [7.3] |
| Aldrin | 309-00-2 | 0.00094 [0.00408] | 0.0010 [0.00426] | [0.0028] |
| Anthracene | 120-12-7 | 5,569 | -- | |
| Antimony | 7440-36-0 | 6* | 1,071 | |
| Arsenic (d) | 7440-38-2 | 10* [50*] | --- | [---] |
| Barium (d) | 7440-39-3 | 2,000* | --- | [---] |
| Benzene | 71-43-2 | 5* | 513 [106] | [70.8] |
| Benzidine [†] | 92-87-5 | 0.00086 [0.00106] | 0.0020 [0.00347] | [0.00232] |
| Benzo(*a*)anthracene [Benzo(a)anthracene] | 56-55-3 | 0.007 [0.099] | 0.03 [0.810] | [0.540] |
| Benzo(*a*)pyrene [Benzo(a)pyrene] | 50-32-8 | 0.068 [0.099] | 0.33 [0.810] | [0.540] |
| Bis(chloromethyl)ether | 542-88-1 | 0.0024 [0.00462] | 0.44 [0.0193] | [0.0129] |
| Bis(2-chloroethyl)ether | 111-44-4 | 0.3 | 5.27 | |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 6* | 41 | |
| Bromodichloromethane | 75-27-4 | 10.2 | 322 | |
| Bromoform | 75-25-2 | 69.1 | 2,175 | |
| Cadmium (d) | 7440-43-9 | 5* | --- | [---] |
| Carbon Tetrachloride | 56-23-5 | 4.1 [3.76] | 29 [8.4] | [5.6] |
| Chlordane [‡] | 12789-03-6 [57-74-9] | 0.0080 [0.021] | 0.0081 [0.0213] | [0.0213] |
| Chlorobenzene | 108-90-7 | 100* [776] | 5,201 [1,380] | [920] |
| Chlorodibromomethane | 124-48-1 | 7.6 | 239 | |
| Chloroform | 67-66-3 | 70* [100*] | 7,143 [1,292] | [861] |
| Chromium (Hex) (d) | 18540-29-9 | 62 [100*] | 502 [3,320] | [2,216] |
| Chrysene | 218-01-9 | 68.13 [0.417] | 327 [8.1] | [5.4] |
| Cresols | 1319-77-3§ | 736 [3,313] | 1,981 [13,116] | [8,744] |
| Cyanide (free)# | 57-12-5 | 200* | --- | [---] |
| 4,4' - DDD ‡, †† | 72-54-8 | 166.16 ug/kg [0.0103] | 166.16 ug/kg [0.01] | [0.007] |
| 4,4' - DDE ‡, †† | 72-55-9 | 214.4 ug/kg [0.00730] | 214.4 ug/kg [0.007] | [0.005] |
| 4,4' - DDT ‡, †† | 50-29-3 | 209.04 ug/kg [0.00730] | 209.04 ug/kg [0.007] | [0.005] |
| 2,4 - D | 94-75-7 | 70* | --- | [---] |
| Danitol | 39515-41-8 | 5.39 [0.709] | 5.44 [0.721] | [0.481] |
| [Dibromochloromethane] | [124-48-1] | [9.20] | [71.6] | [47.7] |
| 1,2 - Dibromoethane | 106-93-4 | 0.16 [0.014] | 2.13 [0.335] | [0.223] |
| *m*-Dichlorobenzene | 541-73-1 | 473 | 1,445 | |
| *o*-Dichlorobenzene | 95-50-1 | 600* | 4,336 | |
| *p*-Dichlorobenzene | 106-46-7 | 75* | --- | |

| | | | | |
|---|---|---|---|---|
| 3,3'-Dichlorobenzidine | 91-94-1 | 0.32 | 0.44 | |
| [1,3 - Dichloropropene] | [542-75-6] | [22.8] | [161] | [107] |
| [Dieldrin†] | [60-57-1] | [.00171] | [0.002] | [0.001] |
| [p-Dichlorobenzene] | [106-46-7] | [75*] | [---] | [---] |
| 1,2 - Dichloroethane | 107-06-2 | 5* | 553 [73.9] | [49.3] |
| 1,1 - Dichloroethylene | 75-35-4 | 7* [1.63] | 23,916 [5.84] | [3.90] |
| Dichloromethane | 75-09-2 | 5* | 5,926 | |
| 1,2-Dichloropropane | 78-87-5 | 5* | 226 [146] | |
| 1,3 - Dichloropropene | 542-75-6 | 3.4 | 211 | |
| Dicofol | 115-32-2 | 0.076 [0.215] | 0.076 [0.217] | [0.144] |
| Dieldrin† | 60-57-1 | 0.0005 | 0.0005 | |
| 2,4-Dimethylphenol | 105-67-9 | 257 | 571 | |
| Di-*n*-Butyl Phthalate | 84-74-2 | 1,318 | 3,010 | |
| Dioxins/Furans +, †† (TCDD Equivalents) [†] | 1746-01-6 | 4.0E-04 ug/kg [1.34E-07] | 4.0E-04 ug/kg [1.40E-07] | [9.33E-08] |

| Congener/Isomer | Toxic Equivalency Factors |
|---|---|
| 2,3,7,8 TCDD | 1 |
| 1,2,3,7,8 PeCDD [1,2,3,7,8, PeCDD] | 1 [0.5] |
| 2,3,7,8 HxCDDs [2,3,7,8,HxCDD's] | 0.1 |
| 1,2,3,4,6,7,8 HpCDD | 0.01 |
| 2,3,7,8 TCDF | 0.1 |
| 1,2,3,7,8 PeCDF | 0.03 [0.05] |
| 2,3,4,7,8 PeCDF | 0.3 [0.5] |
| 2,3,7,8 HxCDFs [2,3,7,8 HxCDF's] | 0.1 |
| 2,3,4,7,8 HpCDFs | 0.01 |
| OCDD | 0.0003 |
| OCDF | 0.0003 |
| PCB 77 | 0.0001 |
| PCB 81 | 0.0003 |
| PCB 126 | 0.1 |
| PCB 169 | 0.03 |

| | | | | |
|---|---|---|---|---|
| Endrin | 72-20-8 | 0.20 [1.27] | 0.20 [1.34] | [0.893] |
| Ethylbenzene | 100-41-4 | 700* | 7,143 | |
| Fluoride | 16984-48-8 [7782-41-4] | 4,000* | --- | [---] |
| Heptachlor [†] | 76-44-8 | 0.0015 [0.0026] | 0.0015 [0.00265] | [0.00177] |
| Heptachlor Epoxide | 1024-57-3 | 0.00074 [0.159] | 0.00075 [1.1] | [0.723] |
| Hexachlorobenzene | 118-74-1 | 0.0044 [0.0194] | 0.0045 [0.0198] | [0.0132] |
| Hexachlorobutadiene | 87-68-3 | 6.5 [2.99] | 274 [3.6] | [2.4] |
| Hexachlorocyclohexane *(alpha)* | 319-84-6 | 0.050 [0.163] | 0.093 [0.413] | [0.275] |

| | | | | |
|---|---|---|---|---|
| [(alpha)] | | | | |
| Hexachlorocyclohexane *(beta)* [(beta)] | 319-85-7 | 0.17 [0.570] | 0.33 [1.45] | [0.964] |
| Hexachlorocyclohexane *(gamma)* [(gamma)] (Lindane) | 58-89-9 | 0.2* | 6.2 [2.00] | [1.34] |
| Hexachlorocyclopentadiene | 77-47-4 | 50* | -- | |
| Hexachloroethane | 67-72-1 | 27 [84.2] | 62 [278] | [185] |
| Hexachlorophene | 70-30-4 | 0.0080 [0.0531] | 0.0080 [0.053] | [0.036] |
| Lead (d) | 7439-92-1 | 1.15 [4.98] | 3.83 [25.3] | [16.9] |
| Mercury †, †† [‡] | 7439-97-6 | 700 ug/kg [0.0122] | 700 ug/kg [0.0122] | [0.025] |
| Methoxychlor | 72-43-5 | 0.33 [2.21] | 0.33 [2.22] | [1.48] |
| Methyl Ethyl Ketone | 78-93-3 | 13,932 [52917] | 1.50E+6 [9.94E06] | [6.63E06] |
| Nickel (d) | 7440-02-0 | 332 | 1140 | |
| Nitrate-Nitrogen as total Nitrogen | 14797-55-8 | 10,000* | --- | [---] |
| Nitrobenzene | 98-95-3 | 11 [37.3] | 463 [233] | [156] |
| *N*-Nitrosodiethylamine [N-Nitrosodiethylamine] | 55-18-5 | 0.0037 [0.0382] | 2.1 [7.68] | [5.12] |
| *N*-Nitroso-di-*n*-Butylamine [N-Nitroso-di-n-Butylamine] | 924-16-3 | 0.19 [1.84] | 4.2 [13.5] | [8.98] |
| [PCB's] [(Polychlorinated Biphenyls)] | [1336-36-3] | [0.0013] | [0.0013] | [8.85E-04] |
| Pentachlorobenzene | 608-93-5 | 1.0 [6.1] | 1.0 [6.68] | [4.45] |
| Pentachlorophenol | 87-86-5 | 1.0* | 57 [135] | [90] |
| Polychlorinated Biphenyls *PCBs)* ±, **, †† | 1336-36-3 | 19.96 ug/kg | 19.96 ug/kg | |
| Pyridine | 110-86-1 | 23 [88.1] | 2,014 [13,333] | [8889] |
| Selenium | 7782-49-2 | 50* | --- | [---] |
| 1,2,4,5 - Tetrachlorobenzene | 95-94-3 | 0.65 [0.241] | 0.71 [0.243] | [0.162] |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 3.2 | 76 | |
| Tetrachloroethylene | 127-18-4 | 5* | 49 [323] | [215] |
| Thallium | 7440-28-0 | 0.75 | 1.50 | |
| Toluene | 108-88-3 | 1,000* | --- | |
| Toxaphene [†] | 8001-35-2 | 0.0053 [0.005] | 0.0053 [0.014] | [0.009] |
| 2,4,5 - TP (Silvex) | 93-72-1 | 7.3 [47.0] | 7.6 [50.3] | [33.6] |
| [2,4,5 - Trichlorophenol] | [95-95-4] | [953] | [1069] | [712] |
| [Trichloroethylene] | [79-01-6] | [5*] | [612] | [408] |
| 1,1,1 - Trichloroethane | 71-55-6 | 200* | 956,663 [12586] | [8391] |
| 1,1,2-Trichloroethane | 79-00-5 | 5* | 295 | |
| Trichloroethylene | 79-01-6 | 5* | 649 | |
| 2,4,5 - Trichlorophenol | 95-95-4 | 1,194 | 2,435 | [712] |
| TTHM (Sum of total trihalomethanes) | | 80 [100*] | --- | [---] |
| bromodichloromethane | 75-27-4 | | | |
| dibromochloromethane | 124-48-1 | | | |
| tribromomethane | 75-25-2 | | | |

| | | | | |
|---|---|---|---|---|
| (bromoform) trichloromethane (chloroform) | 67-66-3 | | | |
| Vinyl Chloride | 75-01-4 | 0.25 [2*] | 24 [415] | [277] |

* Based on Maximum Contaminant Levels (MCLs) specified in 30 TAC §290 (relating to Public Drinking Water).

† An assumed BCF of 3.3 x $10^4$ is used to translate the tissue-based criterion to a water column criterion for the purposes of evaluating TPDES permittees. The criterion to protect combined water and fish consumption can not exceed drinking water MCL of 2 µg/L. BCF value taken from *Water Quality Criteria for the Protection of Human Health: Methylmercury*; January 2001; EPA 823-R-01-001. [Calculations based on measured bioconcentration factors with no lipid correction factor (7.6 and 3) applied.]

§ Consists of *m* [m], *o* [o], and *p* Cresols. The criteria [standards] are the same for all three, and the criteria are applied independently to each form of cresol. CASRNs for cresols are 95-48-7 for *o*-Cresol *[*o-Cresol], 108-39-4 for *m*-Cresol [m-Cresol], and 106-44-5 for *p*-Cresol [p-Cresol].

‡ An assumed BCF of 53,600 is used to translate the tissue-based criterion to a water column criterion for the purposes of evaluating TPDES permittees. BCF value taken from *Ambient Water Quality Criteria for DDT*; October 1980; EPA 440/5-80-038. [Calculations based on USFDA action levels (1 mg/kg) in fish tissue. Saltwater BCF = 40,000 and freshwater BCF = 81,700.]

# Compliance is [will be] determined using the analytical method for available cyanide [amenable to chlorination or by weak acid dissociable cyanide].

± An assumed BCF of 5,000 is used to translate the tissue-based criterion to a water column criterion for the purposes of evaluating TPDES permittees. BCF value taken from *Ambient Water Quality Criteria for 2,3,7,8-Tetrachloro-dibenzo-p-dioxin*; February 1984; EPA 440/5-84-007.

(d) Indicates the criteria is for the dissolved fraction in water. All other criteria are for total recoverable concentrations.

± An assumed BCF of 3.12E4 is used to translate the tissue-based criterion to a water column criterion for the purposes of evaluating TPDES permittees. BCF value taken from *Ambient Water Quality Criteria for Polychlorinated Biphenyls*; October 1980; EPA 440/5-80-068.

** These criteria apply to the sum of all congener or all isomer or homolog or Arochlor analysis.

†† Based on fish tissue wet weight.

(2) Categories of human health criteria:

(A) concentration criteria [in freshwaters] to prevent contamination of drinking water, fish and other aquatic life to ensure that they are safe for human consumption. These criteria apply to surface waters [freshwaters] that [which] are designated or used for public drinking water supplies. (Column A in Table 2 of paragraph (1) of this subsection [3]);

(B) concentration criteria [in freshwaters] to prevent contamination of fish and other aquatic life to ensure that they are safe for human consumption. These criteria apply to surface waters [freshwater] that [which] have sustainable fisheries[,] and that [which] are not designated or used for public water supply (Column B in Table 2 of paragraph (1) of this subsection [3]);

[(C) concentration criteria in saltwaters to prevent contamination of fish and other aquatic life to ensure that they are safe for human consumption. These criteria apply to saltwaters which have a sustainable fishery (Column C in Table 3).]

(3) Specific assumptions and procedures (except where noted in Table 2 of paragraph (1) of this subsection [3]).

(A) Sources for the toxicity factors to calculate [derive] criteria were derived from EPA's Integrated Risk Information System (IRIS); EPA's *National Recommended Water Quality Criteria: 2002, Human Health Criteria Calculation Matrix* (EPA-822-R-02-012); EPA Health Effects Assessment Summary Tables (HEAST); Assessment Tools for the Evaluation of Risk (ASTER); and the computer program, CLOGP3. [Bioconcentration factors were converted to an average lipid concentration in fish tissue of 3%, except where noted.]

(B) For known or suspected carcinogens (as identified in EPA's IRIS database [Types A, B, $B_2$, or C in IRIS]), an incremental cancer risk level of $10^{-5}$ (1 in 100,000) was used to derive

criteria. An [A] RfD (reference dose) was determined for noncarcinogens and for carcinogens where [for which] EPA has not derived cancer slope factors.

(C) Consumption rates of fish and shellfish were estimated as 17.5 [10] grams per person per day [for people living inland, and 15 grams per person per day for people living near the coast].

(D) Drinking water consumption rates were estimated as 2.0 liters per person per day.

(E) For carcinogens, a body-weight scaling factor of 3/4 power was [is] used to convert data on laboratory test animals to human scale. Reported weights of laboratory test animals are used, and an average weight of 70 kilograms [kg] is assumed for humans.

(F) Childhood exposure was considered for all noncarcinogens. Consumption rates for fish and shellfish were estimated as 5.6 grams per child per day, and drinking water consumption rates were estimated as 0.64 liters per child per day. A child body weight was estimated at 15 kilograms. Both the water consumption rate and body weight are age-adjusted for a six-year-old child. The consumption rate for fish and shellfish for children is from Table 10-61 of EPA's 1997 *Exposure Factors Handbook* (EPA/600/P-95/002Fa-c).

(G) [(F)] Numerical human health criteria were derived in accordance with the general procedures and calculations in the EPA guidance documents entitled *Technical Support*

*Document for Water Quality-based Toxics Control* (EPA/505/2-90-001); [and] *Guidance Manual for Assessing Human Health Risks from Chemically Contaminated Fish and Shellfish* (EPA/503/8-89-002); and *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health (2000)* (EPA-822-B-00-004).

(H) [(G)] If a calculated criterion to prevent contamination of drinking water and fish to ensure they are safe for human consumption (Column A in Table 2 of paragraph (1) of this subsection [3]) was greater than the applicable maximum contaminant level (MCL) in Chapter 290 of this title (relating to Public Drinking Water), then the MCL was used as the criterion.

(I) [(H)] If the concentration of a substance in fish tissue used for these calculations was greater than the applicable United States Food and Drug Administration Action Level for edible fish and shellfish tissue, then the acceptable concentration in fish tissue was lowered to the Action Level for calculation of criteria.

(4) Human health criteria for additional toxic materials are [will be] adopted by the commission as appropriate.

(5) Specific human health concentration criteria for water are applicable to water in the state that [which] has sustainable fisheries[, and/] or designation or use as a public drinking water supply[,] except within mixing zones and below stream flow conditions as specified in [harmonic mean stream flows, in accordance with] §307.8 of this title. The following waters are considered to have sustainable fisheries:

(A) all designated segments listed in Appendix A of §307.10 of this title, unless specifically exempted;

(B) perennial streams and rivers with a stream order of three or greater, as defined in §307.3 of this title (relating to Definitions and Abbreviations);

(C) lakes and reservoirs greater than or equal to 150 acre-feet [acre feet and/] or 50 surface acres;

(D) all bays, estuaries, and tidal rivers; and

(E) any other waters that [which] potentially have sufficient fish production or fishing activity to create significant long-term human consumption of fish.

(6) Waters that [which] are not considered to have a sustainable fishery, but that [which] have an aquatic life use of limited or greater, are [will be] considered to have an incidental fishery. Consumption rates assumed for incidental fishery waters are 1.75 grams [1.0 gram] per person per day [for inland waters, and 1.5 grams per person per day for saltwaters]. Therefore, numerical [Numerical] criteria applicable to incidental fishery waters are [therefore] ten times the criteria listed in Column [Columns] B [and C] of Table 2 of paragraph (1) of this subsection [3].

(7) Specific human health criteria are applied as long term average exposure criteria designed to protect populations over a life time [(70 years)]. Attainment measures for human health are addressed in §307.9 of this title.

(8) For toxic materials of concern where [for which] specific human health criteria are not listed in Table 2 of paragraph (1) of this subsection [3], the following provisions [shall] apply:[.]

(A) For known or suspected carcinogens (as identified in EPA's IRIS database [Types A, B, $B_2$, or C in EPA databases]), a cancer risk of $10^{-5}$ (1 in 100,000) is [shall be] applied to the most recent numerical criteria adopted by EPA and published in the *Federal Register*. If an MCL or equivalent agency guideline for protection of drinking water sources is less than the resulting criterion, then the MCL applies [shall apply] to public drinking water supplies in accordance with paragraph (3)(H) [(3)(G)] of this subsection.

(B) For toxic materials not defined as carcinogens, the most recent numerical criteria adopted by EPA and published in the *Federal Register* are [shall be] applicable. If an MCL or equivalent agency guideline for protection of drinking water sources is less than the resulting criterion, then the MCL applies [shall apply] to public drinking water supplies in accordance with paragraph (3)(H) [(3)(G)] of this subsection.

(C) In the absence of available criteria, numerical criteria may be derived from technically valid information and calculated in accordance with the provisions of paragraph (3) of this subsection.

(9) Numerical criteria for bioconcentratable pollutants are [will be] derived in accordance with the general procedures in the EPA guidance document entitled[,] *Assessment and Control of Bioconcentratable Contaminants in Surface Water* (March 1991). The commission may develop discharge permit limits in accordance with the provisions of this section.

(10) Numerical human health criteria are expressed as total recoverable concentrations for nonmetals[, mercury,] and selenium and as dissolved concentrations for other metals and metalloids. Criteria for several highly bioaccumulative pollutants are expressed as concentrations in fish tissue.

(11) Additional site-specific factors may indicate that the numerical human health criteria listed in Table 2 of paragraph (1) of this subsection [3] are inappropriate for a particular water body. These factors are applied as a site-specific standards modification in accordance with §307.2(d) of this title [(relating to Modification of Standards)]. The application of site-specific criteria must [shall] not impair an existing, attainable, presumed, or designated use or affect human health. Factors that [which] may justify a temporary variance or site-specific standards amendment include the following:

(A) background concentrations of specific toxics of concern in receiving waters, sediment, [and/] or indigenous biota;

(B) persistence and degradation rate of specific toxic materials;

(C) synergistic or antagonistic interactions of toxic substances with other toxic or nontoxic materials;

(D) technological or economic limits of treatability for specific toxic materials;

(E) bioavailability of specific toxic substances of concern;

(F) local water chemistry and other site-specific conditions that [which] may alter the bioconcentration, bioaccumulation, or toxicity of specific toxic substances;

(G) site-specific differences in the bioaccumulation responses of indigenous, edible aquatic organisms to specific toxic materials;

(H) local differences in consumption patterns of fish and shellfish or drinking water, but only if any changes in assumed consumption rates are [will be] protective of the local population that frequently consumes fish, shellfish, or drinking water from a particular water body; and

(I) new information concerning the toxicity of a particular substance.

(e) Total toxicity.

(1) Total (whole-effluent) toxicity of permitted discharges, as determined from biomonitoring of effluent samples at appropriate dilutions, must [will] be sufficiently controlled to

preclude acute total toxicity in all water in the state with the exception of small ZIDs [zones of initial dilution (ZIDs)] at discharge points and at extremely low streamflow conditions (one-fourth of critical low-flow conditions) in accordance with §307.8 of this title. Acute total toxicity levels may be exceeded in a ZID, but there must [shall] be no significant lethality to aquatic organisms that [which] move through a ZID, and the sizes of ZIDs are limited in accordance with §307.8 of this title. Chronic total toxicity, as determined from biomonitoring of effluent samples at appropriate dilutions, must [will] be sufficiently controlled to preclude [precluded] chronic toxicity in all water in the state with an existing or designated aquatic life use [uses] of limited or greater except in mixing zones [and] at discharge points and at flows less than critical low-flows, in accordance with §307.8 of this title. Chronic toxicity levels may be exceeded in a mixing zone, but there must be no significant sublethal toxicity to aquatic organisms that move through the mixing zone.

(2) General provisions for controlling total toxicity.

(A) Dischargers whose effluent has a significant potential for exerting toxicity in receiving waters as described in the *Procedures to Implement the Texas Surface Water Quality Standards (RG - 194)* as amended are [will be] required to conduct whole effluent toxicity biomonitoring at appropriate dilutions.

(B) In addition to the other requirements of this section, the effluent of discharges to water in the state must [shall] not be acutely toxic to sensitive species of aquatic life, as demonstrated by effluent toxicity tests. Toxicity testing for this purpose is [shall be] conducted on samples of 100% effluent, and the criterion for acute toxicity is [shall be] mortality of 50% or more of the test organisms

after 24 hours of exposure. This provision does not apply to mortality that is a result of an excess, deficiency, or imbalance of dissolved inorganic salts (such as sodium, calcium, potassium, chloride, or carbonate) that [which] are in the effluent and are not listed in Table 1 in subsection (c)(1) [(c)] of this section or that [which] are in source waters.

(C) The latest revisions of the following EPA publications provide methods for appropriate biomonitoring procedures: *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, and the *Technical Support Document for Water Quality-based Toxics Control*. The use of other procedures approved by the agency and EPA is also acceptable. Toxicity tests must be conducted using representative, sensitive aquatic organisms as approved by the agency, and any such testing must adequately determine if toxicity standards are being attained.

(D) If toxicity biomonitoring results indicate that a discharge is not sufficiently controlled to preclude acute or chronic toxicity as described in this subsection [exceeding the restrictions on total toxicity in this section], then the permittee may be required to [shall] conduct a [toxicity identification evaluation and] toxicity reduction evaluation (TRE) in accordance with the permitting procedures of the commission. Permits are amended to include appropriate provisions as needed based on the results of a completed TRE. [As a result of a toxicity reduction evaluation, additional conditions may be established in the permit.] Such provisions [conditions] may include total toxicity limits, chemical-specific [chemical specific] limits, [and/or ] best management practices, or other actions designed to

reduce or eliminate toxicity. Where sufficient to attain and maintain applicable numeric and narrative state water quality standards, a chemical-specific [chemical specific] limit rather than a total toxicity limit may be established in the permit. Where conditions may be necessary to prevent or reduce effluent toxicity, permits must [shall] include a reasonable schedule for achieving compliance with such additional conditions.

[(E) If a permittee demonstrates, using the toxicity identification evaluation and toxicity reduction evaluation procedures, that diazinon is the primary cause of total toxicity, and that diazinon is ubiquitous within the wastewater system, the toxicity will be addressed in clauses (i) and (ii) of this subparagraph. If diazinon is not the primary cause of total toxicity, or if the permittee does not proceed with due diligence in controlling and investigating toxicity, or if diazinon is not ubiquitous within the wastewater system, the toxicity may be addressed in accordance with subparagraph (D) of this paragraph.]

[(i) the permittee will be required to implement a public education and awareness campaign designed to control the introduction of diazinon into the wastewater system, and the permittee will be required to conduct an investigation into the sources of diazinon; and]

[(ii) the permittee will be required to monitor for diazinon.]

(E) [(F)] Discharge permit limits based on total toxicity may be established in consideration of site-specific factors, but the application of such factors must [shall] not result in impairment of an existing, attainable, presumed, or designated use. These factors are applied as a site-

specific standards modification in accordance with §307.2(d) of this title. A demonstration that uses are protected may consist of additional effluent toxicity testing, instream monitoring requirements, or [and/or] other necessary information as determined by the agency. Factors that [which] may justify a temporary variance or site-specific standards amendment include the following:

(i) background toxicity of receiving waters;

(ii) persistence and degradation rate of principal toxic materials that [which] are contributing to the total toxicity of the discharge;

(iii) site-specific variables that [which] may alter the impact of toxicity in the discharge;

(iv) indigenous aquatic organisms, that [which] may have different levels of sensitivity than the species used for total toxicity testing; and

(v) technological, economic, or legal limits of treatability or control for specific toxic material.

**§307.7. Site-Specific Uses and Criteria.**

(a) Uses and numerical criteria are established on a site-specific basis in Appendices A, B, D, [and] E, F, and G of §307.10 of this title (relating to Appendices A - G [A - E]). Site-specific uses and

numerical criteria may also be applied to unclassified waters in accordance with §307.4 [§307.4(h)] of this title (relating to General Criteria) and §307.5(c) of this title (relating to Antidegradation). Site-specific criteria apply specifically to substances attributed to waste discharges or human activity [the activities of man]. Site-specific criteria do not apply to those instances when [in which] surface waters exceed criteria due to natural phenomena. The application of site-specific uses and criteria is described in §307.8 of this title (relating to the Application of Standards) and §307.9 of this title (relating to the Determination of Standards Attainment).

(b) Appropriate uses and criteria for site-specific standards are defined as follows.

(1) Recreation. Recreational use consists of four [two] categories -- primary contact recreation, secondary contact recreation 1, secondary contact recreation 2, [waters] and noncontact recreation waters. Classified segments are designated for primary contact recreation unless sufficient site-specific information demonstrates that elevated concentrations of indicator bacteria frequently occur due to sources of pollution that [which] cannot be reasonably controlled by existing regulations, wildlife sources of bacteria are unavoidably high and there is limited aquatic recreational potential, or primary or secondary [or] contact recreation is considered unsafe for other reasons such as ship or barge traffic. In a classified segment where contact recreation is considered unsafe for reasons unrelated to water quality, a designated use of noncontact recreation may be assigned either noncontact recreation criteria or criteria normally associated with primary contact recreation. A designation of primary or secondary contact recreation is not a guarantee that the water so designated is completely free of disease-causing organisms. Indicator bacteria, although not generally pathogenic, are indicative of potential contamination by feces of warm blooded animals. Recreational [The] criteria [for contact recreation] are based on these indicator

bacteria[,] rather than direct measurements of pathogens. Criteria are expressed as the number of ["colony forming units" of] bacteria per 100 milliliters (ml) of water (in terms of colony forming units, most probable number, or other applicable reporting measures). Even where the concentration of indicator bacteria is less than the criteria for primary or secondary contact recreation, there is still some risk of contracting waterborne diseases. Additional guidelines on minimum data requirements and procedures for evaluating standards attainment are specified in the *TCEQ Guidance for Assessing and Reporting Surface Water Quality in Texas*, as amended [latest approved version of the TNRCC *Guidance for Screening and Assessing Texas Surface and Finished Drinking Water Quality Data*].

(A) Freshwater

(i) Primary contact [Contact] recreation. The geometric mean criterion for *E. coli* is 206 per 100 ml. [The geometric mean of *E. coli* should not exceed 126 per 100 ml.] In addition, the single sample criterion for *E. coli* is 399 per 100 ml. [In addition, single samples of *E. coli* should not exceed 394 per 100 ml. Contact recreation applies to all bodies of freshwater except where specifically designated otherwise in §307.10 of this title.]

(ii) Secondary contact recreation 1. The geometric mean criterion for *E. coli* is 630 per 100 ml.

(iii) Secondary contact recreation 2. The geometric mean criterion for *E. coli* is 1,030 per 100 ml.

(iv) [(ii)] Noncontact recreation. The geometric mean criterion for *E. coli* is 2,060 per 100 ml. [The geometric mean of *E. coli* should not exceed 605 per 100 ml.]

(v) For high saline inland water bodies where Enterococci is the designated recreational indicator in Appendix A of §307.10 of this title, Enterococci is the applicable recreational indicator for instream bacteria sampling at all times for the classified water body and for the unclassified water bodies that are within the watershed of that classified segment. For high saline inland waters with primary contact recreation, the geometric mean criterion for Enterococci is 54 per 100 ml and the single sample criterion is 78 per 100 ml. For high saline inland waters with secondary contact recreation 1, the geometric mean criterion for Enterococci is 165 per 100 ml. For high saline inland waters with secondary contact recreation 2, the geometric mean criterion for Enterococci is 270 per 100 ml. For high saline inland water bodies with noncontact recreation, the geometric mean criterion for Enterococci is 540 per 100 ml.

(B) Saltwater.

(i) Primary contact [Contact] recreation. The geometric mean criterion for Enterococci is 35 per 100 ml. In addition, the single sample criterion for Enterococci is 104 per 100 ml. [The geometric mean of Enterococci should not exceed 35 per 100 ml. In addition, single samples of Enterococci should not exceed 89 per 100 ml. Contact recreation applies to all bodies of saltwater, except where specifically designated otherwise in §307.10 of this title.]

(ii) Secondary contact recreation 1. A secondary contact recreation 1 use for tidal streams and rivers can be established on a site-specific basis in §307.10 of this title if justified by a use-attainability analysis and the water body is not a coastal recreation water as defined in the Beaches Environmental Assessment and Coastal Health Act of 2000 (BEACH Act). The geometric mean criterion for Enterococci is 175 per 100 ml.

(iii) [(ii)] Noncontact recreation. A noncontact recreation use for tidal streams and rivers can be established on a site-specific basis in §307.10 of this title if justified by a use-attainability analysis and the water body is not a coastal recreation water as defined in the BEACH Act. The geometric mean criterion for Enterococci is 350 per 100 ml. [The geometric mean of Enterococci should not exceed 168 per 100 ml.]

(C) Fecal coliform bacteria. Fecal coliform bacteria can be used as an alternative instream indicator of recreational suitability in high saline inland water bodies where Enterococci is the designated recreational indicator in Appendix A of §307.10 of this title for two years after the adoption of this title to allow time to collect sufficient data for Enterococci. Fecal coliform criteria for high saline inland water bodies are as follows: [Fecal coliform bacteria can be used as an alternative instream indicator of recreational suitability until sufficient data are available for *E. coli* or Enterococci. For segments designated as oyster waters in §307.10 of this title, fecal coliform can continue to be used as an indicator of recreational suitability because fecal coliform is used as the indicator for suitability of oyster water use as described in paragraph (3)(B) of this subsection. Fecal coliform can also continue to be used as a surrogate indicator in effluent limits for wastewater discharges. Fecal coliform criteria are the same for both freshwater and saltwater, as follows.]

(i) Primary contact [Contact] recreation. The geometric mean criterion for fecal coliform is 200 per 100 ml. In addition, the single sample criterion for fecal coliform is 400 per 100 ml. [The geometric mean of fecal coliform should not exceed 200 per 100 ml. In addition, single samples of fecal coliform should not exceed 400 per 100 ml.]

(ii) Secondary contact recreation 1 and 2. The geometric mean criterion for fecal coliform is 1,000 per 100 ml.

(iii) [(ii)] Noncontact recreation. The geometric mean criterion for fecal coliform is 2,000 per 100 ml. [Fecal coliform shall not exceed 2,000 per 100 ml as a geometric mean. In addition, single samples of fecal coliform should not exceed 4,000 per 100 ml.]

(D) Swimming advisory programs. For areas where local jurisdictions or private property owners voluntarily provide public notice or closure based on water quality, the use of any single-sample or short-term indicators of recreational suitability are selected at the discretion of the local managers of aquatic recreation. Guidance for single-sample bacterial indicators is available in the United States Environmental Protection Agency (EPA) [EPA] document entitled *Ambient Water Quality Criteria for Bacteria - [--] 1986*. Other short-term indicators to assess water quality suitability for recreation - [--] such as measures of streamflow, turbidity, or rainfall - [--] may also be appropriate.

(2) Domestic water supply.

(A) Use categories. Domestic water supply consists of three [two] use subcategories - [--] public water supply, sole-source surface drinking water supply, and aquifer protection.

(i) Public water supply. Segments designated for public water supply are those known to be used or exhibit characteristics that would allow them to be used as the supply source for public water systems[,] as defined by Chapter 290 of this title (relating to Public Drinking Water [Water Hygiene]).

(ii) Sole-source surface drinking water supplies and their protection zones. Water bodies that are sole-source surface drinking water supplies are listed in Appendix B of §307.10 of this title. Sole-source surface drinking water supplies and their protection zones are addressed in Chapter 321 of this title (relating to Subchapter B: Concentrated Animal Feeding Operations).

(iii) [(ii)] Aquifer protection. Segments designated for aquifer protection are capable of recharging the Edwards Aquifer. The principal purpose of this use designation is to protect the quality of water infiltrating into and recharging the aquifer. The designation for aquifer protection applies only to those portions of the segments so designated that are on the recharge zone, transition zone, or contributing zone as defined in Chapter 213 of this title (relating to the Edwards Aquifer). Chapter 213 of this title establishes provisions for activities in the watersheds of segments that [which] are designated for aquifer protection.

(B) Use criteria. The following use criteria apply to all [both] domestic water supply use subcategories.

(i) Radioactivity associated with dissolved minerals in the freshwater portions of river basin and coastal basin waters should not exceed levels established by drinking water standards as specified in Chapter 290 of this title unless the conditions are of natural origin.

(ii) Surface waters utilized for domestic water supply must [shall] not exceed toxic material concentrations that prevent them from being treated by conventional surface water treatment to meet drinking water standards as specified in Chapter 290 of this title.

(iii) Chemical and microbiological quality of surface waters used for domestic water supply should conform to drinking water standards as specified in Chapter 290 of this title.

(3) Aquatic life. The establishment of numerical criteria for aquatic life is highly dependent on desired use, sensitivities of [usual] aquatic communities, and local physical and chemical characteristics. Six [Five] subcategories of aquatic life use are established. They include minimal, limited, intermediate, high, and exceptional aquatic life and oyster waters. Aquatic life use subcategories designated for segments listed in Appendix A of §307.10 of this title recognize the natural variability of aquatic community requirements and local environmental conditions.

(A) Dissolved oxygen.

(i) The characteristics and associated dissolved oxygen criteria for limited, intermediate, high, and exceptional aquatic life use subcategories are indicated in Table 3 of this clause [4]. This table also includes dissolved oxygen criteria for a minimal aquatic life use subcategory that applies to intermittent streams without perennial pools as indicated in §307.4(h)(4) of this title.

Figure: 30 TAC §307.7(b)(3)(A)(i)

[Figure: 30 TAC §307.7(b)(3)(A)(i)]

TABLE 3 [4]

Aquatic Life Use
Subcategories

| Aquatic Life Use Subcategory | Dissolved Oxygen Criteria, mg/L | | | Aquatic Life Attributes | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Freshwater mean/ minimum | Freshwater in Spring mean/ minimum | Saltwater mean/ minimum | Habitat Character-istics | Species Assemblage | Sensitive species | Diversity | Species Richness | Trophic Structure |
| Exceptional | 6.0/4.0 | 6.0/5.0 | 5.0/4.0 | Outstanding natural variability | Exceptional or unusual | Abundant | Exceptionally high | Exceptionally high | Balanced |
| High | 5.0/3.0 | 5.5/4.5 | 4.0/3.0 | Highly diverse | Usual asso-ciation of regionally expected species | Present | High | High | Balanced to slightly imbalanced |
| Intermediate | 4.0/3.0 | 5.0/4.0 | 3.0/2.0 | Moderately diverse | Some expected species | Very low in abundance | Moderate | Moderate | Moderately imbalanced |
| Limited | 3.0/2.0 | 4.0/3.0 | | Uniform | Most regionally expected species absent | Absent | Low | Low | Severely imbalanced |
| Minimal | 2.0/1.5 | | | | | | | | |

- Dissolved oxygen means are applied as a minimum average over a 24-hour period.
- Daily minima are not to extend beyond 8 hours per 24-hour day. Lower dissolved oxygen minima may apply on a site-specific basis, when natural daily fluctuations below the mean are greater than the difference between the mean and minima of the appropriate criteria.

- Spring criteria to protect fish spawning periods are applied during that portion of the first half of the year when water temperatures are 63.0°F to 73.0°F.
- Procedures [Quantitative criteria] to support aquatic life attributes are described in the standards implementation procedures chapter "Determining Water Quality Uses and Criteria" as amended.
- Dissolved oxygen analyses and computer models to establish effluent limits for permitted discharges are [will] normally [be] applied to mean criteria at steady-state, critical conditions.
- Determination of standards attainment for dissolved oxygen criteria is specified in §307.9(e)(6) [§307.9(d)(6)] (relating to Determination of Standards Attainment).
- Minimal aquatic life use has been historically known as no significant aquatic life use. Typically, the classification of a water body as supporting a minimal aquatic life use is based on flow characteristics (intermittent stream without perennial pools), as set forth in§304.4(h)(4) of this title, and not on aquatic life attributes.

(ii) Critical low-flow values associated with the bedslopes and [The] dissolved oxygen criteria [and associated critical low-flow values] in Table 4 of this clause [5] apply to streams that [which] have limited, intermediate, high, or exceptional [significant] aquatic life uses[,] and to streams that [which] are specifically listed in Appendix A or D of §307.10 of this title. The critical low-flow values [criteria] in Table 4 of this clause [5] apply to streams in Texas that [which] are east of a line defined by Interstate Highways [Highway] 35 and 35W from the Red River to the community of Moore in Frio County, and by United States [U.S.] Highway 57 from the community of Moore to the Rio Grande. Table 4 of this clause does not apply where specifically superceded by the equation that is listed in footnote 3 in the Cypress Creek Basin in Appendix A and in footnote 2 in Appendix D of §307.10 of this title. The critical low-flow values in Table 4 of this clause [5] (at the appropriate stream bedslope) are [will be] utilized as headwater flows when the flows are larger than applicable seven-day, two-year low-flows [7Q2 flows,] in order to determine discharge effluent limits necessary to achieve dissolved oxygen criteria. For streams that [which] have bedslopes less than the minimum bedslopes in Table 4 [5], the flows listed for the minimum bedslope of 0.1 meters per kilometer (m/km) are [m/km will be] applicable. For streams that [which] have bedslopes greater than the maximum bedslope in Table 4 of this clause [5], the flows listed for the maximum bedslope of 2.4 m/km are [will be] applicable. The required effluent limits are [will be] those necessary to achieve each level of dissolved oxygen (as defined in clause (i) of this subparagraph, Table 3 [4]) at or below an assigned, designated, or presumed aquatic life use. Presumed aquatic life uses must [will] be in accordance with those required by §307.4(h) of this title. The critical low-flow values [dissolved oxygen criteria] in Table 4 of this clause [5] do not apply to tidal streams.

Figure: 30 TAC §307.7(b)(3)(A)(ii)

[Figure: 30 TAC §307.7(b)(3)(A)(ii)]

TABLE 4

Critical low-flow values for dissolved oxygen for the eastern and southern Texas ecoregions as described in §307.7(b)(3)(A)(ii).

| Bedslope (m/km) | 6.0 DO (cfs) | 5.0 DO (cfs) | 4.0 DO (cfs) | 3.0 DO (cfs) |
|---|---|---|---|---|
| 0.1 | * | 18.3 | 3.0 | 0.5 |
| 0.2 | * | 7.7 | 1.3 | 0.2 |
| 0.3 | 28.6 | 4.7 | 0.8 | 0.1 |
| 0.4 | 20.0 | 3.3 | 0.5 | 0.1 |
| 0.5 | 15.2 | 2.5 | 0.4 | 0.1 |
| 0.6 | 12.1 | 2.0 | 0.3 | 0.1 |
| 0.7 | 10.0 | 1.6 | 0.3 | 0.0 |
| 0.8 | 8.4 | 1.4 | 0.2 | 0.0 |
| 0.9 | 7.3 | 1.2 | 0.2 | 0.0 |
| 1.0 | 6.4 | 1.0 | 0.2 | 0.0 |
| 1.1 | 5.7 | 0.9 | 0.2 | 0.0 |
| 1.2 | 5.1 | 0.8 | 0.1 | 0.0 |
| 1.3 | 4.6 | 0.8 | 0.1 | 0.0 |
| 1.4 | 4.2 | 0.7 | 0.1 | 0.0 |
| 1.5 | 3.9 | 0.6 | 0.1 | 0.0 |
| 1.6 | 3.6 | 0.6 | 0.1 | 0.0 |
| 1.7 | 3.3 | 0.5 | 0.1 | 0.0 |
| 1.8 | 3.1 | 0.5 | 0.1 | 0.0 |
| 2.1 | 2.5 | 0.4 | 0.1 | 0.0 |
| 2.4 | 2.2 | 0.4 | 0.1 | 0.0 |

* Flows are beyond the observed data used in the regression equation.

Dissolved oxygen criteria in this table are in mg/L and apply as 24-hour averages.

Dissolved oxygen criteria in this table apply at all stream flows at or above the indicated stream flow for each category.

(iii) The critical low-flow values [dissolved oxygen criteria] in Table 4 of clause (ii) of this subparagraph [5] for limited, intermediate, high, and exceptional aquatic life uses are based upon data from the commission's [agency's] least impacted stream study (Texas Aquatic Ecoregion Project). Results of this study indicate a strong dependent relationship for average summertime background dissolved oxygen concentrations and several hydrologic and physical stream characteristics - [--] particularly bedslope (stream gradient) and stream flow. The critical low-flow values [dissolved oxygen criteria] in Table 4 of clause (ii) of this subparagraph [5] are derived from a multiple regression equation for the eastern portion of Texas as defined in clause (ii) of this subparagraph. Further explanation of the development of the regression equation and its application are [will be] contained in the standards implementation procedures as amended.

(iv) The critical low-flow values in Table 4 of clause (ii) of this subparagraph [5] may be adjusted based on site-specific data relating dissolved oxygen concentrations to factors such as flow, temperature, or hydraulic conditions in accordance with the standards implementation procedures as amended. Site-specific, critical low-flow values require approval by the commission [agency]. EPA must [will] review any site-specific, critical low-flow values that could affect permits or other regulatory actions that are subject to approval by EPA. Critical low-flow values that [which] have been determined for particular streams are listed in the standards implementation procedures [§307.10 of this title when standards are revised].

(B) Oyster waters.

(i) A 1,000 foot buffer zone, measured from the shoreline at ordinary high tide, is established for all bay and gulf waters[,] except those contained in river or coastal basins as defined in §307.2 of this title (relating to Description of Standards). Recreational criteria for indicator bacteria, as specified in §307.7(b)(1) [307.10(b)(1)] of this title, are applicable within buffer zones.

(ii) The criteria for median [Median] fecal coliform concentration in bay and gulf waters, exclusive of buffer zones, are [shall not exceed] 14 colonies per 100 ml[,] with not more than 10% of all samples exceeding 43 colonies per 100 ml.

(iii) Oyster waters should be maintained so that concentrations of toxic materials do not cause edible species of clams, oysters, and mussels to exceed accepted guidelines for the protection of public health. Guidelines are provided by the United States [U. S.] Food and Drug Administration Action Levels for molluscan shellfish, but additional information related to human health protection may also be considered in determining acceptable toxic concentrations.

(4) Additional criteria.

(A) Chemical parameters. Site-specific criteria for chloride, sulfate, and total dissolved solids are established as averages over an annual period for either a single sampling point or multiple sampling points.

(B) pH. Site-specific numerical criteria for pH are established as absolute minima and maxima.

(C) Temperature. Site-specific temperature criteria are established as absolute maxima.

(D) Toxic materials. Criteria for toxic materials are established in §307.6 of this title (relating to Toxic Materials).

(E) Nutrient criteria. Numeric and narrative criteria to preclude excessive growth of aquatic vegetation are intended to protect multiple uses such as primary, secondary, and noncontact recreation, aquatic life, and public water supplies. Nutrient numeric criteria for specific reservoirs, expressed as concentrations of chlorophyll *a* in water, and supplemental screening levels for total phosphorus and for transparency (depth of Secchi disk visibility) are listed in Appendix F of §307.10 of this title.

(5) Additional uses. Other basic uses, such as navigation, agricultural water supply, industrial water supply, seagrass propagation, and wetland water quality functions must [will] be maintained and protected for all water in the state where [in which] these uses can be achieved.

**§307.8. Application of Standards.**

(a) Flow [Low-flow] conditions.

(1) The following standards do not apply below critical low-flows [seven-day, two-year low-flows]:

(A) site-specific criteria for dissolved oxygen, pH, temperature, and numerical chronic criteria for toxic materials, as [defined in §307.7 of this title (relating to Site-specific Criteria and Uses) and] listed in Appendices A, D, and E of §307.10 of this title (relating to Appendices A - G [A - E]);

(B) numerical chronic criteria for toxic materials as established in §307.6 of this title (relating to Toxic Materials);

(C) total chronic toxicity restrictions as established in §307.6 of this title;

(D) maximum temperature differentials as established in §307.4(f) of this title (relating to General Criteria); and

(E) dissolved oxygen criteria for unclassified waters, as established in §307.4(h) of this title and §307.7(b)(3) [§307.4(h)(1)] of this title (relating to Site-Specific Uses and Criteria). [; and]

[(F) aquatic recreation criteria for unclassified waters, as established in §307.4(j) of this title and in §307.7(b)(1) of this title.]

(2) Critical low-flows for streams or rivers that are dominated by springflow are listed in the standards implementation procedures as amended and are calculated as follows:

(A) for springflow-dominated streams or rivers that contain federally listed endangered or threatened aquatic or aquatic dependent species, the critical low-flow value is the 0.1% probability value derived from a lognormal distribution for the period of record at the nearest United States Geological Survey (USGS) or International Boundary and Water Commission (IBWC) gage;

(B) for springflow-dominated streams or rivers that do not contain federally listed endangered or threatened species, the critical low-flow value is the 5th percentile value of the flow data for the period of record at the nearest USGS or IBWC gage.

(3) [(2)] Numerical acute criteria for toxic materials and preclusion of total acute toxicity as established in §307.6 of this title are applicable at stream flows that [which] are equal to or greater than one-fourth of critical low-flows [seven-day, two-year low-flows (7Q2)].

(4) Harmonic mean flow is the applicable upstream flow when calculating wastewater permit limits for criteria that are assessed as long-term means, such as criteria for total dissolved solids, chlorides, sulfates in Appendix A of §307.10 of this title, and human health toxic criteria in Table 2 of §307.6(d)(1) of this title.

(5) [(3)] Critical low-flows and harmonic mean flows for some classified segments are listed in the standards implementation procedures as amended. [Low-flow criteria in Appendix B of §307.10 of this title are solely for the purpose of defining the flow conditions under which water quality standards apply to a given water body.] These critical low-flows [Low-flow criteria listed in Appendix B of §307.10 of this title] are not for the purpose of regulating flows in water bodies in any manner or requiring that minimum flows be maintained in classified segments.

(6) [(4)] Critical low-flows and harmonic mean flows [Low-flow criteria defined in this section and] listed in the standards implementation procedures as amended [Appendix B of §307.10 of this title] apply only to river basin and coastal basin waters. They do not apply to bay waters, [or] gulf waters, [or] reservoirs, or estuaries.

(7) [(5)] Critical low-flows [Seven-day, two-year low-flows (7Q2)] and harmonic mean flows in the standards implementation procedures as amended [Appendix B of §307.10 of this title] were calculated from historical USGS or IBWC [U.S. Geological Survey (USGS)] daily streamflow records. If the calculated critical low-flow or harmonic mean flow value was equal to or less than 0.1 cubic foot per second ($ft^3/s$), it was rounded up to 0.1 $ft^3/s$. [The low-flow criterion was set at 0.1 of one cubic foot per second ($ft^3/s$) when the calculated 7Q2 was equal to or less than 0.1 of one $ft^3/s$.]

(8) [(6)] Flow values are [will be] periodically recomputed to reflect alterations in the hydrologic characteristics of a segment, including reservoir construction, climatological trends, and other phenomena.

(9) [(7)] The general criteria are applicable at all flow conditions except as specified in this section or in §307.4 of this title.

[(8) Specific human health criteria for concentrations in water to prevent contamination of fish and shellfish so as to ensure safety for human consumption, as established in §307.6 of this title do not apply at stream flows below the harmonic mean flow.]

(b) Mixing zones. A reasonable mixing zone is [will be] allowed at the discharge point of permitted discharges into surface water in the state, in accordance with the following provisions.

(1) The following portions of the standards do not apply within mixing zones:

(A) site-specific criteria, as defined in §307.7 of this title and listed in Appendices A, D, [and] E, F, and G of §307.10 of this title;

(B) numerical chronic aquatic life criteria for toxic materials as established in §307.6 of this title;

(C) total chronic toxicity restrictions as established in §307.6 of this title;

(D) maximum temperature differentials as established in §307.4(f) of this title;

(E) dissolved oxygen criteria for unclassified waters, as established in §307.4(h) [§307.4(h)(1)] of this title;

(F) dissolved oxygen criteria for intermittent streams, as established in §307.4(h)(4) [§307.4(h)(2)] of this title;

(G) aquatic recreation criteria for unclassified waters, as established in §307.4(j) of this title and in §307.7(b)(1) of this title;

(H) specific human health criteria for concentrations in water to prevent contamination of drinking water, fish and shellfish so as to ensure safety for human consumption, as established in §307.6 of this title.

(2) Numerical acute aquatic life criteria for toxic materials and preclusion of total acute toxicity as established in §307.6 of this title are applicable in mixing zones. Acute criteria and acute total toxicity levels may be exceeded in small zones of initial dilution (ZIDs) at discharge points of permitted discharges, but there must [shall] be no lethality to aquatic organisms that [which] move through a ZID. ZIDs must [shall] not exceed the following sizes:

(A) 60 feet downstream and 20 feet upstream from a discharge point in a stream and river. In[, and in] addition, ZIDs in streams and rivers must [shall] not encompass more than 25% of the volume of stream flow at or above seven-day, two-year low-flow conditions;

(B) a 25-foot radius in all directions (or equivalent volume or area for diffuser systems) from a discharge point in a lake or reservoir; and

(C) a 50-foot radius in all directions (or equivalent volume or area for diffuser systems) from a discharge point in a bay, tidal river, or estuary.

(3) Provisions of the general criteria in §307.4 of this title remain in effect in mixing zones unless specifically exempted in this section.

(4) Water quality standards do not apply to treated effluent [effluents] at the immediate point of discharge [--] prior to any contact with either ambient waters or a dry streambed. However, effluent total toxicity requirements may be specified to preclude acute lethality near discharge points, or to preclude acute and chronic instream toxicity.

(5) Where a mixing zone is defined in a valid permit of the Texas Commission on Environmental Quality [Texas Natural Resource Conservation Commission], the Railroad Commission of Texas, or the United States Environmental Protection Agency [EPA], the mixing zone defined in the permit must [will] apply.

(6) Mixing zones must [shall] not preclude passage of free-swimming or drifting aquatic organisms to the extent that aquatic life use is significantly affected, in accordance with guidelines specified in the standards implementation procedures as amended.

(7) Mixing zones must [will] not overlap unless it can be demonstrated that no applicable standards will be violated in the area of overlap. Existing and designated uses must [will] not be impaired by the combined impact of a series of contiguous mixing zones.

(8) Mixing zones must [will] not encompass an intake for a domestic drinking water supply. Thermal mixing zones are excepted from this provision unless elevated temperatures adversely affect drinking water treatment.

(9) Mixing zones must [will] be individually specified for all permitted domestic discharges with a permitted monthly average flow equal to or exceeding one million gallons per day and for all permitted industrial discharges to water in the state (excepting discharges that [which] consist entirely of storm water runoff). For domestic discharges with permitted monthly average flows less than one million gallons per day, a small mixing zone must [will] be assumed in accordance with guidelines for mixing zone sizes specified in the standards implementation procedures as amended; and the [executive director or] commission may require specified mixing zones as appropriate.

(10) The size of mixing zones for human health criteria may vary from the size of mixing zones for aquatic life criteria.

(c) Minimum analytical levels. The specified definition of permit compliance for a specific toxic material must [will] not be lower than established minimum analytical levels, unless that toxic material is of particular concern in the receiving waters, or unless an effluent specific method detection limit has

been developed in accordance with 40 Code of Federal Regulations Part 136 [CFR 136]. Minimum analytical levels are listed in the standards implementation procedures as amended.

(d) Once-through cooling water discharges. When a discharge of once-through cooling water does not measurably alter intake concentrations of a pollutant, then water-quality based effluent limits for that pollutant are not required. For facilities that [which] intake and discharge cooling-water into different water bodies, this provision only applies if water quality and applicable water quality standards in the receiving water are maintained and protected.

(e) Storm water discharges. Pollution in storm water must [shall] not impair existing or designated uses. Controls on the quality of storm water discharges must [shall] be based on best management practices, technology-based limits, or both in combination with instream monitoring to assess standards attainment and to determine if additional controls on storm water quality are needed. The standards implementation procedures as amended describe how water quality standards are [will be] applied to Texas Pollutant Discharge Elimination System [TPDES] storm water discharges. The evaluation of instream monitoring data for standards attainment includes [shall include] the effects of storm water, as described in §307.9 of this title (relating to the Determination of Standards Attainment).

**§307.9. Determination of Standards Attainment.**

(a) General standards attainment sampling and assessment procedures. The procedures listed in this section are solely for the purposes of assessing water quality monitoring data to determine if water quality standards are attained in individual water bodies. Unless otherwise stated in this chapter,

additional details concerning sampling procedures for the measurement, collection, preservation and laboratory analysis of water quality samples are provided in [the latest version of ] the Texas Commission on Environmental Quality (TCEQ) [*TNRCC*] *Surface Water Quality Monitoring Procedures* [*Manual*] as amended, the most recently published edition of the book entitled *Standard Methods for the Examination of Water and Wastewater*, 40 Code of Federal Regulations (CFR) Part 136 [CFR 136], or other reliable sources acceptable to the commission [executive director]. Laboratory accreditation requirements are specified in Chapter 25 of this title (relating to Environmental Testing Laboratory Accreditation and Certification). Unless otherwise stated in this chapter, additional details concerning how sampling data are evaluated to assess standards compliance are provided in the TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texas* as amended [latest approved version of the *TNRCC Guidance for Screening and Assessing Texas Surface and Finished Drinking Water Quality Data*].

(b) Samples [Representative samples] to determine standards attainment are [will be] collected at locations approved by the commission [agency]. Samples collected at non-approved locations may be accepted at the discretion of the commission [agency]. Samples to determine standards attainment in ambient water must be representative in terms of location, seasonal variations, and hydrologic conditions. Locations must be typical of significant areas of a water body. Temporal sampling must be sufficient to appropriately address seasonal variations of concern. Sample results that are used to assess standards attainment must not include samples that are collected during extreme hydrologic conditions such as high-flows and flooding immediately after heavy rains. Further guidance on representative sampling, both spatially, temporally, and hydrologically, can be found in the TCEQ *Surface Water Quality Monitoring Procedures* and the TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texas* as amended.

(c) Collection and preservation of water samples.

(1) To ensure that representative samples are collected and to minimize alterations prior to analysis, collection and preservation of attainment determination samples are [will be] in accordance with procedures set forth in the most recently published edition of the book entitled *Standard Methods for the Examination of Water and Wastewater*, [the latest version of] the TCEQ [*TNRCC*] *Surface Water Quality Monitoring Procedures* [*Manual*] as amended, 40 CFR Part 136 [36], or other reliable procedures acceptable to the commission [agency].

(2) Bacterial and temperature determinations must [will] be conducted on samples or measurements taken at or near [approximately one foot below] the surface in accordance with the TCEQ *Surface Water Quality Monitoring Procedures* as amended. Depth collection procedures for chloride, sulfate, total dissolved solids, dissolved oxygen, chlorophyll *a*, total phosphorus, and pH to determine standards attainment may vary depending on the water body being sampled. [Where standards apply to the mixed surface layer, the depth of this layer is determined in accordance with procedures in the latest approved version of the *TNRCC Guidance for Screening and Assessing Texas Surface and Finished Drinking Water Quality Data.*] Standards for chloride, sulfate, total dissolved solids, dissolved oxygen, chlorophyll *a*, [and] pH, and screening levels for total phosphorus are applicable to the mixed surface layer, but a single sample taken near the surface normally provides an adequate representation of these parameters.

[(3) For dissolved oxygen, the following procedures are generally applicable:]

[(A) Non-tidal flowing streams. The dissolved oxygen criteria is applicable to the mixed surface layer, but a single sample taken near the surface normally provides an adequate representation of this parameter.]

[(B) Impoundments. Representative samples shall be collected from the entire water column in the absence of thermal stratification. Collection of representative samples shall be confined to the epilimnion when an impoundment is thermally stratified.]

[(C) Tidal waters. Representative samples shall be collected from the entire water column in the absence of density stratification. Under conditions of density stratification, a composite sample collected from the mixed surface layer shall be used to determine standards attainment.]

(3) [(4)] For toxic materials, numerical aquatic life criteria are applicable to water samples collected at any depth. Numerical human health criteria are applicable to the average (arithmetic) concentration from the surface to the bottom. For the purposes of standards attainment for aquatic life protection and human health protection, samples that [which] are collected at approximately one foot below the water surface must [will] also be acceptable for comparison to numerical criteria.

(d) Sample analysis.

(1) Numerical criteria. Procedures for laboratory analysis must [will] be in accordance with the most recently published edition of the book entitled *Standard Methods for the Examination of Water and Wastewater*, the [latest version of the] TCEQ *Texas Surface Water Quality Monitoring Procedures* as amended [*Manual*], 40 CFR Part 136, or other reliable procedures acceptable to the commission, and in accordance with Chapter 25 of this title [agency].

(2) Radioactivity. Measurements must [will] be made on filtered samples to determine radioactivity associated with dissolved minerals in accordance with current analytical methodology approved by the United States Environmental Protection Agency (EPA).

(3) Toxicity. Bioassay techniques must [will] be selected as testing situations dictate but are [will] generally [be] conducted using representative sensitive organisms in accordance with §307.6 of this title (relating to Toxic Materials).

(e) Sampling periodicity and evaluation.

(1) Chloride, sulfate, total dissolved solids [(TDS)]. Standards attainment determinations must [shall] be based on the median [average] of measurements taken over a period of at least two years [one year]. Results from all monitoring stations within the segment are [will be] used [averaged] to allow for reasonable parametric gradients. Total dissolved solids [TDS] determinations may be based on measurements of specific conductance.

(2) Radioactivity. The impact of radioactive sources [discharges] on [the] surface waters [in Texas] must [will] be evaluated in accordance with Chapter 336 of this title (relating to Radioactive Substance Rules), and in accordance with Chapter 290 of this title (relating to Public Drinking Water) [utilizing information developed by the Sanitary Engineering Research Laboratory at the University of Texas and presented in the June 30, 1960, report entitled, *Report on Radioactivity - Levels in Surface Waters - 1958-1960*].

(3) Bacteria. Standards attainment must [will] be based on a geometric mean of applicable samples collected over at least a two-year period [and based on a single sample maximum], and data are [will be] evaluated in accordance with the provisions of §307.7(b)(1) of this title (relating to Site-Specific Uses and Criteria). Samples may be evaluated with the single sample maximum criterion for purposes of swimmer safety notification programs and wastewater permit compliance. Samples must not include extreme hydrologic conditions such as very high-flows and flooding immediately after heavy rains. The high-flow exemption applies for a 24-hour period following the last measured or estimated determination that extreme hydrologic conditions exist. A high-flow exemption applies during either of the following hydrologic conditions:

(A) stream flow that exceeds the 90th percentile flow using historical records for the nearest United States Geological Survey (USGS) or International Boundary and Water Commission (IBWC) gage, as found on the USGS or IBWC websites for many Texas gages, or by calculating the percentile flow for small streams without gages using statistical corrections to account for relative watershed size; or,

(B) estimated flow severity index indicates that swimming is not practical or safe.

(4) Toxic materials. Standards attainment must be evaluated in accordance with §307.6 of this title, and in accordance with §307.8 of this title (relating to Application of Standards). To protect aquatic life, specific [Specific] numerical acute toxic criteria are applied as 24-hour averages, and specific numerical chronic toxic criteria are applied as seven-day averages. Human health criteria are applied as long-term average exposure criteria designed to protect populations over a life time [of 70 years]. Standards attainment for acute and chronic toxic criteria for aquatic life must be based on the extent of criteria exceedance over a period of at least two years, in accordance with the TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texas* as amended. [Refer to the latest approved version of the *TNRCC Guidance for Screening and Assessing Texas Surface and Finished Drinking Water Quality Data* for sampling periodicity and evaluation applicable to standards.] Standards attainment for human health criteria must [will] be based on the median [average] of [a minimum of four] samples collected over at least a two-year [one year] period.

(5) Temperature and pH. Standards attainment must be based on [single] measurements collected over at least a two-year period and evaluated [will be evaluated] according to the TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texas* as amended [latest approved version of the *TNRCC Guidance for Screening and Assessing Texas Surface and Finished Drinking Water Quality Data*].

(6) Dissolved oxygen.

(A) Criteria for daily (24-hour) average concentrations must [will] be compared to a time-weighted average of measurements taken over a 24-hour period.

(B) Criteria for minimum concentrations must [will] be compared to individual measurements. When data are collected over a 24-hour period, the lowest [any single] measurement observed during that 24-hour period is [may be] compared to the applicable minimum criterion.

(7) Chlorophyll *a*, total phosphorus, and transparency in reservoirs.

(A) Standards attainment must be based on the median of chlorophyll *a* measurements collected over at least two years, and medians are compared to the chlorophyll *a* criteria for individual reservoirs in Appendix F of §307.10 of this title (relating to Appendices A - G). In addition to the chlorophyll *a* criteria, supplemental screening levels for total phosphorus and for transparency (depth of Secchi disk visibility) are also provided for individual reservoirs in Appendix F of §307.10 of this title. If a chlorophyll *a* criterion is exceeded, then the median of measurements for total phosphorus and the median of measurements of transparency are compared to the respective screening levels for these two parameters. If the median of measurements for total phosphorus exceeds the screening level for total phosphorus, or the median of measurements for transparency are less than the screening level for transparency, then nonattainment of the water quality standards is indicated. The screening levels for total phosphorus and transparency in Appendix F of §307.10 of this title are intended for the sole purpose of confirming nonattainment of the water quality criteria for chlorophyll *a*.

(B) Assessment of the chlorophyll *a* criteria and screening levels of total phosphorus and transparency in Appendix F of §307.10 of this title must be based on the median of at least ten measurements taken over a period of at least five years. The data for the assessment must be collected at the sampling stations used for calculating the criteria and screening levels, as listed in Appendix F of §307.10 of this title, or from comparable stations in the main pool of the reservoir.

(8) Site-specific criteria for aquatic recreation (geometric mean), total dissolved solids, chloride, and sulfate as established in Appendix A of §307.10 of this title, and human health criteria as established in Table 2 of §307.6(d)(1) of this title do not apply in the following stream types and flow conditions:

(A) perennial streams when flows are below 0.1 cubic feet per second;

(B) intermittent streams when less than 20% of the stream bed of a 500 meter sampling reach is covered by pools; or when extremely dry conditions are indicated by comparable observations of flow severity.

(f) Biological integrity. Biological integrity, which is an essential component of the aquatic life categories defined in §307.7(b)(3) of this title (relating to Site-Specific Uses and Criteria), is assessed by sampling the aquatic community. Attainment of biological integrity is [aquatic life use may be] assessed by indices of biotic integrity that [which] are described in [publicly available documents such as in the latest version of] the TCEQ *Surface Water Quality Monitoring Procedures* as amended [*TNRCC Receiving Water Assessment Procedures Manual*]. Primary criteria associated with assessing the

attainment of aquatic life uses are indices of biotic integrity and criteria for dissolved oxygen. When monitoring data indicate that primary criteria are not being attained for a presumed high aquatic life use, as defined in §307.4(h) of this title (relating to General Criteria), the affected water body is not automatically considered impaired and placed in Category 5 of the Texas Integrated Report based on the primary criteria. Instead, the listing can be deferred until a use-attainability analysis of the water body is conducted to establish the appropriate aquatic life use. If the water body is not meeting the primary criteria for the aquatic life use that is determined to be appropriate, or if the use-attainability analysis has not been completed and submitted to EPA for review within the next two submissions of Texas' Integrated Report (approximately four years), then the water body is listed as impaired. When the appropriate aquatic life use as determined by the use-attainability study is less stringent than the presumed high use, then the appropriate aquatic life use and dissolved oxygen criteria are listed in Appendix D of §307.10 of this title after approval by EPA. Water bodies that are not meeting a presumed high aquatic life use are identified and subject to notice and public comment during the development of Texas' Integrated Report.

(g) Additional parameters. Assessment of narrative criteria parameters must [shall] be performed in accordance with the TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texas* as amended [latest approved version of the *TNRCC Guidance for Screening and Assessing Texas Surface and Finished Drinking Water Quality Data*].

**§307.10. Appendices A - G [E].**

The following appendices are integral components of this chapter of the Texas Surface Water Quality Standards.

(1) Appendix A - [--] Site-specific Uses and Criteria for Classified Segments:

Figure: 30 TAC §307.10(1)

[Figure: 30 TAC §307.10(1)]

## Appendix A - Site-specific Uses and Criteria for Classified Segments

The following tables identify the water uses and supporting numerical criteria for each of the state's classified segments. The tables are ordered by basin with the segment number and segment name given for each classified segment. Marine segments are those that [which] are specifically titled as "tidal" in the segment name, plus all bays, estuaries and the Gulf of Mexico. The following descriptions denote how each numerical criterion is used subject to the provisions in §307.7 of this title (relating to Site-Specific Uses and Criteria), §307.8 of this title (relating to Application of Standards), and §307.9 of this title (relating to Determination of Standards Attainment).

Segments that include reaches that are dominated by springflow are footnoted in this appendix and have critical low-flows calculated according to §307.8(a)(2) of this title. These critical low-flows apply at or downstream of the spring(s) providing the flows. Critical low-flows upstream of these springs may be considerably smaller. Critical low-flows used in conjunction with the Texas Commission on Environmental Quality regulatory actions (such as discharge permits) may be adjusted based on the relative location of a discharge to a gage.

The criteria for $Cl^{-1}$ (chloride), $SO_4^{-2}$ (sulfate), and TDS (total dissolved solids) are listed in this appendix as maximum annual averages for the segment.

Dissolved oxygen criteria are listed as minimum 24-hour means at any site within the segment. Absolute minima and seasonal criteria are listed in §307.7 of this title [(relating to Site-specific Uses and Criteria)] unless otherwise specified in this appendix. Dissolved oxygen criteria of 2.0 mg/L in this appendix are allowed a daily variation down to 1.5 mg/L for no more than eight hours per 24-hour period. Dissolved oxygen criteria of 1.0 mg/L in this appendix will be considered minimum values at any time.

The pH criteria are listed as minimum and maximum values expressed in standard units at any site within the segment.

The freshwater indicator bacteria for recreation is *E. coli.* Enterococci is the indicator bacteria for recreation in saltwater and certain high saline inland water bodies with typical high conductivity values. Fecal coliform can be used as an alternative indicator of recreational suitability in high saline inland waters for two years during the transition to Enterococci as specified in §307.7(b)(1)(C) of this title. The appropriate bacterial criteria are listed in the appendix under the Indicator Bacteria column and are applied as specified in §307.7(b)(1) of this title. The indicator bacteria for suitability for oyster waters is fecal coliform. The fecal coliform criteria for oyster waters is 14 colonies per 100 ml as specified in §307.7(b)(3)(B) of this title.

[The indicator bacteria for recreation for freshwater is *E. coli* and for saltwater is Enterococci. Fecal coliform can still be used as an alternative indicator during the transition to the new indicator bacteria, as specified in §307.7 (b). The appropriate bacterial criteria and fecal coliform alternative are listed in the appendix under the Indicator Bacteria column. *E. coli* criteria of 126 colonies per 100 ml of water are applied as

specified in §307.7(b)(1)(A)(i) and (ii) for contact recreation (relating to Site-specific Uses and Criteria). The criteria of 605 colonies per 100 ml of water are applied as specified in §307.7(b)(1)(A)(iii) for noncontact recreation. Enterococci criteria of 35 colonies per 100 ml are applied as specified in §307.7(b)(1)(B)(i) and (ii) for contact recreation, and 168 colonies per 100 ml for noncontact recreation. The indicator bacteria for suitability for oyster waters is fecal coliform. The fecal coliform criteria for oyster waters is 14 colonies per 100 ml as specified in §307.7(b)(3)(B).]

[As an alternative, fecal coliform criteria of 200 per 100 ml are applied as specified in §307.7(b)(1)(C)(i) and (ii). Fecal coliform criteria of 2,000 per 100 ml are applied as specified in §307.7(b)(1)(C)(iii).]

The criteria for temperature are listed as maximum values at any site within the segment.

Footnotes are defined at the end of each basin or bay and estuary table, as appropriate.

| CANADIAN RIVER BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment No. | SEGMENT NAME | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| 0101 | Canadian River Below Lake Meredith | PCR [CR] | H | | | 1,975 | 760 | 5,000 | 5.0 | 6.5-9.0 | 206 [126/200] | 95 |
| 0102 | Lake Meredith | PCR [CR] | E | PS | | 400 | 350 | 1,300 | 6.0 | 6.5-9.0 | 206 [126/200] | 85 |
| 0103 | Canadian River Above Lake Meredith | PCR [CR] | H | | | 1,050 | 540 | 4,500 | 5.0 | 6.5-9.0 | 206 [126/200] | 95 |
| 0104 | Wolf Creek | PCR [CR] | H | | | 420 | 125 | 1,125 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0105 | Rita Blanca Lake | NCR | L | | WF[2] | 200 | 200 | 1,000 | 3.0 | 6.5-9.0 | 206 [126/200] | 85 |

[1] The indicator bacteria for freshwater is *E. coli.* [Fecal coliform is an alternative indicator.]

[2] Segment 0105 - Rita Blanca Lake is designated as high quality waterfowl habitat.

| RED RIVER BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| Segment No. | SEGMENT NAME | | | | | | | | | | | |
| 0201 | Lower Red River | PCR [CR] | H | PS | | 375 | 250 | 1,100 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0202 | Red River Below Lake Texoma | PCR [CR] | H | PS | | 375 | 250 | 1,100 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0203 | Lake Texoma | PCR [CR] | H | PS | | 600 | 300 | 1,500 | 5.0 | 6.5-9.0 | 206 [126/200] | 92 |
| 0204 | Red River Above Lake Texoma | PCR [CR] | H | | | 2,000 | 1,200 | 6,000 | 5.0 | 6.5-9.0 | 54 [126/200] | 93 |
| 0205 | Red River Below Pease River | PCR [CR] | H | | | 5,000 | 2,000 | 10,000 | 5.0 | 6.5-9.0 | 54 [126/200] | 93 |
| 0206 | Red River Above Pease River | PCR [CR] | H | | | 12,000 | 4,000 | 25,000 | 5.0 | 6.5-9.0 | 54 [126/200] | 93 |
| 0207 | Lower Prairie Dog Town Fork Red River | PCR [CR] | H | | | 37,000 | 5,300 | 46,200 | 5.0 | 6.5-9.0 | 54 [126/200] | 93 |
| 0208 | Lake Crook | PCR [CR] | H | PS | | 75 | 150 | 350 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 0209 | Pat Mayse Lake | PCR [CR] | H | PS | | 100 | 175 | 350 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 0210 | Farmers Creek Reservoir | PCR [CR] | H | PS | | 200 | 60 | 550 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0211 | Little Wichita River | PCR [CR] | H | PS | | 250 | 50 | 500 | 3.0 [2] [5.0] | 6.5-9.0 | 206 [126/200] | 91 |
| 0212 | Lake Arrowhead | PCR [CR] | H | PS | | 250 | 50 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0213 | Lake Kickapoo | PCR [CR] | H | PS | | 100 | 50 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 0214 | Wichita River Below Diversion Lake | PCR [CR] | H | | | 1,800 | 800 | 5,000 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 0215 | Diversion Lake | PCR [CR] | H | | | 1,800 | 1,100 | 5,000 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 0216 | Wichita River Below Lake Kemp | PCR [CR] | H | | | 1,925 | 960 | 5,000 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 0217 | Lake Kemp [3] [2] | PCR [CR] | H | | | 7,000 | 2,500 | 15,000 | 5.0 | 6.5-9.0 | 54 [126/200] | 93 |
| 0218 | Wichita/North Fork Wichita River [4] | PCR [CR] | H | | | 7,500 | 2,800 | 16,250 | 5.0 | 6.5-9.0 | 54 | 93 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | [126/200] | |
| 0219 | Lake Wichita | PCR [CR] | H | | | 1,000 | 400 | 1,800 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 0220 | Upper Pease/North Fork Pease River | PCR [CR] | H | | | 12,000 | 3,500 | 30,000 | 5.0 | 6.5-9.0 | 54 [126/200] | 91 |
| 0221 | Middle Fork Pease River | PCR [CR] | H | | | 870 | 1,400 | 2,800 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 0222 | Salt Fork Red River | PCR [CR] | H | | | 400 | 1,400 | 3,000 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0223 | Greenbelt Lake | PCR [CR] | H | PS | | 250 | 200 | 750 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0224 | North Fork Red River | PCR [CR] | H | | | 800 | 1,200 | 2,500 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 0225 | McKinney Bayou | PCR [CR] | L | PS | | 60 | 90 | 400 | 3.0 | 6.0-8.5 | 206 [126/200] | 93 |
| 0226 | South Fork Wichita River 3 [2] | PCR [CR] | H | | | 12,000 | 3,650 | 31,000 | 5.0 | 6.5-9.0 | 54 [126/200] | 93 |
| 0227 | South Fork Pease River | PCR [CR] | H | | | 270 | 200 | 1,000 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 0228 | Mackenzie Reservoir | PCR [CR] | H | PS | | 50 | 200 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 0229 | Upper Prairie Dog Town Fork Red River | PCR [CR] | H | | | 350 | 675 | 2,000 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0230 | Pease River | PCR [CR] | I | | | 12,000 | 3,500 | 30,000 | 4.0 | 6.5-9.0 | 54 [126/200] | 91 |

1 The indicator bacteria for freshwater is *E. coli*. The indicator bacteria and alternate indicator for Segments 0204, 0205, 0206, 0207, 0217, 0218, 0220, 0226, and 0230 are Enterococci and fecal coliform, respectively. [Fecal coliform is an alternate indicator.]

2 The 24-hour minimum dissolved oxygen criterion in Segment 0211 is 2.0 mg/L.

3 [2] It is anticipated that inorganic chemical quality in Segment 0217 and Segment 0226 should improve following completion and as a result of the operation of salinity control projects.

4 The critical low-flow for Segment 0218 is calculated according to §307.8(a)(2)(B) of this title.

| SULPHUR RIVER BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment No. | SEGMENT NAME | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| 0301 | Sulphur River Below Wright Patman Lake | PCR [CR] | H | | | 120 | 100 | 500 | 5.0 | 6.0-8.5 | 206 [126/200] | 90 |
| 0302 | Wright Patman Lake | PCR [CR] | H | PS | | 75 | 75 | 400 | 5.0 | 6.0-8.5 | 206 [126/200] | 90 |
| 0303 | Sulphur/South Sulphur River | PCR [CR] | H | | | 80 | 180 | 600 | 5.0 | 6.0-8.5 | 206 [126/200] | 93 |
| 0304 | Days Creek | PCR [CR] | I | | | 525 | 75 | 850 | 4.0 | 6.0-8.5 | 206 [126/200] | 90 |
| 0305 | North Sulphur River[2,3] | PCR [CR] | I[2] [H] | | | 190 | 475 | 1,320 | 5.0 | 6.0-8.5 | 206 [126/200] | 93 |
| 0306 | Upper South Sulphur River | PCR [CR] | I | | | 80 | 180 | 600 | 4.0 | 6.5-9.0 [6.5-8.0] | 206 [126/200] | 93 |
| 0307 | Jim L. Chapman Lake [Cooper Lake] | PCR [CR] | H | PS | | 50 [- - -[2]] | 50 [- - -[2]] | 225 [- - -[2]] | 5.0 | 6.5-9.0 [6.0-8.5] | 206 [126/200] | 93 |

1 The indicator bacteria for freshwater is *E. coli.* [Fecal coliform is an alternate indicator.]

2 For the purpose of assessment, the intermediate aquatic life use applies only to the fish community. The benthic community is to be assessed using a limited aquatic life use. [Dissolved mineral criteria have not been derived for Segment 0307 - Cooper Lake since it is a new reservoir. In the interim, drinking water criteria apply.]

3 Segment 0305 is an intermittent stream with perennial pools.

| CYPRESS CREEK BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment No. | SEGMENT NAME | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| 0401 | Caddo Lake | PCR [CR] | H | PS | | 50 | 50 | 200 | 5.0 | 5.5-9.0 [6.0-8.5] | 206 [126/200] | 90 |
| 0402 | Big Cypress Creek Below Lake O' the Pines | PCR [CR] | H | PS | | 100 | 50 | 300 | 5.0 | 5.5-8.0 [6.0-8.5] | 206 [126/200] | 93 |
| 0403 | Lake O' the Pines | PCR [CR] | H | PS | | 80 | 50 | 300 | 5.0 | 6.0-8.5 | 206 [126/200] | 93 |
| 0404 | Big Cypress Creek Below Lake Bob Sandlin | PCR [CR] | I | | | 100 | 100 | 500 | 4.0 | 6.0-8.5 | 206 [126/200] | 90 |
| 0405 | Lake Cypress Springs | PCR [CR] | H | PS | | 100 | 100 | 500 | 5.0 | 6.0-8.5 | 206 [126/200] | 93 |
| 0406 | Black Bayou[2] | PCR [CR] | H [I] | PS | | 80 | 50 | 300 | 5.0[3] [4.0] | 5.5-8.0 [6.0-8.5] | 206 [126/200] | 90 |
| 0407 | James' Bayou[2] | PCR [CR] | H [I] | PS | | 100 | 50 | 300 | 5.0[3] [4.0] | 5.5-8.0 [6.0-8.5] | 206 [126/200] | 90 |
| 0408 | Lake Bob Sandlin | PCR [CR] | H | PS | | 50 | 65 | 150 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 0409 | Little Cypress Bayou (Creek) | PCR [CR] | H | PS | | 100 | 50 | 300 | 5.0 [3] | 5.5-8.5 | 206 [126/200] | 90 |
| 0410 | Black Cypress Bayou (Creek) | PCR | H | | | 50 | 50 | 200 | 5.0 [3] | 5.5-8.0 | 206 | 90 |

[1] The indicator bacteria for freshwater is *E. coli.* [Fecal coliform is an alternate indicator.]

[2] Segments 0406 and 0407 are intermittent streams with perennial pools.

[3] A 24-hour average dissolved oxygen criterion of 5.0 mg/L is the upper bounds if the following indicated dissolved oxygen equation predicts dissolved oxygen values that are higher than 5.0 mg/L. If the 24-hour average dissolved oxygen is predicted to be lower than 1.5 mg/L, then the dissolved oxygen

criterion is set as 1.5 mg/L. The corresponding 24-hour minimum dissolved oxygen criterion should be 1.0 mg/L less than the calculated 24-hour average criterion. If stream flow is below 0.1 cfs, then 0.1 cfs is the presumed flow that should be used in the equation. This equation supersedes Table 4 in §307.7(b)(3)(A) of this title.

$DO = 12.11 - 0.309\ T + 1.05\ \log Q - 1.02\ \log WS$ where

DO = 24-hour average dissolved oxygen criterion

T = temperature in degrees Celsius

Q = flow in cfs

WS = watershed size in square kilometers

| SABINE RIVER BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment No. | SEGMENT NAME | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| 0501 | Sabine River Tidal | PCR [CR] | H | | | | | | 4.0 | 6.0-8.5 | 35 [35/200] | 95 |
| 0502 | Sabine River Above Tidal | PCR [CR] | H | PS | | 50 | 50 | 200 | 5.0 | 6.0-8.5 | 206 [126/200] | 91 |
| 0503 | Sabine River Above Caney Creek | PCR [CR] | H | PS | | 50 | 50 | 200 | 5.0 | 6.0-8.5 | 206 [126/200] | 91 |
| 0504 | Toledo Bend Reservoir | PCR [CR] | H | PS | | 70 | 50 | 240 | 5.0 | 6.0-8.5 | 206 [126/200] | 93 |
| 0505 | Sabine River Above Toledo Bend Reservoir | PCR [CR] | H | PS | | 175 | 100 | 400 | 5.0 | 6.0-8.5 | 206 [126/200] | 93 |
| 0506 | Sabine River Below Lake Tawakoni | PCR [CR] | H | PS | | 200 | 100 | 500 | 5.0 | 6.0-8.5 | 206 [126/200] | 90 |
| 0507 | Lake Tawakoni | PCR [CR] | H | PS | | 75[2] [50] | 75[2] [50] | 400[2] [200] | 5.0 | 6.0-9.0 | 206 [126/200] | 93 |
| 0508 | Adams Bayou Tidal | PCR [CR] | H | | | | | | 4.0 | 6.0-8.5 | 35 [126/200] | 95 |
| 0509 | Murvaul Lake | PCR [CR] | H | PS | | 150 | 75 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 92 |
| 0510 | Lake Cherokee | PCR [CR] | H | PS | | 75 | 50 | 250 | 5.0 | 6.0-8.5 | 206 [126/200] | 95 |
| 0511 | Cow Bayou Tidal | PCR [CR] | H | | | | | | 4.0 | 6.0-8.5 | 35 [126/200] | 95 |
| 0512 | Lake Fork Reservoir | PCR [CR] | H | PS | | 50 | 50 | 200 | 5.0 | 6.5-9.0 | 206 [126/200] | 95 |
| 0513 | Big Cow Creek | PCR [CR] | H | PS | | 75 | 50 | 300 | 5.0 | 5.5-8.5 | 206 [126/200] | 90 |
| 0514 | Big Sandy Creek | PCR [CR] | H | PS | | 75 | 50 | 300 | 5.0 | 6.0-8.5 | 206 [126/200] | 90 |
| 0515 | Lake Fork Creek | PCR [CR] | H | PS | | 100 | 75 | 400 | 5.0 | 6.0-8.5 | 206 [126/200] | 90 |

[1] The indicator bacteria for freshwater is *E. coli* and Enterococci for saltwater. [Fecal coliform is an alternative indicator.]

[2] This criterion will be reviewed upon the next water quality standards revision and is contingent upon the continuation and progress of a water reuse project.

The original criteria (TDS of 200, $Cl^{-1}$ of 50, and $SO_4^{-2}$ of 50) may be appropriate if the water reuse project is not pursued.

| NECHES RIVER BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment No. | SEGMENT NAME | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| 0601 | Neches River Tidal | PCR [CR] | I | | | | | | 3.0 | 6.0-8.5 | 35 [35/200] | 95 |
| 0602 | Neches River Below B. A. Steinhagen Lake | PCR [CR] | H | PS | | 50 | 50 | 200 | 5.0 | 6.0-8.5 | 206 [126/200] | 91 |
| 0603 | B. A. Steinhagen Lake | PCR [CR] | H | PS | | 50 | 50 | 200 | 5.0 | 6.0-8.5 | 206 [126/200] | 93 |
| 0604 | Neches River Below Lake Palestine | PCR [CR] | H | PS | | 50 | 50 | 200 | 5.0 | 6.0-8.5 | 206 [126/200] | 91 |
| 0605 | Lake Palestine | PCR [CR] | H | PS | | 50 | 50 | 200 | 5.0 | 6.0-8.5 | 206 [126/200] | 90 |
| 0606 | Neches River Above Lake Palestine | PCR [CR] | I | PS | | 100 | 50 | 300 | 4.0 | 6.0-8.5 | 206 [126/200] | 95 |
| 0607 | Pine Island Bayou | PCR [CR] | H | PS | | 150 | 50 | 300 | 5.0 | 6.0-8.5 | 206 [126/200] | 95 |
| 0608 | Village Creek | PCR [CR] | H | PS | | 150 | 75 | 300 | 5.0 | 5.5-8.0 [6.0-8.5] | 206 [126/200] | 90 |
| 0609 | Angelina River Below Sam Rayburn Reservoir | PCR [CR] | H | PS | | 70 | 50 | 250 | 5.0 | 6.0-8.5 | 206 [126/200] | 90 |
| 0610 | Sam Rayburn Reservoir | PCR [CR] | H | PS | | 100 | 100 | 400 | 5.0 | 6.0-8.5 | 206 [126/200] | 93 |
| 0611 | Angelina River Above Sam Rayburn Reservoir | PCR [CR] | H | PS | | 125 | 50 | 250 | 5.0 | 6.0-8.5 | 206 [126/200] | 90 |
| 0612 | Attoyac Bayou | PCR [CR] | H | PS | | 75 | 50 | 200 | 5.0 | 6.0-8.5 | 206 [126/200] | 90 |
| 0613 | Lake Tyler/Lake Tyler East | PCR [CR] | H | PS | | 50 | 50 | 200 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0614 | Lake Jacksonville | PCR [CR] | H | PS | | 50 | 75 | 750 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0615 | Angelina River/Sam Rayburn Reservoir | PCR [CR] | H [I] | PS | | 150 | 100 | 500 | 5.0 [4.0] | 6.5-9.0 | 206 [126/200] | 93 |

[1] The indicator bacteria for freshwater is *E. coli* and Enterococci for saltwater. [Fecal coliform is an alternative indicator.]

| NECHES-TRINITY COASTAL BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment No. | SEGMENT NAME | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| 0701 | Taylor Bayou Above Tidal | PCR [CR] | I | | | 400 | 100 | 1,100 | 4.0 | 6.5-9.0 | 206 [126/200] | 95 |
| 0702 | Intracoastal Waterway Tidal | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 0703 | Sabine-Neches Canal Tidal | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 0704 | Hillebrandt Bayou | PCR [CR] | I | | | 250 | 100 | 600 | 4.0 | 6.5-9.0 | 206 [126/200] | 95 |

[1] The indicator bacteria for freshwater is *E. coli* and Enterococci for saltwater. [Fecal coliform is an alternative indicator.]

| TRINITY RIVER BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment No. | SEGMENT NAME | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| 0801 | Trinity River Tidal | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 0802 | Trinity River Below Lake Livingston | PCR [CR] | H | PS | | 125 | 100 | 600 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0803 | Lake Livingston | PCR [CR] | H | PS | | 150 | 60 [50] | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0804 | Trinity River Above Lake Livingston | PCR [CR] | H | | | 150 | 150 | 600 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0805 | Upper Trinity River | PCR [CR] | H | | | 175 | 175 | 850 | 5.0[2] | 6.5-9.0 | 206 [126/200] | 95 |
| 0806 | West Fork Trinity River Below Lake Worth | PCR [CR] | H | PS | | 100 | 100 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0807 | Lake Worth | PCR [CR] | H | PS | | 100 | 100 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 0808 | West Fork Trinity River Below Eagle Mountain Reservoir | PCR [CR] | H | PS | | 100 | 100 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 0809 | Eagle Mountain Reservoir | PCR [CR] | H | PS | | 75 | 75 | 300 | 5.0 | 6.5-9.0 | 206 [126/200] | 94 |
| 0810 | West Fork Trinity River Below Bridgeport Reservoir | PCR [CR] | H | PS | | 100 | 100 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 0811 | Bridgeport Reservoir | PCR [CR] | H | PS | | 75 | 75 | 300 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 0812 | West Fork Trinity River Above Bridgeport Reservoir[3] | PCR [CR] | I [H] | PS | | 190 [100] | 200 [100] | 800 [500] | 3.0[4] [5.0] | 6.5-9.0 | 206 [126/200] | 88 |
| 0813 | Houston County Lake | PCR [CR] | H | PS | | 75 | 75 | 300 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0814 | Chambers Creek Above Richland-Chambers Reservoir | PCR [CR] | H | PS | | 90 | 160 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 0815 | Bardwell Reservoir | PCR [CR] | H | PS | | 50 | 50 | 300 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 0816 | Lake Waxahachie | PCR [CR] | H | PS | | 50 | 50 | 300 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 0817 | Navarro Mills Lake | PCR [CR] | H | PS | | 50 | 75 | 300 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 0818 | Cedar Creek Reservoir | PCR [CR] | H | PS | | 50 | 100 | 200 | 5.0 | 6.0-8.5 | 206 [126/200] | 93 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0819 | East Fork Trinity River | PCR [CR] | I | | | 100 | 100 | 500 | 4.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 0820 | Lake Ray Hubbard | PCR [CR] | H | PS | | 100 | 100 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0821 | Lavon Lake | PCR [CR] | H | PS | | 100 [80] | 100 [60] | 500 [400] | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0822 | Elm Fork Trinity River Below Lewisville Lake | PCR [CR] | H | PS | | 80 | 60 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 0823 | Lewisville Lake | PCR [CR] | H | PS | | 80 | 60 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 0824 | Elm Fork Trinity River Above Ray Roberts Lake | PCR [CR] | H | PS[5] [3] | | 110 | 90 | 700 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 0825 | Denton Creek | PCR [CR] | H | PS | | 80 | 60 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 0826 | Grapevine Lake | PCR [CR] | H | PS | | 80 | 60 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0827 | White Rock Lake | PCR [CR] | H | | | 100 | 100 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0828 | Lake Arlington | PCR [CR] | H | PS | | 100 | 100 | 300 | 5.0 | 6.5-9.0 | 206 [126/200] | 95 |
| 0829 | Clear Fork Trinity River Below Benbrook Lake | PCR [CR] | H | PS | | 100 | 100 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0830 | Benbrook Lake | PCR [CR] | H | PS | | 75 | 75 | 300 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0831 | Clear Fork Trinity River Below Lake Weatherford | PCR [CR] | H | PS | | 100 | 100 | 500 | 5.0 [6] | 6.5-9.0 | 206 [126/200] | 90 |
| 0832 | Lake Weatherford | PCR [CR] | H | PS | | 100 | 100 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0833 | Clear Fork Trinity River Above Lake Weatherford[7] | PCR [CR] | I [H] | PS | | 125 | 125 | 750 | 4.0[8] [5.0] | 6.5-9.0 | 206 [126/200] | 95 |
| 0834 | Lake Amon G. Carter | PCR [CR] | H | PS | | 150 | 150 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 0835 | Richland Creek Below Richland-Chambers Reservoir | PCR [CR] | H | PS | | 145 | 170 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 0836 | Richland-Chambers Reservoir | PCR [CR] | H | PS | | 75 | 110 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 0837 | Richland Creek Above Richland-Chambers Reservoir | PCR [CR] | H | PS | | 145 | 170 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 0838 | Joe Pool Lake | PCR [CR] | H | PS | | 100 | 250 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 0839 | Elm Fork Trinity River Below Ray Roberts Lake | PCR [CR] | H | PS | | 80 | 60 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 0840 | Ray Roberts Lake | PCR [CR] | H | PS | | 80 | 60 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 0841 | Lower West Fork Trinity River | PCR [CR] | I | | | 175 | 175 | 850 | 4.0[9] [4] | 6.5-9.0 | 206 [126/200] | 95 |

The indicator bacteria for freshwater is *E. coli* and Enterococci for saltwater. [Fecal coliform is an alternative indicator.]

The dissolved oxygen criterion in Segment 0805 is [shall be] 3.5 mg/L when headwater flow at USGS Gaging Station 08048000 (located on the West Fork Trinity River in Fort Worth) is less than 80 $ft.^3/s$.

Segment 0812 is an intermittent stream with perennial pools.

The 24-hour minimum dissolved oxygen criterion in Segment 0812 is 2.0 mg/L.

[3] The public water supply use for Segment 0824 does not apply from a point 9.5 km (5.9 miles) downstream of the confluence of Pecan Creek in Cooke County up to FM 373 in Cooke County.

A 24-hour average dissolved oxygen criterion of 3.0 mg/L and minimum dissolved oxygen criterion of 2.0 mg/L applies from the confluence with an unnamed tributary approximately 1.0 mile downstream of Weatherford Dam upstream to Weatherford Dam.

Segment 0833 is an intermittent stream with perennial pools.

The 24-hour minimum dissolved oxygen criterion in Segment 0833 is 2.0 mg/L. A 24-hour average dissolved oxygen criterion of 2.0 mg/L and 24-hour minimum dissolved oxygen criterion of 1.0 mg/L applies when flows are less than 1cfs.

[4] The dissolved oxygen criterion in Segment 0841 is [shall be] 2.5 mg/L when headwater flow at USGS Gaging Station 08048000 (located on the West Fork Trinity River in Fort Worth) is less than 80.0 $ft.^3/s$.

| TRINITY-SAN JACINTO COASTAL BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment No. | SEGMENT NAME | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| 0901 | Cedar Bayou Tidal | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 0902 | Cedar Bayou Above Tidal | PCR [CR] | H | PS | | 200 | 150 | 700 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |

[1] The indicator bacteria for freshwater is *E. coli* and Enterococci for saltwater. [Fecal coliform is an alternative indicator.]

| SAN JACINTO RIVER BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment No. | SEGMENT NAME | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| 1001 | San Jacinto River Tidal | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 1002 | Lake Houston | PCR [CR] | H | PS | | 100 | 50 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1003 | East Fork San Jacinto River | PCR [CR] | H | PS | | 80 | 50 | 400 | 5.0 | 6.0-8.5 | 206 [126/200] | 91 |
| 1004 | West Fork San Jacinto River | PCR [CR] | H | PS | | 100 | 50 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 95 |
| 1005 | Houston Ship Channel/San Jacinto River Tidal | NCR | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 1006[2] | Houston Ship Channel Tidal | - | | | N/IS | | | | 2.0 | 6.5-9.0 | 168 [3] | 95 |
| 1007[2] | Houston Ship Channel/Buffalo Bayou Tidal | - | | | N/IS | | | | 1.0 | 6.5-9.0 | 168 [3] | 95 |
| 1008 | Spring Creek | PCR [CR] | H | PS | | 100 | 50 | 450 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1009 | Cypress Creek | PCR [CR] | H | PS | | 100 | 50 | 600 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1010 | Caney Creek | PCR [CR] | H | PS | | 50 | 50 | 300 | 5.0 | 6.0-8.5 | 206 [126/200] | 90 |
| 1011 | Peach Creek | PCR [CR] | H | PS | | 50 | 50 | 300 | 5.0 | 6.0-8.5 | 206 [126/200] | 90 |
| 1012 | Lake Conroe | PCR [CR] | H | PS | | 50 | 50 | 300 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1013 | Buffalo Bayou Tidal | PCR [CR] | I | | | | | | 3.0 | 6.5-9.0 | 35 [35/200] | 92 |
| 1014 | Buffalo Bayou Above Tidal | PCR [CR] | L | | | 110 | 65 | 600 | 3.0 | 6.5-9.0 | 206 [126/200] | 92 |
| 1015 | Lake Creek | PCR [CR] | H | PS | | 80 | 50 | 300 | 5.0 | 6.0-8.5 | 206 [126/200] | 90 |
| 1016 | Greens Bayou Above Tidal | PCR [CR] | L | | | 150 | 150 | 1,000 | 3.0 | 6.5-9.0 | 206 [126/200] | 92 |
| 1017 | Whiteoak Bayou Above Tidal | PCR [CR] | L | | | 110 | 65 | 600 | 3.0 | 6.5-9.0 | 206 [126/200] | 92 |

[1] The indicator bacteria for freshwater is *E. coli* and Enterococci for saltwater. [Fecal coliform is an alternative indicator.]

[2] Chronic numerical toxic criteria and chronic total toxicity requirements apply to Segments 1006 and 1007.

[3] [30-day geometric mean enterococci density (colonies/100ml); the maximum enterococci density in 10% of samples in a 30-day period if greater than 10 samples or in a single sample if fewer than 10 samples are collected is 500 colonies/100ml.]

| SAN JACINTO-BRAZOS COASTAL BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment No. | SEGMENT NAME | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| 1101 | Clear Creek Tidal | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 1102 | Clear Creek Above Tidal | PCR [CR] | H | | | 200 | 100 | 600 | 5.0 | 6.5-9.0 | 206 [126/200] | 95 |
| 1103 | Dickinson Bayou Tidal | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 1104 | Dickinson Bayou Above Tidal | PCR [CR] | I | | | 200 | 100 | 600 | 4.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1105 | Bastrop Bayou Tidal | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 1107 | Chocolate Bayou Tidal | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 1108 | Chocolate Bayou Above Tidal | PCR [CR] | H | | | 200 | 100 | 900 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1109 | Oyster Creek Tidal | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 1110 | Oyster Creek Above Tidal | PCR [CR] | H | PS | | 300 | 150 | 750 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1111 | Old Brazos River Channel Tidal | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 1113 | Armand Bayou Tidal | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |

[1] The indicator bacteria for freshwater is *E. coli* and Enterococci for saltwater. [Fecal coliform is an alternative indicator.]

| BRAZOS RIVER BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment No. | SEGMENT NAME | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| 1201 | Brazos River Tidal | PCR [CR] | H | PS[2] | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 1202 | Brazos River Below Navasota River | PCR [CR] | H | PS | | 300 | 200 | 750 | 5.0 | 6.5-9.0 | 206 [126/200] | 95 |
| 1203 | Whitney Lake | PCR [CR] | H | PS | | 670 | 320 | 1,500 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1204 | Brazos River Below Lake Granbury | PCR [CR] | H | | | 750 | 380 | 1,600 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 1205 | Lake Granbury | PCR [CR] | H | PS | | 1,000 | 600 | 2,500 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1206 | Brazos River Below Possum Kingdom Lake | PCR [CR] | H | | | 1,036 [1,020] | 595 [500] | 2,325 [2,300] | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1207 | Possum Kingdom Lake | PCR [CR] | H | PS | | 1,200 | 500 | 3,500 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1208 | Brazos River Above Possum Kingdom Lake | PCR [CR] | H | | | 5,000 | 2,000 | 12,000 | 5.0 | 6.5-9.0 | 54 [126/200] | 95 |
| 1209 | Navasota River Below Lake Limestone | PCR [CR] | H | PS | | 140 | 100 | 600 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1210 | Lake Mexia | PCR [CR] | H | PS | | 100 | 50 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1211 | Yegua Creek | PCR [CR] | H | PS | | 140 | 130 | 640 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 1212 | Somerville Lake | PCR [CR] | H | PS | | 100 | 100 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1213 | Little River | PCR [CR] | H | PS | | 75 | 75 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1214 | San Gabriel River | PCR [CR] | H | PS | | 50 | 45 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 1215 | Lampasas River Below Stillhouse Hollow Lake | PCR [CR] | H | PS | | 100 | 75 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 1216 | Stillhouse Hollow Lake | PCR [CR] | E | PS | | 100 | 75 | 500 | 6.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1217 | Lampasas River Above Stillhouse Hollow Lake | PCR [CR] | H | | | 500 | 100 | 1,200 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1218 | Nolan Creek/South Nolan Creek | PCR [CR] | H | | | 100 | 75 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1219 | Leon River Below Belton Lake | PCR [CR] | H | PS | | 150 | 75 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 1220 | Belton Lake | PCR [CR] | H | PS | | 100 | 75 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1221 | Leon River Below Proctor Lake | PCR [CR] | H | PS | | 150 | 100 | 900 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1222 | Proctor Lake | PCR [CR] | H | PS | | 200 | 75 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1223 | Leon River Below Leon Reservoir | PCR [CR] | H | PS | | 480 | 130 | 1,240 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1224 | Leon Reservoir | PCR [CR] | H | PS | | 150 | 75 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1225 | Waco Lake | PCR [CR] | H | PS | | 60 | 60 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1226 | North Bosque River | PCR [CR] | H | PS | | 100 | 100 | 540 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 1227 | Nolan River | PCR [CR] | I | | | 372 [75] | 320 [75] | 1,383 [500] | 4.0 | 6.5-9.0 | 206 [126/200] | 95 |
| 1228 | Lake Pat Cleburne | PCR [CR] | H | PS | | 100 | 100 | 300 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1229 | Paluxy River/North Paluxy River | PCR [CR] | H | PS | | 50 | 100 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 1230 | Lake Palo Pinto | PCR [CR] | H | PS | | 100 | 100 | 450 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1231 | Lake Graham | PCR [CR] | H | PS | | 200 | 75 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 95 |
| 1232 | Clear Fork Brazos River | PCR [CR] | H | | | 1,250 | 2,200 | 4,900 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1233 | Hubbard Creek Reservoir | PCR [CR] | H | PS | | 350 | 150 | 900 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1234 | Lake Cisco | PCR [CR] | H | PS | | 75 | 75 | 350 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1235 | Lake Stamford | PCR [CR] | H | PS | | 580 | 400 | 2,100 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1236 | Fort Phantom Hill Reservoir | PCR [CR] | H | PS | | 130 | 150 | 550 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1237 | Lake Sweetwater | PCR [CR] | H | PS | | 250 | 225 | 730 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1238 | Salt Fork Brazos River | PCR [CR] | H | | | 28,060 [23,000] | 3,470 [4,000] | 54,350 [40,000] | 5.0 | 6.5-9.0 | 54 [126/200] | 93 |
| 1239 | White River | PCR [CR] | H | PS | | 190 [100] | 90 [100] | 780 [500] | 5.0 | 6.5-9.0 | 206 [126/200] | 92 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1240 | White River Lake | PCR [CR] | H | PS | | 190 [150] | 90 [100] | 780 [650] | 5.0 | 6.5-9.0 | 206 [126/200] | 89 |
| 1241 | Double Mountain Fork Brazos River | PCR [CR] | H | | | 2,630 [2,500] | 2,400 | 5,500 | 5.0 | 6.5-9.0 | 54 [126/200] | 95 |
| 1242 | Brazos River Above Navasota River | PCR [CR] | H | PS | | 350 | 200 | 1,000 | 5.0 | 6.5-9.0 | 206 [126/200] | 95 |
| 1243 | Salado Creek [3] | PCR [CR] | H | PS/AP[4] [3] | | 50 | 50 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1244 | Brushy Creek | PCR [CR] | H | PS/AP[4] [3] | | 200 | 150 | 800 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 1245 | Upper Oyster Creek | PCR [CR] | I | PS[5] | | 140 | 75 | 1,070 | 4.0 [6] | 6.5-9.0 | 206 [126/200] | 95 |
| 1246 | Middle Bosque/South Bosque River | PCR [CR] | H | | | 50 | 260 | 700 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 1247 | Granger Lake | PCR [CR] | H | PS | | 50 | 50 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1248 | San Gabriel/North Fork San Gabriel River | PCR [CR] | H | PS/AP[4] [3] | | 50 | 50 | 350 | 5.0 | 6.5-9.0 | 206 [126/200] | 95 |
| 1249 | Lake Georgetown | PCR [CR] | H | PS/AP[4] [3] | | 50 | 50 | 350 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1250 | South Fork San Gabriel River | PCR [CR] | H | PS/AP[4] [3] | | 50 | 50 | 350 | 5.0 | 6.5-9.0 | 206 [126/200] | 95 |
| 1251 | North Fork San Gabriel River | PCR [CR] | H | PS/AP[4] [3] | | 50 | 50 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 1252 | Lake Limestone | PCR [CR] | H | PS | | 50 | 50 | 300 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1253 | Navasota River Below Lake Mexia | PCR [CR] | H | PS | | 440 | 150 | 1,350 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1254 | Aquilla Reservoir | PCR [CR] | H | PS | | 110 | 310 | 600 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1255 | Upper North Bosque River | PCR [CR] | I | | | 200 | 150 | 1,000 | 4.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 1256 | Brazos River/Lake Brazos | PCR [CR] | H | PS | | 400 | 200 | 1,150 | 5.0 | 6.5-9.0 | 206 [126/200] | 95 |
| 1257 | Brazos River Below Whitney Lake | PCR [CR] | H | PS | | 450 | 250 | 1,450 [1450] | 5.0 | 6.5-9.0 | 206 [126/200] | 95 |

[1] The indicator bacteria for freshwater is *E. coli* and Enterococci for saltwater. The indicator bacteria and alternate indicator for Segments 1208, 1238, and 1241 are Enterococci and fecal coliform, respectively. [Fecal coliform is an alternative indicator.]

[2] The public supply designation for Segment 1201 only applies from the upstream boundary to 300 meters (330 yards) downstream of SH 332 in Brazoria County.

| | |
|---|---|
| 3 | The critical low-flow for Segment 1243 is calculated according to §307.8(a)(2)(B) of this title. |
| 4 [3] | The aquifer protection use applies to the contributing, recharge, and transition zones of the Edwards Aquifer. |
| 5 | The public water supply for Segment 1245 does not apply from Steep Bank Creek/Brazos River confluence upstream to Dam #3 approximately 0.4 mi downstream from the confluence of the American Canal. |
| 6 | A 24-hour minimum dissolved oxygen criterion of 1.0 mg/L applies from the confluence with Steep Bank Creek/Brazos River upstream to Dam #3. |

| BRAZOS-COLORADO COASTAL BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment No. | SEGMENT NAME | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| 1301 | San Bernard River Tidal | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 1302 | San Bernard River Above Tidal | PCR [CR] | H | PS | | 200 | 100 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1304 | Caney Creek Tidal | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 1305 | Caney Creek Above Tidal | PCR [CR] | H | | | 200 | 75 | 1,000 | 5.0 [2] | 6.5-9.0 | 206 [126/200] | 90 |

[1] The indicator bacteria for freshwater is *E.coli* and Enterococci for saltwater. [Fecal coliform is an alternative indicator.]

[2] A 24-hour average dissolved oxygen criterion of 4.0 mg/L and a 24-hour minimum dissolved oxygen criterion of 3.0 mg/L applies from the confluence with Hardeman Slough upstream to the confluence with Water Hole Creek. A 24-hour average dissolved oxygen criterion of 2.5 mg/L and 24-hour minimum dissolved oxygen criterion of 2.0 mg/L applies from the confluence with Hardeman Slough upstream to the confluence with Water Hole Creek from March 15-October when flows are less than 5.0 cfs.

| COLORADO RIVER BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment No. | SEGMENT NAME | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| 1401 | Colorado River Tidal | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 1402 | Colorado River Below La Grange | PCR [CR] | H | PS | | 100 | 100 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 95 |
| 1403 | Lake Austin | PCR [CR] | H | PS | | 100 | 75 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1404 | Lake Travis | PCR [CR] | E | PS | | 100 | 75 | 400 | 6.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1405 | Marble Falls Lake | PCR [CR] | H | PS | | 125 | 75 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 94 |
| 1406 | Lake Lyndon B. Johnson | PCR [CR] | H | PS | | 125 | 75 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 94 |
| 1407 | Inks Lake | PCR [CR] | H | PS | | 150 | 100 | 600 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1408 | Lake Buchanan | PCR [CR] | H | PS | | 150 | 100 | 600 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1409 | Colorado River Above Lake Buchanan | PCR [CR] | H | PS | | 200 | 200 | 900 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 1410 | Colorado River Below O. H. Ivie Reservoir | PCR [CR] | H | PS | | 500 | 455 | 1,475 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 1411 | E. V. Spence Reservoir | PCR [CR] | H | PS | | 440 [950] | 360 [450] | 1,630 [1,500] | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1412 | Colorado River Below Lake J. B. Thomas | PCR [CR] | H | | | 4,740 [11,000] | 1,570 [2,500] | 9,210 [20,000] | 5.0 | 6.5-9.0 | 54 [126/200] | 93 |
| 1413 | Lake J. B. Thomas | PCR [CR] | H | PS | | 140 [80] | 250 [110] | 520 [500] | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1414 | Pedernales River | PCR [CR] | H | PS | | 125 | 75 | 525 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 1415 | Llano River [2] | PCR [CR] | H | PS | | 50 | 50 | 350 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 1416 | San Saba River | PCR [CR] | H | PS | | 50 | 50 | 425 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1417 | Lower Pecan Bayou | PCR [CR] | H | | | 310 | 120 | 1,025 | 5.0 | 6.5-9.0 | 206 | 90 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | [126/200] | |
| 1418 | Lake Brownwood | PCR [CR] | H | PS | | 150 | 100 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1419 | Lake Coleman | PCR [CR] | H | PS | | 150 | 100 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1420 | Pecan Bayou Above Lake Brownwood | PCR [CR] | H | PS | | 500 | 500 | 1,500 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1421 | Concho River | PCR [CR] | H | PS | | 610 [775] | 420 [425] | 1,730 [1,600] | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1422 | Lake Nasworthy | PCR [CR] | H | PS | | 450 | 400 | 1,500 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1423 | Twin Buttes Reservoir | PCR [CR] | H | PS | | 200 | 100 | 700 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1424 | Middle Concho/South Concho River [3] | PCR [CR] | H | PS | | 150 | 150 | 700 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1425 | O. C. Fisher Lake | PCR [CR] | H | PS | | 150 | 150 | 700 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1426 | Colorado River Below E. V. Spence Reservoir | PCR [CR] | H | PS | | 1,000 [610] | 1,110 [980] | 1,770 [2000] | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 1427 | Onion Creek [2] | PCR [CR] | H | PS/AP[4] [3] | | 100[5] [2] | 100[5] [2] | 500[5] [2] | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1428 | Colorado River Below Lady Bird Lake/Town Lake | PCR [CR] | E | PS | | 100 | 100 | 500 | 6.0[6] [4] | 6.5-9.0 | 206 [126/200] | 95 |
| 1429 | Lady Bird Lake/Town Lake[7] [5] | PCR [CR] | H | PS | | 75 | 75 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1430 | Barton Creek [8] | PCR [CR] | H | AP[4] [3] | | 50 | 50 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1431 | Mid Pecan Bayou | PCR [CR] | | | | 410 | 120 | 1,100 [1100] | 2.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1432 | Upper Pecan Bayou | PCR [CR] | H | PS | | 200 | 150 | 800 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1433 | O. H. Ivie Reservoir | PCR [CR] | H | PS | | 430 [—[6]] | 330 [—[6]] | 1,520 [—[6]] | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1434 | Colorado River Above La Grange | PCR [CR] | E | PS | | 100 | 100 | 500 | 6.0 | 6.5-9.0 | 206 [126/200] | 95 |

1 The indicator bacteria for freshwater is *E.coli* and Enterococci for saltwater. The indicator bacteria and alternate indicator for Segment 1412 is Enterococci and fecal coliform, respectively. [Fecal coliform is an alternative indicator.]

2 The critical low-flow for the South Llano River portion of Segment 1415 is calculated according to §307.8(a)(2)(B) of this title.

3 The critical low-flow for the South Concho River portion of Segment 1424 is calculated according to §307.8(a)(2)(B) of this title.

4 [3] The aquifer protection use applies to the contributing, recharge, and transition zones of the Edwards Aquifer.

5 [2] The aquifer protection reach of Onion Creek is assigned a criteria of 50 mg/L for $Cl^{-1}$, 50 mg/L for $SO_4^{-2}$, and 400 mg/L for TDS.

6 [4] Dissolved oxygen criterion of 6.0 mg/L only applies at stream flows greater than or equal to 150 cfs as measured at USGS gage number 08158000 [8158000] located in Travis County upstream from U.S. Highway 183. Dissolved oxygen criteria of 5.0 mg/L applies [will apply] to stream flows less than 150 cfs and greater than or equal to the 7Q2 for the segment.

7 [5] While Segment 1429 exhibits [may exhibit] quality characteristics that [which] would make it suitable for primary contact recreation, the use is prohibited by local regulation for reasons unrelated to water quality.

[6] [Numerical criteria for chloride, sulfate, and total dissolved solids cannot be established at this time for this new reservoir.]

8 The critical low-flow for Segment 1430 is calculated according to §307.8(a)(2)(A) of this title.

| COLORADO-LAVACA COASTAL BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| Segment No. | SEGMENT NAME | | | | | | | | | | | |
| 1501 | Tres Palacios Creek Tidal | PCR [CR] | E | | | | | | 5.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 1502 | Tres Palacios Creek Above Tidal | PCR [CR] | H | | | 250 | 100 | 800 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |

[1] The indicator bacteria for freshwater is *E. coli* and Enterococci for saltwater.

| LAVACA RIVER BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment No. | SEGMENT NAME | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| 1601 | Lavaca River Tidal | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 1602 | Lavaca River Above Tidal | PCR [CR] | H | PS | | 200 | 100 | 700 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 1603 | Navidad River Tidal | PCR [CR] | H | [PS] | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 91 |
| 1604 | Lake Texana | PCR [CR] | H | PS | | 100 | 50 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1605 | Navidad River Above Lake Texana | PCR [CR] | H | PS | | 100 | 50 | 550 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |

[1] The indicator bacteria for freshwater is *E.coli* and Enterococci for saltwater. [Fecal coliform is an alternative indicator.]

| LAVACA-GUADALUPE COASTAL BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| Segment No. | SEGMENT NAME | | | | | | | | | | | |
| 1701 | Victoria Barge Canal Tidal | NCR | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |

[1] The indicator bacteria for saltwater is Enterococci. [Fecal coliform is an alternative indicator.]

| GUADALUPE RIVER BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| Segment No. | SEGMENT NAME | | | | | | | | | | | |
| 1801 | Guadalupe River Tidal | PCR [CR] | E | | | | | | 5.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 1802 | Guadalupe River Below San Antonio River | PCR [CR] | H | PS | | 150 | 100 | 700 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1803 | Guadalupe River Below San Marcos River | PCR [CR] | H | PS | | 100 | 100 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1804 | Guadalupe River Below Comal River | PCR [CR] | H | PS/AP[2] | | 100 | 50 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1805 | Canyon Lake | PCR [CR] | E | PS/AP[2] | | 50 | 50 | 400 | 6.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1806 | Guadalupe River Above Canyon Lake | PCR [CR] | E | PS/AP[2] | | 50 | 50 | 400 | 6.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1807 | Coleto Creek | PCR [CR] | H | PS | | 250 | 100 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 1808 | Lower San Marcos River[3] | PCR [CR] | H | PS | | 60 | 50 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1809 | Lower Blanco River | PCR [CR] | H | PS/AP[2] | | 50 | 50 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 92 |
| 1810 | Plum Creek | PCR [CR] | H | AP[2] | | 350 | 150 | 1,120 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1811 | Comal River[4] | PCR [CR] | H | PS/AP[2] | | 50 | 50 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 80[5] |
| 1812 | Guadalupe River Below Canyon Dam | PCR [CR] | E | PS/AP[2] | | 50 | 50 | 400 | 6.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1813 | Upper Blanco River[3] | PCR [CR] | E | PS/AP[2] | | 50 | 50 | 400 | 6.0 | 6.5-9.0 | 206 [126/200] | 92 |
| 1814 | Upper San Marcos River[4] [3] | PCR [CR] | E | AP[2] | | 50 | 50 | 400 | 6.0 | 6.5-9.0 | 206 [126/200] | 80[6] |
| 1815 | Cypress Creek | PCR [CR] | E | PS/AP[2] | | 50 | 50 | 400 | 6.0 | 6.5-9.0 | 206 [126/200] | 86 |
| 1816 | Johnson Creek | PCR [CR] | E | PS | | 50 | 50 | 400 | 6.0 | 6.5-9.0 | 206 [126/200] | 86 |
| 1817 | North Fork Guadalupe River[3] | PCR [CR] | E | PS | | 50 | 50 | 400 | 6.0 | 6.5-9.0 | 206 [126/200] | 86 |
| 1818 | South Fork Guadalupe River | PCR [CR] | E | PS | | 50 | 50 | 400 | 6.0 | 6.5-9.0 | 206 [126/200] | 86 |

The indicator bacteria for freshwater is *E.coli* and Enterococci for saltwater. [Fecal coliform is an alternative indicator.]

The aquifer protection use applies to the contributing, recharge, and transition zones of the Edwards Aquifer.

The critical low-flow for Segments 1808, 1813, and 1817 is calculated according to §307.8(a)(2)(B) of this title.

[Segment 1814 - Upper San Marcos River is assigned a low-flow criterion of 58 $ft^3$/sec for the application of water quality standards criteria in the same manner as a 7Q2 critical low-flow.]

The critical low-flow for Segments 1811 and 1814 is calculated according to §307.8(a)(2)(A) of this title.

Segment 1811 - Comal River is assigned a temperature criteria of 78$^o$ F from the Landa Lake Park Dam immediately upstream of Landa Park Drive upstream to Klingemann Street in New Braunfels in Comal County (excludes the western channel at Spring Island, the eastern channel at Pecan Island, and the Blieders Creek arm of Landa Lake upstream of the springs in the upper spring run reach).

Segment 1814 - Upper San Marcos River is assigned a temperature criteria of 78$^o$ F from the confluence with Sessom's Creek approximately 1.5 kilometers (0.9 miles) upstream of Rio Vista Dam upstream to a point 0.7 kilometers (0.4 mile) upstream of Loop 82 in San Marcos in Hays County (excludes the slough arm of SpringLake).

| SAN ANTONIO RIVER BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment No. | SEGMENT NAME | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| 1901 | Lower San Antonio River | PCR [CR] | H | | | 180 | 140 | 750 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1902 | Lower Cibolo Creek | PCR [CR] | H | | | 170 | 275 | 900 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1903 | Medina River Below Medina Diversion Lake | PCR [CR] | H | PS[2]/AP[3] | | 120 | 120 | 700 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1904 | Medina Lake | PCR [CR] | H | PS/AP | | 80 | 75 | 350 | 5.0 | 6.5-9.0 | 206 [126/200] | 88 |
| 1905 | Medina River Above Medina Lake [4] | PCR [CR] | E | PS | | 50 | 150 | 400 | 6.0 | 6.5-9.0 | 206 [126/200] | 88 |
| 1906 | Lower Leon Creek | PCR [CR] | H | PS[5] [4] | | 120 | 120 | 700 | 5.0 | 6.5-9.0 | 206 [126/200] | 95 |
| 1907 | Upper Leon Creek | PCR [CR] | H | PS/AP[3] | | 55 | 240 | 550 | 5.0 | 6.5-9.0 | 206 [126/200] | 95 |
| 1908 | Upper Cibolo Creek | PCR [CR] | H | PS/AP[3] | | 50 | 100 | 600 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1909 | Medina Diversion Lake | PCR [CR] | H | PS/AP[3] | | 50 | 75 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1910 | Salado Creek | PCR [CR] | H | PS/AP[3] | | 140 | 200 | 600 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1911 | Upper San Antonio River | PCR [CR] | H | | | 150 | 150 | 750 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 1912 | Medio Creek | PCR [CR] | I | | | 150 | 150 | 750 | 4.0 | 6.5-9.0 | 206 [126/200] | 95 |
| 1913 | Mid Cibolo Creek | PCR [CR] | L | | | 150 | 150 | 750 | 3.0 | 6.5-9.0 | 206 [126/200] | 90 |

1 The indicator bacteria for freshwater is *E. coli [*and Enterococci for saltwater. Fecal coliform is an alternative indicator].

2 For Segment 1903, the public supply designation does not apply from the confluence of the San Antonio River in Bexar County upstream to a point 2.5 kilometers (1.5 miles) upstream of the confluence of Leon Creek.

3 The aquifer protection use applies to areas in the contributing, recharge and transition zones of the Edwards Aquifer.

4 The critical low-flow for Segment 1905 is calculated according to §307.8(a)(2)(B) of this title.

5 [4] For Segment 1906, the public supply designation does not apply from the confluence of the Medina River in Bexar County to a point 4.8 kilometers (3.0 miles) upstream.

| SAN ANTONIO-NUECES COASTAL BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment No. | SEGMENT NAME | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| 2001 | Mission River Tidal | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 2002 | Mission River Above Tidal | PCR [CR] | H | | | 850 | 100 | 2,000 | 5.0 | 6.5-9.0 | 206 [126/200] | 95 |
| 2003 | Aransas River Tidal | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 2004 | Aransas River Above Tidal | PCR [CR] | H | | | 450 | 100 | 1,700 | 5.0 | 6.5-9.0 | 206 [126/200] | 95 |

[1] The indicator bacteria for freshwater is *E. coli* and Enterococci for saltwater. [Fecal coliform is an alternative indicator.]

| NUECES RIVER BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment No. | SEGMENT NAME | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| 2101 | Nueces River Tidal | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 2102 | Nueces River Below Lake Corpus Christi | PCR [CR] | H | PS | | 250 | 250 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 91 |
| 2103 | Lake Corpus Christi | PCR [CR] | H | PS | | 250 | 250 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 2104 | Nueces River Above Frio River | PCR [CR] | H | PS | | 700 | 300 | 1,500 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 2105 | Nueces River Above Holland Dam | PCR [CR] | H | PS | | 200 | 200 | 900 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 2106 | Nueces/Lower Frio River | PCR [CR] | H | PS | | 285[2] [250] | 145[2] [250] | 735[2] [500] | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 2107 | Atascosa River | PCR [CR] | H | PS | | 600 | 500 | 1,500 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 2108 | San Miguel Creek | PCR [CR] | H | PS | | 700 | 700 | 2,000 | 5.0 | 6.5-9.0 | 206 [126/200] | 95 |
| 2109 | Leona River [3] | PCR [CR] | H | PS/AP[4][2] | | 650 | 500 | 2,000 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 2110 | Lower Sabinal River | PCR [CR] | H | PS | | 200 | 100 | 700 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 2111 | Upper Sabinal River | PCR [CR] | H | PS/AP[4][2] | | 50 | 75 | 500 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 2112 | Upper Nueces River | PCR [CR] | H | PS/AP[4][2] | | 50 | 50 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 2113 | Upper Frio River [3] | PCR [CR] | E | PS/AP[4][2] | | 50 | 50 | 400 | 6.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 2114 | Hondo Creek | PCR [CR] | H | PS/AP[4][2] | | 50 | 100 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 2115 | Seco Creek | PCR [CR] | H | PS/AP[4][2] | | 50 | 70 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 2116 | Choke Canyon Reservoir | PCR [CR] | H | PS | | 250 | 250 | 720 [500] | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 2117 | Frio River Above Choke Canyon Reservoir | PCR [CR] | H | PS/AP[4][2] | | 620 | 380 | 1,700 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |

1 The indicator bacteria for freshwater is *E. coli* and Enterococci for saltwater. [Fecal coliform is an alternative indicator.]

2 For segment 2106, a TDS value of 735 mg/l, a $Cl^{-1}$ value of 285 mg/l, and a $SO_4^{-2}$ value of 145 mg/l will apply for the Frio River portion of the segment from the confluence of the Nueces River upstream to Choke Canyon Dam. A TDS value of 950 mg/l, a $Cl^{-1}$ value of 350 mg/l, and a $SO_4^{-2}$ value 165 mg/l will apply for the Nueces River portion of the segment from a point 100 meters upstream of US 59 in Live Oak County upstream to the confluence of the Frio River.

3 The critical low-flow for Segments 2109 and 2113 is calculated according to §307.8(a)(2)(B) of this title.

4[2] The aquifer protection use applies to the contributing, recharge, and transition zones of the Edwards Aquifer.

| NUECES-RIO GRANDE COASTAL BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment No. | SEGMENT NAME | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| 2201 | Arroyo Colorado Tidal | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 2202 | Arroyo Colorado Above Tidal | PCR [CR] | I | | | 1,200 | 1,000 | 4,000 | 4.0 | 6.5-9.0 | 206 [126/200] | 95 |
| 2203 | Petronila Creek Tidal | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 2204 | Petronila Creek Above Tidal[2] | PCR [CR] | I | | | 1,500 | 500 | 4,000 | 4.0 | 6.5-9.0 | 206 [126/200] | 95 |

[1] The indicator bacteria for freshwater is *E. coli* and Enterococci for saltwater. [Fecal coliform is an alternative indicator.]

[2] High concentrations of chlorides, sulfates and total dissolved solids in Segment 2204 are due to past brine discharges that [which] were halted effective 1/10/87 by order of the Texas Railroad Commission. Water quality is expected to improve as residual brines are flushed from the system. These estimated criteria are subject to modification as improvement in water quality is documented.

| RIO GRANDE BASIN | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment No. | SEGMENT NAME | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| 2301 | Rio Grande Tidal | PCR [CR] | E | | | | | | 5.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 2302 | Rio Grande Below Falcon Reservoir | PCR [CR] | H | PS | | 270 | 350 | 880 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 2303 | International Falcon Reservoir | PCR [CR] | H | PS | | 200 | 300 | 1,000 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 2304 | Rio Grande Below Amistad Reservoir | PCR [CR] | H | PS | | 200 | 300 | 1,000 | 5.0 | 6.5-9.0 | 206 [126/200] | 95 |
| 2305 | International Amistad Reservoir | PCR [CR] | H | PS | | 150 | 270 | 800 | 5.0 | 6.5-9.0 | 206 [126/200] | 88 |
| 2306 | Rio Grande Above Amistad Reservoir | PCR [CR] | H | PS | | 300 | 570 | 1,550 | 5.0 | 6.5-9.0 | 206 [126/200] | 93 |
| 2307 | Rio Grande Below Riverside Diversion Dam | PCR [CR] | H | PS | | 300 | 550 | 1,500 | 5.0[2] | 6.5-9.0 | 206 [126/200] | 93 |
| 2308 | Rio Grande Below International Dam | NCR | L | [PS] | | 250 | 450 | 1,400 | 3.0 | 6.5-9.0 | 605 [605/2,000] | 95 |
| 2309 | Devils River [3] | PCR [CR] | E | PS | | 50 | 50 | 300 | 6.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 2310 | Lower Pecos River | PCR [CR] | H | PS | | 1,700 | 1,000 | 4,000 | 5.0 | 6.5-9.0 | 206 [126/200] | 92 |
| 2311 | Upper Pecos River | PCR [CR] | H | | | 7,000 | 3,500 | 15,000 | 5.0 | 6.5-9.0 | 54 [126/200] | 92 |
| 2312 | Red Bluff Reservoir | PCR [CR] | H | | | 3,200 | 2,200 | 9,400 | 5.0 | 6.5-9.0 | 54 [126/200] | 90 |
| 2313 | San Felipe Creek [3] | PCR [CR] | H | PS | | 50 | 50 | 400 | 5.0 | 6.5-9.0 | 206 [126/200] | 90 |
| 2314 | Rio Grande Above International Dam | PCR [CR] | H | PS | | 340 | 600 | 1,800 | 5.0 | 6.5-9.0 | 206 [126/200] | 92 |

[1] The indicator bacteria for freshwater is *E. coli* and Enterococci for saltwater. The indicator bacteria and alternate indicator for Segments 2311 and 2312 are Enterococci and fecal coliform, respectively. [Fecal coliform is an alternative indicator.]

[2] The dissolved oxygen criterion in the upper reach of Segment 2307 (Riverside Diversion Dam to the end of the rectified channel below Fort Quitman) is [shall be] 3.0 mg/L when headwater flow over the Riverside Diversion Dam is less than 35 $ft^3/s$.

[3] The critical low-flow for Segments 2309 and 2313 is calculated according to §307.8(a)(2)(A) of this title.

| BAYS AND ESTUARIES | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment No. | SEGMENT NAME | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| 2411 | Sabine Pass | PCR [CR] | E/O | | | | | | 5.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2412 | Sabine Lake | PCR [CR] | H/O | | | | | | 4.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2421 | Upper Galveston Bay | PCR [CR] | H/O | | | | | | 4.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2422 | Trinity Bay | PCR [CR] | H/O | | | | | | 4.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2423 | East Bay | PCR [CR] | H/O | | | | | | 4.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2424 | West Bay | PCR [CR] | H/O | | | | | | 4.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2425 | Clear Lake | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 2426 | Tabbs Bay | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 2427 | San Jacinto Bay | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 2428 | Black Duck Bay | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 2429 | Scott Bay | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 2430 | Burnet [Burnett] Bay | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 2431 | Moses Lake | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 2432 | Chocolate Bay | PCR [CR] | H/O | | | | | | 4.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2433 | Bastrop Bay/Oyster Lake | PCR [CR] | H/O | | | | | | 4.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2434 | Christmas Bay | PCR [CR] | H/O | | | | | | 4.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2435 | Drum Bay | PCR [CR] | H/O | | | | | | 4.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2436 | Barbours Cut | PCR [CR] | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 2437 | Texas City Ship Channel | NCR | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 2438 | Bayport Channel | NCR | H | | | | | | 4.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 2439 | Lower Galveston Bay | PCR [CR] | H/O | | | | | | 4.0 | 6.5-9.0 | 35/14 [14] | 95 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2441 | East Matagorda Bay | PCR [CR] | E/O | | | | | | 5.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2442 | Cedar Lakes | PCR [CR] | H/O | | | | | | 4.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2451 | Matagorda Bay/Powderhorn Lake | PCR [CR] | E/O | | | | | | 5.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2452 | Tres Palacios Bay/Turtle Bay | PCR [CR] | E/O | | | | | | 5.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2453 | Lavaca Bay/Chocolate Bay | PCR [CR] | E/O | | | | | | 5.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2454 | Cox Bay | PCR [CR] | E/O | | | | | | 5.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2455 | Keller Bay | PCR [CR] | E/O | | | | | | 5.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2456 | Carancahua Bay | PCR [CR] | E/O | | | | | | 5.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2461 | Espiritu Santo Bay | PCR [CR] | E/O | | | | | | 5.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2462 | San Antonio Bay/Hynes Bay/Guadalupe Bay/Mission Lake | PCR [CR] | E/O | | | | | | 5.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2463 | Mesquite Bay/Carlos Bay/Ayres Bay | PCR [CR] | E/O | | | | | | 5.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2471 | Aransas Bay | PCR [CR] | E/O | | | | | | 5.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2472 | Copano Bay/Port Bay/Mission Bay | PCR [CR] | E/O | | | | | | 5.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2473 | St. Charles Bay | PCR [CR] | E/O | | | | | | 5.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2481 | Corpus Christi Bay | PCR [CR] | E/O | | | | | | 5.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2482 | Nueces Bay[2] | PCR [CR] | E/O | | | | | | 5.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2483 | Redfish Bay | PCR [CR] | E/O | | | | | | 5.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2484 | Corpus Christi Inner Harbor | NCR | I | | | | | | 3.0 | 6.5-9.0 | 35 [35/200] | 95 |
| 2485 | Oso Bay | PCR [CR] | E/O | | | | | | 4.5 [5.0] [3] | 6.5-9.0 | 35/14 [14] | 95 |
| 2491 | Laguna Madre | PCR [CR] | E/O | | | | | | 4.5 [5.0] [3] | 6.5-9.0 | 35/14 [14] | 95 |
| 2492 | Baffin Bay/Alazan Bay/Cayo del Grullo/Laguna Salada | PCR [CR] | H/O | | | | | | 4.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2493 | South Bay | PCR [CR] | E/O | | | | | | 5.0 | 6.5-9.0 | 35/14 [14] | 95 |
| 2494 | Brownsville Ship Channel | NCR | E | | | | | | 5.0 | 6.5-9.0 | 35 [35/200] | 95 |

[1] The indicator bacteria for recreational suitability in saltwater is Enterococci. Fecal coliform is the indicator bacteria for oyster water use. [The indicator bacteria for saltwater is Enterococci. Fecal coliform is an alternative indicator.]

[2] For assessment purposes only, the acute aquatic life use criteria for zinc in Segment 2482 is 29 µg/L. This is based on the zinc TMDL approved November 1, 2006 and the Implementation Plan approved October 24, 2007.

[3] A 24-hour minimum dissolved oxygen criterion of 1.5 mg/L applies to Segments 2485 and 2491.

| GULF OF MEXICO | | USES | | | | CRITERIA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment No. | SEGMENT NAME | Recreation | Aquatic Life | Domestic Water Supply | Other | $Cl^{-1}$ (mg/L) | $SO_4^{-2}$ (mg/L) | TDS (mg/L) | Dissolved Oxygen (mg/L) | pH Range (SU) | Indicator Bacteria[1] #/100ml | Temperature (°F) |
| 2501 | Gulf of Mexico | PCR [CR] | E/O | | | | | | 5.0 | 6.5-9.0 | 35/14 [14] | 95 |

[1] The indicator bacteria for recreational suitability in saltwater is Enterococci. Fecal coliform is the indicator bacteria for oyster water use. [The indicator bacteria for saltwater is Enterococci. Fecal coliform is an alternative indicator.]

(2) Appendix B - [--] Sole-source Surface Drinking Water Supplies [Low Flow Criteria]:

Figure: 30 TAC §307.10(2)

[Figure: 30 TAC §307.10(2)]

**Appendix B - Sole-source Surface Drinking Water Supplies [Low-Flow Criteria]**

The table contains sole-source surface drinking water supplies as provided by the Texas Commission on Environmental Quality Drinking Water Protection Team. This table is current as of March 3, 2009. However, it is subject to amendment at any time. If designations of sole-source surface drinking water supplies change, those designations can be changed by laws or regulations that address sole-source surface drinking water supplies. Sole-source protection zones of sole-source surface drinking water supplies are defined in §307.3 of this title (relating to Definitions and Abbreviations).

The listed county names provide the general location of these drinking water supplies. The segment numbers listed below are only provided to help in finding the general location of a sole-source water body and are associated with classified segments as listed in Appendices A and C of this section. Segment numbers in parentheses ( ) indicate that the water body is in close proximity to the segment listed, but not a part of the segment. For a current list and the precise location of a sole-source surface drinking water supply, contact the Texas Commission on Environmental Quality Drinking Water Protection Team.

| Water Body Names | County | Segment No. |
|---|---|---|
| Lake Texoma | Grayson | 0203 |
| Farmers Creek Reservoir (Lake Nocona) | Montague | 0210 |

| Water Body Names | County | Segment No. |
|---|---|---|
| Lake Arrowhead | Clay | 0212 |
| Greenbelt Lake | Donley | 0223 |
| Mackenzie Reservoir | Briscoe | 0228 |
| Caney Creek Reservoir | Bowie | (0302) |
| Wright Patman Lake | Cass | 0302 |
| Cooper Lake (Jim L. Chapman Lake) | Hopkins | 0307 |
| Big Cypress Creek Below Lake O' the Pines | Harrison | 0402 |
| Lake O' the Pines | Marion | 0403 |
| Lake Cypress Springs | Franklin | 0405 |
| Lake Bob Sandlin | Camp, Titus | 0408 |
| Toledo Bend Reservoir | Sabine & Shelby | 0504 |
| Lake Tawakoni | Hunt, Rains, Van Zandt | 0507 |
| Lake Fork Reservoir | Wood | 0512 |
| Big Sandy Creek | Upshur | 0514 |
| Neches River Below Lake Palestine | Anderson | 0604 |
| Lake Palestine | Smith | 0605 |
| Lake Livingston | Polk, San Jacinto | 0803 |
| Trinity River (riverine portion of Lake Livingston) | Walker | 0803 |
| Lake Worth | Tarrant | 0807 |
| Eagle Mountain Reservoir | Tarrant | 0809 |
| West Fork Trinity River Below Bridgeport Reservoir | Wise | 0810 |
| Bridgeport Reservoir | Wise | 0811 |
| Houston County Lake | Houston | 0813 |
| Bardwell Reservoir | Ellis | 0815 |
| Lake Waxahachie | Ellis | 0816 |
| Cedar Creek Reservoir | Kaufman, Henderson | 0818 |
| Lavon Lake | Collin | 0821 |
| Elm Fork Trinity River Below Lewisville Lake | Dallas | 0822 |

| Water Body Names | County | Segment No. |
|---|---|---|
| Lake Arlington | Tarrant | 0828 |
| Lake Weatherford | Parker | 0832 |
| Lake Amon G. Carter | Montague | 0834 |
| Richland-Chambers Reservoir | Navarro | 0836 |
| Joe Pool Lake | Dallas | 0838 |
| Lake Granbury | Hood | 1205 |
| Possum Kingdom Lake | Palo Pinto | 1207 |
| Somerville Lake | Washington | 1212 |
| Little River | Milam | 1213 |
| Stillhouse Hollow Lake | Bell | 1216 |
| Leon River Below Belton Lake | Bell | 1219 |
| Belton Lake | Bell | 1220 |
| Proctor Lake | Comanche | 1222 |
| Leon Reservoir | Eastland | 1224 |
| Waco Lake | McLennan | 1225 |
| Lake Palo Pinto | Palo Pinto | 1230 |
| Hubbard Creek Reservoir | Stephens | 1233 |
| Lake Cisco | Eastland | 1234 |
| Lake Stamford | Haskell | 1235 |
| Granger Lake | Williamson | 1247 |
| Lake Limestone | Limestone | 1252 |
| Navasota River Below Lake Mexia | Limestone | 1253 |
| Aquilla Reservoir | Hill | 1254 |
| Lake Austin | Travis | 1403 |
| Lake Travis | Burnet & Travis | 1404 |
| Marble Falls Lake | Burnet | 1405 |
| Lake Lyndon B. Johnson | Burnet & Llano | 1406 |
| Inks Lake | Burnet & Llano | 1407 |
| Lake Buchanan | Llano | 1408 |
| Lake J.B. Thomas | Scurry & Borden | 1413 |

| Water Body Names | County | Segment No. |
|---|---|---|
| Pedernales River | Blanco | 1414 |
| South Llano River (part of Llano River) | Kimble | 1415 |
| Llano City Lake (part of Llano River) | Llano | 1415 |
| Lake Brownwood | Brown | 1418 |
| Lake Coleman | Coleman | 1419 |
| O.H. Ivie Reservoir | Concho | 1433 |
| Guadalupe River | Calhoun | (1801) |
| Canyon Lake | Comal | 1805 |
| Lower San Marcos River | Caldwell | 1808 |
| Lake Corpus Christi | San Patricio | 2103 |
| Rio Grande Below Falcon Reservoir | Starr | 2302 |
| International Falcon Reservoir | Starr & Zapata | 2303 |
| Rio Grande Below Amistad Reservoir | Maverick & Webb | 2304 |

(3) Appendix C - [--] Segment Descriptions:

Figure: 30 TAC §307.10(3)

[Figure: 30 TAC §307.10(3)]

**Appendix C - Segment Descriptions**

The following descriptions define the geographic extent of the state's classified segments. Boundaries of bay and estuary segments have not been precisely defined. Segment boundaries are illustrated in the

document entitled *The Atlas of Texas Surface Waters* (GI-316) as amended and [The State of Texas Water Quality Inventory, which is] published by the commission [Commission].

| SEGMENT | DESCRIPTION |
|---|---|
| 0101 | Canadian River Below Lake Meredith - from the Oklahoma State Line in Hemphill County to Sanford Dam in Hutchinson County |
| 0102 | Lake Meredith - from Sanford Dam in Hutchinson County to a point immediately upstream of the confluence of Camp Creek in Potter County, up to the normal pool elevation of 2936.5 feet (impounds Canadian River) |
| 0103 | Canadian River Above Lake Meredith - from a point immediately upstream of the confluence of Camp Creek in Potter County to the New Mexico State Line in Oldham County |
| 0104 | Wolf Creek - from the Oklahoma State Line in Lipscomb County to a point 2.0 kilometers (1.2 miles) upstream of FM 3045 in Ochiltree County |
| 0105 | Rita Blanca Lake - from Rita Blanca Dam in Hartley County up to the normal pool elevation of 3860 feet (impounds Rita Blanca Creek) |
| 0201 | Lower Red River - from the Arkansas State Line in Bowie County to the Arkansas-Oklahoma State Line in Bowie County |
| 0202 | Red River Below Lake Texoma - from the Arkansas-Oklahoma State Line in Bowie County to Denison Dam in Grayson County |
| 0203 | Lake Texoma - from Denison Dam in Grayson County to a point immediately upstream of the confluence of Sycamore Creek in Cooke County, up to the normal pool elevation of 617 feet (impounds Red River) |
| 0204 | Red River Above Lake Texoma - from a point immediately upstream of the confluence of Sycamore Creek in Cooke County to the confluence of the Wichita River in Clay County |
| 0205 | Red River Below Pease River - from the confluence of the Wichita River in Clay County to the confluence of the Pease River in Wilbarger County |
| 0206 | Red River Above Pease River - from the confluence of the Pease River in Wilbarger County to a point immediately upstream of the confluence of Buck Creek in Hardeman County |

0207 Lower Prairie Dog Town Fork Red River - from a point immediately upstream of the confluence of Buck Creek in Hardeman County to a point 100 meters (110 yards) upstream of the confluence of Salt Fork Creek in Armstrong County

0208 Lake Crook - from Lake Crook Dam in Lamar County up to the normal pool elevation of 476 feet (impounds Pine Creek)

0209 Pat Mayse Lake - from Pat Mayse Dam in Lamar County up to the normal pool elevation of 451 feet (impounds Sanders Creek)

0210 Farmers Creek Reservoir (also known as Lake Nocona) - from Farmers Creek Dam in Montague County up to the normal pool elevation of 827.5 [827] feet (impounds Farmers Creek)

0211 Little Wichita River - from the confluence with the Red River in Clay County to Lake Arrowhead Dam in Clay County

0212 Lake Arrowhead - from Lake Arrowhead Dam in Clay County up to the normal pool elevation of 926 feet (impounds the Little Wichita River)

0213 Lake Kickapoo - from Kickapoo Dam in Archer County up to the normal pool elevation of 1045 feet (impounds North Fork Little Wichita River)

0214 Wichita River Below Diversion Lake - from the confluence with the Red River in Clay County to Diversion Dam in Archer County

0215 Diversion Lake - from Diversion Dam in Archer County to a point 1.5 kilometers (0.9 mile) downstream of the confluence of Cottonwood Creek in Baylor County, up to the normal pool elevation of 1052 [1051] feet (impounds Wichita River)

0216 Wichita River Below Lake Kemp - from a point 1.5 kilometers (0.9 mile) downstream of the confluence of Cottonwood Creek in Baylor County to Lake Kemp Dam in Baylor County

0217 Lake Kemp - from Lake Kemp Dam in Baylor County to a point 9.4 kilometers (5.8 miles) downstream of the confluence of Crooked Creek in Baylor County, up to the normal pool elevation of 1144 feet (impounds Wichita River)

0218 Wichita/North Fork Wichita River - from a point 9.4 kilometers (5.8 miles) downstream of the confluence of Crooked Creek in Baylor County to a point 8.5 kilometers (5.3 miles) downstream of the most upstream crossing of FM 193 in Dickens County

0219 Lake Wichita - from Lake Wichita Dam in Wichita County up to the normal pool elevation of 980.5 feet (impounds Holliday Creek)

0220 Upper Pease/North Fork Pease River - from the confluence with Canal Creek at the Hardeman-Foard county line to 6.0 kilometers (3.7 miles) upstream of the confluence of Dick Moore Canyon in Floyd County

0221 Middle Fork Pease River - from the confluence with the North Fork Pease River in Cottle County to the confluence of Boggy Creek and Mott Creek in Motley County

0222 Salt Fork Red River - from the Oklahoma State Line in Collingsworth County to Greenbelt Dam in Donley County

0223 Greenbelt Lake - from Greenbelt Dam in Donley County up to the normal pool elevation of 2664 feet (impounds Salt Fork Red River)

0224 North Fork Red River - from the Oklahoma State Line in Wheeler County to a point 4.0 kilometers (2.5 miles) upstream of FM 2300 in Gray County

0225 McKinney Bayou - from the Arkansas State Line in Bowie County to a point 100 meters (110 yards) upstream of the most upstream crossing of FM 1397 near King Lake in Bowie County

0226 South Fork Wichita River - from the confluence with the North Fork Wichita River in Knox County to a point 15.0 kilometers (9.3 miles) upstream of US 82 in Dickens County

0227 South Fork Pease River - from the confluence with the Middle Fork Pease River in Cottle County to the confluence of Wolf Creek and Rustler Creek in Motley County

0228 Mackenzie Reservoir - from Mackenzie Dam in Briscoe County up to the normal pool elevation of 3100 feet (impounds Tule Creek)

0229 Upper Prairie Dog Town Fork Red River - from a point 100 meters (110 yards) upstream of the confluence of Salt Fork Creek in Armstrong County to Lake Tanglewood Dam in Randall County

0230 Pease River - from the confluence with the Red River in Wilbarger County upstream to the confluence with Canal Creek at the Hardeman-Foard county line

0301 Sulphur River Below Wright Patman Lake - from the Arkansas State Line in Bowie/Cass County to Wright Patman Lake Dam in Bowie/Cass County

0302 Wright Patman Lake - from Wright Patman Lake Dam in Bowie/Cass County to a point 1.5 kilometers (0.9 mile) downstream of Bassett Creek in Bowie/Cass County, up to the normal pool elevation of 226.4 [225] feet (impounds the Sulphur River)

0303 Sulphur/South Sulphur River - from a point 1.5 kilometers (0.9 miles) downstream of Bassett Creek in Bowie/Cass County to Jim L. Chapman Dam (formerly Cooper Lake dam) in Delta/Hopkins County

0304 Days Creek - from the Arkansas State Line in Bowie County to the confluence of Swampoodle Creek and Nix Creek in Bowie County

0305 North Sulphur River - from the confluence with the South Sulphur River in Lamar County to a point 6.7 kilometers (4.2 miles) upstream of FM 68 in Fannin County

0306 Upper South Sulphur River - from a point 1.0 kilometers (0.7 mile) upstream of SH 71 in Delta/Hopkins County to SH 78 in Fannin County

0307 Jim L. Chapman Lake (formerly Cooper Lake) [Cooper Lake] - from Jim L. Chapman Dam [Cooper Lake dam] in Delta/Hopkins County to a point 1.0 kilometers (0.7 mile) upstream of SH 71 on the South Sulphur River arm in Delta/Hopkins County and 300 meters (275 yards) below the confluence of Barnett Creek on the Middle Sulphur River arm in Delta County, up to a conservation pool elevation of 440 feet (impounds the Middle Sulphur/South Sulphur River)

0401 Caddo Lake - from the Louisiana State Line in Harrison/Marion County to a point 12.3 kilometers (7.6 miles) downstream of SH 43 in Harrison/Marion County, up to the normal pool elevation of 168.5 feet (impounds Big Cypress Creek)

0402 Big Cypress Creek Below Lake O' the Pines - from a point 12.3 kilometers (7.6 miles) downstream of SH 43 in Harrison/Marion County to Ferrell's Bridge Dam in Marion County

0403 Lake O' the Pines - from Ferrell's Bridge Dam in Marion County to a point 1.0 kilometer (0.6 mile) downstream of US 259 in Morris/Upshur County, up to the normal pool elevation of 228.5 feet (impounds Big Cypress Creek)

0404 Big Cypress Creek Below Lake Bob Sandlin - from a point 1.0 kilometer (0.6 mile) downstream of US 259 in Morris/Upshur County to Fort Sherman Dam in Camp/Titus County

0405 Lake Cypress Springs - from Franklin County Dam in Franklin County up to the normal pool elevation of 378 feet (impounds Big Cypress Creek)

0406 Black Bayou - from the Louisiana State Line in Cass County to FM 96 in Cass County

0407 James' Bayou - from the Louisiana State Line in Marion County to Club Lake Road northwest of Linden in Cass County

0408 Lake Bob Sandlin - from Fort Sherman Dam in Camp/Titus County to Franklin County Dam in Franklin County, up to the normal pool elevation of 337.5 feet (impounds Big Cypress Creek)

0409 Little Cypress Bayou (Creek) - from the confluence with Big Cypress Creek in Harrison County to a point 1.0 kilometer (0.6 mile) upstream of FM 2088 in Wood County

0410 Black Cypress Bayou (Creek) - from the confluence with Big Cypress Creek in Marion County to the confluence with Kelly Creek in Cass County

0501 Sabine River Tidal - from the confluence with Sabine Lake in Orange County to West Bluff in Orange County

0502 Sabine River Above Tidal - from West Bluff in Orange County to the confluence with Caney Creek in Newton County

0503 Sabine River Above Caney Creek - from a point immediately upstream of the confluence with Caney Creek in Newton County up to Toledo Bend Dam in Newton County

0504 Toledo Bend Reservoir - from Toledo Bend Dam in Newton County to a point immediately upstream of the confluence of Murvaul Creek in Panola County, up to the normal pool elevation of 172 feet (impounds Sabine River)

0505 Sabine River Above Toledo Bend Reservoir - from a point immediately upstream of the confluence of Murvaul Creek in Panola County to a point 100 meters (110 yards) downstream of US 271 in Gregg County

0506 Sabine River Below Lake Tawakoni - from a point 100 meters (110 yards) downstream of US 271 in Gregg County to Iron Bridge Dam in Rains County

0507 Lake Tawakoni - from Iron Bridge Dam in Rains County up to the normal pool elevation of 437.5 feet (impounds Sabine River)

0508 Adams Bayou Tidal - from the confluence with the Sabine River in Orange County to a point 1.1 kilometers (0.7 mile) upstream of IH 10 in Orange County

0509 Murvaul Lake - from Murvaul Dam in Panola County up to the normal pool elevation of 265.3 feet (impounds Murvaul Bayou)

0510 Lake Cherokee - from Cherokee Dam in Gregg/Rusk County up to the normal pool elevation of 280 feet (impounds Cherokee Bayou)

0511 Cow Bayou Tidal - from the confluence with the Sabine River in Orange County to a point 4.8 kilometers (3.0 miles) upstream of IH 10 in Orange County

0512 Lake Fork Reservoir - from Lake Fork Dam in Wood County up to the normal pool elevation of 403 feet (impounds Lake Fork Creek)

0513 Big Cow Creek - from the confluence with the Sabine River in Newton County to a point 4.6 kilometers (2.9 miles) upstream of R 255 in Newton County

0514 Big Sandy Creek - from the confluence with the Sabine River in Upshur County to a point 2.6 kilometers (1.6 miles) upstream of SH 11 in Hopkins County

0515 Lake Fork Creek - from the confluence with the Sabine River in Wood County to Lake Fork Dam in Wood County

0601 Neches River Tidal - from the confluence with Sabine Lake in Orange County to the Neches River Saltwater Barrier, which is at a point 0.8 kilometers (0.5 miles) downstream of the confluence of Pine Island Bayou, [a point 11.3 kilometers (7.0 miles) upstream of IH 10] in Orange County

0602 Neches River Below B. A. Steinhagen Lake - from the Neches River Saltwater Barrier, which is at a point 0.8 kilometers (0.5 miles) downstream of the confluence of Pine Island Bayou, [a point 11.3 kilometers (7.0 miles) upstream of IH 10] in Orange County to Town Bluff Dam in Jasper/Tyler County

0603 B. A. Steinhagen Lake - from Town Bluff Dam in Jasper/Tyler County to a point immediately upstream of the confluence of Hopson Mill Creek on the Neches River Arm in Jasper/Tyler County and to a point immediately upstream of the confluence of Indian Creek on the Angelina River Arm in Jasper County, up to the normal pool elevation of 83 feet (impounds Neches River)

0604 Neches River Below Lake Palestine - from a point immediately upstream of the confluence of Hopson Mill Creek in Jasper/Tyler County to Blackburn Crossing Dam in Anderson/Cherokee County

0605 Lake Palestine - from Blackburn Crossing Dam in Anderson/Cherokee County to a point 6.7 kilometers (4.2 miles) downstream of FM 279 in Henderson/Smith County, up to the normal pool elevation of 345 feet (impounds Neches River)

0606 Neches River Above Lake Palestine - from a point 6.7 kilometers (4.2 miles) downstream of FM 279 in Henderson/Smith County to Rhine [Rhines] Lake Dam in Van Zandt County before it was breached in 2001

0607 Pine Island Bayou - from the confluence with the Neches River in Hardin/Jefferson County to FM 787 in Hardin County

0608 Village Creek - from the confluence with the Neches River in Hardin County to the confluence of Big Sandy Creek and Kimball Creek in Hardin County

0609 Angelina River Below Sam Rayburn Reservoir - from a point immediately upstream of the confluence of Indian Creek in Jasper County to Sam Rayburn Dam in Jasper County

0610 Sam Rayburn Reservoir - from Sam Rayburn Dam in Jasper County to a point 5.6 kilometers (3.5 miles) upstream of Marion's Ferry on the Angelina River Arm in Angelina/Nacogdoches County

and to a point 3.9 kilometers (2.4 miles) downstream of Curry Creek on the Attoyac Bayou Arm in Nacogdoches/San Augustine County, up to the normal pool elevation of 164.4 [164] feet (except on the Angelina River Arm) (impounds Angelina River and Attoyac Bayou)

0611 Angelina River Above Sam Rayburn Reservoir - from the aqueduct crossing 1.0 kilometer (0.6 mile) upstream of the confluence of Paper Mill Creek in Angelina/Nacogdoches County to the confluence of Barnhardt Creek and Mill Creek at FM 225 in Rusk County

0612 Attoyac Bayou - from a point 3.9 kilometers (2.4 miles) downstream of Curry Creek in Nacogdoches/San Augustine County to FM 95 in Rusk County

0613 Lake Tyler/Lake Tyler East - from Whitehouse Dam and Mud Creek Dam in Smith County up to the normal pool elevation of 375.38 feet (impounds Prairie Creek and Mud Creek)

0614 Lake Jacksonville - from Buckner Dam in Cherokee County up to the normal pool elevation of 422 feet (impounds Gum Creek)

0615 Angelina River/Sam Rayburn Reservoir - the riverine portion of Sam Rayburn Reservoir from a point 5.6 kilometers (3.5 miles) upstream of Marion's Ferry to the aqueduct crossing 1.0 kilometer (0.6 mile) upstream of the confluence of Paper Mill Creek

0701 Taylor Bayou Above Tidal - from the salt water lock 7.7 kilometers (4.8 miles) downstream of SH 73 in Jefferson County to the Lower Neches Valley Authority Canal in Jefferson County

0702 Intracoastal Waterway Tidal - from the confluence with Galveston Bay at Port Bolivar in Galveston County to the confluence with the Sabine-Neches/Port Arthur Canal in Jefferson County (including Taylor Bayou Tidal from the confluence with the Intracoastal Waterway up to the salt water lock 7.7 kilometers (4.8 miles) downstream of SH 73 in Jefferson County)

0703 Sabine-Neches Canal Tidal - from the confluence with Sabine Pass at the southern tip of Pleasure Island in Jefferson County to the Sabine Lake seawall at the northern tip of Pleasure Island in Jefferson County

0704 Hillebrandt Bayou - from the confluence of Taylor Bayou in Jefferson County to a point 100 meters (110 yards) upstream of SH 124 in Jefferson County

0801 Trinity River Tidal - from the confluence with Anahuac Channel in Chambers County to a point 3.1 kilometers (1.9 miles) downstream of US 90 in Liberty County

0802 Trinity River Below Lake Livingston - from a point 3.1 kilometers (1.9 miles) downstream of US 90 in Liberty County to Livingston Dam in Polk/San Jacinto County

0803 Lake Livingston - from Livingston Dam in Polk/San Jacinto County to a point 1.8 kilometers (1.1 miles) upstream of Boggy Creek in Houston/Leon County, up to the normal pool elevation of 131 feet (impounds Trinity River)

0804 Trinity River Above Lake Livingston - from a point 1.8 kilometers (1.1 miles) upstream of Boggy Creek in Houston/Leon County to a point immediately upstream of the confluence of the Cedar Creek Reservoir discharge canal in Henderson/Navarro County

0805 Upper Trinity River - from a point immediately upstream of the confluence of the Cedar Creek Reservoir discharge canal in Henderson/Navarro County to a point immediately upstream of the confluence of Elm Fork Trinity River in Dallas County

0806 West Fork Trinity River Below Lake Worth - from a point immediately upstream of the confluence of Village Creek in Tarrant County to Lake Worth Dam in Tarrant County

0807 Lake Worth - from Lake Worth Dam in Tarrant County to a point 4.0 kilometers (2.5 miles) downstream of Eagle Mountain Dam in Tarrant County, up to the normal pool elevation of 594 [594.3] feet (impounds West Fork Trinity River)

0808 West Fork Trinity River Below Eagle Mountain Reservoir - from a point 4.0 kilometers (2.5 miles) downstream of Eagle Mountain Dam in Tarrant County to Eagle Mountain Dam in Tarrant County

0809 Eagle Mountain Reservoir - from Eagle Mountain Dam in Tarrant County to a point 0.6 kilometer (0.4 mile) downstream of the confluence of Oates Branch in Wise County up to the normal pool elevation of 649.1 feet (impounds West Fork Trinity River)

0810 West Fork Trinity River Below Bridgeport Reservoir - from a point 0.6 kilometer (0.4 mile) downstream of the confluence of Oates Branch in Wise County to Bridgeport Dam in Wise County

0811 Bridgeport Reservoir - from Bridgeport Dam in Wise County to a point immediately upstream of the confluence of Bear Hollow in Jack County, up to the normal pool elevation of 836 feet (impounds West Fork Trinity River)

0812 West Fork Trinity River Above Bridgeport Reservoir - from a point immediately upstream of the confluence of Bear Hollow in Jack County to SH 79 in Archer County

0813 Houston County Lake - from Houston County Dam in Houston County up to the normal pool elevation of 260 feet (impounds Little Elkhart Creek)

0814 Chambers Creek Above Richland-Chambers Reservoir - from a point 4.0 kilometers (2.5 miles) downstream of Tupelo Branch in Navarro County to the confluence of North Fork Chambers Creek and South Fork Chambers Creek

0815 Bardwell Reservoir - from Bardwell Dam in Ellis County up to the normal pool elevation of 421 feet (impounds Waxahachie Creek)

0816 Lake Waxahachie - from South Prong Dam in Ellis County up to the normal pool elevation of 531.5 feet (impounds South Prong Creek)

0817 Navarro Mills Lake - from Navarro Mills Dam in Navarro County up to the normal pool elevation of 424.5 feet (impounds Richland Creek)

0818 Cedar Creek Reservoir - from Joe B. Hoggsett Dam in Henderson County up to the normal pool elevation of 322 feet (impounds Cedar Creek)

0819 East Fork Trinity River - from the confluence with the Trinity River in Kaufman County to Rockwall-Forney Dam in Kaufman County

0820 Lake Ray Hubbard - from Rockwall-Forney Dam in Kaufman County to Lavon Dam in Collin County, up to the normal pool elevation of 435.5 feet (impounds East Fork Trinity River)

0821 Lavon Lake - from Lavon Dam in Collin County up to the normal pool elevation of 492 feet (impounds East Fork Trinity River)

0822 Elm Fork Trinity River Below Lewisville Lake - from the confluence with the West Fork Trinity River in Dallas County to Lewisville Dam in Denton County

0823 Lewisville Lake - from Lewisville Dam in Denton County to a point 200 meters (220 yards) upstream of FM 428 in Denton County, up to the normal pool elevation of 522 feet (impounds Elm Fork Trinity River)

0824 Elm Fork Trinity River Above Ray Roberts Lake - from a point 9.5 kilometers (5.9 miles) downstream of the confluence of Pecan Creek in Cooke County to US 82 in Montague County

0825 Denton Creek - from the confluence with the Elm Fork Trinity River in Dallas County to Grapevine Dam in Tarrant County

0826 Grapevine Lake - from Grapevine Dam in Tarrant County up to the normal pool elevation of 535 feet (impounds Denton Creek)

0827 White Rock Lake - from White Rock Dam in Dallas County up to the normal pool elevation of 458 feet (impounds White Rock Creek)

0828 Lake Arlington - from Arlington Dam in Tarrant County up to the normal pool elevation of 550 feet (impounds Village Creek)

0829 Clear Fork Trinity River Below Benbrook Lake - from the confluence with the West Fork Trinity River in Tarrant County to Benbrook Dam in Tarrant County

0830 Benbrook Lake - from Benbrook Dam in Tarrant County to a point 200 meters (220 yards) downstream of US 377 in Tarrant County, up to the normal pool elevation of 694 feet (impounds Clear Fork Trinity River)

0831 Clear Fork Trinity River Below Lake Weatherford - from a point 200 meters (220 yards) downstream of US 377 in Tarrant County to Weatherford Dam in Parker County

0832 Lake Weatherford - from Weatherford Dam in Parker County to a point 3.1 kilometers (1.9 miles) upstream of FM 730 [1707] in Parker County, up to the normal pool elevation of 896 [986] feet (impounds Clear Fork Trinity River)

0833 Clear Fork Trinity River Above Lake Weatherford - from a point 3.1 kilometers (1.9 miles) upstream of FM 730 [1707] in Parker County to the confluence with Strickland Creek approximately 8 kilometers (5 miles) upstream of FM 51 [FM 3107] in Parker County

0834 Lake Amon G. Carter - from Amon G. Carter Dam in Montague County up to the normal pool elevation of 920 feet (impounds Big Sandy Creek)

0835 Richland Creek Below Richland-Chambers Reservoir - from the confluence with the Trinity River in Freestone County to Richland-Chambers Dam in Freestone County

0836 Richland-Chambers Reservoir - from Richland-Chambers Dam in Freestone County to a point immediately upstream of the confluence of Pin Oak Creek on the Richland Creek Arm in Navarro County and to a point 4.0 kilometers (2.5 miles) downstream of Tupelo Branch on the Chambers Creek Arm in Navarro County, up to the normal pool elevation of 315 feet (impounds Richland and Chambers Creeks)

0837 Richland Creek Above Richland-Chambers Reservoir - from a point immediately upstream of the confluence of Pin Oak Creek in Navarro County to Navarro Mills Dam in Navarro County

0838 Joe Pool Lake - from Joe Pool Dam in Dallas County up to the normal pool elevation of 522 feet (impounds Mountain Creek)

0839 Elm Fork Trinity River Below Ray Roberts Lake - from a point 200 meters (220 yards) upstream of FM 428 in Denton County to Ray Roberts Dam in Denton County

0840 Ray Roberts Lake - from Ray Roberts Dam in Denton County to a point 9.5 kilometers (5.9 miles) downstream of the confluence of Pecan Creek in Cooke County, up to the normal pool elevation of 632.5 feet (impounds Elm Fork Trinity River)

0841 Lower West Fork Trinity River - from a point immediately upstream of the confluence of the Elm Fork Trinity River in Dallas County to a point immediately upstream of the confluence of Village Creek in Tarrant County

0901 Cedar Bayou Tidal - from the confluence with Galveston Bay 1.0 kilometer (0.6 mile) downstream of Tri-City Beach Road in Chambers County to a point 2.2 kilometers (1.4 miles) upstream of IH 10 in Chambers/Harris County

0902 Cedar Bayou Above Tidal - from a point 2.2 kilometers (1.4 miles) upstream of IH 10 in Chambers/Harris County to a point 7.4 kilometers (4.6 miles) upstream of FM 1960 in Liberty County

1001 San Jacinto River Tidal - from a point 100 meters (110 yards) downstream of IH 10 in Harris County to Lake Houston Dam in Harris County

1002 Lake Houston - from Lake Houston Dam in Harris County to the confluence of Spring Creek on the West Fork San Jacinto Arm in Harris/Montgomery County and to the confluence of Caney Creek on the East Fork San Jacinto Arm in Harris County, up to the normal pool elevation of 44.5 feet (impounds San Jacinto River)

1003 East Fork San Jacinto River - from the confluence of Caney Creek in Harris County to US 190 in Walker County

1004 West Fork San Jacinto River - from the confluence of Spring Creek in Harris/Montgomery County to Conroe Dam in Montgomery County

1005 Houston Ship Channel/San Jacinto River Tidal - from the confluence with Galveston Bay at Morgan's Point in Harris/Chambers County to a point 100 meters (110 yards) downstream of IH 10 in Harris County

1006 Houston Ship Channel Tidal - from the confluence with the San Jacinto River in Harris County to a point immediately upstream of Greens Bayou in Harris County, including tidal portions of tributaries

1007 Houston Ship Channel/Buffalo Bayou Tidal - from a point immediately upstream of Greens Bayou in Harris County to a point 100 meters (110 yards) upstream of US 59 in Harris County, including tidal portions of tributaries

1008 Spring Creek - from the confluence with the West Fork San Jacinto River in Harris/Montgomery County to the confluence with Kickapoo Creek in Harris/Waller County [most upstream crossing of FM 1736 in Waller County]

1009 Cypress Creek - from the confluence with Spring Creek in Harris County to the confluence of Snake Creek and Mound Creek in Waller County

1010 Caney Creek - from the confluence with the East Fork San Jacinto River in Harris County to SH 150 in Walker County

1011 Peach Creek - from the confluence with Caney Creek in Montgomery County to SH 150 in Walker County

1012 Lake Conroe - from Conroe Dam in Montgomery County up to the normal pool elevation of 201 feet (impounds West Fork San Jacinto River)

1013 Buffalo Bayou Tidal - from a point 100 meters (110 yards) upstream of US 59 in Harris County to a point 400 meters (440 yards) upstream of Shepherd Drive in Harris County including the tidal portion of tributaries

1014 Buffalo Bayou Above Tidal - from a point 400 meters (440 yards) upstream of Shepherd Drive in Harris County to SH 6 in Harris County

1015 Lake Creek - from the confluence with the West Fork San Jacinto River in Montgomery County to a point 4.0 kilometers (2.5 miles) upstream of SH 30 in Grimes County

1016 Greens Bayou Above Tidal - from a point 0.7 kilometers (0.4 mile) upstream of the confluence of Halls Bayou in Harris County, to a point 100 meters (110 yards) upstream of FM 1960 in Harris County

1017 Whiteoak Bayou Above Tidal - from a point immediately upstream of the confluence of Little Whiteoak Bayou in Harris County to a point 3.0 kilometers (1.9 miles) upstream of FM 1960 in Harris County

1101 Clear Creek Tidal - from the confluence with Clear Lake at a point 3.2 kilometers (2.0 miles) downstream of El Camino Real in Galveston/Harris County to a point 100 meters (110 yards) upstream of FM 528 in Galveston/Harris County

1102 Clear Creek Above Tidal - from a point 100 meters (110 yards) upstream of FM 528 in Galveston/Harris County to Rouen Road in Fort Bend County

1103 Dickinson Bayou Tidal - from the confluence with Dickinson Bay 2.1 kilometers (1.3 miles) downstream of SH 146 in Galveston County to a point 4.0 kilometers (2.5 miles) downstream of FM 517 in Galveston County

1104 Dickinson Bayou Above Tidal - from a point 4.0 kilometers (2.5 miles) downstream of FM 517 in Galveston County to FM 528 in Galveston County

1105 Bastrop Bayou Tidal - from the confluence with Bastrop Bay 1.1 kilometers (0.7 mile) downstream of the Intracoastal Waterway in Brazoria County to a point 8.6 km (5.3 miles) upstream of Business 288 [Old Clute Road] at Lake Jackson in Brazoria County

1107 Chocolate Bayou Tidal - from the confluence with Chocolate Bay 1.4 kilometers (0.9 mile) downstream of FM 2004 in Brazoria County to the salt water barrier (immediately downstream of the Chocolate Bayou Rice Canal) 5.2 kilometers (3.2 miles) downstream of SH 35 in Brazoria County

1108 Chocolate Bayou Above Tidal - from the salt water barrier (immediately downstream of the Chocolate Bayou Rice Canal) 5.2 kilometers (3.2 miles) downstream of SH 35 in Brazoria County to SH 6 in Brazoria County

1109 Oyster Creek Tidal - from the confluence with the Intracoastal Waterway in Brazoria County to a point 100 meters (110 yards) upstream of FM 2004 in Brazoria County

1110 Oyster Creek Above Tidal - from a point 100 meters (110 yards) upstream of FM 2004 in Brazoria County to the Brazos River Authority diversion dam 1.8 kilometers (1.1 miles) upstream of SH 6 in Fort Bend County

1111 Old Brazos River Channel Tidal - from the confluence with the Intracoastal Waterway in Brazoria County to SH 288 in Brazoria County

1113 Armand Bayou Tidal - from the confluence with Clear Lake (at the NASA Road 1 bridge) in Harris County to a point 0.8 kilometer (0.5 mile) downstream of Genoa-Red Bluff Road in Pasadena in Harris County (includes Mud Lake)

1201 Brazos River Tidal - from the confluence with the Gulf of Mexico in Brazoria County to a point 100 meters (110 yards) upstream of SH 332 in Brazoria County

1202 Brazos River Below Navasota River - from a point 100 meters (110 yards) upstream of SH 332 in Brazoria County to a point immediately upstream of the confluence of the Navasota River in Grimes County

1203 Whitney Lake - from Whitney Dam in Bosque/Hill County to a point immediately upstream of the confluence of Camp Creek on the Brazos River Arm in Bosque/Johnson County and to a point immediately upstream of the confluence of Rock Creek on the Nolan River Arm in Hill County, up to the normal pool elevation of 533 feet (impounds Brazos River)

1204 Brazos River Below Lake Granbury - from a point immediately upstream of the confluence of Camp Creek in Bosque/Johnson County to DeCordova Bend Dam in Hood County

1205 Lake Granbury - from DeCordova Bend Dam in Hood County to a point 100 meters (110 yards) upstream of FM 2580 in Parker County, up to the normal pool elevation of 693 feet (impounds Brazos River)

1206 Brazos River Below Possum Kingdom Lake - from a point 100 meters (110 yards) upstream of FM 2580 in Parker County to Morris Sheppard Dam in Palo Pinto County

1207 Possum Kingdom Lake - from Morris Sheppard Dam in Palo Pinto County to a point immediately upstream of the confluence of Cove Creek at Salem Bend in Young County, up to the normal pool elevation of 1000 feet (impounds Brazos River)

1208 Brazos River Above Possum Kingdom Lake - from a point immediately upstream of the confluence of Cove Creek at Salem Bend in Young County to the confluence of the Double Mountain Fork Brazos River and the Salt Fork Brazos River in Stonewall County

1209 Navasota River Below Lake Limestone - from the confluence with the Brazos River in Grimes County to Sterling C. Robertson Dam in Leon/Robertson County

1210 Lake Mexia - from Bistone Dam in Limestone County up to the normal pool elevation of 448.3 feet (impounds Navasota River)

1211 Yegua Creek - from the confluence with the Brazos River in Burleson/Washington County to Somerville Dam in Burleson/Washington County

1212 Somerville Lake - from Somerville Dam in Burleson/Washington County up to the normal pool elevation of 238 feet (impounds Yegua Creek)

1213 Little River - from the confluence with the Brazos River in Milam County to the confluence of the Leon River and the Lampasas River in Bell County

1214 San Gabriel River - from the confluence with the Little River in Milam County to Granger Lake Dam in Williamson County

1215 Lampasas River Below Stillhouse Hollow Lake - from the confluence with the Leon River in Bell County to Stillhouse Hollow Dam in Bell County

1216 Stillhouse Hollow Lake - from Stillhouse Hollow Dam in Bell County to a point immediately upstream of the confluence of Rock Creek in Bell County, up to the normal pool elevation of 622 feet (impounds Lampasas River)

1217 Lampasas River Above Stillhouse Hollow Lake - from a point immediately upstream of the confluence of Rock Creek in Bell County to FM 2005 in Hamilton County

1218 Nolan Creek/South Nolan Creek - from the confluence with the Leon River in Bell County to a point 100 meters (110 yards) upstream of the most upstream crossing of US 190 near the intersection of US 190 and Loop 172 in Bell County

1219 Leon River Below Belton Lake - from the confluence with the Lampasas River in Bell County to Belton Dam in Bell County

1220 Belton Lake - from Belton Dam in Bell County to a point 100 meters (110 yards) upstream of FM 236 in Coryell County, up to the normal pool elevation of 594 feet (impounds Leon River)

1221 Leon River Below Proctor Lake - from a point 100 meters (110 yards) upstream of FM 236 in Coryell County to Proctor Dam in Comanche County

1222 Proctor Lake - from Proctor Dam in Comanche County to a point immediately upstream of the confluence of Mill Branch in Comanche County, up to the normal pool elevation of 1162 feet (impounds Leon River)

1223 Leon River Below Leon Reservoir - from a point immediately upstream of the confluence of Mill Branch in Comanche County to Leon Dam in Eastland County

1224 Leon Reservoir - from Leon Dam in Eastland County up to the normal pool elevation of 1375 feet (impounds Leon River)

1225 Waco Lake - from Waco Lake Dam in McLennan County to a point 0.51 kilometers (0.32 miles) downstream from Caldwell Crossing [100 meters (110 yards) upstream of FM 185] on the North Bosque River Arm in McLennan County; and on the South Bosque River Arm in McLennan County, to a point on the Middle Bosque River 1.64 kilometers (1.02 miles) upstream of the confluence of the Middle Bosque and South Bosque rivers [River on the South Bosque River Arm in McLennan County] and to a point on the South Bosque River, 1.35 kilometers (0.84 miles) upstream of the confluence of the Middle Bosque and South Bosque rivers, up to the normal pool elevation of 462 [455] feet (impounds the Bosque River)

1226 North Bosque River - from a point 0.51 kilometers (0.32 miles) downstream of Caldwell Crossing [100 meters (110 yards) upstream of FM 185] in McLennan County to a point immediately upstream of the confluence of Indian Creek in Erath County

1227 Nolan River - from a point immediately upstream of the confluence of Rock Creek in Hill County to Cleburne Dam in Johnson County

1228 Lake Pat Cleburne - from Cleburne Dam in Johnson County up to the normal pool elevation of 733.5 feet (impounds Nolan River)

1229 Paluxy River/North Paluxy River - from the confluence with the Brazos River in Somervell County to the confluence of Rough Creek in Erath County

1230 Lake Palo Pinto - from Palo Pinto Creek Dam in Palo Pinto County up to the normal pool elevation of 867.3 [867] feet (impounds Palo Pinto Creek)

1231 Lake Graham - from Graham Dam and Eddleman Dam in Young County up to the normal pool elevation of 1075 [1076.3] feet (impounds Salt Creek and Flint Creek)

1232 Clear Fork Brazos River - from the confluence with the Brazos River in Young County to the most upstream crossing of US 180 in Fisher County

1233 Hubbard Creek Reservoir - from Hubbard Creek Dam in Stephens County up to the normal pool elevation of 1183 feet (impounds Hubbard Creek)

1234 Lake Cisco - from Williamson Dam in Eastland County up to the normal pool elevation of 1496 feet (impounds Sandy Creek)

1235 Lake Stamford - from Stamford Dam in Haskell County up to the normal pool elevation of 1416.8 feet (impounds Paint Creek)

1236 Fort Phantom Hill Reservoir - from Fort Phantom Hill Dam in Jones County up to the normal pool elevation of 1635.9 [1636] feet (impounds Elm Creek)

1237 Lake Sweetwater - from Sweetwater Dam in Nolan County up to the normal pool elevation of 2116.5 feet (impounds Bitter Creek)

1238 Salt Fork Brazos River - from the confluence of the Double Mountain Fork Brazos River in Stonewall County to the most upstream crossing of SH 207 in Crosby County

1239 White River - from the confluence with the Salt Fork Brazos River in Kent County to White River Dam in Crosby County

1240 White River Lake - from White River Dam in Crosby County up to the normal pool elevation of 2372.2 [2369] feet (impounds White River)

1241 Double Mountain Fork Brazos River - from the confluence with the Salt Fork Brazos River in Stonewall County to the confluence of the North Fork Double Mountain Fork Brazos River in Kent County

1242 Brazos River Above Navasota River - from a point immediately upstream of the confluence of the Navasota River in Brazos/Grimes/Washington County to the low water dam forming Lake Brazos in McLennan County

1243 Salado Creek - from the confluence with the Lampasas River in Bell County to the confluence of North Salado Creek and South Salado Creek in Williamson County

1244 Brushy Creek - from the confluence with the San Gabriel River in Milam County to the confluence of South Brushy Creek in Williamson County

1245 Upper Oyster Creek - from Steep Bank Creek/Brazos River confluence in Fort Bend County to pumping station on Jones Creek at Brazos River in Fort Bend County (includes portions of Steep Bank Creek, Flat Bank Creek, Flat Bank Creek Diversion Channel, and Jones Creek)

1246 Middle Bosque/South Bosque River - for the Middle Bosque River from a point 1.64 kilometers (1.02 miles) from the confluence with the South Bosque River in McLennan County to the confluence of Cave Creek and Middle Bosque Creek [on the Middle Bosque River] in Coryell County and for the South Bosque River from a point 1.35 kilometers (0.84 miles) from the confluence of the Middle Bosque River in McLennan County to FM 2671 [on the South Bosque River] in McLennan County

1247 Granger Lake - from Granger Dam in Williamson County to a point 1.9 kilometers (1.2 miles) downstream of SH 95 in Williamson County, up to the normal pool elevation of 504 feet (impounds San Gabriel River)

1248 San Gabriel/North Fork San Gabriel River - from a point 1.9 kilometers (1.2 miles) downstream of SH 95 in Williamson County to North San Gabriel Dam in Williamson County

1249 Lake Georgetown - from North San Gabriel Dam in Williamson County to a point 6.6 kilometers (4.1 miles) downstream of US 183 in Williamson County, up to the normal pool elevation of 791 feet (impounds North Fork San Gabriel River)

1250 South Fork San Gabriel River - from the confluence with the North Fork San Gabriel River in Williamson County to the most upstream crossing of SH 29 in Burnet County

1251 North Fork San Gabriel River - from a point 6.6 kilometers (4.1 miles) downstream of US 183 in Williamson County to the confluence of Allen Branch in Burnet County

1252 Lake Limestone - from Sterling C. Robertson Dam in Leon/Robertson County to a point 2.3 kilometers (1.4 miles) downstream of SH 164 in Limestone County, up to the normal pool elevation of 363 feet (impounds Navasota River)

1253 Navasota River Below Lake Mexia - from a point 2.3 kilometers (1.4 miles) downstream of SH 164 in Limestone County to Bistone Dam in Limestone County

1254 Aquilla Reservoir - from Aquilla Dam in Hill County up to the normal pool elevation of 537.5 feet (impounds Aquilla Creek)

1255 Upper North Bosque River - from a point immediately upstream of the confluence of Indian Creek in Erath County to the confluence of the North Fork and South Fork of the North Bosque River in Erath County

1256 Brazos River/Lake Brazos - from the low water dam forming Lake Brazos in McLennan County to a point immediately upstream of the confluence of Aquilla Creek in McLennan County (includes the Bosque River arm to the Waco Lake Dam)

1257 Brazos River Below Whitney Lake - from a point immediately upstream of the confluence of Aquilla Creek in McLennan County to Whitney Dam in Bosque/Hill County

1301 San Bernard River Tidal - from the confluence with the Intracoastal Waterway in Brazoria County to a point 3.2 kilometers (2.0 miles) upstream of SH 35 in Brazoria County

1302 San Bernard River Above Tidal - from a point 3.2 kilometers (2.0 miles) upstream of SH 35 in Brazoria County to the county road southeast of New Ulm in Austin County

1304 Caney Creek Tidal - from the confluence with the Intracoastal Waterway in Matagorda County to a point 1.9 kilometers (1.2 miles) upstream of the confluence of Linnville Bayou in Matagorda County

1305 Caney Creek Above Tidal - from a point 1.9 kilometers (1.2 miles) upstream of the confluence of Linnville Bayou in Matagorda County to the confluence of Water Hole Creek [Old Caney Road] in Wharton County

1401 Colorado River Tidal - from the confluence with the Gulf of Mexico in Matagorda County to a point 2.1 kilometers (1.3 miles) downstream of the Missouri-Pacific Railroad in Matagorda County

1402 Colorado River Below La Grange - from a point 2.1 kilometers (1.3 miles) downstream of the Missouri-Pacific Railroad in Matagorda County to a point 100 meters (110 yards) downstream of Business SH 71 at La Grange in Fayette County

1403 Lake Austin - from Tom Miller Dam in Travis County to Mansfield Dam in Travis County, up to the normal pool elevation of 492.8 feet (impounds Colorado River)

1404 Lake Travis - from Mansfield Dam in Travis County to Max Starcke Dam on the Colorado River Arm in Burnet County and to a point immediately upstream of the confluence of Fall Creek on the Pedernales River Arm in Travis County, up to the normal pool elevation of 681 feet (impounds Colorado River)

1405 Marble Falls Lake - from Max Starcke Dam in Burnet County to Alvin Wirtz Dam in Burnet County, up to the normal pool elevation of 738 feet (impounds Colorado River)

1406 Lake Lyndon B. Johnson - from Alvin Wirtz Dam in Burnet County to Roy Inks Dam on the Colorado River Arm in Burnet/Llano County and to a point immediately upstream of the confluence of Honey Creek on the Llano River Arm in Llano County, up to the normal pool elevation of 825.6 [825] feet (impounds Colorado River)

1407 Inks Lake - from Roy Inks Dam in Burnet/Llano County to Buchanan Dam in Burnet/Llano County, up to the normal pool elevation of 888 feet (impounds Colorado River)

1408 Lake Buchanan - from Buchanan Dam in Burnet/Llano County to a point immediately upstream of the confluence of Yancey Creek, up to the normal pool elevation of 1020.5 [1020] feet (impounds Colorado River)

1409 Colorado River Above Lake Buchanan - from a point immediately upstream of the confluence of Yancey Creek in Burnet/San Saba/Lampasas County to the confluence of the San Saba River in San Saba County

1410 Colorado River Below O. H. Ivie Reservoir - from the confluence of the San Saba River in San Saba County to S. W. Freese Dam in Coleman/Concho County

1411 E. V. Spence Reservoir - from Robert Lee Dam in Coke County to a point immediately upstream of the confluence of Little Silver Creek in Coke County, up to the normal pool elevation of 1898 feet (impounds Colorado River)

1412 Colorado River Below Lake J. B. Thomas - from a point immediately upstream of the confluence of Little Silver Creek in Coke County to Colorado River Dam in Scurry County

1413 Lake J. B. Thomas - from Colorado River Dam in Scurry County up to the normal pool elevation of 2258 feet (impounds Colorado River)

1414 Pedernales River - from a point immediately upstream of the confluence of Fall Creek in Travis County to FM 385 in Kimble County

1415 Llano River - from a point immediately upstream of the confluence of Honey Creek in Llano County to FM 864 on the North Llano River in Sutton County and to SH 55 on the South Llano River in Edwards County

1416 San Saba River - from the confluence with the Colorado River in San Saba County to the confluence of the North Valley Prong and the Middle Valley Prong in Schleicher County

1417 Lower Pecan Bayou - from the confluence with the Colorado River in Mills County to a point immediately upstream of the confluence of Mackinally Creek in Brown County

1418 Lake Brownwood - from Lake Brownwood Dam in Brown County to a point 100 meters (110 yards) upstream of FM 2559 in Brown County, up to the normal pool elevation of 1425 [1424.6] feet (impounds Pecan Bayou)

1419 Lake Coleman - from Coleman Dam in Coleman County up to the normal pool elevation of 1717.5 feet (impounds Jim Ned Creek)

1420 Pecan Bayou Above Lake Brownwood - from a point 100 meters (110 yards) upstream of FM 2559 in Brown County to the confluence of the North Prong Pecan Bayou and the South Prong Pecan Bayou in Callahan County

1421 Concho River - from a point 2.0 kilometers (1.2 miles) upstream of the confluence of Fuzzy Creek in Concho County to San Angelo Dam on the North Concho River in Tom Green County and to Nasworthy Dam on the South Concho River in Tom Green County

1422 Lake Nasworthy - from Nasworthy Dam in Tom Green County to Twin Buttes Dam in Tom Green County, up to the normal pool elevation of 1872.2 feet (impounds South Concho River)

1423 Twin Buttes Reservoir - from Twin Buttes Dam in Tom Green County to a point 100 meters (110 yards) upstream of US 67 on the Middle Concho River Arm in Tom Green County and to a point 4.0 kilometers (2.5 miles) downstream of FM 2335 on the South Concho River Arm in Tom Green County, up to the normal pool elevation of 1940.2 feet (impounds the Middle Concho River and the South Concho River)

1424 Middle Concho/South Concho River - from a point 4.0 kilometers (2.5 miles) downstream of FM 2335 in Tom Green County to the confluence of Bois D'Arc Draw on the South Concho River in Tom Green County and from a point 100 meters (110 yards) upstream of US 67 in Tom Green County to the confluence of Three Bluff Draw and Indian Creek on the Middle Concho River in Reagan County

1425 O. C. Fisher Lake - from San Angelo Dam in Tom Green County up to the normal pool elevation of 1908 feet (impounds North Concho River)

1426 Colorado River Below E. V. Spence Reservoir - from a point 3.7 kilometers (2.3 miles) downstream of [below] the confluence of Mustang Creek in Runnels County to Robert Lee Dam in Coke County

1427 Onion Creek - from the confluence with the Colorado River in Travis County to the most upstream crossing of FM 165 in Blanco County

1428 Colorado River Below Lady Bird Lake (formerly Town Lake) - from a point 100 meters (110 yards) upstream of FM 969 near Utley in Bastrop County to Longhorn Dam in Travis County

1429 Lady Bird Lake (formerly Town Lake) - from Longhorn Dam in Travis County to Tom Miller Dam in Travis County, up to the normal pool elevation of 429 feet (impounds Colorado River)

1430 Barton Creek - from the confluence with Lady Bird Lake (formerly Town Lake) in Travis County to FM 12 in Hays County

1431 Mid Pecan Bayou - from a point immediately upstream of the confluence of Mackinally Creek in Brown County to a point immediately upstream of Willis Creek in Brown County

1432 Upper Pecan Bayou - from a point immediately upstream of the confluence of Willis Creek in Brown County to Lake Brownwood Dam in Brown County

1433 O. H. Ivie Reservoir - from S. W. Freese Dam in Coleman/Concho County to a point 3.7 kilometers (2.3 miles) downstream of the confluence of Mustang Creek on the Colorado River Arm in Runnels County and to a point 2.0 kilometers (1.2 miles) upstream of the confluence of

Fuzzy Creek on the Concho River Arm in Concho County, up to the conservation pool level of 1551.5 feet (impounds Colorado River)

1434 Colorado River Above La Grange - from a point 100 meters (110 yards) downstream of Business SH 71 at La Grange in Fayette County to a point 100 meters (110 yards) upstream of FM 969 near Utley in Bastrop County

1501 Tres Palacios Creek Tidal - from the confluence with Tres Palacios Bay in Matagorda County to a point 1.6 kilometers [1.0 kilometer] (1.0 [0.6] mile) upstream of the confluence of Wilson Creek in Matagorda County

1502 Tres Palacios Creek Above Tidal - from a point 1.6 kilometers [1.0 kilometer] (1.0 [0.6] mile) upstream of the confluence of Wilson Creek in Matagorda County to State Route 525 (Old US 59) in Wharton County

1601 Lavaca River Tidal - from the confluence with Lavaca Bay in Calhoun/Jackson County to a point 8.6 kilometers (5.3 miles) downstream of US 59 in Jackson County

1602 Lavaca River Above Tidal - from a point 8.6 kilometers (5.3 miles) downstream of US 59 in Jackson County to the confluence of Campbell Branch west of Hallettsville [a point 5.5 kilometers (3.4 miles) upstream of SH 95] in Lavaca County

1603 Navidad River Tidal - from the confluence with the Lavaca River in Jackson County to Palmetto Bend Dam in Jackson County

1604 Lake Texana - from Palmetto Bend Dam in Jackson County to a point 100 meters (110 yards) downstream of FM 530 in Jackson County, up to the normal pool elevation of 44 feet (impounds Navidad River)

1605 Navidad River Above Lake Texana - from a point 100 meters (110 yards) downstream of FM 530 in Jackson County to the confluence of the East Navidad River and the West Navidad River in Colorado/Lavaca County

1701 Victoria Barge Canal Tidal - from the confluence with San Antonio Bay in Calhoun County to Victoria Turning Basin in Victoria County

1801 Guadalupe River Tidal - from the confluence with Guadalupe Bay in Calhoun/Refugio County to the Guadalupe-Blanco River Authority Salt Water Barrier 0.7 kilometer (0.4 mile) downstream of the confluence of the San Antonio River in Calhoun/Refugio County

1802 Guadalupe River Below San Antonio River - from the Guadalupe-Blanco River Authority Salt Water Barrier 0.7 kilometer (0.4 mile) downstream of the confluence of the San Antonio River in Calhoun/Refugio County to a point immediately upstream of the confluence of the San Antonio River in Calhoun/Refugio/Victoria County

1803 Guadalupe River Below San Marcos River - from a point immediately upstream of the confluence of the San Antonio River in Calhoun/Refugio/Victoria County to a point immediately upstream of the confluence of the San Marcos River in Gonzales County

1804 Guadalupe River Below Comal River - from a point immediately upstream of the confluence of the San Marcos River in Gonzales County to a point immediately upstream of the confluence of the Comal River in Comal County

1805 Canyon Lake - from Canyon Dam in Comal County to a point 2.7 kilometers (1.7 miles) downstream of Rebecca Creek Road in Comal County, up to the normal pool elevation of 909 feet (impounds Guadalupe River)

1806 Guadalupe River Above Canyon Lake - from a point 2.7 kilometers (1.7 miles) downstream of Rebecca Creek Road in Comal County to the confluence of the North Fork Guadalupe River and the South Fork Guadalupe River in Kerr County

1807 Coleto Creek - from the confluence with the Guadalupe River in Victoria County to the confluence of Fifteenmile Creek and Twelvemile Creek in Goliad/Victoria County, including Coleto Creek Reservoir

1808 Lower San Marcos River - from the confluence with the Guadalupe River in Gonzales County to a point 1.0 kilometer (0.6 mile) upstream of the confluence of the Blanco River in Hays County

1809 Lower Blanco River - from the confluence with the San Marcos River in Hays County to a point 0.3 kilometer (0.2 mile) upstream of Limekiln Road in Hays County

1810 Plum Creek - from the confluence with the San Marcos River in Caldwell County to FM 2770 in Hays County

1811 Comal River - from the confluence with the Guadalupe River in Comal County to Klingemann Street at New Braunfels in Comal County

1812 Guadalupe River Below Canyon Dam - from a point immediately upstream of the confluence of the Comal River in Comal County to Canyon Dam in Comal County

1813 Upper Blanco River - from a point 0.3 kilometer (0.2 mile) upstream of Limekiln Road in Hays County to the confluence of Meier Creek in Kendall County

1814 Upper San Marcos River - from a point 1.0 kilometer (0.6 miles) upstream of the confluence of the Blanco River in Hays County to a point 0.7 kilometer (0.4 mile) upstream of Loop 82 in San Marcos in Hays County (includes Spring Lake)

1815 Cypress Creek - from the confluence with the Blanco River in Hays County to a point 6.4 kilometers (4.0 miles) upstream of the most upstream unnamed county road crossing in Hays County

1816 Johnson Creek - from the confluence with the Guadalupe River in Kerr County to a point 1.2 kilometers (0.7 mile) upstream of the most upstream crossing of SH 41 in Kerr County

1817 North Fork Guadalupe River - from the confluence with the Guadalupe River in Kerr County to a point 18.2 kilometers (11.3 miles) upstream of Boneyard Draw in Kerr County

1818 South Fork Guadalupe River - from the confluence with the Guadalupe River in Kerr County to a point 4.8 kilometers (3.0 miles) upstream of FM 187 in Kerr County

1901 Lower San Antonio River - from the confluence with the Guadalupe River in Refugio/Victoria County to a point 600 meters (660 yards) downstream of FM 791 at Mays Crossing near Falls City in Karnes County

1902 Lower Cibolo Creek - from the confluence with the San Antonio River in Karnes County to a point 100 meters (110 yards) downstream of IH 10 in Bexar/Guadalupe County

1903 Medina River Below Medina Diversion Lake - from the confluence with the San Antonio River in Bexar County to Medina Diversion Dam in Medina County

1904 Medina Lake - from Medina Lake Dam in Medina County to a point immediately upstream of the confluence of Red Bluff Creek in Bandera County, up to the normal pool elevation of 1072 [1064.2] feet (impounds Medina River)

1905 Medina River Above Medina Lake - from a point immediately upstream of the confluence of Red Bluff Creek in Bandera County to the confluence of the North Prong Medina River and the West Prong Medina River in Bandera County

1906 Lower Leon Creek - from the confluence with the Medina River in Bexar County to a point 100 meters (110 yards) upstream of SH 16 northwest of San Antonio in Bexar County

1907 Upper Leon Creek - from a point 100 meters (110 yards) upstream of SH 16 northwest of San Antonio in Bexar County to a point 9.0 kilometers (5.6 miles) upstream of Scenic Loop Road north of Helotes in Bexar County

1908 Upper Cibolo Creek - from the Missouri-Pacific Railroad bridge west of Bracken in Comal County to a point 1.5 kilometers (0.9 mile) upstream of the confluence of Champee Springs in Kendall County

1909 Medina Diversion Lake - from Medina Diversion Dam in Medina County to Medina Lake Dam in Medina County, up to the normal pool elevation of 926.5 feet (impounds Medina River)

1910 Salado Creek - from the confluence with the San Antonio River in Bexar County to the confluence of Beitel Creek [Rocking Horse Lane west of Camp Bullis] in Bexar County

1911 Upper San Antonio River - from a point 600 meters (660 yards) downstream of FM 791 at Mays Crossing near Falls City in Karnes County to a point 100 meters (110 yards) upstream of Hildebrand Avenue at San Antonio in Bexar County

1912 Medio Creek - from the confluence with the Medina River in Bexar County to a point 1.0 kilometer (0.6 mile) upstream of IH 35 at San Antonio in Bexar County

1913 Mid Cibolo Creek - from a point 100 meters (110 yards) downstream of IH 10 in Bexar/Guadalupe County to the Missouri-Pacific Railroad bridge west of Bracken in Comal County

2001 Mission River Tidal - from the confluence with Mission Bay in Refugio County to a point 7.4 kilometers (4.6 miles) downstream of US 77 in Refugio County

2002 Mission River Above Tidal - from a point 7.4 kilometers (4.6 miles) downstream of US 77 in Refugio County to the confluence of Blanco Creek and Medio Creek in Refugio County

2003 Aransas River Tidal - from the confluence with Copano Bay in Aransas/Refugio County to a point 1.6 kilometers (1.0 mile) upstream of US 77 in Refugio/San Patricio County

2004 Aransas River Above Tidal - from a point 1.6 kilometers (1.0 mile) upstream of US 77 in Refugio/San Patricio County to the confluence of Poesta Creek and Aransas Creek in Bee County

2101 Nueces River Tidal - from the confluence with Nueces Bay in Nueces County to Calallen Dam 1.7 kilometers (1.1 miles) upstream of US 77/IH 37 in Nueces/San Patricio County

2102 Nueces River Below Lake Corpus Christi - from Calallen Dam 1.7 kilometers (1.1 miles) upstream of US 77/IH 37 in Nueces/San Patricio County to Wesley E. Seale Dam in Jim Wells/San Patricio County

2103 Lake Corpus Christi - from Wesley E. Seale Dam in Jim Wells/San Patricio County to a point 100 meters (110 yards) upstream of US 59 in Live Oak County, up to the normal pool elevation of 94.0 feet (impounds Nueces River)

2104 Nueces River Above Frio River - from the confluence of the Frio River in Live Oak County to Holland Dam in LaSalle County

2105 Nueces River Above Holland Dam - from Holland Dam in LaSalle County to a point 100 meters (110 yards) upstream of FM 1025 in Zavala County

2106 Nueces/Lower Frio River - from a point 100 meters (110 yards) upstream of US 59 in Live Oak County to Choke Canyon Dam in Live Oak County

2107 Atascosa River - from the confluence with the Frio River in Live Oak County to the confluence of the West Prong Atascosa River and the North Prong Atascosa River in Atascosa County

2108 San Miguel Creek - from a point immediately upstream of the confluence of Mustang Branch in McMullen County to the confluence of San Francisco Perez Creek and Chacon Creek in Frio County

2109 Leona River - from the confluence with the Frio River in Frio County to US 83 in Uvalde County

2110 Lower Sabinal River - from the confluence with the Frio River in Uvalde County to a point 100 meters (110 yards) upstream of SH 127 in Uvalde County

2111 Upper Sabinal River - from a point 100 meters (110 yards) upstream of SH 127 in Uvalde County to the most upstream crossing of FM 187 in Bandera County

2112 Upper Nueces River - from a point 100 meters (110 yards) upstream of FM 1025 in Zavala County to the confluence of the East Prong Nueces River and Hackberry Creek in Edwards County

2113 Upper Frio River - from a point 100 meters (110 yards) upstream of US 90 in Uvalde County to the confluence of the West Frio River and the East Frio River in Real County

2114 Hondo Creek - from the confluence with the Frio River in Frio County to FM 470 in Bandera County

2115 Seco Creek - from the confluence with Hondo Creek in Frio County to the confluence of West Seco Creek in Bandera County

2116 Choke Canyon Reservoir - from Choke Canyon Dam in Live Oak County to a point 4.2 kilometers (2.6 miles) downstream of SH 16 on the Frio River Arm in McMullen County and to a point 100 meters (110 yards) upstream of the confluence of Mustang Branch on the San Miguel Creek Arm in McMullen County, up to the normal pool elevation of 220.5 feet (impounds Frio River)

2117 Frio River Above Choke Canyon Reservoir - from a point 4.2 kilometers (2.6 miles) downstream of SH 16 in McMullen County to a point 100 meters (110 yards) upstream of US 90 in Uvalde County

2201 Arroyo Colorado Tidal - from the confluence with Laguna Madre in Cameron/Willacy County to a point 100 meters (110 yards) downstream of Cemetery Road south of Port Harlingen in Cameron County

2202 Arroyo Colorado Above Tidal - from a point 100 meters (110 yards) downstream of Cemetery Road south of Port Harlingen in Cameron County to FM 2062 in Hidalgo County (includes La Cruz Resaca, Llano Grande Lake, and the Main Floodway)

2203 Petronila Creek Tidal - from the confluence of Chiltipin Creek in Kleberg County to a point 1 kilometer (0.6 mile) upstream of private road crossing near Laureles Ranch in Kleberg County

2204 Petronila Creek Above Tidal - from a point 1 kilometer (0.6 mile) upstream of private road crossing near Laureles Ranch in Kleberg County to the confluence of Agua Dulce and Banquete Creeks in Nueces County

2301 Rio Grande Tidal - from the confluence with the Gulf of Mexico in Cameron County to a point 10.8 kilometers (6.7 miles) downstream of the International Bridge in Cameron County

2302 Rio Grande Below Falcon Reservoir - from a point 10.8 kilometers (6.7 miles) downstream of the International Bridge in Cameron County to Falcon Dam in Starr County

2303 International Falcon Reservoir - from Falcon Dam in Starr County to the confluence of the Arroyo El Salado (Mexico) in Zapata County, up to the normal pool elevation of 301.1 feet (impounds Rio Grande)

2304 Rio Grande Below Amistad Reservoir - from the confluence of the Arroyo El Salado (Mexico) in Zapata County to Amistad Dam in Val Verde County

2305 International Amistad Reservoir - from Amistad Dam in Val Verde County to a point 1.8 kilometers (1.1 miles) downstream of the confluence of Ramsey Canyon on the Rio Grande Arm in Val Verde County and to a point 0.7 kilometer (0.4 mile) downstream of the confluence of Painted Canyon on the Pecos River Arm in Val Verde County and to a point 0.6 kilometer (0.4 mile) downstream of the confluence of Little Satan Creek on the Devils River Arm in Val Verde County, up to the normal pool elevation of 1117 feet (impounds Rio Grande)

2306 Rio Grande Above Amistad Reservoir - from a point 1.8 kilometers (1.1 miles) downstream of the confluence of Ramsey Canyon in Val Verde County to the confluence of the Rio Conchos (Mexico) in Presidio County

2307 Rio Grande Below Riverside Diversion Dam - from the confluence of the Rio Conchos (Mexico) in Presidio County to Riverside Diversion Dam in El Paso County

2308 Rio Grande Below International Dam - from the Riverside Diversion Dam in El Paso County to International Dam in El Paso County

2309 Devils River - from a point 0.6 kilometer (0.4 mile) downstream of the confluence of Little Satan Creek in Val Verde County to the confluence of Dry Devils River in Sutton County

2310 Lower Pecos River - from a point 0.7 kilometer (0.4 mile) downstream of the confluence of Painted Canyon in Val Verde County to a point immediately upstream of the confluence of Independence Creek in Crockett/Terrell County

2311 Upper Pecos River - from a point immediately upstream of the confluence of Independence Creek in Crockett/Terrell County to Red Bluff Dam in Loving/Reeves County

2312 Red Bluff Reservoir - from Red Bluff Dam in Loving/Reeves County to the New Mexico State Line in Loving/Reeves County, up to the normal pool elevation of 2842 feet (impounds Pecos River)

2313 San Felipe Creek - from the confluence with the Rio Grande in Val Verde County to a point 4.0 kilometers (2.5 miles) upstream of US 90 in Val Verde County

2314 Rio Grande Above International Dam - from International Dam in El Paso County to the New Mexico State Line in El Paso County

2411 Sabine Pass * - from the end of the jetties at the Gulf of Mexico to SH 82

2412 Sabine Lake *

2421 Upper Galveston Bay *

2422 Trinity Bay *

2423 East Bay *

2424 West Bay *

2425 Clear Lake *

2426 Tabbs Bay *

2427 San Jacinto Bay *

2428 Black Duck Bay *

2429 Scott Bay *

2430 Burnet [Burnett] Bay *

2431 Moses Lake *

2432 Chocolate Bay *

2433 Bastrop Bay/Oyster Lake *

2434 Christmas Bay *

2435 Drum Bay *

2436 Barbours Cut *

2437 Texas City Ship Channel *

2438 Bayport Channel *

2439 Lower Galveston Bay *

2441 East Matagorda Bay *

2442 Cedar Lakes *

2451 Matagorda Bay/Powderhorn Lake *

2452 Tres Palacios Bay/Turtle Bay *

2453 Lavaca Bay/Chocolate Bay *

2454 Cox Bay *

2455 Keller Bay *

2456 Carancahua Bay *

2461 Espiritu Santo Bay *

2462 San Antonio Bay/Hynes Bay/Guadalupe Bay/Mission Lake *

2463 Mesquite Bay/Carlos Bay/Ayres Bay *

2471 Aransas Bay *

2472 Copano Bay/Port Bay/Mission Bay *

2473 St. Charles Bay *

2481 Corpus Christi Bay *

2482 Nueces Bay *

2483 Redfish Bay *

2484 Corpus Christi Inner Harbor * - from US 181 to Viola Turning Basin

2485 Oso Bay *

2491 Laguna Madre *

2492 Baffin Bay/Alazan Bay/Cayo del Grullo/Laguna Salada *

2493 South Bay *

2494 Brownsville Ship Channel *

2501 Gulf of Mexico * - from the Gulf shoreline to the limit of Texas' jurisdiction between Sabine Pass and the mouth of the Rio Grande [Brazos Santiago Pass]

* The segment boundaries are considered to be the mean high tide line.

(4) Appendix D - [--] Site-specific Uses and Criteria for Unclassified Water Bodies

[Receiving Water Assessments]:

Figure: 30 TAC §307.10(4)

[Figure: 30 TAC §307.10(4)]

**Appendix D - Site-specific Uses and Criteria for Unclassified Water Bodies [Receiving Water Assessments]**

Water bodies [The water bodies] listed in this appendix are those waters that are not designated segments listed in Appendix A of this title of this section. The water bodies are included because a regulatory action has been taken or is anticipated to be taken by the commission or because sufficient information exists to provide an aquatic life use designation. The segment numbers listed refer to the designated segments as defined in Appendix C of this section [title]. The county listed is the primary location where the use designation is [has been assigned]. The water body is a tributary within the drainage basin of the listed segment. The aquatic life use (ALU) designations and dissolved oxygen (DO) [(D.O.)] criterion are the same as defined in §307.4(h) [§307.3(b)] and §307.7(b)(3)(A) of this title (relating to General Criteria and Site-Specific Uses and Criteria, respectively). The description defines the specific area where [for which] the aquatic life use designation pertains. Recreational [Contact recreation] uses as defined in §307.4(j) of this title are assigned to [all of] the waters listed. Generally, there is not sufficient data on these waters to develop other conventional criteria and those criteria are the same as for the segment where [in which] the water body is located unless further site-specific information is obtained.

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 0101 | Carson, Hutchinson | Dixon Creek | I | 4.0[1] | Intermittent stream with perennial pools from the confluence with the Canadian River in Hutchinson County upstream to the confluence with the Middle, West, and East Dixon creeks in Carson County |
| 0101 | Hutchinson | Rock Creek | L | 3.0 | Perennial stream from the confluence with the Canadian River upstream [up] to SH 136 in the City of Borger |
| 0201 | Bowie | Jones Creek | I | 4.0 | Intermittent stream with perennial pools from the confluence with Barkman Creek upstream [up] to the western most crossing of FM 1398 near the City of Hooks |
| 0202 | Fannin | Bois d'Arc Creek | I | 4.0 | Perennial stream from the confluence with Sandy Creek upstream to the confluence with Pace Creek |
| 0202 | Grayson | Corneliason Creek | L | 3.0 | Intermittent stream with perennial pools from the confluence with Mill Creek upstream [up] to FM 1897 in the City of Bells |
| 0202 | Lamar | Pine Creek | I | 4.0 | Perennial and intermittent stream from the confluence with the Red River upstream to the dam forming Lake Crook |
| 0203 | Grayson | Big Mineral Creek | I | 4.0 | Intermittent stream with perennial pools from the normal pool elevation of Lake Texoma [Texoma's normal pool elevation of 617 feet] upstream to the confluence with an unnamed second order tributary on North Branch 2.4 km upstream of US 377 and upstream to the confluence with an unnamed second order tributary on South Branch 1.1 km upstream of US 377 north of the City of Whitesboro |
| 0203 | Grayson | Little Mineral Creek | I | 4.0 | Intermittent stream with perennial pools from the normal pool elevation of Lake Texoma [Texoma's normal pool elevation of 617 feet] upstream to the confluence with an unnamed tributary approximately 0.7 km upstream of Reeves Road |
| 0204 | Montague | Ritchie Creek | L | 3.0 | Intermittent stream with perennial pools from the confluence with Salt Creek upstream [up] to SH 59 east of the City of Montague |
| 0302 | Bowie | Big Creek | I | 4.0 | Intermittent stream with perennial pools from FM 2149 upstream [up] to 1.3 km south of US [U.S.] 82 southeast of the City of New Boston |
| 0302 | Bowie | Anderson Creek | I | 4.0 | Intermittent stream with perennial pools from the confluence with an unnamed tributary approximately 4.2 km downstream of SH 992 upstream to the confluence with an unnamed tributary approximately 2.2 km upstream of CR 4320 |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 0303 | Franklin, Hopkins, Morris, Titus | White Oak Creek | I | 4.0 | Perennial stream from the confluence with the Sulphur River north of the City of Naples in Morris County upstream approximately 0.26 km upstream of FM 900 in northeast Hopkins County |
| 0303 | Red River | Morrison Branch | I | 4.0 | Intermittent stream with perennial pools from the confluence with Little Mustang Creek upstream to approximately 0.7 km south of FM 909 southeast of the City of Bogata |
| 0304 | Bowie | Wagner Creek | I | 4.0 | Perennial stream from the confluence with Days Creek upstream to a point 1.5 km upstream of IH 30 |
| 0400 | Harrison | Cross Bayou | H | 5.0 | Perennial stream from the Texas/Louisiana border upstream to the headwaters approximately 0.2 km south of the cemetery at Stricklen Springs |
| 0401 | Harrison | Harrison Bayou | H | 5.0[2] | Intermittent stream with perennial pools from the confluence with Caddo Lake within the Caddo Lake National Wildlife Refuge (also known as the Longhorn Ordinance Works facility) east of the City of Karnack upstream to FM 1998 east of the City of Marshall |
| 0402 | Cass | Hughes Creek | H | 5.0 | Perennial stream from the confluence with Black Cypress Creek upstream to the confluence with an unnamed first order tributary approximately 0.5 km downstream of FM 250 |
| [0402] | [Marion] | [Black Cypress/Bayou] | [I] | [4.0] | [Perennial stream from the confluence with Big Cypress in Marion County up to FM 250 in Cass County] |
| 0403 | Upshur | Meddlin Creek | H | 5.0 | Perennial stream from the confluence with Lake O' the Pines in Marion County upstream to US 259 in Upshur County |
| 0404 | Camp | Dry Creek | I | 4.0 | Perennial stream from the confluence with Big Cypress Creek upstream to the confluence of Mile Branch and Little Creek |
| 0404 | Camp | Sparks Branch | I | 4.0 | Perennial stream from the confluence with Dry Creek upstream to US 271 |
| 0404 | Morris | Brutons Creek | I | 4.0 | Perennial stream from the headwaters of Ellison Reservoir upstream to SH 49 near the City of Daingerfield |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 0404 | Morris | Unnamed tributary of Okry Creek | I | 4.0 | Perennial stream from the confluence with Okry Creek upstream to a point 0.26 km upstream of US 259 south of the City of Omaha |
| 0404 | Titus | Hart Creek | H | 5.0 | Perennial stream from the confluence with Big Cypress Creek upstream to 0.2 km upstream of FM 1402 |
| 0404 | Titus | Tankersley Creek | H | 5.0 | Perennial stream from the confluence with Big Cypress Creek upstream to the confluence with an unnamed tributary 250 meters upstream of IH 30 |
| 0407 | Cass | Beach Creek | I | 4.0 | Perennial stream from Iron Ore Lake upstream to the confluence with an unnamed tributary 0.48 km upstream of Hwy 59 |
| 0410 | Cass | Black Cypress Creek/Bayou | H | 5.0[2] | Intermittent stream with perennial pools from the confluence with Kelly Creek upstream to FM 250 north of the City of Hughes Springs |
| 0502 [0501] | Orange | County Relief Ditch | L | 3.0 | Perennial ditch from the confluence with the Sabine River upstream to SH [Highway] 87 |
| 0502 [0503] | Newton | Caney Creek | H | 5.0 | Perennial stream from the Sabine River upstream to the confluence with Martin Branch |
| 0502 [0503] | Newton | Unnamed tributary of Dempsey Creek | I | 4.0 | Perennial stream from the confluence with Dempsey Creek to a headwater swamp near the City of Bon Weir |
| 0504 | Shelby | Unnamed tributary of Flat Fork Creek | L | 3.0 | Intermittent stream with perennial pools from the confluence of an unnamed tributary 1.0 km upstream of FM 1645 upstream to 0.4 km upstream of SH 87 |
| 0504 | Shelby | Prairie Creek | H | 5.0 | Perennial stream from the confluence with Cedar Creek upstream to SH 7 |
| 0505 | Gregg | Grace Creek | I | 4.0 | Perennial stream from the confluence with the Sabine River upstream [up] to FM 1844 [in Gregg County] |
| 0505 | Gregg | Hawkins Creek | L | 3.0 | Perennial stream from the confluence with the Sabine River upstream to FM 2605 in the City of White Oak |
| 0505 | Gregg | Rocky Creek | H | 5.0 | Intermittent stream with perennial pools from the confluence with Prairie Creek upstream to the confluence with an unnamed first order tributary 0.6 km west of SH 135 [IH 30] |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 0505 | Gregg | Rabbit Creek | I | 4.0[3] [1] | Perennial stream from the confluence with the Sabine River in Gregg County upstream [up] to the confluence with Little Rabbit Creek in Rusk County |
| 0505 | Gregg | Campbells Creek | I | 4.0 | Intermittent stream with perennial pools from the confluence with Moody Creek upstream to the dam forming Lake Devernia |
| 0505 | Harrison | Eightmile Creek | I | 4.0[4] [2] | Perennial stream from the confluence with the Sabine River upstream [up] to SH 31 |
| 0505 | Harrison | Mason Creek | L | 3.0 | Intermittent stream with perennial pools from the confluence with a swamp 3.1 km downstream of IH 20 upstream [up] to 0.2 km above IH 20 near the intersection with FM 968 |
| 0505 | Harrison | Wards Creek | I | 4.0 | Intermittent stream with perennial pools from the confluence with Sewell Creek upstream to the confluence with an unnamed second order tributary approximately 0.6 km upstream of US 80 |
| 0505 | Panola | Wall Branch | I | 4.0 | Perennial stream from the confluence with Irons Bayou upstream to the confluence with an unnamed tributary 400 meters upstream of the City of Beckville WWTP |
| 0505 | Rusk | Little Rabbit Creek | I | 4.0 | Perennial stream from the confluence with Rabbit Creek upstream to the confluence with an unnamed tributary 0.15 km upstream of FM 850 west of the City of Overton |
| 0505 | Rusk | Unnamed tributary of Sabine River | I | 4.0 | Perennial stream from the confluence with the Sabine River upstream [up to] 0.7 km above the Santa Fe Railroad [railroad] crossing in the City of Easton |
| 0506 | Rains | Sandy Creek | H [L] | 5.0 [3.0] | Perennial stream from the confluence of Glade Creek upstream [up] to the confluence of an unnamed tributary 0.3 km below SH 19 |
| 0506 | Smith | Wiggins Creek | H | 5.0 | Perennial stream from the confluence with Harris Creek upstream to the dam impounding an unnamed reservoir located approximately 3.8 km upstream of FM 2015 northeast of the City of Tyler |
| 0506 | Smith | Mill Creek | H | 5.0 | Spring-fed perennial stream from the confluence with the Old Sabine River Channel upstream to the spring source at or above FM 2710 |
| 0506 | VanZandt | Giladon Creek | I | 4.0 | Perennial stream from the confluence with Mill Creek upstream to the confluence with an unnamed tributary approximately 0.4 km upstream of FM 859 near the City of Edgewood |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 0506 | Van Zandt | Unnamed tributary of Grand Saline Creek | I | 3.0[5] [3] | Perennial stream from the confluence with Grand Saline Creek upstream to the confluence with an unnamed tributary approximately 0.2 km downstream of US 80 |
| 0506 | Wood | Unnamed tributary of Sabine River (Ninemile Creek) | H | 5.0 | Perennial stream from the confluence with the Sabine River upstream to the confluence with an unnamed tributary immediately upstream of US 80 southeast of the City of Mineola |
| 0506 | Wood | No. 5 Branch | H | 5.0 | Intermittent stream with perennial pools from the confluence with Simpkins Creek upstream to US 69 |
| 0507 | Hunt | West Caddo Creek | L | 3.0 | Intermittent stream with perennial pools from the confluence with Brushy Creek upstream [up] to the confluence of Middle Caddo Creek northwest of Caddo Mills |
| 0510 | Rusk | Adaway Creek | I | 4.0 | Intermittent stream with perennial pools from the confluence with Mill Creek upstream to the confluence with an unnamed tributary 0.36 km upstream of FM 782 north of the City of Henderson |
| 0510 | Rusk | Mill Creek | I | 4.0 | Perennial stream from the confluence with Beaver Run upstream to the confluence with an unnamed tributary 50 meters upstream of FM 2276 north of the City of Henderson |
| 0511 | Orange | Coon Bayou | H | 4.0 | From the confluence with Cow Bayou upstream [up] to the extent of tidal limits |
| 0511 | Orange | Unnamed tributary of Cow Bayou | H | 4.0 | From the confluence with Cow Bayou (north bank approximately 1.6 km from the Sabine River confluence) upstream [up] to the extent of tidal limits |
| 0513 | Jasper | Trout Creek | H | 5.0 | Perennial stream from the confluence with Big Cow Creek in Newton County upstream to the confluence with Boggy Creek and Davis Creek in Jasper County |
| 0601 | Orange | Tiger Creek | L | 3.0 | Perennial stream from the confluence with Meyer Bayou upstream to the confluence of Caney Creek near the City of Vidor |
| 0602 | Hardin | Unnamed tributary (Booger Branch) of Massey Lake Slough | L | 3.0 | Perennial stream from Massey Lake Slough upstream [up] to the Santa Fe Railroad [railroad] crossing south of the City of Silsbee |
| 0603 | Jasper | Sandy Creek | H | 5.0 | Perennial stream from the confluence with B. A. Steinhagen Lake upstream [up] to 0.5 km below FM 766 east of the City of Jasper |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 0604 | Anderson | Caddo Creek | H | 5.0 | Perennial stream from the confluence with the Neches River below Lake Palestine upstream to the dam of Caddo Creek Lake in Henderson County |
| 0604 | Anderson | Unnamed tributary of Caddo Creek | H | 5.0 | Perennial stream from the confluence with Caddo Creek approximately 1 km south of SH 175 upstream to its headwaters 0.6 km north of SH 175 |
| 0604 | Angelina | Cedar Creek | I | 4.0 | Perennial stream from the confluence with Jack Creek upstream to the confluence with an unnamed tributary adjacent to SH Loop 287 |
| 0604 | Angelina | Graham Creek | H | 5.0 | Perennial stream from the confluence with the Neches River in Jasper County upstream to the confluence with Mill Creek in Angelina County |
| 0604 | Angelina | Hurricane Creek | I | 4.0 | Perennial stream from the confluence with Cedar Creek upstream to the confluence of two unnamed tributaries 100 meters upstream of SH Loop 287 in the City of Lufkin |
| 0604 | Angelina | Sandy Creek | H | 5.0 | Perennial stream from the confluence with Shawnee Creek upstream to the confluence with an unnamed tributary approximately 0.5 km upstream of US 69 |
| 0604 | Angelina | Shawnee Creek | I | 4.0 | Intermittent stream with perennial pools from the confluence with Dry Creek upstream to the headwaters just downstream of the railroad line southeast of the City of Huntington |
| 0604 | Cherokee | Alto Branch | H | 5.0 | Perennial stream from the confluence of Larrison Creek upstream [up] to FM 851 north of the City of Alto |
| 0604 | Cherokee | Larrison Creek | H | 5.0 | Perennial stream from US [U.S.] 69 southeast of the City of Alto upstream [up] to 1.0 km above SH 21 east of Alto |
| 0604 | Cherokee | One Eye Creek | I | 4.0 | Perennial stream from the confluence with McCann Creek upstream to the confluence with College Creek |
| 0604 | Polk | Dabbs Creek | H | 5.0 | Perennial stream from the confluence of Caney Creek upstream [up] to the confluence of Dabbs Branch approximately 4.5 kilometers above FM 942 [in Polk County] |
| 0605 | Henderson | Little Duncan Branch | I | 4.0 | Perennial stream from the confluence with Big Duncan Branch upstream to the dam impounding Jackson Lake |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 0606 | Smith | Black Fork Creek | L | 3.0 | Intermittent stream with perennial pools from a point 0.4 km downstream of FM 14 upstream to a point 0.2 km upstream of SH 31 in the City of Tyler |
| 0606 | Smith | Black Fork Creek | H | 5.0[6] [4] | Perennial stream from the confluence with Prairie Creek upstream to a point 0.4 km downstream of FM 14 in the City of Tyler |
| 0606 | Smith | Prairie Creek | H | 5.0[7] [5] | Perennial stream from the confluence with the Neches River to a point immediately upstream of the confluence of Caney Creek |
| 0606 | Smith | Prairie Creek | H | 5.0 | Perennial stream from a point immediately upstream of the confluence with Caney Creek upstream to the confluence with an unnamed tributary approximately 0.6 km downstream of the US 69 bridge crossing, which is located approximately 0.6 km south of the City of Lindale |
| 0607 | Hardin | Boggy Creek | H | 5.0 | Perennial stream from the confluence with Pine Island Bayou upstream to the confluence with an unnamed tributary 4.0 [4] km downstream of the crossing of the Southern Pacific Railroad |
| 0607 | Jefferson | Cotton Creek | I | 4.0 | Intermittent stream with perennial pools from the confluence with Pine Island Bayou upstream to the confluence of an unnamed tributary 1.2 km south of the Southern Pacific Railroad |
| 0608 | Hardin | Cypress Creek | H | 5.0 | Perennial stream from the confluence with Village Creek upstream [up] to the confluence of Bad Luck Creek |
| 0608 | Tyler | Turkey Creek | H | 5.0 | Perennial stream from the confluence with Village Creek upstream [up] to 1.6 km above US [U.S.] 69 north of the City of Woodville |
| [0610] | [Angelina] | [Mill Creek] | [H] | [5.0] | [Perennial stream from the confluence with Paper Mill Creek up to 1.0 km upstream of FM 2251 north of the City of Lufkin] |
| [0610] | [Angelina] | [Unnamed tributary of Mill Creek] | [L] | [3.0] | [Intermittent stream with perennial pools from the confluence with Mill Creek up to 1.0 km above FM 2251 north of Lufkin] |
| 0610 | Sabine | Little Sandy Creek | I | 4.0 | Intermittent stream with perennial pools from the confluence with Pomponaugh Creek upstream [up] to 0.5 km above FM 83 north of the City of Pineland |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 0610 | San Augustine | Ayish Bayou | H | 5.0 | Perennial stream from the headwaters of Sam Rayburn Reservoir upstream to the dam impounding Bland Lake approximately 0.1 km upstream of FM 1279 near the City of San Augustine |
| 0611 | Cherokee | Keys Creek | H | 5.0 | Perennial stream from the confluence with Mud Creek upstream to the confluence of Barber Branch east of the City of Jacksonville |
| 0611 | Cherokee | Mud Creek | H | 5.0 | Perennial stream from the confluence with the Angelina River upstream to a point immediately upstream of the confluence of Prairie Creek in Smith County |
| 0611 | Cherokee | Ragsdale Creek | I | 4.0 | Perennial stream from the confluence with Keys Creek upstream to the confluence of an unnamed tributary 250 meters upstream of Canada Street in the City of Jacksonville |
| 0611 | Nacogdoches | Bayou LaNana | I | 4.0 | Perennial stream from the confluence with the Angelina River upstream [up] to FM 1878 in the City of Nacogdoches |
| 0611 | Rusk | Unnamed tributary of Johnson Creek | L | 3.0 | Perennial stream from the confluence with Johnson Creek upstream [up] to 2.4 km upstream of the confluence, which is 0.8 km south of SH 64 west of the City of Joinerville |
| 0611 | Smith | Blackhawk Creek | I | 4.0 | Perennial stream from the confluence with Mud Creek upstream to the confluence of an unnamed tributary 120 meters upstream of SH 110 south of the City of Whitehouse |
| 0611 | Smith | Henshaw Creek | H | 5.0 | Perennial stream from the confluence with West Mud Creek upstream to FM 2813 |
| 0611 | Smith | West Mud Creek | L | 3.0 | Perennial stream from the confluence with Mud Creek in Cherokee County upstream to the confluence of an unnamed tributary 300 meters upstream of the most northern crossing of US 69 (approximately 2.25 km south of the intersection of Loop 323) in the City of Tyler |
| 0615 | Angelina | Unnamed tributary of Mill Creek | L | 3.0 | Intermittent stream with perennial pools from the confluence with Mill Creek upstream to 1.0 km above FM 2251 north of the City of Lufkin |
| 0615 | Angelina | Mill Creek | H | 5.0 | Perennial stream from the confluence with Paper Mill Creek upstream to 1.0 km upstream of FM 2251 north of the City of Lufkin |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 0701 | Jefferson | Green Pond Gully | I | 4.0 | Perennial stream from the confluence with North Fork Taylor Bayou upstream to the confluence with an unnamed tributary approximately 2.4 km downstream of US 90 near the City of China |
| 0701 | Jefferson | Mayhan Gully | I | 4.0 | Perennial stream from the confluence with Green Pond Gully upstream 6.0 [6] km to the confluence with an unnamed tributary near the City of China |
| 0701 | Jefferson | Rhodair Gully | I | 4.0 | Perennial stream from the confluence with Taylor Bayou upstream [up]to US [U.S.] 69 near the City of Nederland |
| 0702 | Jefferson | Main Canal D, Canal A, Canal B, Canal C | I | 3.0[8] [6] | All perennial canals in Jefferson County Drainage District No. 7 that eventually drain into the tidal portion of Taylor Bayou at the pump house gate |
| 0704 | Jefferson | Willow Marsh Bayou | I | 4.0 | Perennial stream from the confluence with Hillebrandt Bayou upstream to the confluence with an unnamed tributary immediately upstream of Old Sour Lake Road |
| 0801 | Liberty | Linney Creek | H | 5.0 | Intermittent stream with perennial pools from the confluence with Spring Branch upstream to its confluence with French Creek |
| 0801 | Liberty | Spring Branch | H | 5.0 | Intermittent stream with perennial pools from the confluence with Dry Lake Slough upstream to the confluence with Big Bayou approximately 425 meters downstream of US 90 |
| 0802 | Polk | Choates Creek | H | 5.0 | Perennial stream from the confluence with Long King Creek upstream to the confluence with an unnamed tributary approximately 3.0 km upstream of SH 146 near the City of Livingston |
| 0802 | Polk | Long King Creek | H | 5.0 | Perennial stream from the confluence with the Trinity River upstream to the confluence with an unnamed tributary approximately 1.2 km upstream of FM 350 near the City of Livingston |
| 0802 | Polk | Crooked Creek | H | 5.0 | Perennial spring-fed stream from the confluence with Long King Creek upstream to the headwaters |
| 0802 | Polk | Unnamed tributary of Crooked Creek | H | 5.0 | Perennial spring-fed stream from the confluence with Crooked Creek upstream to the headwaters |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 0802 | San Jacinto | Unnamed tributary of Coley Creek | H | 5.0 | Perennial stream from the confluence with Coley Creek upstream to its origin at the culvert leading from Lake Run-Amuck at Wright Road |
| 0803 | Walker | Harmon Creek | H | 5.0 | Perennial stream from the confluence with the normal pool elevation of Lake Livingston [(normal pool elevation of 131 feet)] upstream to the confluence of East Fork Creek |
| 0803 | Walker | Parker Creek | I | 4.0 | Perennial stream from the confluence with Harmon Creek upstream to the confluence with Town Branch |
| 0803 | Walker | Turkey Creek | I | 4.0 | Perennial stream from the normal pool elevation of Lake Livingston upstream to the confluence with an unnamed tributary 2.85 [2.55] km downstream of FM 980 [960] |
| 0804 | Anderson | Box Creek | I | 4.0 | Perennial stream from the confluence of Elkhart Creek upstream to the Elkhart Lake dam northeast of the City of Elkhart |
| 0804 | Anderson | Keechi Creek | H | 5.0 | Perennial stream from the confluence with the Trinity River upstream to a point 0.05 km upstream of FM 645 |
| 0804 | Anderson | Bassett Creek | H | 5.0 | Perennial stream from the confluence with Town Creek upstream to Blue Lake |
| 0804 | Anderson | Town Creek | H | 5.0 | Perennial stream from the confluence with the Trinity River upstream to SH 256 |
| 0804 | Freestone | Mims Creek | I | 4.0 | Perennial stream from the confluence with Upper Keechi Creek upstream to the confluence of an unnamed tributary approximately 2.1 km upstream of FM 1580 near the City of Fairfield |
| 0804 | Henderson | Walnut Creek | H | 5.0 | Intermittent stream with perennial pools from the confluence with an unnamed tributary approximately 0.5 km upstream of FM 753 upstream to FM 2494 in the City of Athens |
| 0804 | Leon | Toms Creek | H | 5.0 | Perennial stream from the confluence with the Trinity River upstream to the Missouri Pacific Railroad crossing near the City of Oakwood |
| 0804 | Leon | Unnamed tributary (Northwest Branch) | H | 5.0 | Perennial stream from the confluence with Toms Creek upstream to a point 0.3 km upstream of FM 831 |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 0809 | Parker | Walnut Creek | H | 5.0 | Perennial stream from the confluence with Little Cypress Creek upstream to the confluence with Little Walnut Creek in Upshur County |
| 0809 | Tarrant | Ash Creek | H | 5.0 | Intermittent stream with perennial pools from Eagle Mountain Lake upstream to its confluence with Mill Branch in Parker County |
| 0815 | Ellis | Waxahachie Creek | I | 4.0 | Perennial stream from the confluence with the normal pool elevation of Bardwell Reservoir [(normal pool elevation of 421 feet)] upstream to the confluence with North Prong Creek |
| 0818 | Henderson | One Mile Creek | I | 4.0 | Perennial stream from the confluence with Valley View Reservoir upstream to the confluence with an unnamed tributary 0.8 km upstream of SH 19 |
| 0819 | Dallas | Duck Creek | I | 4.0 | Perennial stream from the confluence with the East Fork Trinity River in Kaufman County upstream to the confluence of an unnamed tributary 0.6 km upstream of Jupiter Road in Dallas County |
| 0819 | Rockwall | Buffalo Creek | L | 3.0 | Perennial stream from the confluence with the East Fork Trinity River upstream [up] to 0.6 km above the confluence with [of] Little Buffalo Creek |
| 0820 | Collin | Cottonwood Creek | L | 3.0 | Perennial stream from the confluence with Rowlett Creek upstream [up] to SH 5 (near Greenville Road) |
| 0820 | Collin | Rowlett Creek | I | 4.0 | Perennial stream from the normal pool elevation of [435.5 feet of] Lake Ray Hubbard upstream to the Parker Road crossing |
| 0821 | Collin | Pilot Grove Creek | L | 3.0 | Perennial stream from the confluence of Desert Creek upstream [up] to FM 121 approximately five miles north of the City of [near] Blue Ridge |
| 0823 | Grayson | Little Elm Creek | I | 4.0 | Perennial stream from FM 455 in Collin County upstream [up] to 1.4 km above FM 121 in Grayson County near the City of Gunter [Gunther] |
| 0826 | Denton | Denton Creek | H | 5.0 | Perennial stream from the headwaters of Grapevine Lake upstream to the confluence of Trail Creek near the City of Justin |
| 0826 | Denton | Trail Creek | H | 5.0 | Perennial stream from the confluence with Denton Creek upstream [up] to 2.1 km upstream of SH 156 in the City of Justin |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 0827 | Dallas | Cottonwood Creek | I | 4.0 | Perennial stream from the confluence with White Rock Creek upstream to the confluence with an unnamed tributary approximately 0.25 km upstream of Campbell Road in the City of Richardson |
| 0827 | Dallas | White Rock Creek | I | 4.0 | Perennial stream from the headwaters of White Rock Lake upstream to the confluence with McKamy Branch east of the City of Addison |
| 0836 | Hill | Pin Oak Creek | I | 4.0 | Perennial stream from the confluence with the North Fork of Pin Oak Creek in Limestone County upstream to the confluence with Pin Oak Creek and an unnamed tributary flowing from the west approximately 2.8 km downstream [8.0 km upstream] of SH 171 |
| 0840 | Cooke | Spring Creek | H | 5.0 | Perennial stream from the confluence with Pecan Creek upstream to the confluence with John's Branch |
| 0901 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 0901 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 0902 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 0902 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 1001 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 1001 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 1001 | Harris | Bear Lake | H | 4.0 | Encompasses the entire tidal portion of the bay (tributary bay of San Jacinto River Tidal) |
| 1001 | Harris | Gum Gully | H | 5.0 | Perennial stream from the confluence with Jackson Bayou upstream to the confluence with an unnamed tributary approximately 0.4 km downstream of Huffman-Crosby Road |
| 1001 | Harris | Jackson Bayou | H | 5.0 | Perennial stream from a point immediately upstream of the tidal portion of Jackson Bayou upstream to the confluence with Gum Gully |
| 1001 | Harris | Rickett Creek | L | 3.0 | Intermittent stream with perennial pools from San Jacinto River Tidal upstream to US 90 |
| 1002 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 1002 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 1002 | Liberty | Tarkington Bayou | I | 4.0 | Perennial stream from the confluence with Luce Bayou upstream to the confluence of Little Tarkington Bayou near the City of Cleveland |
| 1003 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 1003 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 1004 | Montgomery | East Fork White Oak Creek | I | 4.0 | Perennial stream from the confluence with White Oak Creek upstream to the confluence with [of] an unnamed tributary approximately 0.4 km upstream of League Line Road in the City of Panorama Village |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 1004 | Montgomery | Unnamed Tributary | I | 4.0 | Perennial stream from the confluence of the West Fork San Jacinto River upstream to the Missouri-Pacific Railroad bridge crossing located east of IH 45 and north of Needham Road approximately 10 km south of the City of Conroe |
| 1004 | Montgomery | West Fork White Oak Creek | H | 5.0 | Perennial stream from the confluence with White Oak Creek and West Fork San Jacinto River upstream to an on-channel impoundment on West Fork White Oak Creek 1.2 km upstream of League Line Road |
| 1004 | Montgomery | Unnamed tributary of Woodsons Gully | H | 5.0 | Perennial stream from the confluence with Woodsons Gully upstream to the headwaters |
| 1004 | Montgomery | Woodsons Gully | H | 5.0 | Perennial stream from the confluence with West Fork San Jacinto River upstream to the confluence with an unnamed tributary approximately 1.9 km upstream from Riley-Fussel Road |
| 1005 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 1005 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 1006 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 1006 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 1006 | Harris | Carpenters Bayou | I | 4.0 | Perennial stream from 9.0 km upstream of the Houston Ship Channel upstream [up] to 0.8 km upstream of Wallisville Road |
| 1006 | Harris | Carpenters Bayou | L | 3.0 | Perennial stream from 0.8 km upstream of Wallisville Road upstream [up] to Sheldon Reservoir |
| 1006 | Harris | Halls Bayou | I | 4.0 | Perennial stream from the confluence with Greens Bayou upstream [up] to US 59 |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 1006 | Harris | Halls Bayou | L | 3.0 | Perennial stream from US 59 upstream to Frick Road |
| 1007 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 1007 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 1007 | Harris | Berry Bayou Above Tidal | L | 3.0 | Perennial stream from 2.4 km upstream from the confluence with Sims Bayou upstream to the southern city limits of South Houston |
| 1007 | Harris | Brays Bayou Above Tidal | L | 3.0 | Perennial stream from 11.5 km upstream from the confluence with the Houston Ship Channel upstream [up] to SH 6 |
| 1007 | Harris | Keegans Bayou | L | 3.0 | Perennial stream from the confluence with Brays Bayou upstream to the Harris County [Co.] line |
| 1007 | Harris | Sims Bayou Above Tidal | L | 3.0 | Perennial stream from 11.0 km upstream of the confluence with the Houston Ship Channel upstream to Hiram Clark Drive |
| 1007 | Harris | Willow Waterhole Bayou | L | 3.0 | Perennial stream from the confluence with Brays Bayou upstream to South Garden (in the City of Missouri City) |
| 1008 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 1008 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 1008 | Harris | Metzler Creek | L | 3.0 | Intermittent stream with perennial pools from the confluence of Cannon Gully upstream [up] to 0.2 km below Kuykendahl Road |
| 1008 | Montgomery | Mill Creek | I | 4.0 | Perennial stream from the normal pool [of] elevation of Neidigk Lake upstream to the confluence with [of] Hurricane Creek and Kickapoo Creek in Grimes County |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 1008 | Montgomery | Panther Branch | L | 3.0 | Intermittent stream with perennial pools from the normal pool elevation of 125 feet of Lake Woodlands upstream to the confluence with Bear Branch |
| 1008 | Montgomery | Panther Branch | I | 4.0 | Perennial stream from the confluence with Spring Creek upstream to the dam impounding Lake Woodlands |
| 1008 | Montgomery | Arnold Branch | I | 4.0 | Intermittent stream with perennial pools from the confluence with Mink Branch upstream to the headwaters just upstream of FM 1774 |
| 1008 | Montgomery | Mink Branch | H | 5.0 | Perennial stream from the confluence with Walnut Creek upstream to the confluence with an unnamed tributary approximately 1.0 km upstream of Nichols-Sawmill Road |
| 1008 | Montgomery | Sulphur Branch | H | 5.0 | Intermittent stream with perennial pools from an unnamed reservoir, known locally as Lake Apache, upstream to FM 1774. The unnamed reservoir impounds Sulphur Branch approximately 0.8 km upstream of the confluence with Walnut Creek. |
| 1009 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 1009 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 1009 | Harris | Dry Creek | I | 4.0 | Perennial stream from the confluence with Cypress Creek upstream to the beginning of channelization at Jarvis Road, 0.6 km upstream from the confluence with Cypress Creek north of US [Hwy] 290 |
| 1009 | Harris | Dry Creek | L | 3.0 | Perennial stream from the point where channelization begins at Jarvis Road, which is 0.6 km upstream of the confluence with Cypress Creek, upstream to Harris County Flood Control District ditch K-145-05-00, 0.29 [Spring Cypress Road, 1.2] km upstream of Spring Cypress Road [Jarvis Road] north of US [Hwy] 290 |
| 1009 | Harris | Dry Gully | I | 4.0 | Perennial stream from its confluence with Cypress Creek upstream 3.2 km, which is approximately 1 km upstream of Louetta Road |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 1009 | Harris | Dry Gully | L | 3.0 | Perennial stream from a point 1.0 [1] km upstream of Louetta Road upstream to Spring Cypress Road |
| 1009 | Waller | Mound Creek | H | 5.0 | Perennial stream from the confluence with Snake Creek, which together form Cypress Creek, upstream to an unnamed tributary 1.95 km upstream of FM 362 |
| 1010 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 1010 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 1010 | Montgomery | Dry Creek | I | 4.0 | Intermittent stream with perennial pools from Caney Creek upstream to the confluence with an unnamed tributary approximately 3.6 km upstream of SH 242 |
| 1010 | Montgomery | White Oak Creek | H | 5.0 | Perennial stream from the confluence with Caney Creek upstream to the confluence with an unnamed tributary approximately 2.08 km upstream of US 59 |
| 1012 | Montgomery | Town Creek | I | 4.0 | Perennial stream from the confluence with Atkins Creek upstream to the confluence with Carwile Creek |
| 1012 | Walker | Robinson Creek | I | 4.0 | Perennial stream from the confluence with the West Fork San Jacinto River upstream to the confluence with an unnamed second order tributary approximately 0.1 km upstream of Bethel Road |
| 1013 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 1013 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 1013 | Harris | Little Whiteoak Bayou | I | 4.0 | Perennial stream from the confluence with Whiteoak Bayou upstream [up] to the railroad [RR] tracks north of IH 610 |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 1013 | Harris | Little Whiteoak Bayou | L | 3.0 | Perennial stream from the railroad [RR] tracks north of IH 610 upstream to Yale Street |
| 1014 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 1014 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 1014 | Harris | Bear Creek | I | 4.0 | Perennial stream from the confluence with South Mayde Creek upstream to the confluence with an unnamed tributary 1.24 km north of Longenbaugh Road |
| 1014 | Harris | Buffalo Bayou | I | 4.0 | Perennial stream from SH 6 in Harris County upstream to the confluence with Willow Fork Buffalo Bayou in Fort Bend County |
| 1014 | Harris | Dinner Creek | L | 3.0 | Perennial stream from the confluence with Langham Creek upstream to Frey Road |
| 1014 | Harris | Horsepen Creek | L | 3.0 | Perennial stream from 0.62 km north of FM 529 upstream to a point 2.4 km upstream of SH 6 |
| 1014 | Harris | Horsepen Creek | I | 4.0 | Perennial stream from the confluence with Langham Creek upstream to where channelization begins, which is 0.62 km north of FM 529 |
| 1014 | Harris | Langham Creek | L | 3.0 | Perennial stream from the confluence with Dinner Creek upstream to FM 529 |
| 1014 | Harris | Langham Creek | I | 4.0 | Perennial stream from the confluence with Bear Creek upstream to the confluence with Dinner Creek |
| 1014 | Harris | Mason Creek | I | 4.0 | Perennial stream from the confluence with Buffalo Bayou upstream to channelization, which is 1.55 km south of Franz Road |
| 1014 | Harris | South Mayde Creek | L | 3.0 | Perennial stream from an unnamed tributary 1.3 [0.62] km west [east] of Barker-Cypress Road upstream to an unnamed tributary 1.05 km south of Clay Road |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 1014 | Harris | South Mayde Creek | I | 4.0 | Perennial stream in the Addicks Reservoir flood pool area[,] from the confluence with Buffalo Bayou upstream to the confluence with an unnamed tributary 0.62 km east of Barker-Cypress Road |
| 1014 | Harris | Turkey Creek | I | 4.0 | Perennial stream from the confluence with South Mayde Creek upstream to the headwaters south of Clay Road |
| 1014 | Waller | Willow Fork Buffalo Bayou | I | 4.0 | Intermittent stream with perennial pools from the confluence with Buffalo Bayou in Fort Bend County upstream [up] to 1.0 km above US [U.S.] 90 in Waller County |
| 1015 | Montgomery | Mound Creek | H | 5.0 | Perennial stream from the confluence with Lake Creek upstream to the confluence with an unnamed tributary approximately 0.75 km downstream of Rabon-Chapel Road |
| 1016 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 1016 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 1016 | Harris | Garners Bayou | L | 3.0 | Perennial stream from the confluence with Greens Bayou Above Tidal [Williams Gully] upstream to 1.5 km north of Atoscocita Road |
| 1017 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 1017 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 1017 | Harris | Brickhouse Gully/Bayou | L | 3.0 | Perennial stream from the confluence with Whiteoak Bayou upstream [up] to Gessner Road |
| 1017 | Harris | Cole Creek | L | 3.0 | Perennial stream from the confluence with Whiteoak Bayou upstream [up] to Flintlock Street |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 1017 | Harris | Vogel Creek | L | 3.0 | Perennial stream from the confluence with Whiteoak Bayou upstream to a point 3.2 kilometers upstream of the confluence with Whiteoak Bayou |
| 1101 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 1101 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 1101 | Galveston | Magnolia Creek | I | 4.0 | Intermittent stream with perennial pools from the confluence with Clear Creek upstream to 0.8 km upstream of the confluence with the second unnamed tributary |
| 1102 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 1102 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 1102 | Brazoria | Cowart Creek | L | 3.0 | Intermittent stream with perennial pools from the confluence with Clear Creek in Galveston County upstream to SH 35 in Brazoria County |
| 1102 | Brazoria | Mary's Creek/North Fork Mary's Creek | I | 4.0 | Perennial stream from the confluence with Clear Creek upstream to the confluence with North Fork Mary's Creek and South Fork Mary's Creek near FM 1128, approximately 5 km southwest of the City of Pearland. Includes perennial portions of North Fork Mary's Creek from the confluence of Mary's Creek to the confluence of an unnamed tributary approximately 3.2 km upstream of FM 1128. |
| 1105 | Brazoria | Flores Bayou | I | 4.0 | Perennial stream from a point 2.6 km downstream of County Road 171 upstream to SH 35 |
| 1113 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 1113 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 1202 | Fort Bend | Rabbs Bayou | L | 3.0 | Perennial stream from Smithers Lake upstream to the confluence with an unnamed tributary below HW 59 [up to Smithers Lake] |
| 1202 | Fort Bend | Unnamed oxbow slough | L | 3.0 | An unnamed oxbow slough immediately north of the intersection of US 90A and SH 6 at the head of Ditch H |
| 1202 | Fort Bend | Big Creek | I | 4.0 | Intermittent stream with perennial pools from the confluence with an unnamed tributary 2.1 km downstream of FM 2977 upstream to the confluence of Cottonwood Creek and Coon Creek |
| 1202 | Grimes | Beason Creek | I | 4.0 | Perennial stream from the confluence with the Brazos River upstream to the confluence with an unnamed tributary 2.8 km upstream of FM 362 |
| 1202 | Waller | Brookshire Creek | L | 3.0 | Perennial stream from the confluence of an unnamed tributary located 0.2 km downstream of SH 359 [1.4 km downstream of IH 10] upstream to 500 meters upstream of US 90 |
| 1202 | Waller | Bessies Creek | I | 4.0 | Intermittent stream with perennial pools from the confluence with Bessies Bayou upstream to the confluence with an unnamed tributary approximately 0.7 km upstream of FM 359 northwest of the City of Pattison |
| 1202 | Waller | Clear Creek | H | 5.0 | Perennial stream from the confluence with the Brazos River upstream to the confluence with an unnamed tributary approximately 0.2 km upstream of FM 1488 |
| 1202 | Washington | Hog Branch | I | 4.0 | Perennial stream from the confluence with Little Sandy Creek upstream to Loop 318 in the City of Brenham |
| 1202 | Washington | Little Sandy Creek | I | 4.0 | Perennial stream from the confluence with New Year Creek to a point 100 meters upstream of Loop 283 |
| 1202 | Washington | New Year Creek | I | 4.0 | Perennial stream from the confluence with Woodward [Ralston] Creek upstream to the confluence of Big Sandy Creek |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 1203 | Bosque | Steele Creek | H | 5.0 | Perennial stream from the confluence with Whitney Lake upstream [up] to 2.4 km above the confluence of Cox Branch |
| 1205 | Hood | McCarty Branch | L | 3.0 | Intermittent stream with perennial pools from the confluence with Lake Granbury upstream [up] to FM 208 |
| 1206 | Hood | Kickapoo Creek | I | 4.0 | Intermittent stream with perennial pools from the confluence with the Brazos River in Parker County upstream to Bailey's Lake at the Hood-Erath county line near the City of Lipan |
| 1206 | Parker | Rock Creek | I | 4.0 | Intermittent stream with perennial pools from the confluence with Dry Creek upstream to the confluence with an unnamed second order tributary approximately 0.7 km downstream of Lake Mineral Wells |
| 1206 | Parker | Unnamed tributary of Rock Creek | I | 4.0 | Intermittent stream with perennial pools from the confluence with Rock Creek upstream to the confluence with an unnamed first order tributary approximately 0.2 km upstream of Hood Road, west of Lake Mineral Wells |
| 1209 | Brazos | Carters Creek | I | 4.0 | Perennial stream from the confluence with the Navasota River upstream to the confluence of an unnamed tributary 0.5 km upstream of FM 158 |
| 1209 | Brazos | Wickson Creek | L | 3.0 | Perennial stream from the confluence with an unnamed first order tributary (approximately 1.3 km upstream of Reliance Road crossing) upstream to the confluence with an unnamed first order tributary approximately 15 meters upstream of Dilly Shaw Road |
| 1209 | Brazos | Wolfpen Creek | L | 3.0 | Intermittent stream with perennial pools from the confluence with Carter Creek upstream to near Bizzell Street in the City of College Station |
| 1211 | Burleson | Davidson Creek | I | 4.0 | Intermittent stream with perennial pools from the confluence with Yegua Creek upstream to 0.2 km above SH 21 near the City of Caldwell |
| 1217 | Burnet | North Fork Rocky Creek | I | 4.0[9] | Intermittent stream with perennial pools from the confluence with South Rocky Creek upstream to its headwaters approximately 11 km west of US 183 |
| 1217 | Lampasas | Sulphur Creek | H | 5.0 | Perennial stream from the confluence with the Lampasas River upstream to the spring source located in the City of Lampasas |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 1221 | Comanche | Indian Creek | I | 4.0 | Perennial stream from the confluence with Armstrong Creek approximately 1.5 km downstream of SH 36 upstream to the confluence with an unnamed tributary approximately 0.1 km upstream of US 377 [an unnamed second order tributary (approximately 0.7 km downstream of Live Oak Street crossing) upstream to the confluence with Bachelor Prong Creek] |
| 1221 | Hamilton | Pecan Creek | I | 4.0 | Perennial stream from the confluence with the Leon River upstream to the confluence with an unnamed tributary approximately 3.5 km upstream of SH 36 near the City of Hamilton |
| 1224 | Eastland | Leon River Above Leon Reservoir | H | 5.0 | From the headwaters of Leon Reservoir upstream [up] to the confluence of the North Fork Leon River and the South Fork Leon River (includes Lake Olden) |
| 1224 | Eastland | South Fork Leon River | H | 5.0 | From the confluence of the North Fork Leon River upstream [up] to the confluence of the Middle Fork Leon River |
| 1227 | Johnson | Buffalo Creek | L | 3.0 | Intermittent stream with perennial pools from the confluence with the Nolan River upstream [up] to the confluence of East Buffalo Creek and West Buffalo Creek |
| 1227 | Johnson | Mustang Creek | I | 4.0 | Intermittent stream with perennial pools from the confluence with the Nolan River upstream to FM 916 near Rio Vista |
| 1230 | Eastland | Palo Pinto Creek | H | 5.0 | Perennial stream from the confluence with the normal pool elevation of Lake Palo Pinto [(normal pool elevation of 867 feet)] which is near the confluence with an unnamed tributary at the Texas and Pacific Railroad crossing upstream to the dam forming Hagaman Lake |
| 1232 | Stephens | Gonzales Creek | H | 5.0 | Perennial stream from the confluence with Hubbard Creek upstream to the confluence with Brown Branch approximately 1.2 km upstream of Elliott Street in the City of Breckenridge |
| 1241 | Lubbock | North Fork Double Mountain Fork Brazos River | L | 3.0 | Perennial stream from the confluence with Double Mountain Fork Brazos River upstream to the dam forming Lake Ransom Canyon |
| 1242 | Brazos | Cottonwood Branch | I | 4.0 | Intermittent stream with perennial pools from the confluence with Still Creek upstream 0.95 km to the confluence with an unnamed tributary |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 1242 | Brazos | Still Creek | H | 5.0 | Perennial stream from the confluence with Thompsons Creek upstream to the confluence with Cottonwood Branch |
| 1242 | Brazos | Thompsons [Thompson] Creek | H [I] | 5.0 [4.0] | Perennial [Intermittent] stream [with perennial pools] from the confluence with the Brazos River upstream to the confluence with Still Creek [Thompson Branch north of FM 1687] |
| 1242 | Brazos | Thompsons Creek | I | 4.0 | Intermittent stream with perennial pools from the confluence with Still Creek upstream to the confluence with Thompsons Branch, north of FM 1687 |
| 1242 | Brazos | Unnamed tributary of Cottonwood Branch | I | 4.0 | Intermittent stream with perennial pools from the confluence with Cottonwood Branch upstream to the headwaters |
| 1242 | Falls | Pond Creek | L | 3.0 | Perennial stream from the confluence with the Brazos River in Milam County, upstream [up] to the confluence with Live Oak Creek in Falls County |
| 1242 | Falls | Deer Creek | H | 5.0 | Perennial stream from the confluence with the Brazos River upstream to the confluence with Dog Branch |
| 1242 | McLennan | Tradinghouse Reservoir | H | 5.0 | Encompasses the entire reservoir up to the normal pool elevation of 447 feet |
| 1242 | Robertson | Little Brazos River | H | 5.0 | Perennial stream from the confluence with the Brazos River in Brazos County upstream to the confluence of Walnut Creek in Robertson County west of the City of Calvert |
| 1244 | Williamson | Brushy Creek | H | 5.0 | Perennial stream from the confluence of South Brushy Creek upstream to the confluence of North Fork Brushy Creek and South Fork Brushy Creek |
| 1244 | Williamson | Mustang Creek | I | 4.0 | Perennial stream from the confluence with Brushy Creek upstream to the confluence of North Fork Mustang Creek |
| 1244 | Williamson | Cluck Creek | H | 5.0 | Perennial stream from the confluence with South Brushy Creek upstream to the confluence with an unnamed tributary 0.6 km downstream of US 183 |
| 1245 | Fort Bend | Red Gully | I | 4.0 | Perennial stream from the confluence with Oyster Creek upstream [up] to 1.7 km upstream of Old Richmond Road |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 1246 | McLennan | Comanche Springs Spring Brook | H | 5.0 | Spring-fed intermittent stream with perennial pools from the confluence with Harris Creek upstream to and including Comanche Springs approximately 2.1 km upstream of US 84 west of the City of McGregor |
| 1246 | McLennan | Harris Creek | H | 5.0 | Spring-fed intermittent stream with perennial pools from the confluence with South Bosque River upstream to the confluence with an unnamed tributary approximately 1.19 km upstream of US 84 west of the City of McGregor |
| 1246 | McLennan | Tonk Creek | H | 5.0 | Intermittent stream with perennial pools from the confluence with Middle Bosque/South Bosque River upstream to the confluence with an unnamed tributary 1.0 km upstream of FM 185 near Tonkawa Falls Park |
| 1246 | McLennan | Unnamed tributary of South Bosque River (Sheep Creek) | I | 4.0 | Perennial stream from the confluence with the South Bosque River upstream to 1.0 km above SH 317 south of the City of McGregor [(locally known as Sheep Creek)] |
| 1248 | Williamson | Berry Creek | H | 5.0 | Perennial stream from the confluence with the San Gabriel River upstream to the confluence of Stapp Branch southwest of the City of Florence |
| 1304 | Matagorda | Linnville Bayou | L | 3.0 | Intermittent stream with perennial pools from a point 1.1 km above the confluence with Caney Creek in Matagorda County upstream [up] to a point 0.1 km above SH 35 in Brazoria/Matagorda counties |
| 1305 | Matagorda | Hardeman Slough | I | 4.0 | Perennial stream from the confluence with Caney Creek upstream to the confluence with an unnamed tributary approximately 1.9 km downstream of FM 3156 near the City of Van Vleck |
| 1402 | Colorado | Cummins Creek | E | 6.0 | Perennial stream from the confluence with the Colorado River upstream to the confluence of Boggy Creek at FM 1291 [in Colorado County] |
| 1402 | Fayette | Allen Creek | I | 4.0 | Intermittent stream with perennial pools from the confluence of Pool Branch upstream to its headwaters south of the City of Fayetteville |
| 1402 | Fayette | Buckners Creek | H | 5.0 | Perennial stream from the confluence with the Colorado River upstream to the confluence with Chandler Branch 1.6 km upstream of FM 154 in Fayette County |
| 1402 | Fayette | Cedar Creek Reservoir/Lake Fayette | H | 5.0 | Encompasses the entire reservoir up to the normal pool elevation of 390 [391] feet |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 1402 | Fayette | Cedar Creek | H | 5.0 | Perennial stream from the confluence with the Colorado River upstream [up] to the dam forming Cedar Creek Reservoir/Lake Fayette |
| 1404 | Burnet | Hamilton Creek | I | 4.0 | Perennial stream from the confluence with Delaware Creek upstream to the confluence with an unnamed tributary in the City of Burnet 1.1 km upstream of the Southern Pacific Railroad |
| 1412 | Howard | Beals Creek | L | 3.0 | Intermittent stream with perennial pools from the confluence with the Colorado River in Mitchell County upstream [up] to the confluence of Mustang Draw and Sulphur Springs Draw in Howard County |
| 1412 | Mitchell | North Fork Champion Creek | L | 3.0 | Intermittent stream with perennial pools from the confluence with an unnamed tributary approximately 2.3 km upstream of IH 20 to its headwaters north of the City of Loraine |
| 1412 | Scurry | Deep Creek | I | 4.0 | Perennial stream from the confluence with Hell Roaring Hollow Creek upstream to the confluence with an unnamed first order tributary approximately 0.07 km downstream of RR 1605 |
| 1414 | Gillespie | Barons Creek | H | 5.0 | Perennial stream from the confluence with the Pedernales River upstream [up] to the most northern crossing of US 87 northwest of the City of Fredericksburg |
| 1415 | Kimble | Johnson Fork Creek | H | 5.0 | Perennial stream from the confluence with the Llano River upstream to source springs (Rio Bonito Springs) south of the City of Segovia |
| 1415 | Mason | Comanche Creek | L | 3.0 | Intermittent stream with perennial pools from the confluence with the Llano River upstream [up] to the confluence of West Comanche Creek near the City of Mason |
| 1416 | McCulloch | Brady Creek | I | 4.0 | Perennial stream and intermittent stream with perennial pools from the confluence with an [of] unnamed tributary approximately 5.0 km east of FM 2309 east of the City of Brady upstream to Brady Lake dam |
| 1418 | Coleman | Hord Creek | I | 4.0 | Perennial stream from the confluence with an unnamed second order tributary [(]approximately 0.7 km downstream of Live Oak Street crossing [)] upstream to the confluence with Bachelor Prong Creek[.] |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 1420 | Callahan | Kaiser Creek | L | 3.0 | Intermittent stream with perennial pools from the confluence with North Prong Pecan Bayou upstream [up] to 0.5 km upstream of FM 2700 south of the City of Clyde |
| 1420 | Callahan | Turkey Creek | H | 5.0 | From the confluence with Pecan Bayou in Brown County upstream [up] to SH 36 in Callahan County |
| 1426 | Runnels | Elm Creek | H | 5.0 | Perennial stream from the confluence with the Colorado River upstream [up] to the dam approximately 300 meters downstream of US [U.S.] Highway 67 |
| 1427 | Travis | Slaughter Creek | H | 5.0 | Intermittent stream with perennial pools from the confluence with Onion Creek upstream to above US 290 west of Austin |
| 1428 | Travis | Gilleland Creek | H | 5.0 | Perennial stream [and intermittent stream with perennial pools] from the confluence with the Colorado River upstream to an unnamed tributary 0.39 km downstream of Ward Spring Road [to the spring source (Ward Spring) northwest of Pflugerville] |
| 1428 | Travis | Gilleland Creek | H | 5.0 | Intermittent stream with perennial pools from the confluence with an unnamed tributary 0.39 km downstream of Ward Spring Road upstream to the spring source (Ward Spring) northwest of the City of Pflugerville |
| 1428 | Travis | Dry Creek | H | 5.0 | Perennial stream from the mouth of the Colorado River upstream to 150 meters upstream of the confluence with Cottonwood Creek |
| 1428 | Travis | Dry Creek | L | 3.0 | Intermittent stream with perennial pools from 150 meters upstream of the confluence with Cottonwood Creek upstream to just below the confluence with an unnamed tributary located approximately 2.73 km upstream of Wolf Lane. Channel topography in this reach is a braided to anastomosiging channel, and all channels within the reach are intermittent with perennial pools |
| 1428 | Travis | Dry Creek | E | 6.0 | Perennial stream from the confluence with an unnamed tributary located approximately 2.73 km upstream of Wolf Lane upstream to the confluence of North Fork Dry Creek and Dry Creek |
| 1428 | Travis | Dry Creek | L | 3.0 | Intermittent stream with perennial pools from the confluence with North Fork Dry Creek upstream to US 183 south of Pilot Knob |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 1428 | Travis | Harris Branch | H | 5.0 | Perennial stream from the confluence with Gilleland Creek upstream to the confluence with an unnamed tributary approximately 2.6 km downstream of Gregg Lane |
| 1428 | Travis | Unnamed tributary of Harris Branch | L | 3.0 | Intermittent stream with perennial pools from the confluence with Harris Branch upstream to the confluence with an unnamed tributary approximately 0.7 km downstream of the Old Railroad grade |
| 1434 | Bastrop | Cedar Creek | H | 5.0 | Perennial stream from the confluence with the Colorado River upstream to the confluence of an unnamed tributary at FM 535 [in Bastrop County] |
| 1434 | Bastrop | Gazley Creek | I | 4.0 | Perennial stream from the confluence with the Colorado River above the City of La Grange upstream to the confluence with an unnamed tributary approximately 3.25 km upstream of the southern-most crossing of the Missouri-Kansas-Texas Railroad south of the City of Smithville |
| 1434 | Bastrop | Maha Creek | I | 4.0 | Intermittent stream with perennial pools from the confluence with Cedar Creek upstream to the confluence with an unnamed tributary approximately 0.25 km upstream of US 183 in Travis County |
| 1501 | Matagorda | Wilson Creek | H | 5.0 | Perennial stream from the confluence with the Tres Palacios River upstream to the confluence with the first tributary south of IH 35 |
| 1602 | DeWitt | Big Brushy Creek | H | 5.0 | Perennial stream from the confluence with Clarks Creek in Lavaca County upstream to the confluence with an unnamed tributary just downstream of the Loop 51 (US [U.S.] Highway B77) bridge crossing south of the City of Yoakum |
| 1602 | Lavaca | Rocky Creek | H | 5.0 | Perennial stream from the confluence with the Lavaca River upstream [up] to 1.0 km above FM 533 west of the City of Shiner |
| 1602 | Lavaca | Lavaca River | H | 5.0[10] | Intermittent stream with perennial pools from the confluence of Campbells Creek west of the City of Hallettsville upstream to the confluence with West Prong Lavaca River downstream of the City of Moulton |
| 1604 | Wharton | East Mustang Creek | I | 4.0 | Intermittent stream with perennial pools from the confluence with Middle Mustang Creek upstream to the confluence with an unnamed tributary approximately 4.2 km upstream of US 59 northeast of the City of Louise |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 1605 | Fayette | West Navidad River | H | 5.0 | Intermittent stream with perennial pools from the confluence with the Navidad River above Lake Texana in Lavaca County upstream to the confluence with Walker Branch approximately 0.5 km upstream of IH 10 |
| 1806 | Kerr | Camp Meeting Creek | H | 5.0[11] | Intermittent stream with perennial pools from the confluence with the Guadalupe River upstream to an unnamed impoundment, located downstream of Ranchero Road in the City of Kerrville. |
| 1806 | Kerr | Camp Meeting Creek | H | 5.0[12] | Intermittent stream with perennial pools from an unnamed impoundment located downstream of Ranchero Road upstream to the dam of an unnamed impoundment approximately 0.65 km upstream of Tree Lane in the City of Kerrville. |
| 1810 | Caldwell | Town Branch | H | 5.0 | Perennial stream from the confluence with Plum Creek upstream to US 183 in the City of Lockhart |
| 1902 | Bexar | Martinez Creek | I | 4.0 | Perennial stream from the confluence with Escondido Creek upstream to Binz-Engleman Road |
| 1903 | Medina | Polecat Creek | H | 5.0 | Perennial stream from 6.4 km above the confluence with the Medina River upstream to the spring source 1.3 km above FM 2790 southeast of the City of LaCoste |
| 1910 | Bexar | Salado Creek | L | 4.0[13] | Intermittent stream with perennial pools from the confluence with Beitel Creek upstream to Nacogdoches Road |
| 2107 | Atascosa | West Prong Atascosa River | I | 4.0 | Intermittent stream with perennial pools from the confluence with the Atascosa River upstream to the confluence with an unnamed tributary at IH 35 |
| 2108 | Medina | Chacon Creek | I | 4.0 | Perennial stream from the confluence with San Francisco Perez Creek in Frio County upstream to the confluence of an unnamed tributary approximately 0.8 km north of SH 132 in Medina County |
| 2108 | Medina | Fort Ewell Creek | I | 4.0 | Perennial stream from the confluence with Chacon Creek in Medina County upstream to the confluence of the Natalia Canal approximately 0.8 km north of SH 132 in Medina County |
| 2201 | Cameron, Hidalgo, Willacy | Drainage Ditches | L | 3.0 | Perennial freshwater drainage ditches that flow into the segment in the counties listed |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 2202 | Cameron, Hidalgo | Drainage Ditches | L | 3.0 | Perennial freshwater drainage ditches that flow into the segment in the counties listed |
| 2304 | Val Verde | Cienegas Creek | H | 5.0 | Perennial stream from the confluence with the Rio Grande River upstream to the headwater spring source (Cienegas Springs) approximately 0.8 km north of Cienega Lane west of the City of Del Rio |
| 2310 | Terrell | Independence Creek | E | 6.0 | Perennial stream from the confluence with [of] the Pecos River upstream to the mouth of Surveyor Canyon (upstream of FM 2400) |
| 2421 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 2421 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 2422 | Chambers | Anahuac Ditch | I | 4.0 | Perennial stream from the confluence with the West Fork Double Bayou upstream to FM 563 near the City of Anahuac |
| 2425 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 2425 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 2425 | Harris | Taylor Lake | H | 4.0 | Encompasses the entire tidal portion of the bay (tributary bay of Clear Lake) including Taylor Bayou Tidal |
| 2426 | Harris | Goose Creek | I | 4.0 | Perennial stream from Baker Street upstream [up] to the confluence of an unnamed tributary from Highlands Reservoir |
| 2426 | Harris | Goose Creek | L | 3.0 | Perennial stream from the confluence with [of] East Fork Goose Creek upstream [up] to Baker Street |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 2427 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 2427 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 2428 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 2428 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 2429 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 2429 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 2430 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |
| 2430 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 2432 | Brazoria | Mustang Bayou | I | 4.0 | Perennial stream from CR [County Road] 166 upstream to the confluence with an unnamed tributary 0.3 kilometers upstream of SH 35 |
| 2438 | Harris | Concrete lined and maintained channelized ditches and streams | L | 3.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, whether concrete lined or earthen, and are maintained by the district |

| SEGMENT | COUNTY | WATER BODY | ALU | DO [D.O.] | DESCRIPTION |
|---|---|---|---|---|---|
| 2438 | Harris | Unmaintained channelized ditches and streams | I | 4.0 | Perennial (including effluent dominate) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district |
| 2491 | Cameron, Hidalgo | Drainage Ditches | L | 3.0 | Perennial freshwater drainage ditches that flow into the segment in the counties listed |
| 2494 | Cameron | Drainage Ditches | L | 3.0 | Perennial freshwater drainage ditches that flow into the segment in the counties listed |

1 A minimum DO criterion of 2.0 mg/L applies to the described portion of the water body.

2 The following site-specific multiple regression equation is used to determine the 24-hour average and minimum DO criteria. A 24-hour average DO criterion of 5 mg/L is the upper bounds if the indicated DO equation predicts DO values that are higher than 5.0 mg/L. If the 24-hour average DO is predicted to be lower than 1.5 mg/L, then the DO criterion is set as 1.5 mg/L. The corresponding 24-hour minimum DO criterion should be 1.0 mg/L less than the calculated 24-hour average criterion. If stream flow is below 0.1 cfs, then 0.1 cfs is the presumed flow that should be used in the equation. This equation supercedes Table 4 in §307.7(b)(3)(A) of this title.

$$DO = 12.11 - 0.309\ T + 1.05\ \log Q - 1.02\ \log WS$$

where: DO = 24-hour average DO criterion
T = temperature in degrees Celsius (C)
Q = flow in cubic feet per second ($ft^3/s$)
WS = watershed size in square kilometers

3 [1] A site-specific low-flow of 5.95 $ft^3/s$ [cfs] applies to achieve the 4.0 mg/L DO [dissolved oxygen] 24-hour average criterion at the critical summer-time temperatures of 29.7°C. A site-specific DO [site specific dissolved oxygen] criterion of 3.0 mg/L as a 24-hour average applies from May to October when flows are ≥1.2 $ft^3/s$ [cfs]and < 5.95 $ft^3/s$ [cfs]. The following site-specific multiple regression equation relating DO [dissolved oxygen] averages, flow, and temperature may be used to determine appropriate headwater flows:

$$Q = e^{(0.253T-10.4 + DO)/0.625}$$

where Q = flow in $ft^3/s$ [cfs]
T = temperature in degrees Celsius
DO = 24-hour average DO [dissolved oxygen criteria]

4 [2] A site-specific DO [dissolved oxygen] criterion of 3.0 mg/L as a 24-hour average applies for the months of June through October.

5 [3] A site-specific DO [dissolved oxygen] criterion of 3.0 mg/L as a 24-hour average applies to the unnamed tributary due to low ambient levels of DO [dissolved oxygen] upstream of the City of Grand Saline discharge.

6 [4] A site-specific DO [dissolved oxygen] criterion of 4.0 mg/L as a 24-hour average applies for the months of May through October.

7 [5] A site-specific DO [dissolved oxygen] criterion of 3.0 mg/L as a 24-hour average applies for the months of May through October.

[8] [6] A site-specific DO [dissolved oxygen] criterion of 3.0 mg/L as a 24-hour average applies to the designated perennial canals.

[9] A site-specific 24-hour minimum DO criterion of 3.0 applies. A site-specific 24-hour average DO criterion of 2.0 mg/L and a 24-hour minimum dissolved oxygen criterion of 1.0 mg/L applies when stream flows are below 1.5 $ft^3/s$.

[10] Site-specific DO criteria of 2.0 mg/L as a 24-hour average and 1.0 mg/L as a minimum apply from March 15th through October 15th.

[11] A minimum DO criterion of 2.0 mg/L and a 24-hour average of 4.0 mg/L apply from July 1st to September 30th.

[12] A minimum DO criterion of 1.0 mg/L and a 24-hour average of 2.0 mg/L apply from July 1st to September 30th.

[13] A minimum DO criterion of 3.0 mg/L applies to the described portion of the water body.

(5) Appendix E - [--] Site-specific Toxic Criteria:

Figure: 30 TAC §307.10(5)

[Figure: 30 TAC §307.10(5)]

## Appendix E - Site-specific Toxic Criteria

The water bodies found in this appendix have a site-specific standard for the chemical parameter listed. The procedures for obtaining a site-specific standard are specified in §307.2(d) of this title (relating to Description of Standards) and result in a site-specific adjustment factor (such as a water-effect ratio (WER), multiplier, etc.). For most of the chemical parameters listed, this factor is used along with hardness in the formulas listed in Table 1 of §307.6(c)(1) of this title (relating to Toxic Materials) to calculate the dissolved portion of the parameter. The newly calculated criteria from Table 1 of §307.6(c)(1) of this title are then used to calculate discharge limits for permitted facilities. To calculate discharge limits, use the site-specific adjustment factors listed in this appendix in accordance with the most current *Procedures to Implement the Texas Surface Water Quality Standards* (RG-194) as amended. If a smaller portion of a water body has a separate and different site-specific adjustment factor, this factor supersedes any other factor specified for the larger water body that includes the smaller water body. In establishing Texas Pollutant Discharge Elimination System (TPDES) permit conditions, the site-specific criteria only apply to the referenced facility except where otherwise noted in footnote 3 of Appendix A in §307.10 of this title (relating to Appendices A - G).

[The water bodies listed in this appendix are those waters which now have a site-specific standard for the chemical parameter listed. These changes were initiated by one or more permitted facilities discharging to the water body cited. If a smaller portion of a water body has a separate and different water effects ratio (WER), its WER supersedes the WER of the larger water body of which it is a part. The procedures for obtaining a site-specific standard are specified in §307.2(d). The values and equations shown in the table are not to be interpreted as the values that are to appear in the final discharge permit. These values

and equations replace the criteria found in Table 1 of §307.6(c)(1) of this title that are normally used to calculate discharge limits. The site-specific standards for metals listed below use the equations found in Table 1 of §307.6(c)(1) of this title. The equations calculate the criteria based on the dissolved portion of the metal using hardness (H), the water effects ratio (w), and EPA conversion factor. The values and equations in Appendix E are to be used in computing discharge limits in accordance with the current procedures for *Procedures to Implement the Texas Surface Water Quality Standards*.]

| SEGMENT | SITE DESCRIPTION | TPDES | FACILITY | PARAMETER | SITE-SPECIFIC ADJUSTMENT FACTOR [WATER-EFFECT RATIO] | ADDITIONAL SITE-SPECIFIC CONSIDERATIONS [SITE-SPECIFIC STANDARD (µg/L) Acute/Chronic] |
|---|---|---|---|---|---|---|
| [0101] | [Dixon Creek in Hutchison County] | | | [Selenium as total] | [NA] | [219]<br>[34.6] |
| 0301 | Remnant channel of Baker Slough from the edge of the mixing zone with Segment 0301 upstream to the permitted outfall in Cass County | 01339-000 | International Paper Co. | Aluminum[1] | 6.39 | |
| 0303 | River Crest Reservoir | 00945-000 | Luminant Generation Co. | Copper[1, 3] | 3.4 | |
| 0403 | Johnson Creek Reservoir in Marion County | 01331-000 | SWEPCO | Copper[1, 3] [1] | 5.15 | Hardness = 20 mg/L<br>TSS = 4 mg/L<br>[20.8]<br>[16.0] |
| 0404 | Welsh Reservoir in Titus County | 01811-000 | SWEPCO | Aluminum[1, 3] | 10 | [9,910]<br>[no chronic] |

| SEGMENT | SITE DESCRIPTION | TPDES | FACILITY | PARAMETER | SITE-SPECIFIC ADJUSTMENT FACTOR [WATER-EFFECT RATIO] | ADDITIONAL SITE-SPECIFIC CONSIDERATIONS [SITE-SPECIFIC STANDARD (µg/L) Acute/Chronic] |
|---|---|---|---|---|---|---|
| 0404 | Big Cypress Creek in Camp, [/]Titus, and Morris counties | 00348-000 | Lone Star Steel | Lead[2, 3] | Acute Criterion = 41.4 µg/L Chronic Criterion = 5.7 µg/L [NA] | Hardness = 40.1mg/L<br>$[e^{(1.273(\ln H) - 0.9744)}]$<br>$[e^{(1.273(\ln H) - 2.958)}]$ |
| 0404 | Unnamed tributary of Hart Creek from the edge of the mixing zone with Hart Creek upstream to the permitted outfall in Titus County | 10575-004 | City of Mount Pleasant | Copper[1] | 7.16 | |
| 0409 | Sugar Creek from the edge of the mixing zone with Segment 0409 upstream to the permitted outfall in Upshur County | 10457-001 | City of Gilmer | Copper[1] | 6.83 | |
| 0501 | Sabine River Tidal in Orange County | 00475-000 | E.I. DuPont de Nemours | Copper[1, 4] | 1.9 | [25.6]<br>[6.8] |
| 0505 | Sabine River from [Highway 149 in Gregg County downstream to] the confluence with Brandy Branch approximately 1 mile (1.6 km) upstream from Highway 43 in Harrison County upstream to SH 149 in Gregg County | 00471-000 | Eastman Chemical Co. | Copper[1] [3] | 6.7 | Hardness = 40 mg/L<br>[52.1]<br>[37.6] |

| SEGMENT | SITE DESCRIPTION | TPDES | FACILITY | PARAMETER | SITE-SPECIFIC ADJUSTMENT FACTOR [WATER-EFFECT RATIO] | ADDITIONAL SITE-SPECIFIC CONSIDERATIONS [SITE-SPECIFIC STANDARD (µg/L) Acute/Chronic] |
|---|---|---|---|---|---|---|
| 0510 | Mill Creek from the edge of the mixing zone with Segment 0510 upstream to the confluence with Adaway Creek in Rusk County | 10187-002 | City of Henderson | Copper[1] | 4.95 | |
| 0511 | Unnamed tidal drainage ditch from the edge of the mixing zone with Segment 0511 upstream to the permitted outfall in Orange County | 00670-000 | Honeywell, Inc. | Copper[1] | 2.39 | |
| 0511 | Unnamed tidal drainage ditch from the edge of the mixing zone with Segment 0511 upstream to the permitted outfall in Orange County | 00454-000 | Firestone Polymers | Copper[1] | 2.54 | |
| 0603 | Sandy Creek from the edge of the mixing zone with Segment 0603 upstream to the permitted outfall in Jasper County | 10197-001 | City of Jasper | Copper[1] | 4.67 | |
| 0604 | Unnamed tributary of Bear Creek from the edge of the zone of initial dilution with Bear Creek upstream to the permitted outfall in Polk County | 01902-000 | International Paper – Corrigan | Aluminum[1] | 5.58 | |

| SEGMENT | SITE DESCRIPTION | TPDES | FACILITY | PARAMETER | SITE-SPECIFIC ADJUSTMENT FACTOR [WATER-EFFECT RATIO] | ADDITIONAL SITE-SPECIFIC CONSIDERATIONS [SITE-SPECIFIC STANDARD (µg/L) Acute/Chronic] |
|---|---|---|---|---|---|---|
| 0604 | Buck Creek from the edge of the mixing zone with Segment 0604 upstream to the confluence with the unnamed tributary receiving the discharge from the permitted outfall in Angelina County | 01268-000 | Lufkin Industries | Copper[1] | 7.94 | |
| 0604 | One-eye Creek from the edge of the mixing zone with Box Creek upstream to the permitted outfall [and its tributaries] in Cherokee County | 10447-001 | City of Rusk | Copper[1] [3] | 4.3 | Hardness = 40 mg/L [33.4 24.1] |
| 0611 | Ragsdale Creek from the edge of the mixing zone with Keys Creek upstream to the permitted outfall [and its tributaries] in Cherokee County | 10693-001 | City of Jacksonville | Copper[1] [4] | 4.6 | Hardness = 48 mg/L [42.4 30.2] |
| 0615 | Papermill Creek from the edge of the zone of initial dilution with Segment 0615 upstream to the permitted outfall in Angelina County | 00368-000 | Abitibi Consolidated | Aluminum[1] | 8.39 | |

| SEGMENT | SITE DESCRIPTION | TPDES | FACILITY | PARAMETER | SITE-SPECIFIC ADJUSTMENT FACTOR [WATER-EFFECT RATIO] | ADDITIONAL SITE-SPECIFIC CONSIDERATIONS [SITE-SPECIFIC STANDARD (µg/L) Acute/Chronic] |
|---|---|---|---|---|---|---|
| 0805 | Forney Branch from the edge of the mixing zone with White Rock Creek upstream to the permitted outfall in Dallas County | 01251-000 | Luminant Generation Co. | Copper[1] | 3.9 | |
| 0806 | West Fork Trinity River in Tarrant County | 00555-000 | Luminant Generation Co. | Copper[1, 4] | 2.5 | |
| 1001[, 1005, 1006, 1007, 1013, 2427] | [Houston Ship Channel segments, tidal tributaries and bays, and ]San Jacinto River Tidal in Harris County [Bay] | NA | NA | Copper[1, 3] | 1.8 | [24.3 6.5] |
| 1005 | Houston Ship Channel/San Jacinto River Tidal in Harris County | NA | NA | Copper[1, 3] | 1.8 | |
| 1005 | The Houston Ship Channel [channel]/San Jacinto River tidal from [the confluence with Santa Anna's Bayou down to] the edge of the mixing zone [confluence] with Segment 2421 upstream to the confluence with Santa Annas Bayou in Harris County | 02097-000 | Oxy Vinyls | Copper[1] | 1.8 | [24.3 6.5] |
| 1006 | Houston Ship Channel Tidal in Harris County | NA | NA | Copper[1, 3] | 1.8 | |

| SEGMENT | SITE DESCRIPTION | TPDES | FACILITY | PARAMETER | SITE-SPECIFIC ADJUSTMENT FACTOR [WATER-EFFECT RATIO] | ADDITIONAL SITE-SPECIFIC CONSIDERATIONS [SITE-SPECIFIC STANDARD (µg/L) Acute/Chronic] |
|---|---|---|---|---|---|---|
| 1006 | Tucker Bayou from the edge of the mixing zone with Segment 1006 upstream to the permitted outfall in Harris County | 01429-000 | Safety-Kleen | Copper[1] | 2.3 | [31<br>8.3] |
| 1006 | Greens Bayou Tidal from the edge of the mixing zone with the Houston Ship Channel upstream to the confluence with Spring Gully in Harris County | 01031-000 | Texas Genco | Copper[1] [5] | 2.4 | TSS = 14.75 mg/L<br>Dissolved Fraction Available = 87% [32.7<br>8.7] |
| 1007 | Houston Ship Channel/Buffalo Bayou Tidal in Harris County | NA | NA | Copper[1, 3] | 1.8 | |
| 1008 | Panther Branch from the edge of the mixing zone with Lake Woodlands upstream to the permitted outfall in Montgomery County | 12597-001 | San Jacinto River Authority | Copper[1] | 6.45 | |
| 1009 | Cypress Creek and Harris County Flood Control District Ditch K159-00-00 from the edge of the mixing zone with Cypress Creek upstream to the permitted outfall in Harris County | 13296-002 | Harris County MUD No. 358 | Copper[1] | 8.47 | |
| 1013 | Buffalo Bayou Tidal in Harris County | NA | NA | Copper[1, 3] | 1.8 | |

| SEGMENT | SITE DESCRIPTION | TPDES | FACILITY | PARAMETER | SITE-SPECIFIC ADJUSTMENT FACTOR [WATER-EFFECT RATIO] | ADDITIONAL SITE-SPECIFIC CONSIDERATIONS [SITE-SPECIFIC STANDARD (µg/L) Acute/Chronic] |
|---|---|---|---|---|---|---|
| 1014 | Horsepen Creek in Harris County | 12726-001 | Harris Co. MUD No. 155 | Copper[1, 4] | 4.65 | |
| 1014 | Willow Fork Drainage Dist. Lateral Ditch VA1 from the edge of the mixing zone with Segment 1014 upstream to the permitted outfall in Fort Bend County | 13558-001 | Cinco MUD No. 1 | Copper[1, 4] | 7.26 | |
| 1113 | Horsepen Bayou in Harris County | 10539-001 | City of Clear Lake Water Authority | Copper[1, 4] | 2.74 | |
| 1201 | Segment 1201 [and its tidal tributaries,]in Brazoria County | 00007-000 | Dow Chemical | Copper[1, 4] [6] | 1.6 | [21.6<br>5.8] |
| 1209 | Unnamed ditch from the edge of the zone of initial dilution of the unnamed ditch with Gibbons Creek Reservoir upstream to the permitted Outfall 001 in Grimes County | 02120-000 | Texas Municipal Power Agency | Aluminum[1] | 6.81 | |
| 1236 | Ft. Phantom Hill Reservoir in Jones County | 01422-000 | AEP North Texas | Aluminum[1, 3] | 2.9 | [2,904<br>no chronic] |
| 1242 | Lake Creek Reservoir in McClennan County | 00954-000 | Luminant Generation Co. | Copper[1, 3] | 2.4 | $[0.960w\ell^{(0.9422(\ln H) - 1.3844}]$<br>$[0.960w\ell^{(0.8545(\ln H) - 1.386}]$ |

| SEGMENT | SITE DESCRIPTION | TPDES | FACILITY | PARAMETER | SITE-SPECIFIC ADJUSTMENT FACTOR [WATER-EFFECT RATIO] | ADDITIONAL SITE-SPECIFIC CONSIDERATIONS [SITE-SPECIFIC STANDARD (µg/L) Acute/Chronic] |
|---|---|---|---|---|---|---|
| [1304] | [Linnville Bayou in Brazoria and Matagorda counties] | | | [Selenium as total] | [NA] | [219] [23] |
| 1412 | Red Draw Reservoir in Howard County | 01768-000 | ALON USA | Selenium [as total] | Acute Criterion = 219 µg/L Chronic Criterion = 7.5 µg/L [NA] | [219] [7.5] |
| 1701 | Victoria Barge Canal in Calhoun County | 00447-000 | Dow Chemical | Copper[1, 4] | 1.81 | |
| 1701 | Victoria Barge Canal in Victoria County | 03943-000 | Air Liquide | Copper[1, 4] | 2.55 | |
| 2427 | San Jacinto Bay in Harris County | NA | NA | Copper[1, 3] | 1.8 | |
| 2431 | Moses Bayou from the edge of the mixing zone with Segment 2431 upstream to the drainage ditches receiving the discharge from the permitted outfall in Galveston County | 01263-000 | ISP Technologies | Copper[1] | 1.88 | |
| 2481 | Kinney Bayou tidal/ [and]Jewel Fulton Canal from the edge of the mixing zone with Ingleside Cove upstream to the permitted outfall in San Patricio County | 10422-001 | City of Ingleside | Copper[1] | 2.0 | [27 7.2] |

| SEGMENT | SITE DESCRIPTION | TPDES | FACILITY | PARAMETER | SITE-SPECIFIC ADJUSTMENT FACTOR [WATER-EFFECT RATIO] | ADDITIONAL SITE-SPECIFIC CONSIDERATIONS [SITE-SPECIFIC STANDARD (µg/L) Acute/Chronic] |
|---|---|---|---|---|---|---|
| 2481 | Kinney Bayou tidal/ [and]Jewel Fulton Canal from the edge of the mixing zone with Ingleside Cove upstream to the permitted outfall in San Patricio County | 10422-001 | City of Ingleside | Zinc[1] | 1.14 [2.0] | [185<br>168] |
| [2484] | [Freshwater portion of Heldenfels Ditch in Nueces County] | | | [Selenium as total] | [NA] | [219]<br>[5] |
| 2485 | La Volla Creek from the edge of the mixing zone with Oso Creek upstream to the permitted outfall in Nueces County | 10401-003 | City of Corpus Christi | Copper[1] | 2.07 | |
| 2494 | Vidia Ancha from the edge of the mixing zone with Segment 2494 upstream to the tidal mud flats receiving the discharge from the permitted outfall in Cameron County | 10350-001 | Laguna Madre Water District | Copper[1] | 2.52 | |

1 Results based on a water-effect ratio study. [Calculated with site-specific hardness value of 20 mg/L. Site-specific TSS is 4 mg/L and dissolved fraction available is 77%.]

2 [Calculated with a site-specific hardness value of 40.1 mg/L.] The equation used for acute criterion calculation is $e^{(1.273(\ln \text{hardness})-0.9744)}$, and the equation used for chronic criterion calculation is $e^{(1.273(\ln \text{hardness})-2.958)}$.

3 Site-specific criteria apply to the entire water body listed under the "Site Description" column. If the site described is a designated segment, the boundaries of the segment are given in Appendix C of §307.10 of this title. [Calculated with site-specific hardness value of 40 mg/L.]

4 Site-specific criteria may only be used in the evaluation of permit limits for the facility listed under the "TPDES" and "Facility" columns. [Calculated with site-specific hardness value of 48 mg/L.]
[5] [Dissolved fraction available is 87%; site specific TSS is 14.75 mg/L.]
[6] [Dissolved fraction available is 84%.]

(6) Appendix F - Site-specific Nutrient Criteria and Screening Levels for Selected Reservoirs:

Figure: 30 TAC §307.10(6)

**Appendix F: Site-specific Nutrient Criteria and Screening Levels for Selected Reservoirs**

In the following table, nutrient criteria for selected reservoirs are specified in terms of concentrations of chlorophyll *a* in water as a measure of the density of phytoplankton (suspended microscopic algae). Secondary screening levels are specified for total phosphorus (TP) and for transparency (depth of Secchi disk visibility). The secondary screening levels for TP and transparency are intended for the sole purpose of confirming nonattainment of the water quality criteria for chlorophyll *a*. Notes on the derivation of criteria and screening levels are described below.[1]

Criteria for chlorophyll *a*, and screening levels for TP and transparency are assessed with long-term medians of sampling data. The criteria are applicable to the monitoring site(s) listed in the Site Identification (ID) column for each reservoir or to comparable monitoring sites. If sampling data are available from more than one of the listed sites, then the data are pooled to provide a single median for purposes of comparing to criteria and screening levels. Segment numbers in parentheses ( ) indicate that the water body is in close proximity to the segment listed, but the water body is not part of the segment.

Criteria and screening levels in the following table are adjusted to minimum levels that could generally be quantified by laboratory chemical analyses. When a chlorophyll *a* criterion is below 5.00 µg/L, then the

criterion is set and applied at 5.00 µg/L. When a TP screening level is below 0.04 mg/L, then the screening level is set and applied at 0.04 mg/L.

Criteria for chlorophyll *a* and screening levels for TP are attained when they are not exceeded by the median of monitoring data. Screening levels for transparency are attained when the median of monitoring data is equal to or greater than the screening levels. Procedures to assess attainment with nutrient criteria are described in §307.9(c)(2) and (7) of this title (relating to Determination of Standards Attainment).

| Segment No. | Reservoir Name | Site ID | Chlorophyll a Criteria (µg/L) | TP Screening (mg/L) | Transparency Screening (M) |
|---|---|---|---|---|---|
| (0100)[2] | Palo Duro Reservoir | 10005 | 19.02 | 0.24 | 0.30 |
| 0102 | Lake Meredith | 10036 | 4.31 | 0.03 | 1.49 |
| 0208 | Lake Crook | 10137 | 6.58 | 0.20 | 0.19 |
| 0209 | Pat Mayse Reservoir | 10138 | 10.94 | 0.04 | 1.12 |
| 0210 | Farmers Creek Reservoir | 10139 | 5.58 | 0.03 | 0.99 |
| 0212 | Lake Arrowhead | 10142 | 9.93 | 0.16 | 0.55 |
| 0213 | Lake Kickapoo | 10143 | 5.42 | 0.09 | 0.28 |
| 0215 | Diversion Lake | 10157 | 8.71 | 0.03 | 0.83 |
| 0217 | Lake Kemp | 10159 | 7.92 | 0.03 | 1.08 |
| 0223 | Greenbelt Reservoir | 10173 | 4.15 | 0.03 | 1.73 |
| 0228 | Lake Mackenzie | 10188 | 5.64 | 0.02 | 1.22 |
| (0229) | Lake Tanglewood | 10192 | 37.95 | 1.23 | 0.57 |
| 0302 | Wright Patman Lake | 10213 | 18.74 | 0.11 | 0.52 |
| 0403 | Lake O' The Pines | 10296 | 13.30 | 0.03 | 1.09 |
| 0405 | Lake Cypress Springs | 10312 | 15.61 | 0.03 | 1.19 |
| 0507 | Lake Tawakoni | 10434 | 33.26 | 0.05 | 0.89 |
| 0509 | Lake Murvaul | 10444 | 50.20 | 0.07 | 0.55 |
| 0510 | Lake Cherokee | 10445 | 7.46 | 0.02 | 1.21 |
| 0512 | Lake Fork Reservoir | 10458 | 13.10 | 0.04 | 1.46 |
| 0603 | B. A. Steinhagen Reservoir | 10582 | 10.55 | 0.08 | 0.37 |
| 0605 | Lake Palestine | 16159 | 24.29 | 0.03 | 0.82 |
| 0610 | Sam Rayburn Reservoir | 14906 | 5.71 | 0.03 | 1.82 |
| 0613 | Lake Tyler | 10637 | 11.82 | 0.03 | 1.06 |
| 0613 | Lake Tyler East | 10638 | 9.70 | 0.03 | 1.04 |
| 0614 | Lake Jacksonville | 10639 | 5.12 | 0.03 | 1.34 |
| 0803 | Lake Livingston | 10899 | 20.64 | 0.16 | 0.67 |

| Segment No. | Reservoir Name | Site ID | Chlorophyll a Criteria (µg/L) | TP Screening (mg/L) | Transparency Screening (M) |
|---|---|---|---|---|---|
| 0807 | Lake Worth | 10942 | 31.00 | 0.09 | 0.65 |
| 0809 | Eagle Mountain Reservoir | 10944<br>10945 | 22.94 | 0.07 | 0.80 |
| 0811 | Lake Bridgeport | 10970 | 4.85 | 0.06 | 1.01 |
| 0813 | Houston County Lake | 10973 | 9.95 | 0.03 | 1.27 |
| 0815 | Bardwell Reservoir | 10979 | 20.44 | 0.05 | 0.56 |
| 0816 | Lake Waxahachie | 10980 | 17.32 | 0.03 | 0.63 |
| 0817 | Navarro Mills Reservoir | 10981 | 13.43 | 0.08 | 0.37 |
| 0818 | Cedar Creek Reservoir | 10982<br>16749 | 27.81 | 0.07 | 0.80 |
| 0823 | Lewisville Lake | 11027 | 16.39 | 0.06 | 0.60 |
| 0826 | Grapevine Lake | 11035<br>16113<br>17827 | 10.48 | 0.10 | 0.84 |
| 0827 | White Rock Lake | 11038 | 29.73 | 0.10 | 0.40 |
| 0828 | Lake Arlington | 11040<br>13904 | 23.32 | 0.04 | 0.74 |
| 0830 | Benbrook Lake | 15151<br>11046 | 24.42 | 0.07 | 0.75 |
| 0832 | Lake Weatherford | 11061 | 12.69 | 0.06 | 0.57 |
| 0834 | Lake Amon G. Carter | 11063 | 5.24 | 0.04 | 1.15 |
| 0836 | Richland-Chambers Reservoir | 15168 | 13.88 | 0.04 | 1.13 |
| 1002 | Lake Houston | 11204 | 10.82 | 0.18 | 0.28 |
| 1012 | Lake Conroe | 11342 | 21.72 | 0.05 | 0.82 |
| 1203 | Lake Whitney | 11851 | 16.18 | 0.03 | 1.32 |
| 1205 | Lake Granbury | 11860 | 20.15 | 0.07 | 0.99 |
| 1207 | Possum Kingdom Reservoir | 11865 | 9.57 | 0.05 | 2.22 |
| (1208) | Millers Creek Reservoir | 11679 | 14.02 | 0.08 | 0.24 |
| 1212 | Somerville Lake | 11881 | 47.64 | 0.09 | 0.63 |
| 1216 | Stillhouse Hollow Lake | 11894 | 1.96 | 0.03 | 2.84 |
| 1220 | Belton Reservoir | 11921 | 5.70 | 0.03 | 1.81 |
| 1222 | Proctor Lake | 11935 | 25.22 | 0.10 | 0.52 |
| 1224 | Leon Reservoir | 11939 | 8.78 | 0.03 | 1.04 |
| 1225 | Lake Waco | 11942 | 21.07 | 0.09 | 0.76 |
| 1228 | Pat Cleburne Reservoir | 11974 | 16.89 | 0.08 | 0.45 |
| 1230 | Lake Palo Pinto | 11977 | 4.95 | 0.07 | 0.55 |
| 1231 | Lake Graham | 11979 | 5.55 | 0.05 | 0.61 |
| 1233 | Hubbard Creek Reservoir | 12002 | 5.03 | 0.04 | 1.16 |
| 1234 | Lake Cisco | 12005 | 4.16 | 0.02 | 1.33 |
| 1235 | Lake Stamford | 12006 | 15.11 | 0.07 | 0.42 |

| Segment No. | Reservoir Name | Site ID | Chlorophyll a Criteria (µg/L) | TP Screening (mg/L) | Transparency Screening (M) |
|---|---|---|---|---|---|
| 1236 | Lake Fort Phantom Hill | 12010 | 8.85 | 0.05 | 0.51 |
| 1237 | Lake Sweetwater | 12021 | 11.81 | 0.04 | 0.74 |
| 1240 | White River Lake | 12027 | 12.06 | 0.06 | 0.42 |
| (1241) | Buffalo Springs Lake | 11529 | 50.80 | 0.11 | 0.57 |
| 1247 | Granger Lake | 12095 | 10.43 | 0.06 | 0.41 |
| 1249 | Lake Georgetown | 12111 | 3.49 | 0.04 | 1.86 |
| 1252 | Lake Limestone | 12123 | 17.40 | 0.08 | 0.70 |
| 1254 | Aquilla Reservoir | 12127 | 12.48 | 0.04 | 0.58 |
| 1403 | Lake Austin | 12294 | 3.24 | 0.03 | 1.82 |
| 1404 | Lake Travis | 12302 | 3.31 | 0.03 | 3.13 |
| 1405 | Lake Marble Falls | 12319 | 9.40 | 0.03 | 1.24 |
| 1406 | Lake Lyndon B. Johnson | 12324 | 9.22 | 0.03 | 1.23 |
| 1407 | Inks Lake | 12336 | 13.16 | 0.03 | 1.41 |
| 1408 | Lake Buchanan | 12344 | 8.81 | 0.03 | 1.64 |
| 1411 | E.V. Spence Reservoir | 12359 | 12.87 | 0.03 | 1.09 |
| (1412) | Lake Colorado City | 12167 | 13.94 | 0.05 | 0.67 |
| (1416) | Brady Creek Reservoir | 12179 | 21.97 | 0.03 | 0.59 |
| 1418 | Lake Brownwood | 12395 | 4.62 | 0.02 | 1.01 |
| 1419 | Lake Coleman | 12398 | 5.45 | 0.02 | 1.08 |
| 1422 | Lake Nasworthy | 12418 | 15.17 | 0.05 | 0.46 |
| 1423 | Twin Buttes Reservoir | 12422 | 12.70 | 0.09 | 0.55 |
| 1425 | O.C. Fisher Reservoir | 12429 | 34.34 | 0.14 | 0.28 |
| (1426) | Oak Creek Reservoir | 12180 | 6.23 | 0.03 | 0.59 |
| 1429 | Lady Bird Lake (Town Lake) | 12476 | 6.66 | 0.04 | 1.69 |
| 1433 | O.H. Ivie Reservoir | 12511 | 5.27 | 0.03 | 1.74 |
| 1805 | Canyon Lake | 12597 | 3.66 | 0.03 | 2.17 |
| 1904 | Medina Lake | 12826 | 2.06 | 0.01 | 2.49 |
| 2103 | Lake Corpus Christi | 12967 | 15.01 | 0.18 | 0.41 |
| 2116 | Choke Canyon Reservoir | 13019 | 10.73 | 0.05 | 0.99 |
| 2303 | Falcon Lake | 13189 | 13.44 | 0.06 | 0.58 |
| 2305 | Amistad Reservoir | 13211 | 1.78 | 0.02 | 3.02 |
| 2312 | Red Bluff Reservoir | 13267 | 21.96 | 0.04 | 0.78 |
| (2454) | Cox Lake | 12514 | 11.90 | 0.29 | 0.12 |

[1]Criteria for chlorophyll *a* and screening levels for total phosphorus were calculated from historical sampling data and set at the upper parametric prediction intervals. Screening levels for transparency were calculated from historical data and set at the lower parametric prediction intervals (Hahn and Meeker, 1991, Statistical Intervals, a Guide for Practitioners. Wiley Series in Probability and Mathematical Statistics. Wiley-Interscience Publications.). Historical sampling data was used from 1990 through 2008, and only reservoirs with 30 or more datapoints for chlorophyll *a* are included. As needed, the historical

period was extended back through the period of record (potentially as far back as 1969) in order to acquire sufficient data for individual reservoirs. Values that were less than the minimum reporting limit were assigned a value of one-half the reporting limit. Data outside an interquartile range of 1.5 on a Tukey boxplot were excluded as outliers. Statistical calculations of prediction intervals for the chlorophyll *a* criteria were based on a 0.05 confidence level. The calculations of prediction intervals for the total phosphorus and the transparency were based on a 0.1 confidence level. The number of samples that are available for assessing compliance was assumed to be 10.

[2] A segment number ending in 00 indicates an unclassified water body that is in not within the watershed of a classified segment. For example, Palo Duro Reservoir is on unclassified Palo Duro Creek, which flows into Oklahoma.

(7) Appendix G - Site-specific Recreational Uses and Criteria for Unclassified Water Bodies:

Figure: 30 TAC §307.10(7)

## Appendix G - Site-specific Recreational Uses and Criteria for Unclassified Water Bodies

The water bodies listed in this appendix are those waters that are not designated segments listed in Appendix A of this title. The water bodies are included because a regulatory action has been taken or is anticipated to be taken by the commission or because sufficient information exists to provide a recreational use designation. The segment numbers listed refer to the designated segments as defined in Appendix C of this title (relating to Segment Descriptions). The county listed is the primary location where the use designation is assigned. The water body is a tributary within the drainage basin of the listed segment. The recreation use designations and bacteria indicator criteria are the same as defined in §307.4(j) of this title (relating to General Criteria) and §307.7(b) of this title (relating to Site-Specific Uses and Criteria). The description defines the specific area where the recreation use designation applies. Generally, there is not sufficient data on these waters to develop other conventional criteria and those criteria are the same as for the segment where the water body is located unless further site-specific information is obtained.

| SEGMENT | COUNTY | WATER BODY | USE | GEOMETRIC MEAN colonies/100 ml | INDICATOR BACTERIA | DESCRIPTION |
|---|---|---|---|---|---|---|
| 1017 | Harris | Brickhouse Gully/Bayou | SCR 1 | 630 | *E. coli* | From the confluence with Whiteoak Bayou Above Tidal upstream to its headwaters 1.1 km upstream of Gessner Road |
| 1017 | Harris | Unnamed tributary of Whiteoak Bayou | SCR 1 | 630 | *E. coli* | From the confluence with Whiteoak Bayou Above Tidal downstream of TC Jester, upstream to Hempstead Hwy, north of US Hwy 290 in Harris County |

| SEGMENT | COUNTY | WATER BODY | USE | GEOMETRIC MEAN colonies/100 ml | INDICATOR BACTERIA | DESCRIPTION |
|---|---|---|---|---|---|---|
| 1017 | Harris | Unnamed tributary of Whiteoak Bayou | SCR 1 | 630 | *E. coli* | From the confluence with Whiteoak Bayou Above Tidal, near W 11th Street, upstream to a point immediately upstream of W 26th Street, south of Loop 610 W in Harris County |